Preface

The Government of India has formulated a National Urban Transport Policy (NUTP), 2006 which seeks to work out an approach for dealing with the rapidly growing problem of Urban Transport as also to offer a clear direction and framework for future action in the area of Urban Transport. The policy inter-alia envisages institutionalization of an Annual Urban Transport Conference to bring together the urban transport professionals and officials in the country as well as international experts to facilitate exchange of information, learn from developments and experience abroad and also share their experiences. This will go a long way in not only dissemination of information but also in capacity development at various levels. As such, it was decided by the Ministry of Urban Development of the Government of India that w.e.f. 2008 a mega Conference-cum-Exhibition on Urban Mobility would be organized by the Institute of Urban Transport on behalf of the Ministry at New Delhi every year coinciding with the anniversary of the launch of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) on 3rd December every year. For the current year, this Conference-cum-exhibition was held from 03rd to 05th December at the Pragati Maidan, New Delhi. The Conference was held in Hall No. 7 of the Pragati Maidan and the Exhibition was organized by M/s Expoworld in Hall No. 6 of the Pragati Maidan. It was also decided that on the last day of the Conference cum Exhibition, awards for Excellence in Urban Transport would be given to the selected organizations.

The aim of this Conference cum Exhibition was to bring all the technology and service providers from India and abroad, in all the fields of urban transport from pedestrians, non motorized transport, Metro, Bus, BRTS, LRT, Trams, Inland water Transport, Ropeways, Parking and ITS as well as all the policy makers, practitioners and officials under one roof.

The conference and the exhibition were inaugurated by Shri. Jaipal Reddy, Hon'ble Minister for Urban Development, Government of India on the 3rd December, 2008. The Hon'ble Minister also released two books viz. Urban specifications and Bus Rapid Transit Developments in India – A comprehensive documentation of the status of BRT in ten cities of India. Dr. M. Ramachandran, Secretary (UD) and Ms. Kiran Dhingra, Secretary (HUPA) also addressed the inaugural session. The joint session was attended by more than 400 invitees and about 200 delegates. An Exhibition was also organized simultaneously with the Conference, which had 35 exhibitors (list at **Page 52**). Shri. Ajay Maken, Hon'ble Minister of State for Urban Development, Government of India presided over the valedictory function on the 5th December, 2008 and gave away the awards of excellence. Speech of Shri Ajay Maken, Hon'ble Minister of State for Urban Development, is at **Page 18**.

The Institute of Urban Transport was assigned the role of organizing the conference. The IUT organized the conference through a Steering Committee Chaired by Secretary (UD), an Organizing Committee chaired by Director (UD) (now OSD (MRTS) and a number of sub-committees, consisting of members and officials of the IUT. All the logistics of the Conference including the invitation of resource persons, delegates, venue arrangements, logistics for reception and stay of international resource persons etc. were handled by these committees and sub-committees. List of members of various committees/sub-committees are at **Page 49**. The Conference was partially funded by the Ministry of Urban Development and partially through delegate fees and sponsorship fees.

We must compliment, Shri K.S. Saha, Advisor, Shri Sandeep Sharma, Account Executive and Ms. Rana Ansari, Transport Specialist from Institute of Urban Transport and Ms. Kanika Kalra, Transport Specialist & Asstt. Manager, Urban Mass Transit Corporation (UMTC) who have provided assistance in bringing out this document for which the Institute conveys its gratitude.

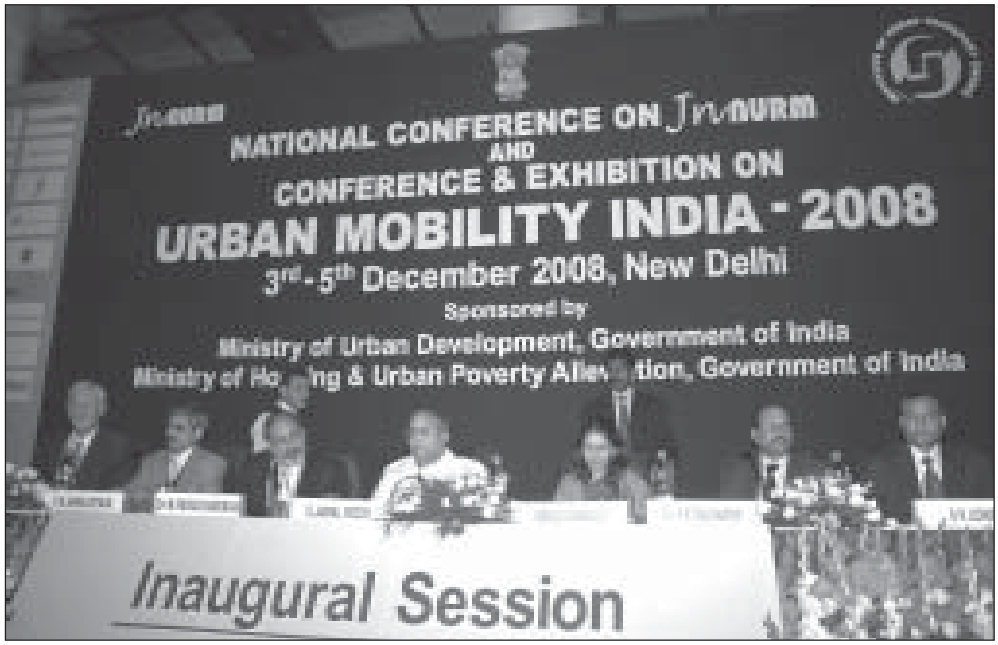
B.S. Diwan
Executive Secretary
Institute of Urban Transport

6th March, 2009

INAUGURAL SESSION

Conference Programme

The Conference had various technical sessions and panel discussion with eminent national and international experts on various subjects related to Urban Mobility such as Comprehensive Mobility Planning & Land Use- Transport Integration, PPP in Urban Transport, PPP in Guided Mass transit systems, Guided mass transit as sustainable options for urban mobility, Best practices in Organizing Para Transit and Travel Demand Management, Best practices in promoting Non Motorised Transport, Planning feeder systems for mass transit, Climate Change and opportunities for Clean Development Mechanism (CDM) in urban transport, Innovative financing for urban transport, Use of Intelligent Transport Systems, Institutional arrangements.



Hon'ble Minister inaugurating the event Dr. M. Ramachandran, Secretary, Urban Development and Smt. Kiran Dhingra, Secretary (HUPA) also in the picture.

The inaugural session on the 3rd December, 2008 was a joint session of the National Conference on JNNURM and Urban Mobility India 2008. The detailed conference program is indicated below.

Conference Programme

Inaugural Session
Presentation of bouquets
Release of books/ toolkits by Minister (Urban Development)
Address by Secretary (HUPA)
Address by the Secretary (Urban Development)
Keynote address
Address by Chief Guest- Minister, Urban Development
Presentation of JnNURM awards
Vote of thanks by OSD (MRTS)
Keynote address and Technical Highlights

Technical Sessions		
(i) Technical Session-1	-	Comprehensive Mobility Planning & Land use-Transport Integration
(ii) Technical Session-II A	-	PPP in Urban Transport
(iii) Technical Session II-B	-	Guided Mass Transit as Sustainable Options for Urban Mobility
(iv) Technical Session III- A	-	Best Practices in Organizing Para Transit and Travel Demand Management
(v) Technical Session III-B	-	PPP in Guided Mass Transit Systems
(vi) Technical Session IV-A	-	Best Practices in Promoting NMT
(vii) Technical Session IV-B	-	Planning Feeder System for Mass Transit
(viii) Technical Session V	-	Mobility Planning & Management Using Intelligent Transport System
(ix) Technical Session-VI	-	Innovative Financing for Urban Transport
(x) Technical Session VII	-	Institutional Arrangements
(xi) Technical Session VIII	-	Climate change and opportunities for clean development mechanism CDM for Urban Transport
Valedictory Session		

SPEECH OF THE SECRETARY (URABN DEVELOPMENT)

Dr. M. Ramachandran, Secretary, Ministry of Urban Development addressing the delegates

The Secretary while welcoming the delegates to the Joint session of the National Conference on JnNURM and Urban Mobility India, 2008 observed that JNNURM has truly become a catalyst for implementation of the 74th Amendment to the Constitution. He noted with satisfaction that the twin approach of linking urban sector reforms with financial support for large-scale capital investments for urban infrastructure has been well accepted by states and cities across the country. He highlighted some of the significant progress achieved by the Mission in triggering urban infrastructure investment and implementation of urban reforms across the country. He also observed that the JNNURM, has in addition to providing basic services in the urban area, has also initiated a strategic focus on urban mobility and transportation. In the area of Urban Mobility he highlighted the progress made so far, which included introduction of modern city bus services with private sector participation in 8 cities, nine bus rapid transport systems projects being under implementation, metro projects being sanctioned for Bangalore and Kolkata with central and state assistance and Metro projects under PPP being taken up in Hyderabad and Mumbai and under consideration in Chennai.

He also touched upon some of the initiatives in urban mobility and transport, which have been taken up under the Mission. These included the setting up of a dedicated Urban Transport Fund in few cities, setting up of a Land Transport Authority in some cities, nomination of one department as the nodal department for urban transport in four states, 12 cities across India having prepared Comprehensive Mobility Plans, launching of innovative projects for scientific management of auto rickshaws in some cities, reciprocal common transport agreement being signed between Delhi and neighboring states and finally, the Ministry of UD recently appointing a national consultant for supporting cities in leveraging the Clean Development Mechanism in order to access carbon credits for their urban transport projects.

The Secretary also shared with the delegates the decision of the Ministry for the awards to be given for excellence in urban transport in various fields.

Finally he called upon the delegates and participants to constructively engage with one another to share their experiences and arrive at workable solution to address the challenges or urban transportation covering a broad spectrum of issues ranging from those relating to basic services to those of urban mobility.

