

13th Regional Environmentally Sustainable Transport Forum in Asia

10-11 November 2020

Enhancing sustainability of urban mobility in Asia-Pacific cities

Madan B. Regmi, DEng
Transport Division
ESCAP, Bangkok



State of public transport in Asia

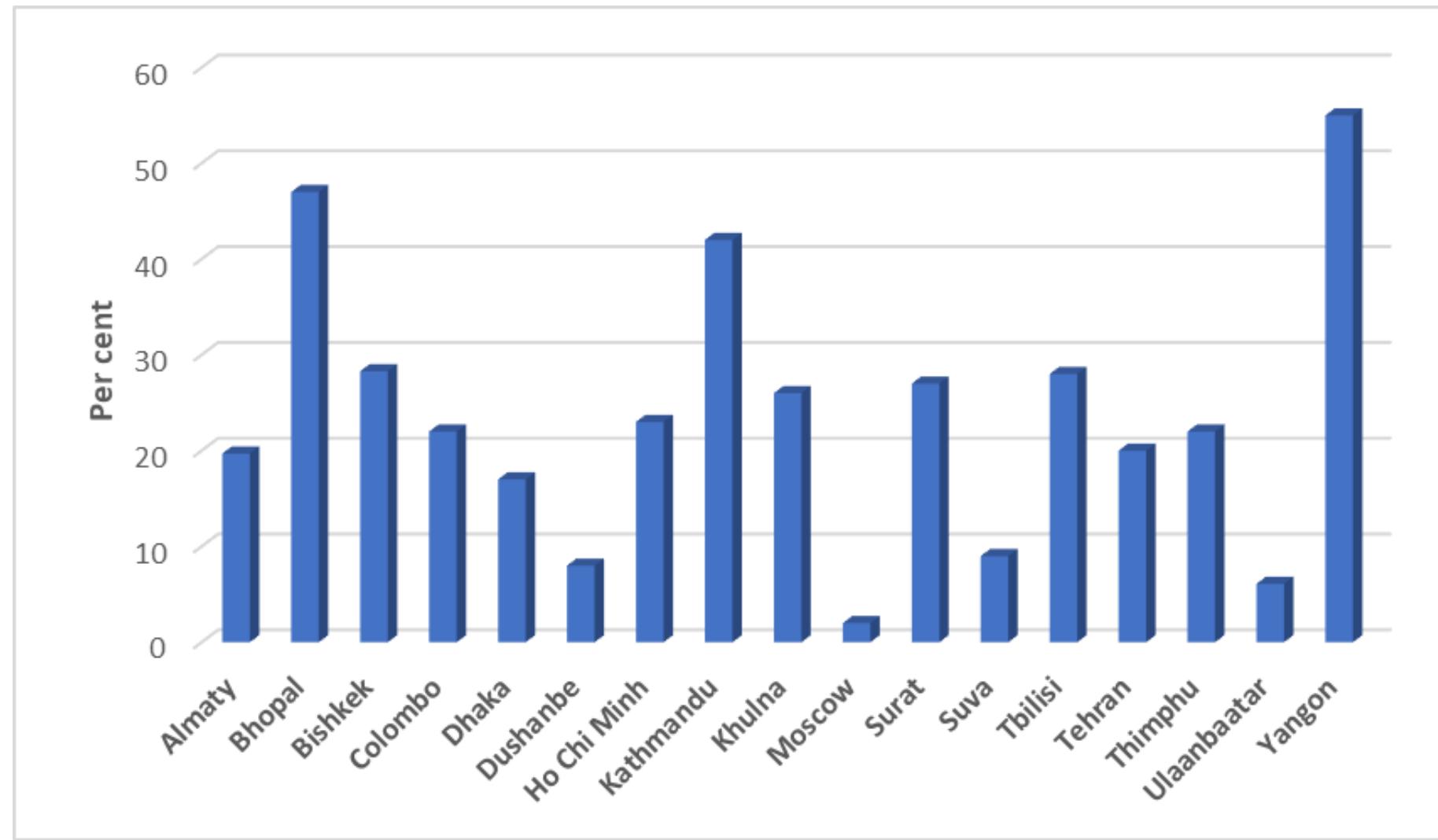
- Many Asian cities operate combination of different forms and modes urban public transport systems (Metro, subway, urban rails, Bus Rapid Transit, Bus, para transit, river ferry and boats).
- Focus on high quality transit
- Need for a public transport network and need to use combination of transport 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

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

Source: Tom Tom traffic Congestion Index, 2019

Mode share of active mobility in Asia-Pacific cities



Source: Sustainable urban transport index mobility assessment reports, available at www.unescap.org/announcement/sustainable-urban-transport-index-suti; and UNDP?GEF , City of Almaty Sustainable Transport: UNDP/GEF Project – Final Report 2011–2017 (Almaty, Kazakhstan, 2017).

