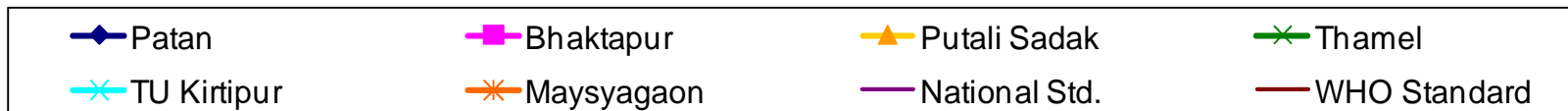
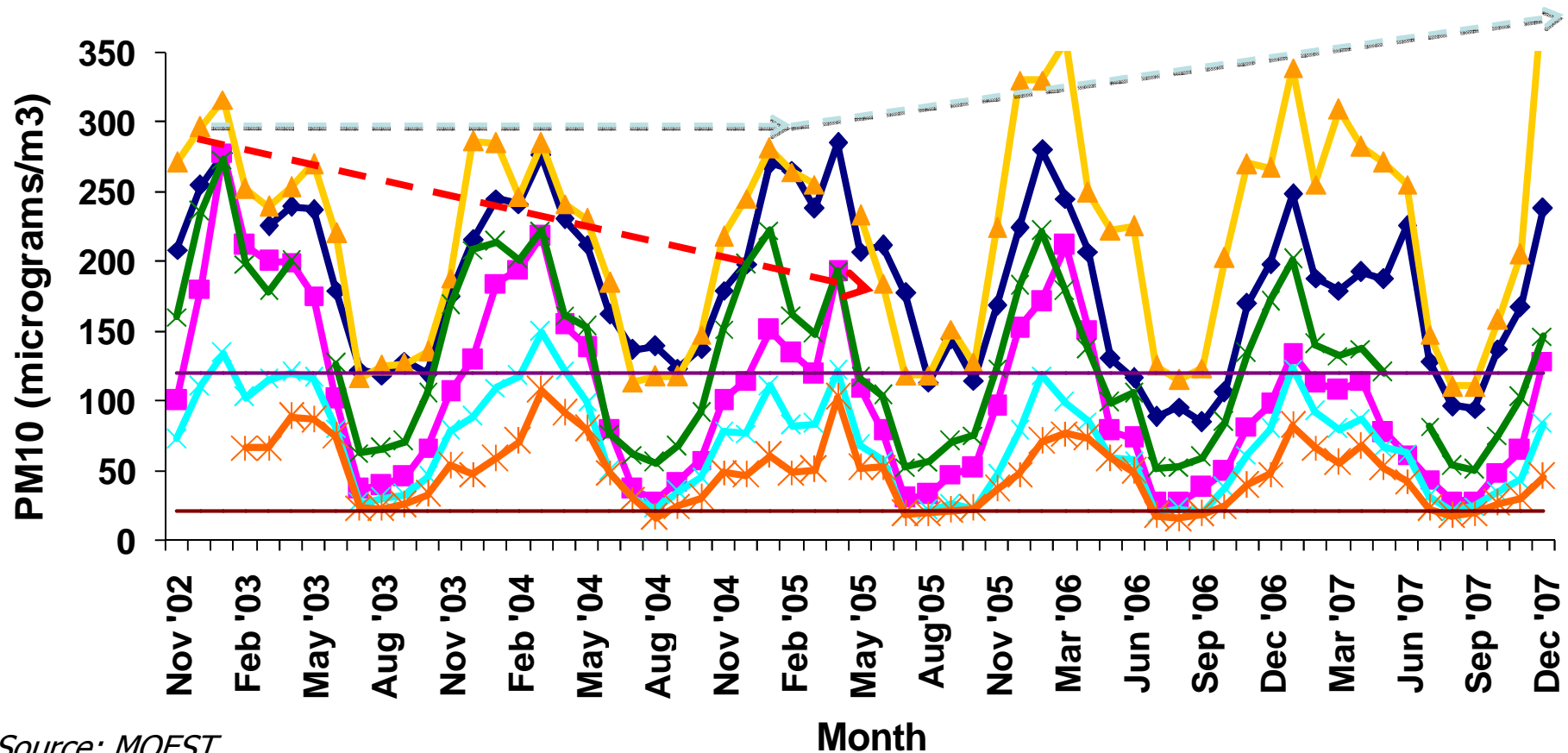