SPEECH OF THE HON'BLE MINISTER OF URBAN DEVELOPMENT

Hon'ble Minister addressing the Conference

The Hon'ble Minister in his speech, made the following observations:

Keeping in view the pace of urbanization and the rapid growth of the urban economy, there is a need to support the process of urbanization with particular emphasis on bringing about improvements in urban governance, infrastructure development and service delivery. Cities and urban centres in India are facing significant deficiency as far as quality infrastructure and basic services are concerned. The three major gaps/challenges facing our cities are infrastructure, finance and governance. He noted that the JNNURM has been launched with the goal of achieving "reforms-drive" fast track and planned development of identified mission cities. He also noted that the States and Cities have been actively reaping the benefits of the Mission.

For urban areas to be able to support the required level of economic activity, easy and sustainable mobility is essential. However, such mobility is facing several problems of congestion, pollution and accidents coupled with lack of coordination amongst various agencies. These problems need to be addressed in order that it does not become a major hurdle to economic growth and cause deterioration in the quality of life.

There is an absence of organized city bus services in most of the cities and even where they exist, the quality is not high enough to motivate commuters to prefer public transport over personal transport whereas worldwide dependence on public transport is the accepted norm.

To address the challenges of providing an incentive to the adoption of public transport, Government has approved a comprehensive National Urban Transport Policy, which focuses on returning the roads to the people, which have been colonized, by the vehicles. Substantial financing is being made available under JnNURM and other schemes of the Central Government for implementing the NUT policy by various states.

The following initiatives have been taken up by the Government for improving the quality of urban mobility:

- Setting up of an ITS enabled modern city bus services in all the cities
- Standardisation of the quality of buses for urban transport for which Urban Bus Specifications have been formulated in consultation with all the Stakeholders
- A new scheme for capacity building in urban transport has been prepared for which the Institute of Urban Transport will be strengthened to discharge this responsibility.
- 4 Centres of Excellence would be established in the field of urban transport from amongst various premier academic institutions in the country.
- State Governments are being urged to set up a Dedicated Urban Transport Fund - proceeds of which can come from earmarked state and local taxes – to exclusively meet investment requirements on urban transport.

The Hon'ble Minister identified the following two pillars of paradigm shift as the key challenge for quite some time to come. These are firstly keeping the interests of the pedestrians/cyclists at the core of all urban infrastructure and transport projects and secondly, aligning the land-use and urban planning with the transport requirements of our people. For this purpose, there is a need to alter our mindset and steer away from the personalized transport to the public transport. In case attractive options of public transport are provided, it will persuade the urban commuters to shift voluntarily to the public transport systems.

Finally he expressed optimism in overcoming the challenges in case we work in a milieu of collective and cooperative engagement and through which we can transform the future of our cities.

Keynote address and Technical Sessions

There were in all 11 technical sessions during the conference. The highlights of each of the technical sessions are indicated below along with the highlights of the keynote address delivered at the inaugural session.

Keynote address Highlights

The keynote address was delivered during the inaugural session by Prof. Ralph Gakenheimer, a renowned Professor at the Department of Urban Studies and Planning at Massachusetts Institute of Technology U.S.A. He has advised a number of countries and international organizations on Urban Transport and has a large number of publications and papers to his credit.

Prof. Ralbh Gakenheimer giving Keynote address

The keynote address of Prof. Gakenheimer was on “Trends in Cities, Planning and Development”. He identified the trends affecting cities, planning and development viz. climate change, migration, ethnic and racial conflict, technology, complex decision making, large scale development, emergence of hybrid public-private realm and holistic thinking about the city and its impact on urban transport. A comparative analysis of cities in India and China was also presented. The address also covered policy developments in India over the last 30 years were elaborated. In the end he stressed that holistic thinking though not fully a trend was an important need in the planning and development of urban transport system.

TECHNICAL SESSIONS

TECHNICAL SESSION -I

COMPREHENSIVE MOBILITY PLANNING AND LAND USE-TRANSPORT INTEGRATION

The session was chaired by **Mr. Hans Rat** Secretary General, International Association of Public Transport (UITP), Brussels since 1998. Mr Rat has been responsible for UITP's expansion onto the global marketplace; a stronger representation of all mobility actors within the Association; a more decisive role in policy development; and the active involvement of UITP members in their Association's activities. Mr. Rat had earlier been Chairman of the Commission on Transport Economics, Vice-President, and member of the European Union Committee.

The speakers at the session included

(i) **Mr. Sam Zimmerman**, senior urban transport specialist at the World Bank who made a presentation on **"Comprehensive Metropolitan Mobility Planning"**;

(ii) **Mr. J.B. Kshirsagar,** Chief Planner, Town and Country Planning Organisation, Ministry of Urban Development, Govt. of India who made a presentation on "**Transit Oriented Development – Pros and Cons in the context of NCT, Delhi"**;

(iii) **Mr. Mohinder Singh**, Director, Research & Planning, Dean, Land Transport Authority LTA Academy, Land transport Authority, Singapore who made a presentation on "**Mobility Planning & Land Use – Transport Integration in Singapore**";

(iv) **Mr. Fabio Duarte**, a professor and director of the Master in Management of Urban Catholic University of Parana made a presentation on " **The Challenges of Success – Metropolitan Mobility – case study of Curitiba**";

(v) **Mr. B.B. Mehta**, Suptd. Engineer, CIDCO who made a presentation on "**Integrated Transportation System for Navi Mumbai**".

(vi) A presentation was also made by the Urban Development Department of Government of Tripura on "**Comprehensive Mobility Plan for Agartala**", which was adjudged as one of the winners of the award for excellence in Urban Mobility.

Session Summary

The session deliberated upon the need and essential imperatives of Comprehensive Mobility Planning & Land use-Transport Integration. Various interesting case studies on Transit Oriented Development for Singapore, Curtiba, and Navi Mumbai & Delhi were presented. The main recommendations emerging out of the deliberations were:-

1. Cities should have certain budgetary provision for mobility planning.
2. Land use transport integration should be an essential component of mobility plans.
3. Transit Oriented Development (TOD) can be usefully adopted to address growing congestion and environmental degradation in large / million plus cities.
4. Higher densities should be assigned along transport corridors.
5. For an effective Comprehensive Metropolitan Mobility Planning (MMP) there is a need to adopt 5 C's approach, namely comprehensive, continuous, cooperative, connected and championed.
6. A multi modal public transport approach should form part of strategic planning efforts in the cities with emphasis on land use, systems management and operation policies.

TECHNICAL SESSION -II A

PPP IN URBAN TRANSPORT

The session was chaired by **Mr.Gaurav Gupta**, Member – Convenor of Bangalore Metrolopolitan Land Transport Authority.

The Speakers at the session included:

(i) **Mr. Dario Hidalgo**, a Senior Transport Engineer for EMBARQ, the World Resources Institute Centre of Sustainable Transport in Washington DC, USA, who made a presentation on **"Public Private Partnership in the Transmilenio Bus System";**

(ii) **Mr. I.P. Gautam**, IAS, Municipal Commissioner, Ahmedabad who made a presentation on **" PPP Applications – BRTS, Ahmedabad";**

(iii) **Mr. S. Mulchandani**, Executive Director, Ramratna Infrastructure Pvt Ltd , who made a presentation on **" PPP in Parking Infrastructure";**

(iv) **Mr. S. R. Ramanujam**, Director, CRISIL, who made a presentation on **" Toolkit for PPP in Urban Bus Transport"**

Session Summary

The session deliberated upon the Public Private Partnership (PPP) structures in various components of urban transport including BRT, bus system, parking and bus terminal. Various case studies for Bogota, Ahmedabad and Dehradun were discussed followed by presentation on the tool kit for PPP in urban bus transport.

The main conclusive observations emerging from the discussions were:-

1. PPP in urban transport has been successfully put into practice in cities around world. Certain essentials for success of PPP approach in urban transport are:
   - Adequate distribution of risks and responsibilities with private sector.
   - Regulation through binding contracts.
   - Well –staffed and empowered planning and implementation team.
2. Indigenous and city specific model of PPP needs to be evolved for Indian cities.
3. Institutional capacity needs to be augmented to monitor and supervise PPP projects.
4. In PPP is Risk Factor sharing and Exit clauses should be included so that PPP can be terminated at any point of time in public interest.
5. There is need of Level of Service Agreement (LSA) to make the public transport more reliable and successful.

TECHNICAL SESSION -II B

GUIDED MASS TRANSIT AS SUSTAINABLE OPTIONS FOR URBAN MOBILITY

The session was chaired by **Dr. E. Sreedharan**, Managing Director of Delhi Metro Rail Corporation who has to his success various projects including the Konkan Railways and the Delhi Metro.

The speakers at the session included:

(i) **Mr. Mangu Singh**, Director, DMRC who made a presentation on **"Delhi Metro Rail Corporation –A presentation of Metro Rail System";**

(ii) **Mr. Fredric Noel**, of Veolia Transport, who made a presentation on **"Tram Systems";**

(iii) **Mr. Ankur Bhatnagar**, Vice President, International Business Affairs with Unimodal Systems,a leading developer of Personal Rapid Transit systems, who made a presentation on **"Personal Rapid Transit Systems";**

(iv) **Mr. Kanesan Vellupillai**, SCOMI, who made a presentation on **" Mono Rail Systems";**

(v) **Mr. Ouyama Yuji** of Mitsumishi Electric Corporation, Japan who made a presentation on "**Advance Technology of Electrical Equipment of Urban Train";** and

(vi) **Dr. Raju Gottumukkala** of AECOM, India who made a presentation on **"Evolution of Mass Transit Railway in Hong Kong".**

The session deliberated upon the role of guided Mass Transit Systems such as Metro, Personal Rapid Transit (PRT), Trams and Monorail in urban mobility. There were also presentations by exhibitors on technology in urban train operation. Some of the main findings of the session's deliberation were:-

1. There are wide variety of transit modes with a potential to co-exist in a multimodal Integrated Transit System.
2. As each transit mode has its unique characteristics the selection of transit system in a city involved depends upon variety of factors such as city size, urban form, terrain, travel demand, density besides resource availability.
3. There is a need to standardize the technical parameters and specifications of MRTS in Indian context and aim towards maximum indigenization.

