Sustainable Urban Transport in Bangkok

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Bangkok Metropolitan Administration (BMA)
Contents:

1. Introduction
2. Bangkok transport policies
3. Data availability
4. Challenges
Introduction: Bangkok

Area 1,568 sq.km. > 10 Million Inhabitants

Registered population: 5,696,409 people

Registered population: 5,673,500 people

Population Density: 3,631 people/sq.km.

2012
A total population including non-registered population, i.e. entrepreneurs and tourists: More than 10 million people

2015
Insufficient public transport

The higher number of vehicles limits speed on roads

<table>
<thead>
<tr>
<th>Number of vehicles in Bangkok</th>
<th>Average Speed on main roads</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.5 Million units (2012)</td>
<td>19 km/h</td>
</tr>
<tr>
<td>6.8 Million units (2011)</td>
<td>20 km/h</td>
</tr>
<tr>
<td>6.4 Million units (2010)</td>
<td>21 km/h</td>
</tr>
<tr>
<td>6.1 Million units (2009)</td>
<td>22 km/h</td>
</tr>
</tbody>
</table>

*The collective registered vehicles
**During rush hour

Number of vehicles: More than 9 million units

Only the registered vehicles in Bangkok

Road area: only 5% of the city area

Travel Demand: More than 12 million trips/day
Rail system:
2015  85 kms
2016  105 kms
2019  438 kms
2029  536 kms
Mode share:

2015:
- Private Car: 38.1%
- Bus & Boat: 37.2%
- Mass Transit: 18.9%
- Taxi & Motorcycle: 5.8%

2029:
- Private Car: 41.1%
- Bus & Boat: 21.8%
- Mass Transit: 16.5%
- Taxi & Motorcycle: 20.7%
EXAT (Expressway Authority of Thailand)
BMA
MRTA (Mass Rapid Transit Authority of Thailand)
BMTA (Bangkok Mass Transit Authority)
SRT (State Railway Authority)
EXAT (Expressway Authority of Thailand)

OTP (Office of Transport and Traffic Policy and Planning)
DOH (Department of Highway)
DRR (Department of Rural Roads)
DLT (Department of Land Transport)
MD (Marine Department)

Local government
Traffic and Transportation Department
Public Works Department
Vicinity Provinces

Royal Thai Police

Ministry of Transport

Central government

Royal Thai Police
traffic law enforcement
BMA’s mass transit network:

- Sukhumvit Line (Mo Chit - Bearing)
  - 22.25 Km.
  - 22 Stations
  - Open for service in 1999

- Silom Line (National Stadium – Bang Wa)
  - 14.67 Km.
  - 13 Stations
  - Open for service in 1999

- BRT Sathon-Ratchaphruek
  - 15 Km.
  - 12 stations
  - Open for service in May 2010

+ monorail & light rail system (feeder system)
  : in feasibility study process
BKK transport policies:

Green transport
Multimodal Transport Development

- **Rail Mass Transit**
  - BTS (Sky Train)
  - MRTA (Subway)

- **Road Transport**
  - Taxis
  - Bus
  - BRT

- **Water Transport**
  - River
  - Canal

**Bangkok’s Mass Transit Development Plan**

- **To develop** efficient mass transit system including:
  - **Main system** to cover high density residential area and inner city area
  - **Support system** to link main system with medium & low density residential area

- **To discourage** private vehicles usage
- **To promote** NMT
Rail Mass Transit
Main Mode of Transport in Bangkok

- Walking
- Bicycle
- Motorcycle
- Taxi
- Bus
- Public Van
- BRT
- Shuttle bus
- Passenger Boat

Origin

Connection to main mode of transport

Destination

Linking to destination

Use clean energy

Promote behavior changes
Data availability:

Kaparias et al. (2011), Key performance indicators for traffic management and intelligent transport systems

Ministry of Transport
- OTP
- SRT
- BMTA
- EXAT
- DOH
- MD
- MRTA
- DLT

BMA
- TTD

RTP
- Traffic Police Division

Ministry of Interior
- Department of Disaster Prevention and Mitigation
Challenges:

- Network of public transport
- Data on urban transport:
  - Travel demand (share mode, O-D data, travel cost,...)
  - Operation data (traffic accident, GHG emission, energy efficiency, air quality)
- Changing behavior to use sustainable transport such as public transport, bicycle and walking
- Creating collaboration with all stakeholders related to urban transport in city
“Together We can build a Sustainable Urban Transport in the city”

Thank You for Your Attention