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**Urban Transport in India –  
Towards Sustainability**

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**URBAN TRANSPORT IN INDIA  
TOWARDS SUSTAINABILITY**

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## Urban Transport Scenario in India

- India is a very large country with a billion plus population.
- It has nearly 50 cities of more than 1 million each.
- The present urban transport scene is in a decline :
  - Use of cars and 2-wheelers is rising, public transport is inadequate and use of walk and 2-W is falling
- Most cities, it appears are not aware about the role and importance of urban transport.
- While large cities (> 3 million) have initiated steps many more cities (About 1 million) have not realized the un-sustainability of present trends of growth in UT.
- India thus needs a wide range of strategies in its march towards sustainable transport.



## Presentation Structure

- 3 parts
  - Action taken and being taken to promote sustainable transport.
  - The speakers view on essential ingredients of sustainable urban transport .
  - The role of Institute of Urban transport, India.



## Urban Growth Scenario

- By 2051, the population of India is expected to be 1.7 billion.
- The number of 50 million plus population cities is expected to double.
- There will be 15 cities with population in excess of 10 million and 85 cities with population between 1 to 10 million.
- That is the challenge India is facing.



## Towards Sustainability

- To promote sustainable transport, the Government of India has taken 6 significant steps :
  - Announced the National Urban Transport Policy 2006
  - Initiated demonstration sustainable urban transport projects with the help of GEF/UNDP/World Bank
  - Strengthened the institutional set up in cities; Unified Metropolitan Transport Authority
  - Launch of an ambitious Capacity building program
  - Promoting MRT facilities both road and rail based
  - Tightening emission norms and better fuels



## National Urban Transport Policy

- NUTP 2006 aims at promoting sustainable transport in cities in India. Its main thrust is :
  - Bring about a more equitable allocation of road space with people, rather than vehicles, as its main focus.
  - Encourage greater use of public transport and non-motorized modes; walk, bicycle and cycle rickshaw.
  - Establish multi-modal integrated public transport systems.
  - Address concerns of road safety.
  - Reduce pollution through changes in travel habits.



## Demonstration Projects

- The GEF SUTP demonstration project has two components:
  - Capacity Development of Institutions and Individuals
  - Demonstration projects; Two BRT, one NMT, 2 ITS
- The projects will help bring about a paradigm shift in the way India's urban transport systems are planned and managed from unsustainable development patterns to sustainable low-GHG urban transport development.
- Total cost is US\$ 375 million; US\$ 150 million by GOI.



## **Unified Metropolitan Transport Authority**

- The current institutional set up in cities is weak.
- Nearly 20 components of urban transport are managed by as many agencies without much coordination.
- Efforts have been made for the last 30 years to have a dedicated authority for urban transport in cities.
- With the start of the JNNURM in 2007, the Government has tied its financial assistance to cities setting up UMTA and implementing other policy reforms.
- As a result 14 cities are at various stages of setting up UMTA with similar no. of professional agencies to support UMTA.



## **Capacity Building Program**

- It has the following main components :
  - Training of 2500 city staff over a period of 5 years
  - Academic program to develop skilled manpower
  - Dissemination of information through publications, Knowledge Maintenance Center and conferences
  - Coordination of research activity in India
  - Developing Legal and administrative frameworks
  - Developing codes and standards on UT topics
  - Development of National level consultancy agencies
  - Arrangement of safety certification of Guided Urban Transit Systems (GUTS)



## Training Modules

Training is proposed in 9 modules because perception level of cities of different sizes is different and the nature of training to be imparted will differ depending on the level of the official as shown in the matrix below :

Population (Millions)	Upto 1 Million	1-4 Million	More than 4 Million
Decision Makers	X	X	X
Middle Level	X	X	X
Working Level	X	X	X



## 3<sup>rd</sup> Annual Conference on Urban Mobility

- The conference on urban transport is an annual feature.
- It is to be held from Dec. 3<sup>rd</sup> to 5<sup>th</sup> every year in Delhi.
- The theme of the 3<sup>rd</sup> conference is “Sustainable Urban Transport: Accessible and Inclusive Cities”.
- Earlier conferences have been attended by > 400 delegates; decision makers and professionals.
- Speakers include both local and international.
- There is an attached EXPO; 30 stalls last year.
- At the conference, the Government gives 10 awards to best practice projects in various categories.
- IUT is organizing the conference in partnership with Mirabilis Advisory (P) Ltd



## Mass Rapid Transit and NMT

- There are 7 cities with population in excess of 4 million.
- The first 5 cities are expanding rail transit systems. The other 2 cities are actively planning rail transit system.
- Nearly 100 km is operating; 250 km is under construction.
- In addition 11 cities are introducing BRT in their cities and 2 more are in the planning stage.
- For NMT, cities are improving facilities for bicycles and pedestrians with dedicated lanes and footpaths.
- Design of the cycle rickshaw has been improved and a definite role is being assigned to it.



## Standard Bus Services

- Bus is a very crucial and critical component of the mass rapid transport system in a city.
- Bus services in Indian cities however have been limited to 10 – 15 cities only.
- The Government has recently sanctioned nearly 16000 buses to the 63 cities to improve PT.
- Policy reforms in Institutional set up, parking, advertising and Transit Oriented Development are mandatory.
- Cities have been further asked to set up an Urban Transport Fund, waive or reimburse state and local taxes on public transport to improve financial health of services.
- Use of ITS for operation to improve quality of service.
- Thus many more cities should be operating bus services.