TECHNICAL SESSION -III A

BEST PRACTICES IN ORGANIZING PARA TRANSIT AND TRAVEL DEMAND MANAGEMENT

The session was chaired by **Mr. O.P. Agarwal**, who after a long and distinguished career in the civil service as an IAS officer is currently the Managing Director of IIDC and UMTC, IL&FS. A transport specialist in his own right, he is an alumni of MIT (U.S).

The speakers at the session included :

(i) **Mr. Daniel Lim**, currently head of FMS/Telematics Deptt, ST Electronics (Info-Comm System) Pt. Ltd. who made a presentation on **" The New Generation of Taxi Booking and Dispatch System";**

(ii) **Dr. P.K. Sarkar**, Professor of the School of Planning & Architecture who made a presentation on **" Application of Congestion Pricing Method as a part of Travel Demand Management in Central Area : Case of Study of Connaught Place, New Delhi";**

(iii) **Mr Niteen Kareer**, Municipal Commissioner, Pune, (presentation made by Mr.,O.P. Agarwal on behalf of Mr. Kareer) who made a presentation on **"Scientific Management of Auto Rickshaws";**

(iv) **Mr. Sachin Pant**, President, Structured Transaction Group, Innovest Advisory& Services Pvt. Ltd, who made a presentation on **"Emerging Best Practices and Initiatives of PPP in Bus Terminal Development – A case study of Dehradun Bus Terminal**

Session Summary

The session deliberated on the practices in organizing para-transit system such as Taxis and Auto Rickshaws besides the potential of congestion pricing as a travel demand management tool. Various case studies for Singapore, Pune Delhi and Dehradun were discussed.

Some of the main findings of the session deliberations were: -

1. Para-Transit system plays a vital role in urban mobility and needs to be planned for in the city's overall transport system Plan.
2. Intelligent Transport System (ITS) can play an important role in organizing Para-Transit Fare, Route Management and Dispatching Decisions.
3. Congestion Pricing can be explored as a potential Travel Demand Management tool in alleviating congestion in urban areas.

TECHNICAL SESSION -III B

PPP IN GUIDED MASS TRANSIT SYSTEMS

The session was chaired by Mr**. B.I. Singal,** an Urban Tranpsort Sepcialist who has been associated with the city wide integrated multi-modal public transport network including Metro rail, Bus rapid transit, Monorail and Light rail for Delhi, Delhi Metro rail project., Rapid Transit system in Taipei, Taiwan and Mass Transit rail in Hong Kong

The speakers at the session included:

(i) **Mr. Tony Dufays**, Director Regional Offices & Services, International Association of Public Transport (UITP) who made a presentation on **"Experiences of PPP's in Public Transport from around the World";**

(ii) **Mr. Sam Zimmerman** a senior urban transport specialist at the World Bank who made a presentation on **" PPP's for Rapid Transit:East Asia Case Studies";**

(iii) **Mr. P.R. K. Murthy**, Chief, Transport and Communiations, MMDA who made a presentation on **"Mumbai Metro – A Case Study of PPP"**; and

(iv) **Mr. Fredric Noel** of Veolia Transport who made a presentation on **"PPP for the Provision of Public Transport Services and Delegated Management in France".**

The session deliberated on the experiences of Public Private Partnership (PPP) in Guided Mass Transit System. Various case studies on Bangkok Metro, Mumbai Metro and experiences of PPP around the world in general were presented.

Some of the salient outcomes of the session were: -

1. In order to effectively implement PPP in Guided Mass Transit System there is need for independent technical 'Auditor' to evaluate competitors besides Legal and Financial specialists to write/negotiate concession agreement with adequate protection for public entity.

2. Proper care has to be taken to account for issues such as risk allocation between Public and Private Parties, concession design, cost and revenue estimates, ridership guaranties, financial support etc., before finalizing a PPP agreement for guided mass transit systems.

TECHNICAL SESSION - IV A

BEST PRACTICES IN PROMOTING NMT

The session was chaired by **Prof. Dinesh Mohan** of the Indian Institute of Technology, Delhi. He has been involved in injury control research for the past 25 years and has done a number of projects on the subject.

The speakers at the session included:

(i) **Mr. Roelof Wittink**, Director, I-ce = Interface for Cycling Expertise, The Netherlands who made a presentation on **"Cycling Inclusive Planning";**

(ii) **Mr. Pradeep Sachdeva** of Pradeep Sachdeva Design Associates who made a presentation on **" Planning Core Area Pedestriansiation";**

(iii) **Dr. Geetam Tewari**, of IIT, Delhi who made a presentation on **"NMT in Asian Cities**

(iv) **Prof. A.K. Das of** Deptt. Of Design, IIT Guwahati, who made a presentation on the **"Dipbahan Rickshaw Bank Project"** which had been adjudged as the best Cycle Rickshaw Transport Project.

Session Summary

The session witnessed presentations on Best Practices in Promoting NMT in Europe, Columbia, Nanded (India) and Asian Cities.

Some of the major recommendations emerging out of the deliberations includes were :-

1. There is a need for cycle inclusive planning in our cities which is possible through adequate cycling inclusive policies, stakeholder's involvement including civil society, and business sector and education of people.

2. There is need to develop Politicians, Planners, and People (PPP) network to promote use of NMT in India.

3. There is also need to provide adequate space in urban roads for NMT operation and model road designs need to evolve with NMT needs dovetailed in them.

TECHNICAL SESSION - IV B

PLANNING FEEDER SYSTEM FOR MASS TRANSIT

Mr. O.P. Agarwal chaired the session, who after a long and distinguished career in the civil service as an IAS officer is currently the Managing Director of IIDC and UMTC, IL&FS. A transport specialist in his own right, he is an alumni of MIT (U.S).

The speakers at the session included:

(i) **Mr. Dario Hidalgo** a Senior Transport Engineer for EMBARQ, the World Resources Institute Centre of Sustainable Transport in Washington DC, USA, who made a presentation on "**Feeder Services in the TransMelenio Bus System"**;

(ii) **Mr. Ajay Kumar** of World Bank who made a presentation on "**Developing New Frontiers to Improve Urban Mobility – Case Study of BRT, Lagos**";

(iii) **Mr. Raj Kumar**, Director (Operations), DMRC who made a presentation on "**Feeder Bus Service of DMRC**".

Session Summary

This session deliberated on planning feeder systems for Mass Transit Systems. Three case studies related to Bogota's Transmilineo, Lagos BRT and Delhi Metro feeder system were presented.

Some of the conclusive finding emerging from the deliberations were:-

1. A feeder system planning is an imperative exercise to enable significant ridership on Mass Transit systems.

2. There is a need for a well-resourced institutional set up with experienced technical staff, which can ensure a proper development of an integrated Mass Transit system development with a trunk line and feeder service network.

3. Multimodal feeder services facilities including buses and Para-transit system based on specific city characteristics need to be planned for as a part of the integrated transit network.

TECHNICAL SESSION - V

MOBILITY PLANNING AND MANAGEMENT USING INTELLIGENT TRANSPORT SYSTEM

The session was chaired by **Prof. P.K Sikdar**, a former Director of CRRI, Delhi who was associated with Pardhan Mantri Gram Sadak Yojana (PMGSY), Golden Quadrilateral Project etc. and who is currently Director at the Internatiional Consultants & Technocrats Pvt. Ltd., New Delhi.

The speakers at the session included:

(i) **Mr. Praveen Sood**, Addl. Commissioner, Traffic Police, Bangalore who made a presentation on **"Solutions to Traffic Congestion";**

(ii) **Mr. Muktesh Chandra**, Addl. Commissioner of Police (Traffic), Delhi, who made a presentation on **"Intelligent Traffic Management System for Delhi**";

(iii) **Mr. Bruno Corbucci** of ATAC International Cooperation Unit as project manager, mainly focused in IST and ITS area who made a presentation on **"Mobility Planning and Management using ITS in Rome";**

(iv) **Mr. Melvyn Haxby**, Manager, International Business Development of Iteris who made a presentation on **"Real Time Traffic Information System".**

(v) A presentation was also made on **"Thane Railway Station Area Traffic Improvement Scheme (Multimode Integrated Project)**" by Mr. Kamal D. Lalla, City Engineer, which was a nominee for an award in the category of Best Multi Modal Integrated Project.

Session Summary

This session deliberated on the role of Intelligent Transport system for mobility planning and management. Various case studies for Bangalore, Delhi and Rome were presented. Some of the major findings emerging from deliberations were: -

1. Intelligent Transport System (ITS) solutions presently are piecemeal in nature and need to be taken up on a more comprehensive basis in our cities.
2. Tools such as Incident Detection System, Real Time Information System, Area Traffic Control System etc., need to be promoted in our cities to efficiently manage the urban mobility and management needs.

TECHNICAL SESSION - VI

INNOVATIVE FINANCING FOR URBAN TRANSPORT

The session was chaired by **Mr. S.K Lohia**, Officer on Special Duty (MRTS), Ministry of Urban Development, Government of India.

The speakers at the session included:

(i) **Mr. Huber Nove Josserand** of the World Bank office at New Delhi who made a presentation on **"Urban Public Transport Financing: The Employer's Transport Charges";**

(ii) **Mr. Ashish Sharma**, Municipal Commissioner, Pimpri Chinchwad Municpal Corporation, who made a presentation on **"Financing Through Property Development and Advertising";**

(iii) **Ms. S. . Aparna**, Municipal Commissioner, Surat (presentation made on her behalf) who made a presentation on **"Urban transport fund in Surat";**

(iv) **Mr. O.P. Agarwal**, Managing Director of UMTC who made a presentation on "**Financing Modern City Bus Services"**

Session Summary

The session deliberated on Innovative Financing methods of financing Urban Transport with case studies on Paris, Pimpri Chinchwad and Surat. Some of the major findings emerging from the session are:-

1. There are number of alternate methods including employer's tax, development, advertisement revenue & public private partnership property which can be tapped for financing urban public transport.

2. There is a need to create a dedicate Urban Transport Fund in our cities to finance the growing needs for quality public transport.

