



# Urban traffic situation and possible solutions for HANOI



Hanoi, 6.2013

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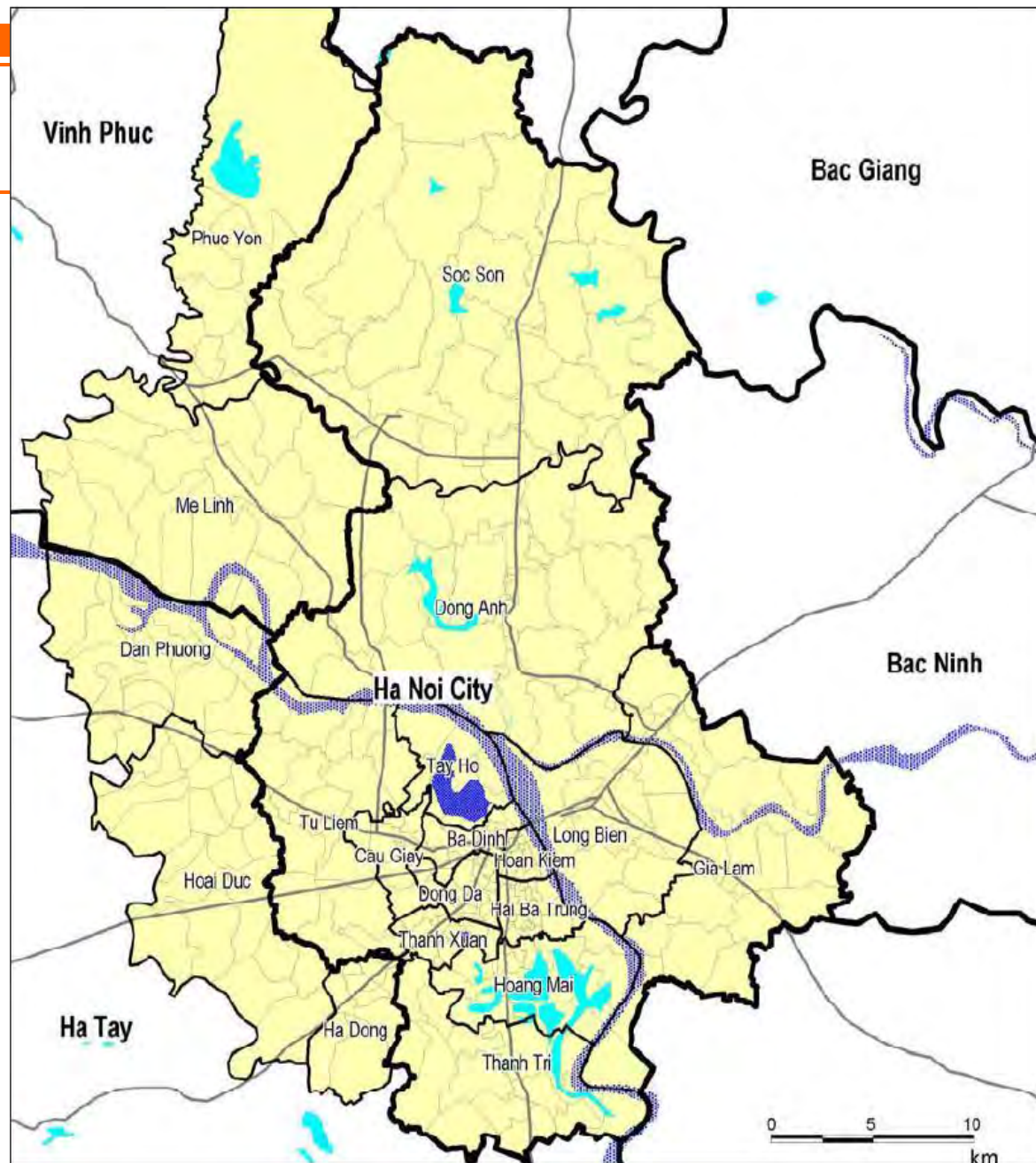


- ❑ Overview of Urban Transportation in Hanoi
- ❑ Hanoi Traffic: Problems and Causes
- ❑ Possible solutions: innovative activities
- ❑ Some remarks and recommendations