## Emission Norms

- Emission norms for new vehicles were introduced in the year 1991. These have been gradually tightened and today Bharat Stage IV norms for fuels and vehicles have come into force from April 1, 2010 in 13 cities of India.
- Similarly Government of India has tightened the emission level of CO and introduced the measurement of HC emissions in petrol vehicles.
- In respect of Diesel vehicles, Oil temperature & RPM measurement has been included in the test procedure.
- 2-stroke engines are replaced with 4-stroke engines.
- The excise duty on big cars and sports and multi-utility vehicles has been raised by 2%.



## Quality of Fuel

- The quality of fuel has been significantly improved :
  - Leaded petrol has been completely phased out
  - Sulphur content of Diesel has been reduced in stages from 0.8% gm/litre to 0.05% w.e.f. March, 2001
  - The quality of petrol being supplied has been improved by reduction of Sulphur content to 0.05% & Benzene Content to 1%
  - CNG (short for Compressed Natural Gas) is emerging as an attractive alternative fuel due to its clean burning characteristic and very low amount of exhaust pollution
  - Budget 2010 has set up a National Clean Energy Fund for financing research and innovation in clean energy technology
  - Taxes and duty reductions for solar energy technologies and LEDs will give the necessary impetus for the growth of renewable energy technology in the country



## Status in Delhi

- Delhi has nearly 6.1 million vehicles mostly Cars and 2-Wheeler
- Delhi has taken action to control air pollution over the past decade :
  - 15-year old commercial vehicles are off the road
  - Transit freight traffic passing through the city is restricted
  - Nearly 300,000 buses, three-wheelers and a great part of taxis and private cars run on CNG
  - Pollution check, public awareness, use of catalytic converter and phasing out of old vehicles are the other steps. Nearly 0.3 million vehicles were checked and most had 'PUC certificate'
  - Public transport is being augmented with metro, bus, and NMT is being promoted by upgrading walk and bicycle paths
  - In the context of CG, Infrastructure is being upgraded through construction of flyovers, bridges, road widening, junction improvements, corridor improvement and street-scaping, new street lights and new signages.



## Essential Ingredients for Sustainable Transport





## **Essential Ingredients in Sustainable Transport**

- Making cities walk-able is an immediate measure
- There are 4 long term measures for achieving sustainable transport :
  - Comprehensive Mobility planning for the city
  - Compact city so that it is NMT and PT friendly
  - Public transport system to be Citywide, Multimodal, integrated
  - Interchanges with minimum time penalty



## **Comprehensive Mobility Plan**

- Urban transport is not just PT and NMT.
- It has nearly 20 components :
  - Modes of transport i.e. buses, para-transit, NMT, car, 2-W and goods vehicles
  - Infrastructure; roads, intersections, bridges, terminals, interchanges, parking, pedestrian/bicycle facilities
  - Water/rail transit have dedicated tracks and terminals
  - Related activities include traffic management, enforcement, training of drivers, licensing
- All these features must be planned and implemented simultaneously for full benefit.



## **Compact City**

- Walk, bicycle and cycle rickshaw are short distance modes.
- Public transport requires concentrated demand to remain financially viable.
- Both NMT and PT are sustainable modes.
- A compact city will promote both NMT/PT.
- A compact city is thus to be preferred to an urban sprawl.



## **Citywide Public Transport System**

- Commuter needs to be assured that he can complete his journey all the way by PT
- Hence a citywide PT network is essential
- The worry of the last mile makes a commuter use his personal vehicle rather than PT
- Planning should be 'door to door'
- Stations/stops to be conveniently and safely accessible by walk, bicycle, feeder, car, 2-W
- This will promote the use of public transport and improve the financial viability and hence sustainability



## Interchanges

- Urban agglomerations will not permit point to point public transport services
- Most commuters will need to change modes
- Interchanges should enable commuters to do so conveniently and with minimum time penalty
- Interchanges are important for seamless travel
- Design of efficient interchanges therefore is as important as planning an integrated multi-modal public transport system



## Role of Institute of Urban Transport

- IUT is a professional body set up in 1997 under the purview of the MOUD Government of India.
- Secretary to the Ministry is its President.
- It has more than 1000 members spread across the country and provides professional support to the Ministry in implementing various projects.
- IUT is currently assisting the Ministry in the capacity building exercise under the GEF project and will continue it after the implementation of the initial phase of the project



## Small Cities

- The primary mission of the Institute is to assist cities in developing their transport along sustainable path.
- Accordingly the Institute has launched an awareness campaign to make small and medium size cities aware
  - of the adverse environmental consequences of inaction
  - introduce them to the importance of UT, and
  - to advise them on 'how to start and where to start'
- Thereafter IUT will handhold cities and assist them in initiating steps to grow along a sustainable path until they develop in-house skills.
- Otherwise these cities may end up as major problem cities of tomorrow requiring expensive solutions.



## India is on the move

- Urban transport in India is finally getting attention.
- The role of urban transport in controlling pollution, energy consumption, accidents and improving livability and economic well-being of the city is being increasingly appreciated.
- You are cordially invited to the '3rd Urban Mobility Conference' in Delhi from Dec. 3rd to 5<sup>th</sup> and see it for yourself .



Thankyou