TECHNICAL SESSION - VII

INSTITUTIONAL ARRANGEMENT

Mr. O.P. Agarwal chaired the session who after a long and distinguished career in the civil service as an IAS officer is currently the Managing Director of IIDC and UMTC, IL&FS. A transport specialist in his own right, he is an alumni of MIT (U.S).

The speakers at the session included:

(i) **Dr. Von Berlepsch** Managing director of Traffiq Frankfurt who made a presentation on **"Urban transport integration – the case of Rhein Main and of Frankfurt transit association";**

(ii) **Mr. Gaurav Gupta**, Member-Convener, Bangalore Metropolitan Land Transport Authority, who made a presentation on **"Bangalore Metropolitan Land Transport Authority – UMTA for BMR".**

(iii) **Mr Mohinder Singh** who made a presentation on **"Integrated Transport Management in Singapore – Institutional Framework"**;

(iv) **Mr. Richard de Cani**, Director of Major Transport Projects, Transport for London (TfL), who made a presentation on **"Overview of Transport for London"**

Session summary

This session deliberated upon the institutional arrangement practices in Singapore, London, Frankfurt and Bangalore.

Some of the salient findings of this session were: -

1. In order to facilitate a more coordinated planning and implementation of urban transport programs & projects and an integrated management of urban transport systems there is a need for a proper institutional framework with statutory backing.

2. There is also a need to strengthen capacities of institutions responsible for proper functioning of urban transport in our cities.

TECHNICAL SESSION - VIII

CLIMATE CHANGE AND OPPORTUNITIES FOR CLEAN DEVELOPMENT MECHANISM (CDM) FOR URBAN TRANSPORT

The session was chaired by Mr.S**. Sundar**, a retired distinguished civil servant of the IAS, currently NTPC Professor in Regulatory Studies in the TERI School of Advanced Studies, and a Distinguished Fellow at The Energy and Resources Institute (TERI).

Presentations were made by the following speakers: -

(i) **Ms. Divya Sharma** of TERI on **"Climate Change & Opportunites for Clean Development Mechanism (CDM) in Urban Transport";**

(ii) **Mr. J. Adam**, Country Director of Agence Francaise de Development on **"Strategies Towards Low Carbon & Energy Efficient Urban Transport";**

(iii) **Mr. Vinayak Bansal** of Emergent Ventures on **"CDM in Transportation Sector".**

Session Summary

Some of the salient findings of this session were: -

1. There is need for developing awareness about CDM and preparing CDM methodology in our country.

2. Energy consumption needs to be monitored and mitigation measures such as travel demand management, Land use transport Integration, improving vehicle technologies need to be adopted.

3. Benchmarking strategies for Co_2 emission reduction needs to be evolved.

4. Quantification of Green House gas reduction to be carried for CDM analysis of project.

VALEDICTORY SESSION

VALEDICTORY SESSION

The valedictory session was presided over by Sh. Ajay Maken, Hon'ble Minister of State (Urban Development). He gave away the awards of excellence to various winners in recognition of initiatives and exemplary efforts made towards improvement in Urban Mobility.

The winners under various categories are indicated below:

S.No.	Category of Award	Institution which won the award
1	Best PPP initiative in Urban Transport Project	Surat Municipal Corporation for best Public Private Partnership Funding Concept.
2	Best Cycle Rickshaw /Cycle Transport Project	Indian Institute of Technology, Guwahati for its project "Dipbahan Rickshaw Bank Project", improving Non motorized transport
3	Best Transit Project (BRTS, Metro/LRT etc.)	Delhi Metro Rail Corporation for Planning, Construction and Maintenance of Mass Rapid Transport System.
4	Best environmental friendly project	Surat Municipal Corporation for Managing both transportation infrastructure and cleaner environment.
5	Best Intelligent Transport System Project	Bangalore City Traffic Police for through adopting Best Intelligent Transport System (B-TRAC 2010)
6	Best Multi Modal Integrated Project	Pune Municipal Corporation for through Implementing Best Multimodal Integrated Project
Special awards were given to the following organizations:		
1	Vadodara Municipal Corporation for Organized city bus services in Vadodara	
2	DDF Consultants Pvt. Ltd.for preparation of "Comprehensive Mobility Plan for the Agartala City and its Metrolopitan area"	
3	Regional Transport Authority, Pune for "Scientific Management of Auto Rickshaws in Pune."	
4	Karnataka State Road Transport Corporation for "Electronic Ticketing System in Public Transport System, Mysore."	

Speech of MoS (UD)

He congratulated the winners of the awards of excellence under different categories and also commended the nominations received which could not receive any award.

Opening his address, the Hon'ble Minister requested the media and the electorate at large to remove some misgivings about the Government's support for Public Transport and to realize that Public Transport directly or indirectly has to be supported/subsidized by the Government. The losses if any by the State Road Transport Corporations are not a burden on the exchequer but they are huge economic multiplier and socially productive.

In regard to the financing of the Urban Transport, he mentioned that the Working group on Urban Transport for 11th Plan has estimated that Rs.1,32,590/- Crores are required for urban Transport in tune with National Urban Transport Policy (NUTP). However, only R. 26,000 Crores are expected from Private players thus Commercial Exploitation of land is a must.

Further to encourage public transport and discourage private transport, he suggested that there should be Zero excise on Private vehicles and Zero customs duty on imported Public Transport vehicles while extra excise on personal vehicles should be levied. He also noted that currently, the ridership of Delhi Metro per day is 9.5 lakh passengers which is less than 40% of projected capacity. Similarly, Calcutta metro runs on 10% of the projected capacity. He observed that one mode of public transport system is a failure and there is a need to have a multi modal form of public transport carefully planned through "City Mobility Plan". In this regard he referred to the National Urban Transport Policy which states that every city should have a City Mobility Plan at the time of Urban Plan providing for equitable allocation of road space, focus on Multi modal integrated & seamless Public Transport Systems, Intelligent Transport system and the adoption of PPP model.

Comparing the cost of Metro and BRT, he observed that Metro Phase I & II (Delhi) covering 190 km would cost Rs. 29,571 Crores while the BRT covering 409 km would cost Rs. 4,510 Crores which Includes Additional Central Assistance of Rs. 2065 Crores. Thus in his opinion, BRT is must and future of Indian Cities

He further observed that only flyover and increase in road wouldn't improve the traffic. In this regard he mentioned that Delhi has 21 % of its geographical area as roads which is highest in Asian mega cities; has largest number of flyover in India and has the largest coverage of Metro but it still has the larges number of personalized vehicles

Some of the Awardees

For the way forward towards improving urban mobility, he suggested the following:

01. Learn from experience of BRT in India which however should have provision for Parking and Commuter's accessibility to Stops

02. Every city to have City Mobility Plan.

03. More equitable allocation of space on road

04. Privatization Model to be carefully selected.

05. Mode of Public Transport to be carefully selected. Metro + Bus + Tram +Monorail or other modes to be judiciously selected

06. Subsidise rolling stock for PT

07. Charge more through taxes on Personalized Vehicles

08. To allow liberal commercial utilization of land

09. To promote and protect Bus Based Transport system like BRT.

Prof. (Dr.) P.K. Sikdar, Vice President, Institute of Urban Transport thanked the Minister for agreeing to spare time and give the awards. Prof. Sikdar also thanked the Participants, Exhibitors and Organisers Expo World, Officers and Staff of Institute of Urban Transport, Event Manager and ITPO for making suitable arrangement for the event.

MoUs signed

MoUs between (i) **IUT, EXPOWORLD and UITP**, (ii) **between IUT and GTZ** and (iii) **between IUT and I-CE** were also signed on the sidelines of the Conference for co-operation in various aspects of urban mobility.

Conclusions

The first Conference on Urban Mobility as a part of the implementation of the activities envisaged in the National Urban Transport Policy, 2006 can be considered to be a successful beginning in achieving the objectives of the conference viz. of bringing all the technology and service providers from India and abroad, in all the fields of urban transport as well as all the policy makers, practitioners and officials under one roof. A total of 19 international speakers and 23 National speakers, who are all either internationally acclaimed experts in the field of urban mobility or are actively associated with implementation of programmes/projects provided valuable inputs in the conference on various aspects of Urban Mobility. New concepts such as Personal Rapid Transit Systems were discussed, best practices worldwide such as Transport for London were presented, and experiences in the implementation of relatively new concepts such as BRT in different countries were shared. Important implementation issues such as financing of urban transport projects, Institutional arrangements and PPP practices internationally and nationally were also discussed. New ideas of solving problem areas of urban transport through travel demand management and Taxi Booking and Dispatch System were thought provoking. Importance was also given to the neglected sector of urban transport viz. non-motorised transport and pedestrianisation. Discussion on a very topical issue of Climate Change and opportunities for Clean Developments Mechanism in Urban transport was very well received by the delegates. A very interesting and educative interactive session at the end of each session helped in clarifying a number of ideas and eliciting suggestions, advice and directions from the distinguished panelists.

The ideas generated through the presentations on wide ranging issues of urban transport as indicated in the summarized findings of the deliberations of each session in the report above would help the delegates in addressing issues of urban transport in the respective areas of their responsibility.

The rich and varied exposure to the various issues of Urban Transport in the conference has made the delegates look with expectation to the next conference, which is going to be an annual event.

SUMMARY OF THE PRESENTATIONS

SUMMARY OF THE PRESENTATION MADE BY EACH SPEAKER

TECHNICAL SESSION - I
Comprehensive Mobility Planning & Land use-Transport Integration

(vii) Mr. Sam Zimmerman: "Comprehensive Metropolitan Mobility Planning";

He highlighted the need for budget efficient urban mobility, and made cautionary remark on transport system based on cars. He indicated that the purpose of Comprehensive Metropolitan Mobility Planning process is to serve strategic metropolitan transport decision making. The need has arisen because the transport problems are growing in magnitude and complexity and also since it is related to other strategic issues such as - Land use, climate change, energy, local air quality, safety, security, health and economic competitiveness.