## Hanoi current situation

- ✓  $S \sim 921\text{km}^2$
- ✓ Population  $> 5\text{mil.}$
- ✓ Total of 19 districts
- ✓ Average: 2.1 trips/day/pers.
- ✓ Average trip length  $\sim 5.7\text{km}$

*(Survey on 2009)*



# Overview on urban transportation



## Road infrastructure: Improving slowly & inadequate...

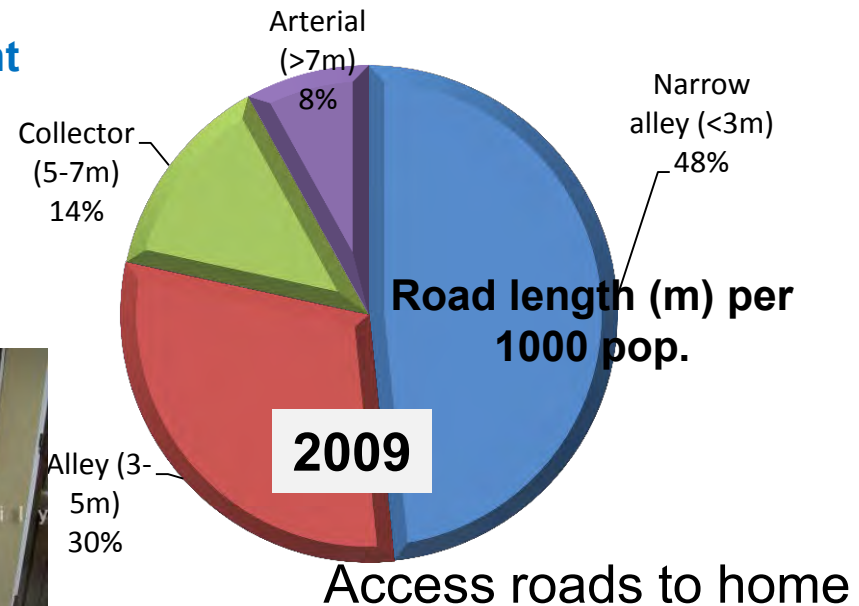
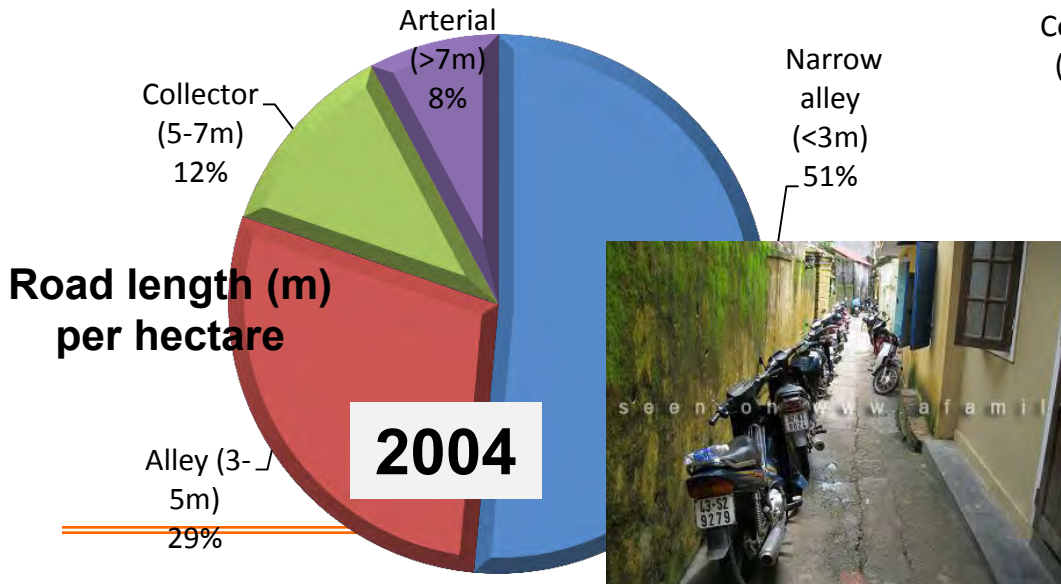
- Low density & supply
- Unbalanced & lack of hierarchical network

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

| Year   | No of routes | No of buses |
|--------|--------------|-------------|
| 2000   | 31           | 334         |
| 2005   | 48           | 680         |
| 2009   | 66           | 983         |
| Oct-13 | 86           | 1200        |
| Nov-13 | 89           | 1240        |