Air Quality & Sustainable Urban Transport in Kathmandu Valley: Challenges & Opportunities

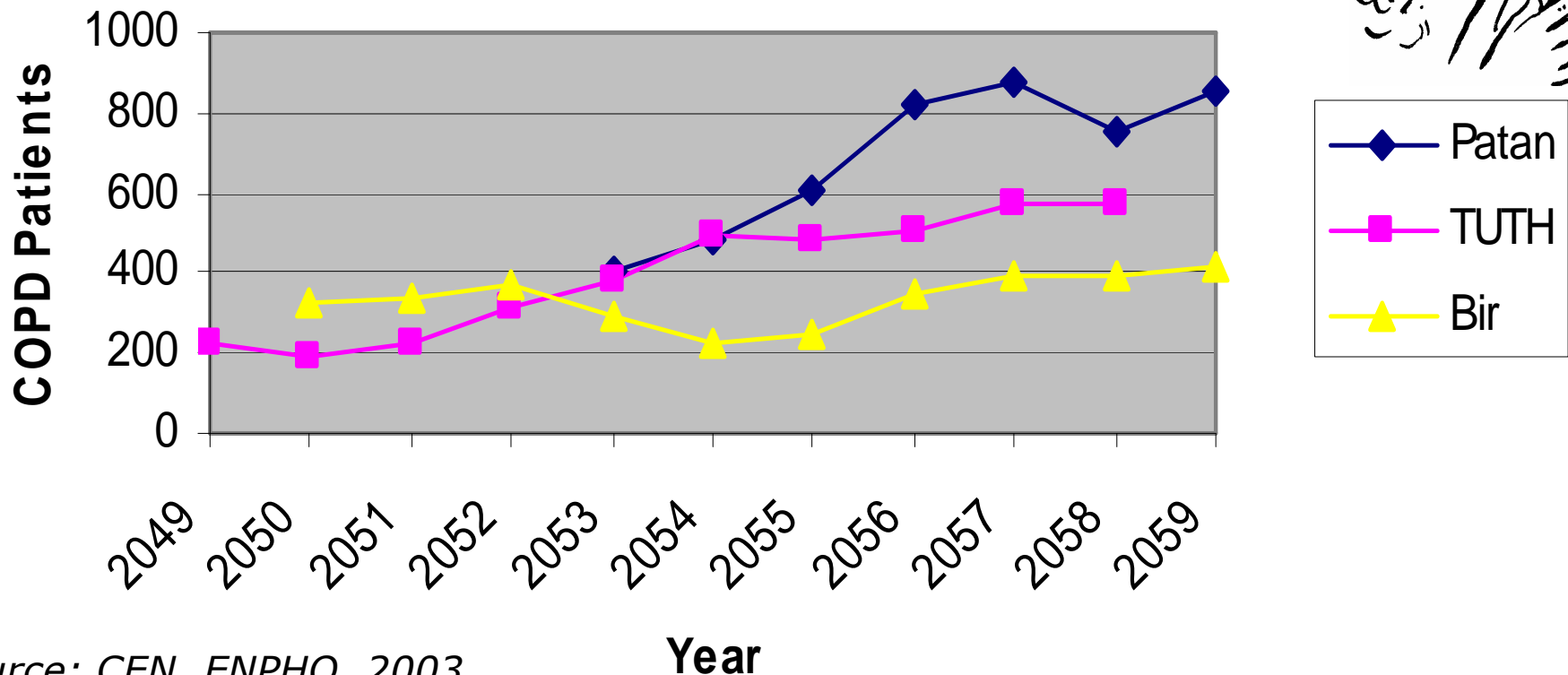
Bhushan Tuladhar

26 July 2012

Kathmandu's Air Pollution (PM10)