It was elaborated that 5 C's Comprehensive, Continuous, Co-operative, Connected, Championed holds the key to success in mobility planning.He underscored the importance of a long term vision as a starting and ending point and said that the quality of life is an important part of the vision. He also highlighted the importance of integration of Land Use in transport analysis.

The other important points made by him were:

- Avoid mixing symptoms with causes,
- Integration is important in alternatives development,
- Analysts should not favour pre-determined solutions and strive for open decision making.
- Important strategic transport concerns such as health, energy, climate change etc. should be taken into account beyond "congestion".

(viii) Mr. J.B. Kshirsagar, "Transit Oriented Development – Pros and Cons in the context of NCT, Delhi";

The key points of his presentation were:

- Transit Oriented Development is a relatively new initiative which strives for development focused in a 400-800 metre radius of a Transit Node.
- TOD may be seen as a measure to address the growing congestion and environmental degradation in large / million plus cities.
- TOD envisages developing mixed use (residential and commercial) areas designed to maximize access to public transport, and incorporate features to encourage transit ridership.

He said that TOD is characterized by a pedestrian-oriented environment that allows people to live, work, shop and play in places accessible by transit. The expected benefits of TOD include: Reducing sprawl and protecting existing neighborhoods, Reduced commuting times and traffic congestion, Improved environmental quality and preservation of open space and encouraged pedestrian activity and discouraged dependence on personalized modes.

He explained TOD in the context of Delhi and suggested a number of measures to make TOD successful. He pointed out that in the western context; Transit-oriented development contributes to attractive, walkable, sustainable communities that allow residents to have housing and transportation choices and an affordable lifestyle. TOD in the Delhi context will depend largely on detailing out policies However, if TOD supports centralization of economic activities, this may not augur well with large modal shift in favour of public transit proposed. For planned development, the mega and metropolitan cities have to look beyond urban agglomerations.

TOD in the context of western cities may not be compared to Indian million plus cities as the pressure on infrastructure as well population growth due to unprecedented in migration is far greater and in spite of augmentation of infrastructure, the same is not able to offset the ever increasing demand.

In order to make TOD successful especially in Indian context, the MRTS / BRTS must cater to inter-city transportation needs This will hasten the decentralization of economic activities from million plus cities, will have stabilizing effect on real estate values and also help in redistributing the population to tier two cities/towns in the metropolitan region.

Success of TOD depends on increase in number of transit ridership. This has to be achieved through **disincentives** like High Parking Charges. Restriction of movement of vehicles in certain areas, Congestion Tax and **Incentives like** Concession in Fares in Metro/Bus on monthly tickets, Seamless Ticketing and Travel, Reducing excise Taxes on Buses.

(ix) Mr. Mohinder Singh: "Mobility Planning & Land Use – Transport Integration in Singapore";

The key points of his presentation are development of integrated transportation systems by:

- Improving public transport services parallel with highway/street growth
- Developing coordinated modes
- Encouraging pedestrians
- Enhancing cities livability and sustainability

He observed that urban transportation problems are very complex and require an integrated systems approach. Achieving integrated transportation requires consensus on long-range goals rather than pursuit of popular palliative measures. Most cities do not have unified governmental bodies which coordinate all modes of transport.

He gave an overview of Singapore and the situation prevailing in the early days and followed it by outlining the Land Transport Policies adopted which had four Strategic Thrusts viz. Integrated transport and land use planning, Develop road network and maximize its capacity, manage private transport demand and improve public transport

He explained the measures adopted towards Demand Management and gave details of the – Electronic Road Pricing (ERP), Area Licensing Scheme (ALS), Electronic Road Pricing (ERP)

The policy framework adopted was detailed which included Integrated Transport and Land Use Planning, a Concept Plan for 4 million, Transportation Plan, Integrated Planning - SCP Concept Plan 1972, Integration of Transport with Housing, Integrated Public Transport Hubs including facilities to different section of users, Integration of transport modes in which it was explained that there should be network Integration in which bus and rail systems should be an integrated network, Transit stations are designed to integrate physically with or connected to other transport

Development of Regional centre, Sub-regional centre was discussed. Plan of two towns Sang Kang & Punggol Town was elaborated as case studies.

(x) Mr. Fabio Duarte, " The Challenges of Success – Metropolitan Mobility – case study of Curitiba";

In his presentation, Land use- Transport integration was discussed through an example of Curitiba. In the plan of Curitiba, based on population projection, high density along transport corridors was recommended. It was elaborated that even in success story of Curitiba, social benefits were passed off to passenger served by bus transport which had a declining trend. However it picked up again because of policy formulation.

He explained the different features of the transportation system in Curitiba and also highlighted the use of ITS in the road traffic.

(xi) Mr. B.B. Mehta, "Integrated Transportation System for Navi Mumbai".

It was indicated that Infrastructure has been provided both at macro & micro level which includes Roads, Railways, Airport, Sewerage Storm -Water Drain, Power, Transport System adequate infrastructure is a prerequisite for allotment of plots

In the planning process of the transport system, it was ensured that it was fully integrated with land use, designed to meet the ultimate holding capacity of city. Emphasis was on public transportation with easy accessibility and optimal travel time and minimum interchange between the modes

The different transport modes adopted were Commuter trains, Road Transport and Water Transport (Hovercraft & Catamaran), It is also proposed to construct a new Airport and a Metro rail link

The Rail Transport planned is of a length – 160 km with 30 stations. Navi Mumbai Rail Transport with a unique Financing Model has been proposed. The investment by CIDCO would be 67% of the cost + Land free of cost and Railways would invest the remaining 33%.

A Greenfield Navi Mumbai International Airport is also proposed. Water Transport is also proposed as there is a huge potential for water transport as it is the shortest transport link to Mumbai, Hovercraft transport started from Vashi,Belapur presently is not in operation due to lack of landing facility in Mumbai.

(xii) Presentation by the Urban Development Department of Government of Tripura on "Comprehensive Mobility Plan for Agartala", adjudged as one of the winners of the award for excellence in Urban Mobility.

The presentation highlighted the objectives of the CMP which were:

- To develop a long term strategy for desirable mobility pattern of Mission City [Agartala]
- To provide a recognised and effective platform for integrating landuse & transport planning
- To develop Urban Transport Strategy in tune with the National Urban Transport Policy
- To ensure that most appropriate, sustainable & cost effective investments are made in transport sector
- To ensure mobility to all sections of the society

The Vision of the CMP was to

- To maximize benefits of transportation investments
- To Expand choice for modes
- To Improve quality of life by having safe, socially, economically, financially and environmentally sustainable modes
- To develop a strategy that is in tune with the National Urban Transport Policy (NUTP)

The major Projects Identified included

- Public Transport System & Network in way of improved city bus service
- Pedestrian & NMT Network [Cycle Rickshaw]
- Re-development of drains for footpaths and parking facilities
- Construction of footpaths along all major roads
- Widening of culverts/bridges and roads at the regional level
- Intersection improvement/parking Lots within the city
- 4 Flyovers as part of the long term vision
- Ring Road over existing Bundh around City to create alternate pathway for 2/3 and 4 Wheelers to cater to the regional traffic
- Development of terminals near the upcoming stations and other regional areas.

TECHNICAL SESSION - II A

PPP in Urban Transport

(v) Mr. Dario Hidalgo: "Public Private Partnership in the Transmilenio Bus System";

He highlighted that after the implementation of Transmilenio project the share of non-motorized transport has increased while the use of private automobiles has decreased in the last ten years. Transmilenio is an Integrated bus system oriented to the user – fast, reliable and low cost. As compared to other systems like LRT and Metro the Transmilenio is high performing and less expensive. There are 10 contractors in PPP system of Transmileno and Risk sharing is also included in PPP.

The government is responsible for the Infrastructure, Planning, Management and contracting public transport services and for the oversight and control where as the private sector acquires, maintains and operates the buses, furnishes and operates the fare collection system and administers system funds (trust fund). The contracts for bus operations are given through a competitive bidding process, where based on their performance the existing operators are given preference. There are strong penalties for non-compliance which ensures very high performance.

(ii) Mr. I.P. Gautam, " PPP Applications – BRTS, Ahmedabad";

The key elements of city bus in Ahmedabad are user friendly buses, ITS application in BRTS, single ticket system and multi storey parking lots. It is a city specific design system. The challenges faced in making the agreement of PPP are drafting of contract, fixation of rates and duration of contract, and availability of reliable and experienced contractors. Ahmedabad BRTS is successfully using a number of PPP formulae in infrastructure and bus provision.

The key message of the presentation is that in Indian condition everything cannot be left on private sector. Rather Government has to take the responsibility and subsidize the system to make it successful.

(iii) Mr. S. Mulchandani, " PPP in Parking Infrastructure";

He emphasized on the needs of parking infrastructure and also that with the changing urban scenarios area specific parking norms need to be evolved. Moreover as the Govt. has paucity of funds the PPP model in parking infrastructure should be adopted. He talked about parking infrastructure requirements, consideration in planning for parking infrastructure, selection for parking infrastructure and best solution for parking infrastructure.

(iv) Mr. S. R. Ramanujam, " Toolkit for PPP in Urban Bus Transport

The toolkit for urban bus transport is for small and medium sized cities, mainly oriented towards bus PPP. It is intended to assist public agencies to engage with private sector. The toolkit aids checklist, provides, best practice and caution before entering into PPP in urban bus transport.0

TECHNICAL SESSION - II B

Guided Mass Transit as Sustainable Options for Urban Mobility

(vii) Mr. Fredric Noel :"Tram Systems";

Tracing the history of tramways, he indicated that Tramways used to be very popular worldwide in the beginning of the 20st century. However, in the 1960's, most lines closed with the rise of automobiles. Since 1985, there has been a strong come-back trend for modern trams in Europe and the US. It has been recognized that it enhances mobility, address environmental concerns, promotes sustainable land use, redefines urban landscapes. There have been big developments in the US, UK, Spain, Italy.