## 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



# 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



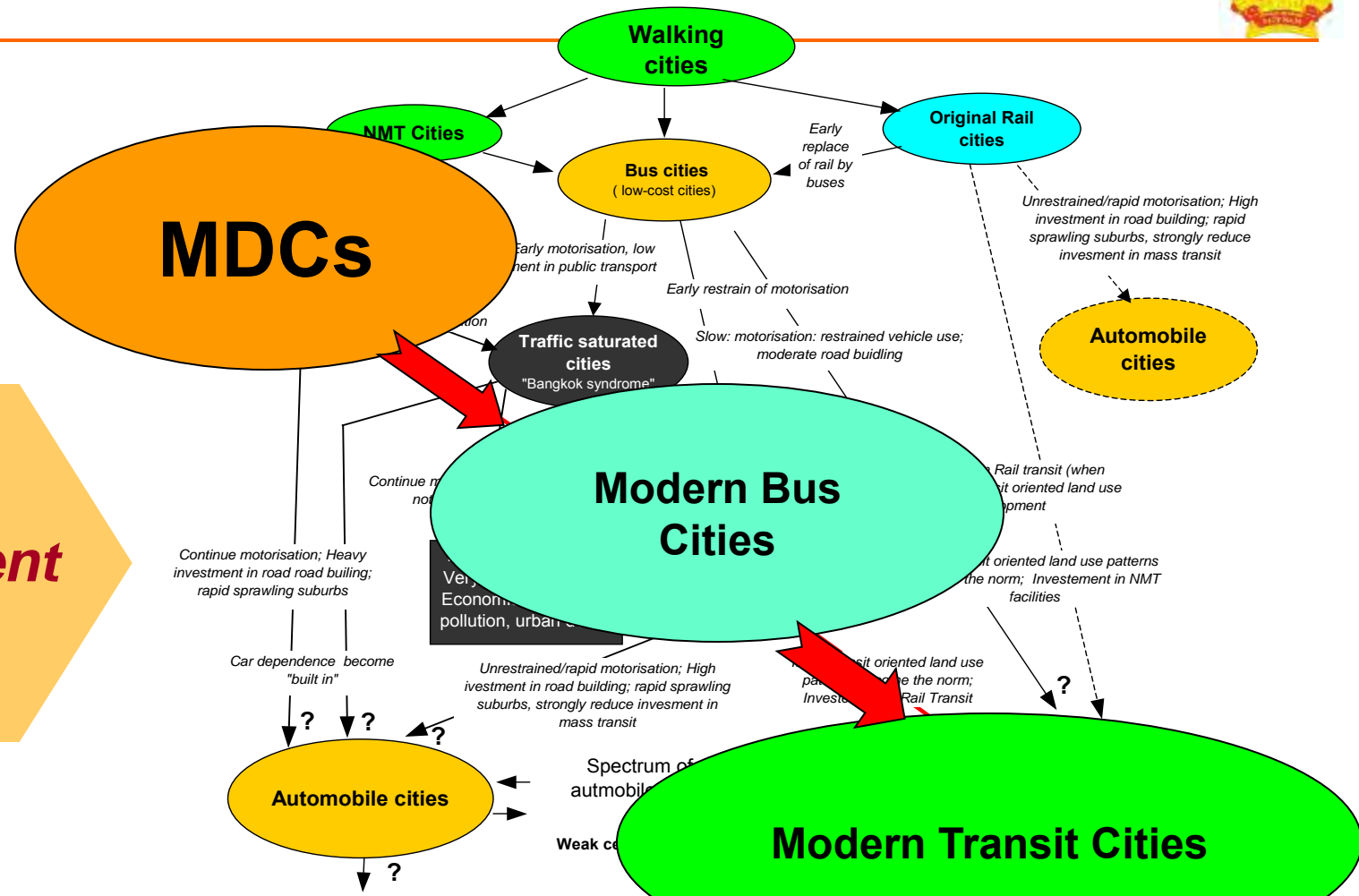
## □ External Causes: Urban development Issues

