Manila Policy Dialogue on Environment and Transport in the Asian Region

Session 5: Environmentally Friendly Public Transport Planning

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Introduction

- Public transport contributes for EST by providing alternatives for automobile use
- Importance widely accepted and addressed by Asian Policy Makers: e.g. Nagoya Statement, Seoul Declaration
- High potential for public transport in Asia and challenges in the face of growing motorization
Contents

- Current Status of Public Transport in Asia
- Modes of Public Transport
- Factors for Successful Introduction of Public Transport
- Items for further Discussions/Activities
Current Status of Public Transport in Asia
Need for Public Transport in Asia

- Merits of Public Transport: reduction of automobile use, efficient transportation in cities, wide consumer options and greater equity, efficient land use, etc.
- Introduction of public transport still limited in Asia and generating problems.
- Appropriate strategies to provide adequate sustainable public transport needed.
Current Trends of Public Transport in Asia

- **Initiatives for rail-based systems**
  Attempted for rail-based transit development seen in many countries

- **Improvement of public transport**
  Introduction of premium bus services, advanced technologies, etc.

- **Private sector participation**
  Private sector plays a greater role in developing public transport
Challenges in Asia

- Rapid motorization
- Lack of adequate public transport
- High cost of investment in MRT
- Dissatisfaction with public transport quality
- Accessibility of the disadvantaged groups
- Demands due to urban sprawl

Central challenge: to identify strategic objectives sought by the city and means of implementation
Modes of Public Transport
Overview

Public transport passenger kilometers per capita in selected cities

(Source: Hayashi, 2003)
Mass Rapid Transit

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Objectives and Role of MRT

Possible objectives include

- Permitting the continued development of city-center activity
- Maintaining the quality of access to city center
- Providing basic accessibility
- Reducing congestion and maintaining the central city
## Choice of MRT Technology

<table>
<thead>
<tr>
<th></th>
<th>BRT</th>
<th>LRT</th>
<th>Metro</th>
<th>Suburban Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initial Cost (million$*/km)</strong></td>
<td>1-8</td>
<td>10-30</td>
<td>15 - 180 (atgrade) (Undergd.)</td>
<td>Varies</td>
</tr>
<tr>
<td><strong>Operational Capacity (passengers/h/direction/lane)</strong></td>
<td>15,000 – 35,000</td>
<td>10,000-20,000</td>
<td>Up to 60,000</td>
<td>Up to 30,000</td>
</tr>
<tr>
<td><strong>Speed (km/h)</strong></td>
<td>15-25</td>
<td>15-25</td>
<td>30-40</td>
<td>40+</td>
</tr>
<tr>
<td><strong>Environmental Impact</strong></td>
<td>Good system can improve env. quality</td>
<td>Less local air pollution and GHG</td>
<td>Underground regarded as most env. friendly</td>
<td></td>
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<tr>
<td><strong>Application</strong></td>
<td>Strong political will and forward planning required</td>
<td>Interim steps to the creation of Metro</td>
<td>Most important issue: financial viability</td>
<td>can be converted to modern system</td>
</tr>
</tbody>
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(Source: IEA, 2002)
Ownership and Financing

Covering MRT full-cost is not always possible

Financing MRTs
- Mobilization of private finance
- Concession of existing systems
- Cross-modal financial transfer
- Mobilizing the “development gain”

Financing BRTs
- Public private partnership difficult for provision of infrastructure
Public Transport Integration

- Necessary to maximize the operational capacity
  - Creation of interchange facilities
  - Bus service restructuring
- Barriers
  - Fragmentation of operational responsibility
  - Political and Social feasibility

Strong local coordination needed
Pricing

Objectives

- To generate revenue for operation
- To give incentives over automobile use
- To foster coordination among public transportation modes
- To provide access of the poor to employment
Public Road Passenger Transit

Bus Systems

Crucial mode of public transport in Asia

- The share of bus has declined in many cities
  - Poor performance due to institutional reasons and overregulation
  - People’s preference for private vehicles
- Making bus systems clean
  - Better maintenance, improved fuel, alternative-fuel
Paratransit

*Notable feature of developing Asia*

- **Pros:** may better respond to consumer demand; employment opportunity
- **Cons:** congestion, pollution, competition with basic public transport network

At what point does the growth of paratransit need to be controlled?
Factors for Successful Introduction of Public Transport

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Integration of Public Transport with Land-Use Planning

- Integration with land-use planning: to ensure to cover substantial percentage of the transportation needs (e.g. Curitiba).
- Failure to integrate creates sprawls (Tokyo, Bangkok, Manila)
- Advisable to introduce land use planning to effectively control urban sprawl
Coupling Public Transport with Traffic Demand Management (TDM)

- MRT infrastructure projects have limited impact on car ownership and use
- Car ownership is generally more influenced by parking space availability and ownership costs

Public transport development best approached if combined with TDM
Items for Further Discussion/ Activities
Common concerns to develop environmentally friendly public transport

- Selection of appropriate modes and mix
- Development of effective networks
- Improvement of paratransit and bus
- Development of sustainable funding plans
- Integration with land-use planning
- Integration with TDM
For further discussion/ activities

- Information sharing among the participating countries
- Clarifying the conditions for successful introduction of public transport
- Case studies by the regional expert group