He also explained the differences in Tramway and Railway operations viz. Operational differences leading to separation in technical and organizational respects. Trams are cheaper and quicker to implement than heavy rail systems. Trams last longer than buses and are preferred by the customers. Tramways are operated on sight, run on street and take part in street traffic. Tram driver sets the path for the tramcar and is responsible for it. Railways have private right-of-way, signal-controlled and signalman sets path for train.

He suggested that tram shouldn't be conceived as an isolated project but integrated into comprehensive transportation. Currently, there seems to be little demand for modern trams, as it still has the negative image of old tramways. Cost considered too are high for at-grade transit. BRT can provide a nearly similar quality of service and capacity of transport for a lesser cost while Metro and heavy rail can offer a larger capacity of transport by 4 or 5 times at a higher cost of 3 times the Tramways

In India, operation of trams seems difficult as it is difficult to share road space at grade, has the same issue as for BRT, high investment cost compared to capacity offered, security risks due to open stops and vehicles, high fare evasion for the same reason and competition with buses and rickshaws in the corridor

However, it does present opportunities in some narrow city centers, new satellite cities, special economic zones, to have high-profile modern transport system when there the demand is not sufficient to support a metro system.

(viii) Mr. Ankur Bhatnagar:"Personal Rapid Transit Systems";

He described Personal Rapid Transit System as a mode of transport to end traffic congestions, with a clean environment. It seeks to address problems of individual users such as traffic congestions, cost of private transportation and unsatisfactory public transport as well as of the society, such as air pollution, fuel cost and real estate appropriation leading to skewed development between cities.

PRT networks are mostly elevated with the vehicle size being very small and dedicated to the user. Vehicles run on a guide way, are driven and routed automatically by computer control and follow one another on a line in continuous stream. The stops are offline, so that a stopping vehicle doesn't cause following vehicles to stop.

A passenger using MRT has to wait at the origin station for the right bus/train, must be familiar with the optimum route & connections, and often, he must travel standing, (MRT not economical for all seating) coupled with slow speed as the vehicle must stop at intermediate stations and may require to interchange from one route to another. On the other hand in PRT, the vehicles wait for users, user

dials the destination-id into the system and sits in the vehicle, user need not know the best route, travel is seated, with non-stop travel and no stopping at intermediate stations, therefore, resulting in high speed, direct travel without requiring interchange from one route to another.

He informed that PRT system presently is running in one city and is in the process of being introduced in some other cities too. He also suggested some of the routes in India where PRT would be applicable. He also clarified that PRT can coexist with existing modes of public transport with both catering to different segments of traffic.

(ix) Mr. Mangu Singh, "Delhi Metro Rail Corporation - A presentation of Metro Rail System";

He explained the planning characteristics of a Metro system, which are high frequency, advanced signaling system, energy efficient, low operation & maintenance cost, has means of evacuation, pleasing aesthetic and environment, integrates with other modes of transport and serves the mostly congested corridors.

Explaining the Metro scenario worldwide, he informed that there are 135 Metros in the world covering a total kilometrage of nearly 6700, the oldest Metro in the world being London Underground. The latest Metro is in Delhi and the greatest activity on the Metro front is now taking place in China where Metros are under consideration/construction in 43 cities and where population is more than 1 million. All developed countries start planning for a Metro when the population of the city nears one million mark. By the time the population level reaches two million mark a Metro network is in place.

Discussing the viability of a Metro system, he explained that in the case of Metro, the operator has to bear the entire cost of infrastructure such as civil cost, E&M cost and rolling stock cost and in addition the entire operating and maintenance cost as well. On the other hand, in a road-based system, the operator has to bear only the cost of transport vehicles and their operating and maintenance cost. The infrastructure cost of building roads, maintenance of roads, lighting, etc. are borne by the city or local Government.

In India the 10th Plan Document has envisaged that all cities with more than 5 million population should have a Metro System. This should then be extended to cities with more than 3 million population. As the capital cost for Metros is very high, the only way to popularize Metro System is to standardize the technical parameters and specifications and work towards maximum indigenisation. As the fares have to be kept competitive and affordable to the common man, private participation in Metros does not hold much hope in our country.

(x) Mr. Kanesan Vellupillai :" Mono Rail Systems";

He described monorail as a vehicle that operates on a single concrete or steel beam, either at grade, below grade or in subway tunnels. In built-up congested cities monorail systems are fast proving to be a more effective & viable solution compared to other conventional rail systems due to its numerous advantages such as safety, reliability, lower cost, have smallest footprint, high maneuverability, not too disruptive to road traffic, environmental friendly and has faster construction that can be carried out off-site.

He informed that full scale urban monorails are in operation since 1962. This is similar to or has more capacity than LRT and has maximum operating speed of 80kph. Thousands of passengers are carried daily on monorails in cities like Tokyo-Haneda, Osaka, Seattle, Kuala Lumpur and Chongqing, China.

He also gave a brief overview of Mumbai Monorail Project which is to be constructed over a 19.54km stretch from Gadge Maharaj Chowk to Chembur having 18 stations and a central depot facility.

(xi) Mr. Ouyama Yuji: "Advance Technology of Electrical Equipment of Urban Train

The presentation gave an overview of the advanced technology of Electrical Equipments for Urban Train which included, propulsion inverter (Mitsubishi Semi-Conductor Technology), reliable electrical equipment (MITSUBISHI Advanced IGBT Module), Mitsubishi high voltage IGBT for Traction Inverter, Simple 2 Level Converter / Inverter, Traction Motor and TIMS System.

(xii) Dr. Raju Gottumukkala: "Evolution of Mass Transit Railway in Hong Kong"

He gave an overview of the development of Mass Transit Railway in Hong Kong including planning, challenges, completions, technology etc.

TECHNICAL SESSION - III-A

Best Practices in Organizing Para Transit and Travel Demand Management

(i) Dr. P.K. Sarkar, " Application of Congestion Pricing Method as a part of Travel Demand Management in Central Area : Case of Study of Connaught Place, New Delhi";

He explained that congestion pricing acts as a deterrent to the use of roadways by imposing fees on the use of such infrastructure These fees are intended to reduce congestion and decrease externalities by persuading people to change their travel patterns by shifting to off-peak periods, less congested travel routes, higher occupancy vehicles, or a different mode of transport(e.g., public transit). The policies may be used in three ways:

Facility pricing- It is a mechanism in which the pricing measure (toll) is levied on the use of one or several roads that link residential areas to commercial areas (central areas)

Regional network pricing- It refers to policies in which people are charged to travel on a network of similar roads (e.g.,highways).

Cordon pricing is a mechanism which charges vehicles that enter high-activity areas such as CBD. This policy is enforced by delineating congested areas &encircling them with one or more cordons (lines).

The benefits of congestion pricing are that congestion reduction Increases vehicular speed and reduces peak-period demand. It reduces the need for parking facilities and improves road safety and emission standards. The other benefits of congestion prices are efficient Land Use thereby increasing the mobility, Reduced vehicle travel thereby increasing community livability.

Congestion pricing can potentially reduce congestion by providing incentives for drivers to Shift Trips to off-peak periods or use use less traversed routes. It improves the Usage of alternative modes, thereby spreading out demand for available transportation infrastructure. Congestion pricing also has the potential to create other benefits, such as generating revenue to help fund transportation investment.

(ii) Mr Niteen Kareer,: "Scientific Management of Auto Rickshaws";

He highlighted the scientific management of auto rickshaws in Pune. The highlights of the system are unique registration of Permit Owner/ Driver using biocryptic registration with Police Verification. The Auto Rickshaw have also been given a unique Serial No/ Mobile Number/ Traffic Helpline No Number. To ensure traffic safety, drivers were given with assistance from SIAM under the guidance of Traffic police/ RTO. For the purpose of enforcement ITS enabled mobile enforcement devices were used which collated multiple violence related to a particular auto. Also alerts were sent for lapse of permit, PUC, tax collection, insurance etc. Its application was also used for fare and route management

Disaster recovery training organized was organized by the Department of Disaster Management, MHA, which gave training for assistance In Golden Hour response and First Aid and on Moving Victims.

The major benefit of the system is that it has developed a national model for para transit services. There is pollution reduction through proper PUC certification of autos, reduction in empty trips and higher number of feeder trips on autos besides promotion of public transport, reduction in traffic congestion, reducing parking problems and strengthening of urban transport system in the city.

(iii) Mr. Sachin Pant: "Emerging Best Practices and Initiatives of PPP in Bus Termina Development – A case study of Dehradun Bus Terminal

He mentioned that project emerged out of urban transport problem, city environment problem, redevelopment and urban rejuvenation problem of Dehradun. This was a first operational ISBT on BOT format, with integrated commercial development, having revenue sharing model and an integration of public transport system as a One Stop solution.

The development format perspective was that it was a BOT concession instead of only Government approach having a flexible concession period of 20+10 years, moratorium period of annuity payout as a relief, bid variable adjustment matrix in case of change of scope and upside increased commercial area to be shared mutually.

The presentation also highlighted the teething problems that were encountered and how they were resolved explained. In the end he concluded by pointing out that Bus terminals (ISBT to Local Bus) should have an Integrated Planning at city level and there should be a Unified form to Adda Fee. The key stakeholder should include Department of Transport or SRTC and /or City Agencies (ULB/UDA). He concluded that for development of terminals it should be a long term/ perpetual contract Hybrid of BOT concession followed by Management Contract.

(iii) Mr. Daniel Lim: The New Generation of Taxi Booking and Dispatch System

He gave an overview of iCAB, the World's Largest GPRS Taxi Service System. The main objective of the service was to meet the growing demands in taxi services, meet service standards and diverse travelers' needs, enhance operational efficiency, minimize dead milage, maximize investment return and make travel affordable, flexible and demand driven.

The system is capable of handling large fleet of 16 000 taxis , 100 000 calls/day through SMS, Agent, Fax, Hot Spot. It has different types of services including Bureau Service, Regular Taxi, Guaranteed Arrival, Cabby Tour, Corporate Service, VIP Service, payment can be made through Credit/Debit Cards. An over view of the architecture, Travel Pattern Profiling and dispatch system was also presented.

