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

Bhushan Tuladhar

26 July 2012
Kathmandu’s Air Pollution (PM10)

Source: MOEST

PM10 (micrograms/m³)

Month

Patan  Bhaktapur  Putali Sadak  Thamel  TU Kirtipur  Maysyagaon  National Std.  WHO Standard

Source: MOEST
COPD Patients Discharged From Major Hospitals

Source: CEN, ENPHO, 2003

MOEST, 2005: 1600 premature deaths per year due to KTM’s PM10
Emission Inventory in Kathmandu

- Vehicle Emission: 38%
- Re-suspended dust: 25%
- Brick kilns: 11%
- Agriculture: 18%
- Refuse Burning: 1%
- Domestic: 3%
- Other industries: 3%
- Other: 1%

Source: Gautam, 2006

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
Annual Increase ratio of Motorcycle: 20% approx.
In spite of the large increase in motor cycle users, most people still walk, and 27% use public transportation.
Kathmandu then...
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”
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-Teenkune-Bhaktapur
- Possible to incorporate BRT, cycle lanes and footpath
- Support from partners – KSUT, JICA...
Our Vision for Ring Road?
THANK YOU