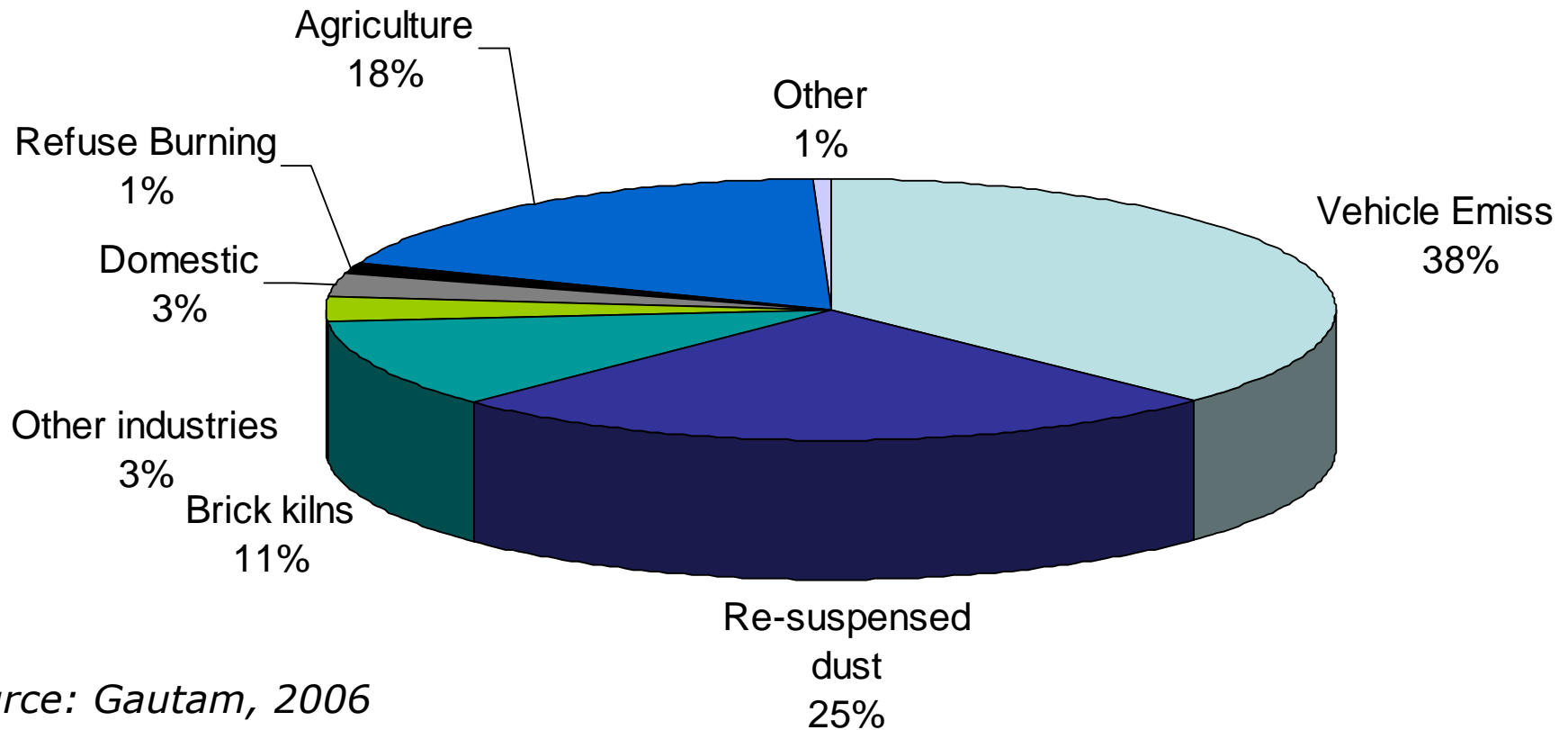


COPD Patients Discharged From Major Hospitals



MOEST, 2005: 1600 premature deaths per year due to KTM's PM10

Emission Inventory in Kathmandu



Over the past 8 years, the number of brick kilns in KTM Valley have not increased by the number of vehicles have more than doubled