- **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

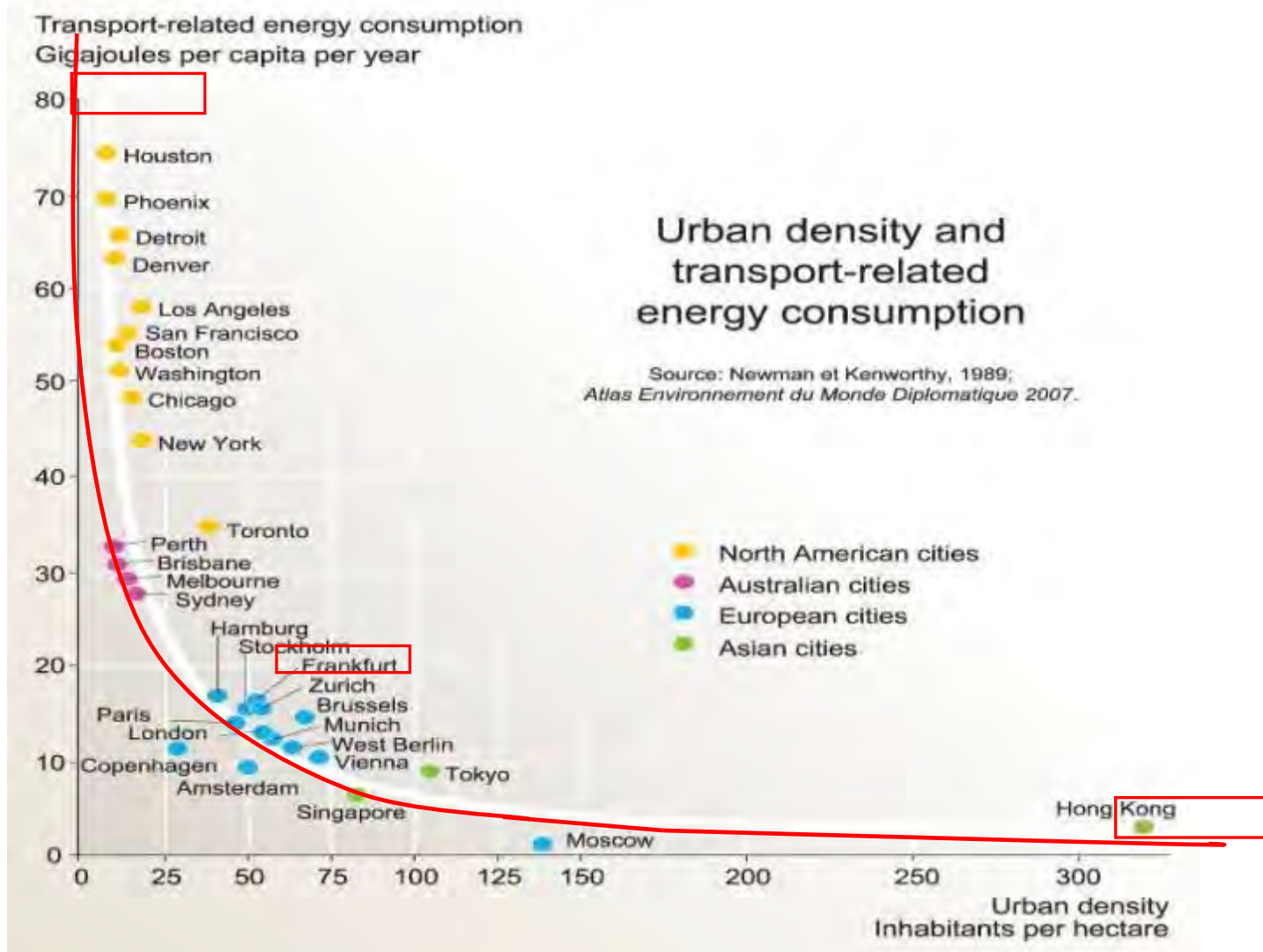


- Note:**
- ▶ General evolution path of the cities
  - ▶ Evolution path of some early industrialised cities
  - ▶ (Red arrow) Suitable path for Motorcycle Dependent Cities cities
  - Congested & oil-dependent City