The main benefits to the users observed are improved customer service, high auto-rate & fast confirmation time and electronic payment/E-voucher. For the operator there is Improved productivity and operational cost savings.

TECHNICAL SESSION - III-B

PPP in Guided Mass Transit Systems

(I) Tony Dufays: Experiences of PPP's in Public Transport from around the World; by

He explained Public Private Partnership (PPP) as defined by European Bank of Reconstruction and Development (EBRD). Basically, PPP is a contractual agreement between a public agency and a private sector party to secure funding what was traditionally provided by the Public Sector and involves the sharing of risks and rewards, multisector skills and expertise to deliver desired policy outcomes.

He identified certain elements of PPP which account for its success or failures. one of them being that overestimation of the revenues, which is an important source of failure. Kuala Lumpur and Bangkok were two cities which are example of this type. Underestimation of ridership with lack of funds to invest for accommodating the increased ridership, is also a factor for failure.

Some of the other aspects of PPP explained were that ex-post bargaining power is very low, designing complete long term PPP contracts for urban rail in an uncertain macro economic environment is a daunting task and PPP's for urban rail require mostly complicated arrangements and follow up. Another aspect highlighted was that PPP's usually do not allow the government to benefit from exceptional revenues but considering the crucial public interest of a mass transit rail public transport system.

He also opined that the private sector would be able to better manage "risk", but an uncertain environment (e.g. political changes, not properly and detailed contractual conditions) and a transfer of risk (e.g. non-performance, cost overrun) will increase the price to pay.

Some of the positive aspect of PPP highlighted are that private partner will force public partners to keep deadlines as the private partner may recover damages for delays caused by the public partner. BOT's are perceived as positive solutions to guarantee also a good design before construction, as there is a clear incentive to minimize construction, operational and maintenance costs. PPP's allow bringing in a fast and effective way expertise and (human) resources to public organization which might not be able to deliver a highly technical quality project (on a short term)

In conclusion he said that PPP's are not a miracle solution, but there is a decade of good and bad experiences to learn from and a wide range of solutions to chose from between a purely public project and a 100% private initiative over turnkey, partial sale of state owned companies, concessions, buying-in services or goods from the private market, etc

(i) Sam Zimmerman: PPP's for Rapid Transit: East Asia Case Studies;

He described PPP's for rapid transit in the case studies of Kuala Lumpur, Bangkok and Manila. In these three cities, private sector proponents bore revenue risk. In Bangkok, for one line, Government provided land for depots, all other costs borne by proponent (BOT) and for another line, Government provided all land, paid for civil works and proponent provided systems, rolling stock and operate. In the case of Manila Government provided land, guaranteed 15% return on proponent equity whereas in complex structure, Government provides "lease" payment to proponent for use of infrastructure by private operator. In the case of Kuala Lumpur, it was all simple BOT with combination funding.

He then made some observations on PPP aspects. On the positive side he mentioned that private concessions delivered working projects in relatively short time. Govt. leveraged private expertise (and equity); and most projects have had significant transport and land use benefits that have increased over time.

In regard to technical issues, he observed that there was generally poor cost and revenue performance compared to estimates that were built into original PPP agreements; and there was questionable cost-effectiveness of public investments for some projects.

In regard to the issue of accuracy of cost and revenue estimates made by proponents, the advice given by him are that there is a need for independent technical "auditor" to evaluate competitors', designs, estimates and there is a need of independent "auditor(s)" to evaluate reasonability of draft "final" negotiated numbers.

The issues in regard to PPP structure highlighted were unbalanced and/or unreasonable risk allocations between public & private parties; poor concession design. He adviced to hire PT legal and financial specialists to write/negotiate concession agreement with adequate protectionfor public entity.

The summary advice given was that PPP's can be useful ways of "getting job done" in minimum time at minimum cost, however; when it comes to "soft" loans or equity investments, there is a need to be cautious of promises that look to good to be true; most often, they are not.

(iv) Mr. P.R. K. Murthy: Mumbai Metro – A Case Study of PPP;

Mr. Murthy gave an overview of the present scenario of transport infrastructure of Mumbai and highlighted that about 78 percent of the city's population commute by public transport, of which about 52 percent use the suburban rail. However the expansion of the rail network has failed to keep pace with demand resulting in severe congestion on road network & environmental pollution. It was, therefore identified that Mumbai needs an efficient, economical and environment friendly Mass Transit System.

The Master Plan for Mumbai Metro drawn out identifies a 146.5 km of MRTS network along 9 corridors to be implemented in 3 phases. Phase 1 has 3 lines of 62.79km. Line 1 connecting Versova-Andheri-Ghatkopar is of 11.07 km and connects densely populated areas of western & eastern suburbs and two important suburban railway stations, one each on Western and Central Railway. The line would reduce the journey time from 71 min to 21 min between Versova & Ghatkopar.

The project is being taken up on PPP basis based on a Model Concession Agreement implemented by NHAI for road projects, modified and adopted to suite requirements for implementing a rail based system. A bidder asking for minimum capital contribution was selected as Preferred Bidder. The total estimated project cost is Rs. 2356 Crores with a Debt – Equity ratio as 70:30 and Capital Contribution (VGF) as Rs 650 Crores. concession period for the project is 35 years including 5 years of construction period.

As per the concession agreement, Concessionaire shall be entitled to collect fare box revenues, advertisement revenues and revenues from utilisation of 100 sq m at each station for passenger amenities.

The construction for the Metro corridor is under way and commercial operations are expected to begin in 2010.

(v) Mr. Fredric Noel: PPP for the Provision of Public Transport Services and Delegated Management in France; by

He explained that urban transport is specific and is strongly tied with urban development and cities governments decisions and competition from private modes and other modes of public transport. Traffic in cities is largely influenced by external factors such as oil prices, parking policy etc and are

much impacted by political decisions. By essence, public transport cannot be ruled only by market laws and there is a need to develop a PPP approach.

Accordingly, the French developed The French Transport Act (1973-1997), which states that “Everybody has the right to be transported” and “PT should be given the priority over cars”. Under the PPP model developed by the French a public authority delegates the operation of transportation services in a delimited territory to a private company after a competitive tendering (or direct negotiations) through a contract with public service specifications and with a limited duration. This is adopted, because competition creates incentives to perform. The operator tries to improve the image and quality of service to increase patronage, thereby increasing revenue.

Under this setup, the role of the transport authority and the operator are well defined. The authority drafts the urban mobility plans, decides fares, defines services, chooses the operator, supervises services and capital expenditure and guarantees financial viability of the system. The operator on the other hand operates and maintains the system, brings in private management skills and acts as an advisor to the PTA.

Public transport in France is structurally non-profitable, because of the low fares and social fares policies. 40 percent is financed by the employers via the Transport Tax, 35 percent is financed by the users through ticket prices and 25 percent is financed by the taxpayer in form of subsidies and debt.

In case of Indias financial & contractual schemes are available to reflect different allocation of risks in function of local authorities priorities. There is probably no panacea but definitely a good case for introducing more delegated management than today for the 0peration of more efficient services.

TECHNICAL SESSION - IV A

Best Pratices in Promoting NMT

(i) Mr. Roelof Wittink: "Cycling Inclusive Planning";

He highlighted the advantages of cycling which are that it is a potential safe mobility, has socio-economic impacts, improves air quality, Co2 reduction, makes cities livable and secure also for woman and also contributes to good health. He suggested cycle as an alternative for private car use.

Five main criteria for design of good NMT facilities were listed vis. Coherence, directness, attractiveness, comfort and safety.

To increase cycling demands, proper NMT planning and design is necessary. It is important to integrate the needs of pedestrians and cyclists in traffic and transport. Measures taken to restore the balance between motorized and non-motorized traffic also improves the flow and safety of other modes.

In the end he said that Control of car use is needed to pursue mobility. The policies should be cycling inclusive to promote the use of the mode.

(ii) Mr. Pradeep Sachdeva " Planning Core Area Pedestriansiation";

Streets are the most widely used open spaces in a city, shared by everybody regardless of social or economic background and used by pedestrians, motor vehicles, cyclists, cycle-rickshaws, animals and public. Streets in India are poor not just because they are badly designed but also because they are not used well. The street design has neither acknowledged not accommodated the requirements of different user groups.

He said that for planning any area start with accurate topographical surveys, analyse the land use, quantified all the activities on and, do good traffic counts including the pedestrians and NMVs and start working on content sensitive solutions.

An example of Nanded was given. The design approach for the project took into consideration safety, improvement of traffic flow, segregation of traffic, allocation of road space for all activities, provision for green coverage and improved quality of public space.

In the end it was concluded that the current road designs in Indian Cities are leading to chaotic conditions and need serious interventions. The model developed for Nanded can become a standard for similar cities in India

(iii) Dr. Geetam Tewari : "NMT in Asian Cities";

She highlighted that some countries have substantial shares of cycling because of policy support, manufacturing facilities and expertise. Cycling is seeing declining trends in all countries 5%-2o% in all cities and 30% - 50% in small cities. In India, there was a sharp decline during 80's – 90's due to fast growth of motorized vehicles, road infrastructure improvements and high cycle fatalities.

She explained the situation in Taiwan, China, Singapore and Copenhegen where use of cycle as a mobility mode has a place. While national policy exists in India, Taiwan, China, the designs have lot to be desired – the guidelines are outdated, design and construction compromised, and major investments are made for infrastructure related to motorized vehicles.

The most important issues that come forth are that the role of CSO essential for sustained demand for NMV friendly policy and design, well documented safety/health benefits not included at policy and investment stage and poverty and gender context required at policy and design stage.

The suggested future courses are promotion of conspicuity by law and community pressure; speed control by urban block size, design of roundabout, traffic calming designs with high motorcycle use and safer vehicle fronts.

In the end she concluded that there is need to develop Politicians, Planners, and People (PPP) network to promote use of NMT in India.