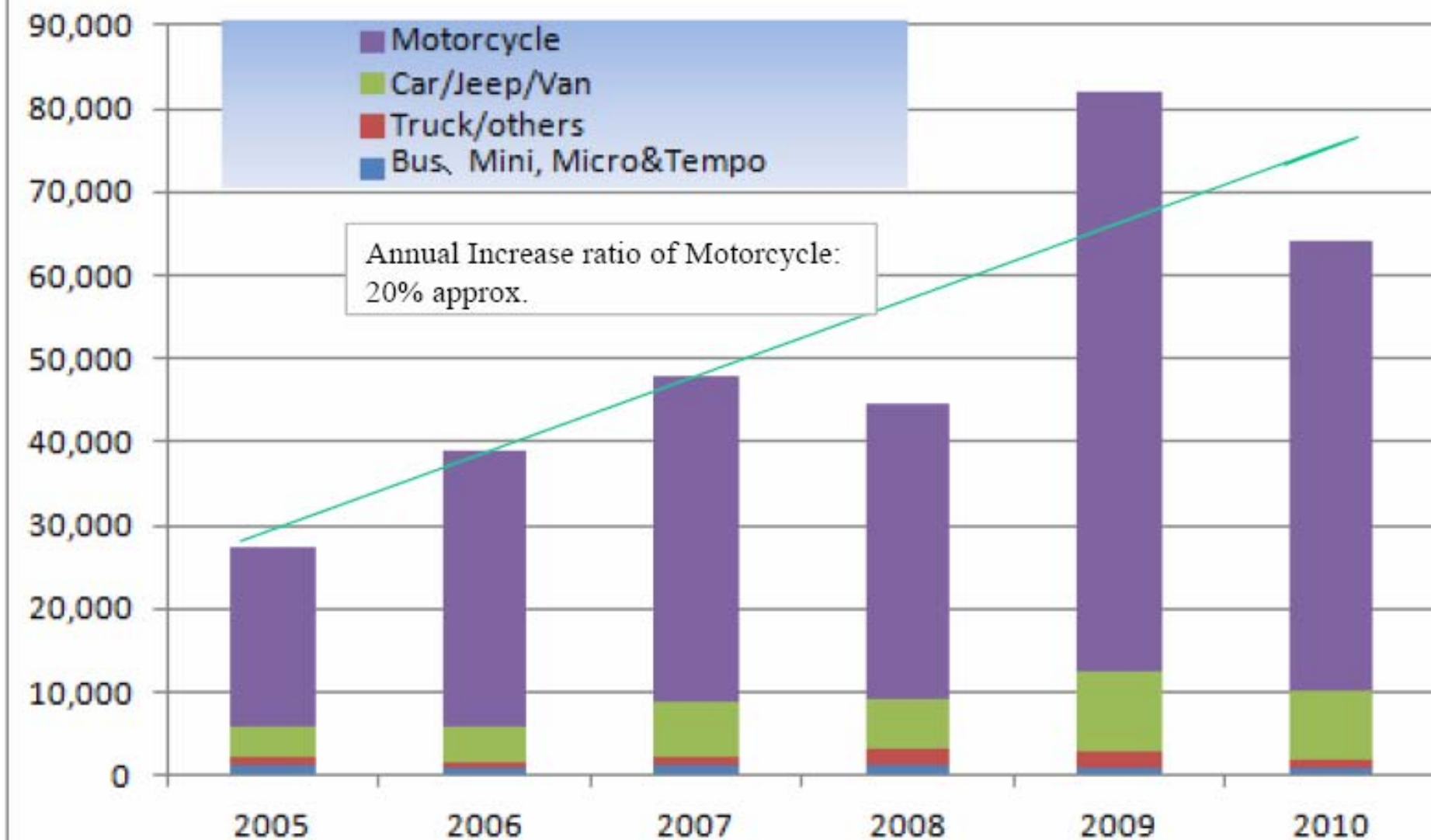
MOEST drafted Air Quality Management Plan for Kathmandu in 1996 but have not yet implemented it.

Challenges in Kathmandu: Rapid & Unplanned Growth

- Nepal's urbanization rate is the highest in South Asia
- Kathmandu Valley – fastest growing metropolitan region in South Asia
- Rapid growth of private vehicles