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.

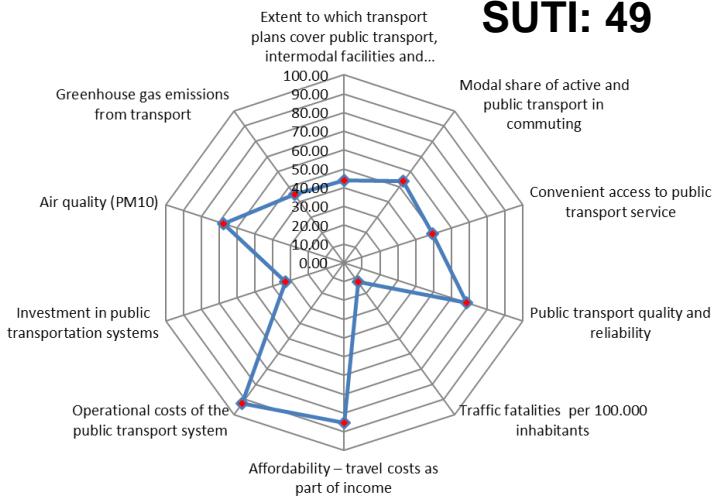
Measuring sustainability: Sustainable Urban Transport Index (SUTI)

| No | Indicators | Measurement units | Weights | Range | |
|----|---|-----------------------|---------|-------|-----|
| | | | | MIN | MAX |
| 1 | Extent to which transport plans cover public transport, intermodal facilities and infrastructure for active modes | 0 - 16 scale | 0.1 | 0 | 16 |
| 2 | Modal share of active and public transport in commuting | Trips/mode share | 0.1 | 10 | 90 |
| 3 | Convenient access to public transport service | % of population | 0.1 | 20 | 100 |
| 4 | Public transport quality and reliability | % satisfied | 0.1 | 30 | 95 |
| 5 | Traffic fatalities per 100,000 inhabitants | No of fatalities | 0.1 | 10 | 0 |
| 6 | Affordability – travel costs as part of income | % of income | 0.1 | 35 | 3.5 |
| 7 | Operational costs of the public transport system | Cost recovery ratio | 0.1 | 22 | 100 |
| 8 | Investment in public transportation systems | % of total investment | 0.1 | 0 | 50 |
| 9 | Air quality (pm10) | µg/m³ | 0.1 | 150 | 10 |
| 10 | Greenhouse gas emissions from transport | CO2 Eq. Tons | 0.1 | 2.75 | 0 |
| | SUM | | 1.00 | | |

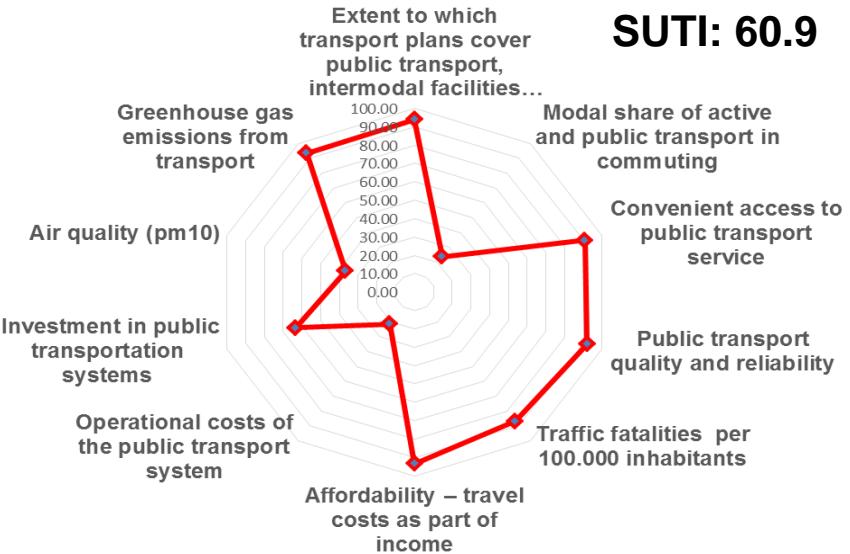
- 
- Three dimensions:**
- **Economical**
 - **Social**
 - **Environmental**



