Urban traffic situation and possible solutions for HANOI

Hanoi, 6.2013
Contents

- Overview of Urban Transportation in Hanoi
- Hanoi Traffic: Problems and Causes
- Possible solutions: innovative activities
- Some remarks and recommendations
Hanoi current situation

- S ~ 921km$^2$
- Population > 5mil.
- Total of 19 districts
- Average: 2.1 trips/day/pers.
- Average trip length ~ 5.7km

(Survey on 2009)
Overview on urban transportation

Road infrastructure: Improving slowly & inadequate...
- Low density & supply
- Unbalanced & lack of hierarchical network

Modal share: high dependence on motorcycle (>75%)

Public transportation: improved, but still inadequate
- Shortage of buses
- Limited network coverage
- Low adaptation to high mobility demand (7%)
- Lack of BRT service, slow in MRT development

Road length (m) per 1000 pop.

<table>
<thead>
<tr>
<th>Year</th>
<th>No of routes</th>
<th>No of buses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>31</td>
<td>334</td>
</tr>
<tr>
<td>2005</td>
<td>48</td>
<td>680</td>
</tr>
<tr>
<td>2009</td>
<td>66</td>
<td>983</td>
</tr>
<tr>
<td>Oct-13</td>
<td>86</td>
<td>1200</td>
</tr>
<tr>
<td>Nov-13</td>
<td>89</td>
<td>1240</td>
</tr>
</tbody>
</table>

Year          | No of routes | No of buses |
Oct-13        | 86           | 1200        |
Nov-13        | 89           | 1240        |

Access roads to home

Modal share: high dependence on motorcycle (>75%)
Urban Transport Problems

- **Accidents**
  - High rate of fatalities
  - Occurred mainly on the urban arterials and sub-urban highways
  - Severe accidents occurred frequently during night time and off-peak period

- **Congestion**
  - Extremely high volume
  - 60% travel time is delay

- **Pollutions**
  - Noise: is the most serious environmental problem of motorcycle use
  - Air pollution: two-stroke engine motorcycles
Causes of the Problems

Internal Causes: Transport Issues

- Demand: high intensity and imbalanced distribution
- Vehicles: mixed vehicle technologies on the traffic flow
- Behaviours: immature responses to motorisation of transport
- Road Network: imbalanced distribution, lack of hierarchy, non-standard alleys
- Parking: lack of area and facilities, No consideration for MC
- Public transport: low availability and quality
- Traffic Management: confusing and low effectiveness

Urban and Transport Plans: failed by
- Ambitious goals and objectives
- Foreigner dependent planning
- Lack of resources (technical, financial, human)
- Complicated structure and low competency institutions
Causes of the Problems

- **External Causes: Urban development Issues**

  - **Political and socio-economic conditions**
    - Frequently changing laws and regulations, and institutional structure
    - Quickly increasing income
    - Social conflicts between different income groups and cultural trends.

  - **Demographic conditions**
    - Rapid and uncontrolled urbanisation
    - High density population

  - **Urban form and Land use conditions**
    - Mono-centric urban form
    - Mixed land use in the city centre
    - Sprawled and uncontrolled development in the newly urbanised areas
    - Two-wheeler accessed only block
Which way for urban transport system in Hanoi

Urban Transport Development Scenarios for Hanoi

[adapted from Barter (1999)]

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Note:
- General evolution path of the cities
- Evolution path of some early industrialised cities
- Suitable path for Motorcycle Dependent Cities cities

Congested & oil-dependent City
Compact city concept and Land use change

Transport-related energy consumption
Gigajoules per capita per year

Urban density and transport-related energy consumption

Public transport user incentives

- Metro
- Minibuses
- Taxi
- Peak Trams
- Railway
- Light Rail
- Buses
- Tramways
- Ferries
- Parking Meters
- Car Parks
- Cross-border Buses

Octopus

Launched in 1997
Subsequent expansion
Urban transport information system: Integrated Traffic Management Centre

Source: Straßenverkehrsamt Stadt Frankfurt am Main: IGLZ – Integrierte Gesamtverkehrs-Leitzentrale der Stadt Frankfurt am Main. 2006 / www.mainziel.de
Urban transport information system:
Driver information
Traffic Calming Zone

Sydney

Hà Nội

Some remarks

- Hanoi is still depending on motorcycle strongly in term of accessibility and mobility
- Car use in growing and evidently causing both congestion and accidents
- Almost no chance to have balance car dependent situation
- Transit Oriented Development is a solution but may be the best but may not be the optimal solution within the period of 10 to 15 years
- Cleaner and Safer Motorcycle in combination with bus transport improvement should be emphasized!!!
- Traffic Management must become key strategy in the urban transport development process of Hanoi
Establishment a comprehensive dynamic Traffic Model for Hanoi to use as the basis for traffic management of Hanoi transport system

Intelligent Traffic Management Strategy must become major strategy in formulation and implementation of Hanoi Urban Transport Master Plan to 2030 vision to 2050

To conduct a comprehensive study on traffic management plan for Hanoi in a period of 5 year with a vision to 10 year.

Identify clearly the functions and responsibilities of related governmental authorities and agencies in traffic management.

Recognize urban traffic quality as one of the key performance indicators of Hanoi’s Chairman of People Committee and Party Leader

Recommendations
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Thank you for your attention!