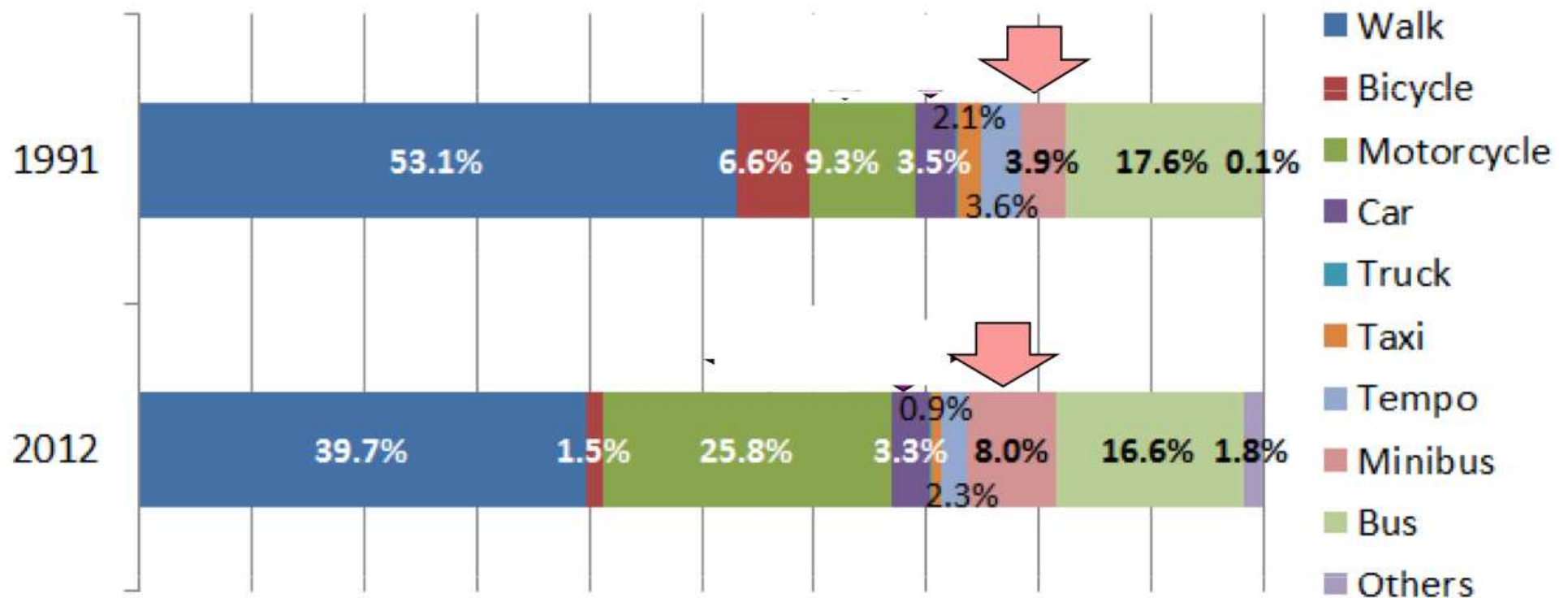


Growth of Vehicles Registered in Bagmati Zone



Source: JICA, 2012

Changes in Travel Mode over 20 years



Source: JICA, 2012

In spite of the large increase in motor cycle users, most people still walk, and 27% use public transportation

Double Decker bus in Ktm | 1977AD

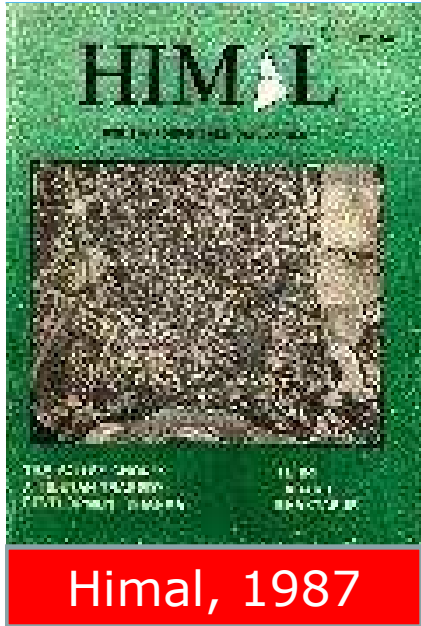


Kathmandu then...

binayak | 1980ies



There have been warnings



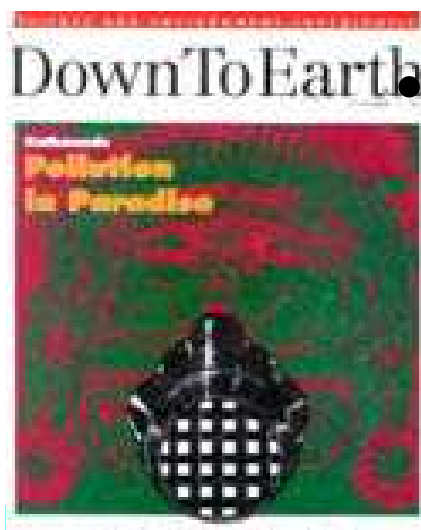
1969: Physical Development Plan for KTM Valley

"Kathmandu is growing fast. In the absence of any coordinated plan for its development, the city is sprawling in a haphazard way creating problems in transportation, water supply, drainage and so forth."