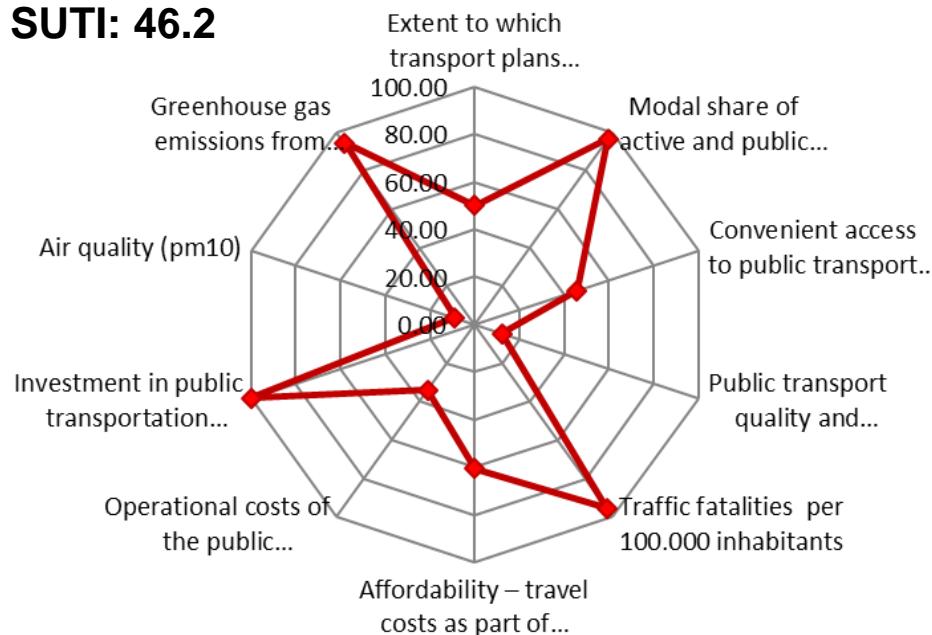
Yangon SUTI: 49



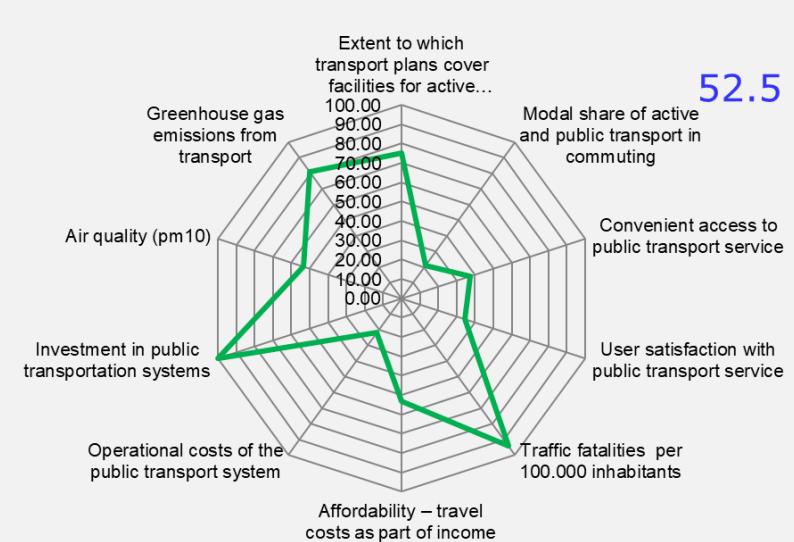
Surat SUTI: 60.9



Dhaka SUTI: 46.2



Greater Jakarta2



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

6th Session of the Committee on Transport, 12-13 November 2020

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

STAY CONNECTED AND GET INVOLVED!

WWW.UNESCAP.ORG



@UNESCAP



@UNITEDNATIONSESCAP



@UNITED-NATIONS-ESCAP

