Transport and Climate Change Week:

SUSTAINABLE URBAN TRANSPORT DEVELOPMENT IN INDONESIA

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Presented at Transport and Climate Change Week
Berlin, 18-20 September 2017
Sustainability Issues in Urban Development (1/2)

High Urbanisation Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Urban Population</th>
<th>Rural Population</th>
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</thead>
<tbody>
<tr>
<td>2015</td>
<td>59%</td>
<td>41%</td>
</tr>
<tr>
<td>2020</td>
<td>64%</td>
<td>36%</td>
</tr>
<tr>
<td>2025</td>
<td>68%</td>
<td>32%</td>
</tr>
<tr>
<td>2030</td>
<td>72%</td>
<td>28%</td>
</tr>
<tr>
<td>2035</td>
<td>76%</td>
<td>24%</td>
</tr>
</tbody>
</table>

In 2015: Indonesia (2.69%), India (2.38%), China (2.3%)

Rapid Motorization

- Private Car
- Bus
- Truck
- Motorcycle

Rapid Motorization

- 1954: 15,000,000
- 1964: 20,000,000
- 1974: 25,000,000
- 1984: 30,000,000
- 1994: 35,000,000
- 2004: 40,000,000
- 2014: 45,000,000

Environmental Impacts

- The transport sector accounts for 27% of CO₂ emissions. In developing countries, CO₂ emissions from transportation will increase by two times in the period 1980 - 2030.
- In DKI Jakarta (2008-2013) indicators of urban air quality such as PM₁₀ increased by 20%, CO increased 70%, and NO₂ increased by 350%.

Massive Urban Land Conversion

- Rapid changes of low density areas into high densities. Agricultural land and green areas turned into residential areas.
- In Jakarta Metropolitan Area, within 1985-2002, the residential land use increased from 11% to 22% (2 times) and industrial land use increased from 4.75% to 7.5%. While, agricultural land use decreased from 45% to 24%.

High Traffic Fatality

- Traffic fatality in 2016 was almost 26,000.
- In 2016, 72% of traffic accidents involve motorcycles.
Sustainability Issues in Urban Development (2/2)

Deterioration of Urban Public Transport (current share is around 20%)

- Economic losses due to traffic congestion in Jakarta reach USD 3 billion in 2016.
  (Source: World Bank)
- In 2020, most network in Jakarta Metropolitan will reach V/C Ratio > 1.2
- The current ratio of roads in Jakarta is 6% and decreasing which is not proportional to the number of private vehicles.

Severe Traffic Congestion

- Economic losses due to traffic congestion in Jakarta reach USD 3 billion in 2016.
  (Source: World Bank)
- In 2020, most network in Jakarta Metropolitan will reach V/C Ratio > 1.2
- The current ratio of roads in Jakarta is 6% and decreasing which is not proportional to the number of private vehicles.

Lack of Modern Mass Public Transport System

- Urban public transport system has relied on traditional mini, medium, and large buses (with renting system and poor management and operation)
- BRT was introduced in 2004 in Jakarta and some major cities (not full BRT).
- Among 11 large cities, 15 medium cities and 52 small cities in Indonesia, only 5 cities have urban railway system (developed in colonial era). Jakarta MRT and Palembang LRT are still under construction.
Towards Modernized Mass Transport System

**Existing**

- Individual ownership
- License system
- Rent system
- Poor management: individually managed.
- Poor service: no timetable, low capacity, no fixed rate, no segregated lane and no designated stop.
- Low ridership due to poor service -> unreliable public transport mode.
- Compete among others.

**Current Efforts**

- Railway Commuter Line (Jakarta Metropolitan)
  - Currently up to 1 million passenger / day.
  - Issue: network developed in colonial era, only 1 station serves CBD.
- BRT Jakarta (2004) and some major cities
  - BRT Jakarta heavily subsidized, not all lane are segregated, no newly developed lane (except corridor 13), currently 400 thousand passenger / day.
  - Other cities are mostly semi-BRT, not segregated.
  - Central Government provide bus fleet to some cities to support BRT system.
  - Many cities are not ready in terms of institution and financial scheme to support BRT.

**Modernized Transport**

- MRT Jakarta Phase I (operation in 2019):
  - 15.7 km, with 13 stations (6 stations serving the CBD).
  - Project investment: 1.1 billion USD
  - Funding scheme of MRT Jakarta: 49% central government, 51% local government (no private sector funding).
- Palembang LRT (operation in 2018):
  - Project investment: 750 million USD
  - 100% central government funding
- Proposals from other cities for 100% support from central government to develop LRT: Medan, Batam, Surabaya, Makassar, Bandung.
- No established framework for central government to support urban mass transport system development (currently unequal treatment.)
**Strategy: Institution Financing and Support Framework**

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### NATIONAL PROGRAM FOR URBAN TRANSPORT DEVELOPMENT

#### 1. Beneficiary Criteria
- Economic (GDP contribution, fiscal capacity);
- Regional regulation (Transport and Spatial Plan);
- City Size (population, density, geography);
- Share of existing public and private transportation.

#### 2. Selection of Mode of Transportation
- Technology and Type of Transport Mode
- Integrated planning with Existing Transportation and Transit Oriented Development Facility (TOD).

#### 3. Funding and Institutional Framework
- Minimum funding share from local government and private sector;
- Regional transportation institutional framework.

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**BEST PRACTICE (EXAMPLE MEXICO)**

- Pool of Fund (source: donor, grant, and loan);
- Criteria: City form, technology mode, planning;
- Central Government support not include operations;
- Maximum fund sharing from central government, minimum sharing from municipal government and private sector.

*Source: World Bank, 2017*
THANK YOU

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