-B.B. Pradhan, Secretary, Ministry of Public Works, Transportation & Communications

"The objectives were: ...To develop an efficient transportation system for the Valley..." [1 of 8 objectives]

- Krishna Raj Pandey, Chief Engineer



Program for Roads and vehicular transport includes:

- "Vehicular traffic in city core areas of Kathmandu, Patan and Bhadgaon must be prohibited"
- "Consolidate existing bus lines in the valley"

CSE, 1992



Four lane road without foot path in Kuleshwor

Many Rich cities depend on public transportation and NMT



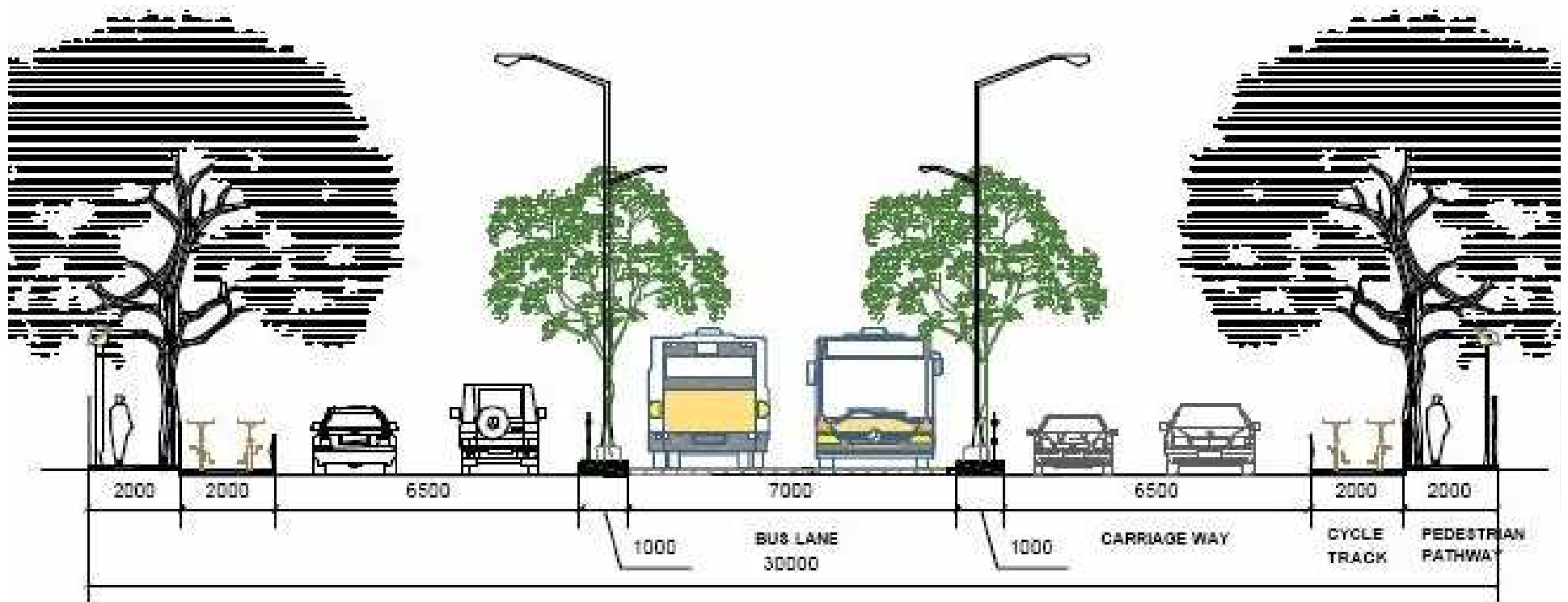
- Zurich is Europe's richest city. Yet 60% of its population takes public transport every day and 20% walk or bicycle.
- 90 % of people in Manhattan, one of the richest cities in the world do not own a car
- Denmark is one of the richest countries in the world. Yet nearly 40 % of Copenhagen's Population use bicycles daily

Need to focus on people-centric not vehicle-centric transport

Opportunities for SUT in Kathmandu

- Relatively small city – walkable, cyclable
- Public transportation operated by private sector can be improved
- Car ownership is still low – 0.085 car/household
- Clean vehicles such as electric vehicles
- Opportunity to learn from others
- New infrastructure projects in the pipeline
 - Ring Road expansion
 - Expansion of Maitighar-Teenekune-Bhaktapur
- Possible to incorporate BRT, cycle lanes and footpath
- Support from partners – KSUT, JICA...

Our Vision for Ring Road?





THANK YOU