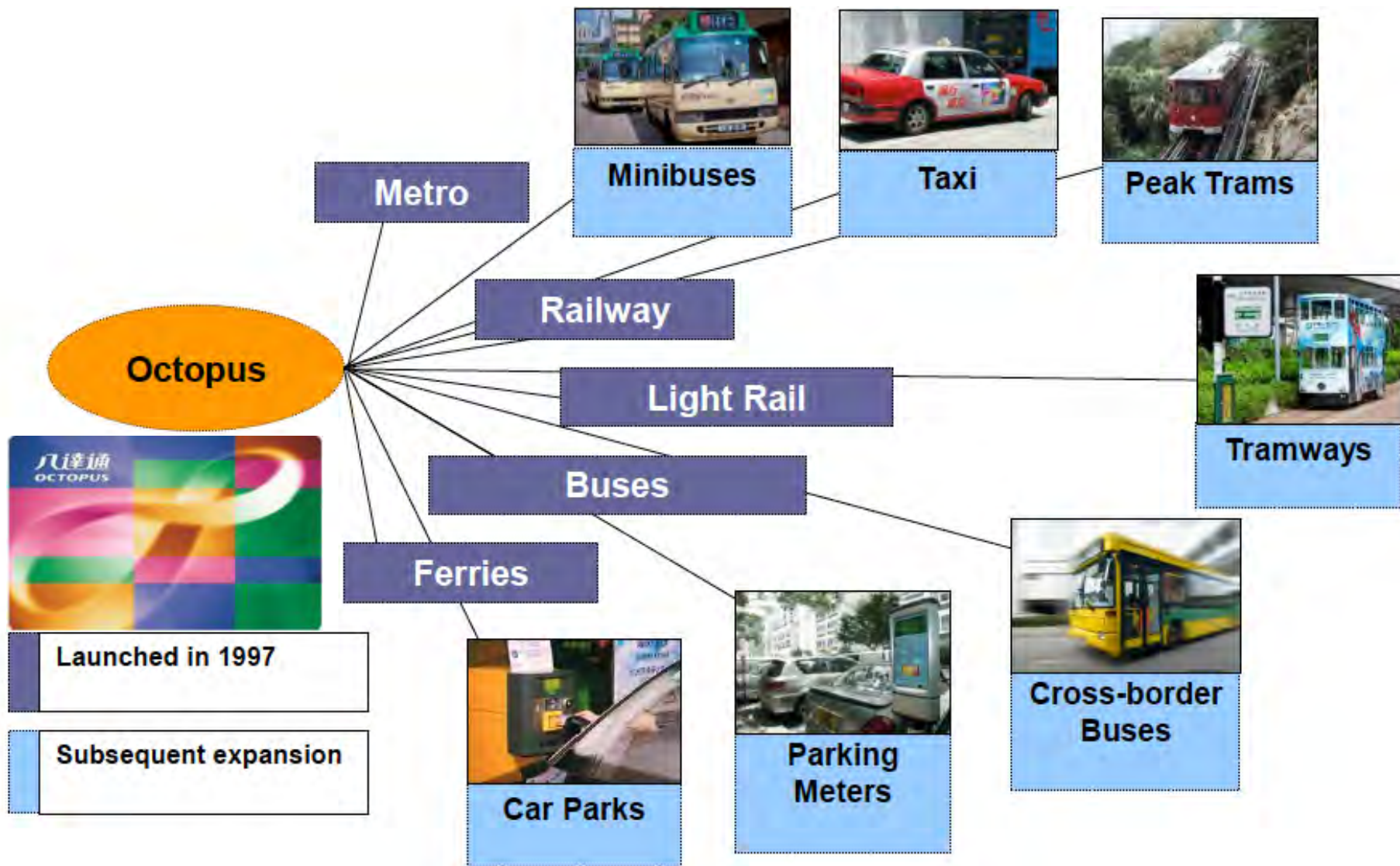
[adapted from Barter (1999)]



# Compact city concept and Land use change



# Public transport user incentives



# 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](http://www.mainziel.de)

# Urban transport information system: Driver information



# Traffic Calming Zone



Sydney



Hà Nội



<http://vnexpress.net/gl/the-gioi/australia-trong-toi/2011/04/mot-goc-sydney/> <http://thethaovanhoa.vn/475N20111117085254343T0/ngo-nho-pho-nho.htm>

## Some remarks



- ❑ Hanoi is still depending on motorcycle strongly in term of accessibility and mobility
- ❑ Car use is growing and evidently causing both congestion and accidents
- ❑ Almost no chance to have a balanced 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 a key strategy in the urban transport development process of Hanoi

# Recommendations



- ❑ 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



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***Thank you for your attention!***