(iv) Prof. A.K. Das "Dipbahan Rickshaw Bank Project

The objective of the project was to design and develop an indigenous tricycle rickshaw in Indian context and for transfer of technology to SMEs. He said that human powered vehicles have their advantages and shortcomings and though they cannot be a substitute for automobiles, it is a very good mode of local transport and also as feeder transport.

Innovation in the design of the cycle rickshaw was considered with three creativities – creativity in technology, creativity in product planning and creativity in marketing.

Transfer of design to SMEs must be accompanied by appropriate jigs and fixtures and not merely with engineering drawings and sample. Participatory design development is required to be undertaken with potential beneficiaries viz. who would be manufacturing.

He mentioned that the Rickshaw Bank concept was introduced by creating capital amount with the support of OIL and ONGC to start micro finance. Micro credit was provided to rickshaw pullers. Rickshaw pullers grouped and were guarantors of each other. Social security and other facilities were also provided to the pullers.

TECHNICAL SESSION - IV B

Planning Feeder System for Mass Transit

(i) Mr. Dario Hidalgo "Feeder Services in the TransMelenio Bus System";

He mentioned that a very good integrated mass transit system was planned in Bogata the beginning itself. The system comprise of a very high capacity trunk corridors and network of feeder services in the periphery of the city. The integrated system carries 14 lakh Passengers/day. The system has 84 km network with 114 stations. Buses are run by Transmilenio only. It has 7 terminals and 5 intermediate integrated stations handling 720,000 transfers/day.

Integrated design with feeders in the periphery has resulted in the highest-level travel time &money savings for the low income population. It has impacted on emission reduction and improved sense of pride and belonging. It has also resulted in travel cost savings and accident reduction.

(ii) Mr. Ajay Kumar :"Developing New Frontiers to Improve Urban Mobility – Case Study of BRT, Lagos";

He mentioned that BRT in Lagos is 20 km in length and is 60% physically separated. The unique features of the BRT are adaptability, flexibility, inclusiveness, affordability, incrementality and sustainability

The key Impact of the introduction of BRT are reduction in bus fare by about 40% and travel time by about 50%, Increase in bus speed from about 15kmph to above 25kmph and reduction in waiting time by over 100%. It was also observed that professionals were parking their cars at the bus terminals and taking the bus

Lagos Metropolitan Area Tranport Authority (LAMTA) was set up in 2002 to improve the transport system. BRT was completed in 16 months at the cost of $0.5m/km. LAMTA has technical staff selected competitively. It has a secured and dedicated funding through users fee and state budget. It coordinates & implements transport policies & programs, plans and regulate supply of adequate and effective public transport & supplementing infrastructure. It grants franchises for bus operations, collect fees for franchise granted, enforce performance parameters &service quality control, regulate parking & impose fees/penalties. LAMTA also manages Transport Fund, develops plans for private sector participation and promotes and develops transport infrastructure facilities.

The key lessons learnt were that it is important for any country to create a well resourced institution (UTAs) and support the institution with experienced and motivated staff and complement it by good management. There is a need to identify secure and dedicated funding for the UTAs.

Before undertaking BRTS projects he stressed the need to understand diverse stakeholders; encourage a broad-based discussion & information exchange among key stakeholders and users. Begin BRT planning with market analysis and service planning and not hardware design/selection. Understand strengths/weakness of current PT system and identify complementary changes in transport policies. Develop transition planning approach, understand land-use impact on poor and the role of transport in urban politics

(iii) Mr. Raj Kumar:"Feeder Bus Service of DMRC".

He mentioned that feeder busses for Delhi Metro which started in 2007 are owned by and operated by private operators. All the receipts are retained by the operator. A number of innovative measures were taken in regard to the standards of the buses and the operating staff.

There are in total 35 routes with 120 buses, which carries 50,000 passengers and touch 15 stations of line 1 and line 3. The feeder service has had a positive impact on the ridership which has increased by 30,000 and 3000 cycle rickshaw trips were reduced.

Despite problems being encountered, DMRC proposes to increase the service by introducing AC buses.

TECHNICAL SESSION - V

Mobility Planning & Management Using Intelligent Transport System

(i) Mr. Praveen Sood, :"Solutions to Traffic Congestion";

Opening his presentation he listed three important areas for solution of traffic congestion viz. Create infrastructure, create efficient affordable mass transportation system and better traffic management.

He flagged the need for a paradigm shift for traffic management such as from traffic policing solution to traffic management solution, preponderance of private modes to focus on public transport and manual management to technology driven management.

He then highlighted some of the feature of Banglore traffic improvement project (B-TRAC 2010) which utilizes the latest traffic management technologies and techniques. The entire initiative is technology driven and under the control of police department.

He also listed the BTRAC 2010 strategy under which a number of traffic signals are to be set up over a 5 year period, cameras and VMS to be installed , set up state of the art Traffic Management Centre, Centrally automated traffic enforcement systems, traffic police mobility, process, communication and modernization,

The components of BTRAC are • Junction Improvement;• Intelligent Transportation Systems;• Surveillance/ enforcement cameras;• Street furniture;• Education/ awareness and capacity building.

One of the initiatives under BTRAC is that 280 Blackberrys and wireless printers are to be issued to traffic sub-inspectors and inspectors. Its advantages are • Transparency and objectivity; • Cases booked are stored in the server and repeat offenders can be identified; • For those who can not pay spot fines notices are issued and the details are put up on the servers;• Registration database from transport department linked up to Automated Enforcement Centre

Describing the automated enforcement he indicated that it is a user-friendly and transparent mode of enforcement; • Constabulary noting down the numbers of the offending vehicles; • Information passed to the Automation Enforcement Center; • Computerized challans are generated and sent to the offender; • Payments can be made at any police station or Bangalore–one centers.

(ii) Mr. Muktesh Chandra: "Intelligent Traffic Management System for Delhi";

He gave an overview of the existing solutions with Delhi Traffic Police. Area Traffic Control (ATC) is under operations on 100 junctions with online responsive system to control traffic signals. Traffic monitoring system has also been installed at 9 junctions with real time images sent to central server and displayed on monitors which enables surveillance teams to respond to incidents. Red light and speed check camera are under use at 15 locations which automatically detects over speeding red light/stop line violations. Besides these there are mobile traffic law enforcement van and 701 traffic signs and 458 blinkers.

Explaining the use of ITS for management of traffic he mentioned that its is an IT-driven solution for the management of IT traffic for its optimal performance by encompassing a broad range of wireless and wired communication-based data, which on its application on city transportation infrastructure, relieves

congestion, improve safety and reduce travel time. Its constituents are Real Time Traffic Light Management, Urban Traffic Control, Video surveillance, Display of traffic situation on video wall at Central Control Room, Limited Traffic Zone, Parking management & guidance, Traffic Laws enforcement system and Incident detection & management.

Use of ITS helps in smooth traffic flows by reducing waiting time at the crossings, increase speed and reduce pollution, coordinates traffic signals to get Area Traffic Control by varying traffic light timing based on actual queues, designating some corridors as critical for providing smoother traffic flow.

ITS application includes remote TV surveillance, parking management and guidance, enforcement of speed violation, enforcement of reserved lanes monitoring, incident detection and management, enforcement of speed alerts, fines collection management. Through ITS variable message signs can be put up for rerouting traffic and for warning the motorists.

(iii) Mr. Bruno Corbucci : "Mobility Planning and Management using ITS in Rome";

Mr. Bruno gave an overview of Rome and the impacts of mobility. He then described the role of the mobility agency. It is responsible for planning, regulating and controlling mobility (Public and Private). It is responsible for the ITS tools, infomobility & mobility centre, permits and user contacts and owns the assets/ property (Networks, Depots, Rolling Stocks).

The public transport of Rome includes – Surface Transport (Buses and Tramways.) and Underground Railways (Metro). The Mission of this agency are controlling, monitoring and regulation of public and private mobility, parking design, planning and management, managing ticketing authorization and permits, assets ownership and management, design and planning of private and public networks and ending Sustainable mobility policies and environment.

ATAC was created in 2006 at the Rome Mobility Agency. ATAC considers that the ITS applications are fundamental for the integrated management of public and private mobility, contributing to solutions and instruments for the improvement of life standard, environmental protection and safety. The concept of the Rome Mobility Centre is to utilize ITS in taking the static system of management of traffic to flexible integrated and predictive system. The mobility centre as part of its mobility business interfaces and gathers data, does analysis and information data mining.

He also described the application of ITS for the concept of "The informed traveler" through which information and services are provided to the travelers. The centre is also responsible for providing real time information of the buses etc. anywhere which includes bus waiting times, traffic bulletin, travel times, route calculation, useful information etc. This is available in Italian and in English.

(iv) Mr. Melvyn Haxby: "Real Time Traffic Information System".

Talking about "video detection" he explained that it takes a video image from a camera to detect presence of vehicles, collect various types of traffic data. For this purpose it uses a camera and video detection processor, typically used as a replacement technology for the inductive loop.

He detailed the video detection applications which included intersection flow control to provide "real time" demand notification to address urban congestion, traffic management systems for highways, data collection, automatic incident detection, input to traffic engineering, provide traveler information for alternate routes, security and safety by identifying vehicles stopped where they don't belong, for rapid incident detection and emergency response, tunnel / bridge management, incident detection, wrong way vehicle detection and smoke or fire detection.

The benefits of video detection included vehicle detection and video images from one system. It is accurate, easy to install, has low procurement cost, low life cycle cost and is very flexible. The system is operational in USA, China, Mexico and Saudi Arabia.

(vi) Presentation was also made on "Thane Railway Station Area Traffic Improvement Scheme (Multimode Integrated Project) by Mr. Kamal D. Lalla nominee for an award in the category Best Multi Modal Integrated Project

He gave an overview of Thane and the rapid growth of its population and vehicles and described the problems in Thane Station Area which were -congested station area, haphazard movement of vehicles and pedestrians, no proper pickup points for autos and buses, queuing of buses due to space constraint resulting in inefficient operations of Public Transport, inadequacy of space for traffic movement in station area as well as on feeder roads, unsafe passage for pedestrian and other NMT modes.

The key objectives of the improvement proposal were, elimination of crisscross movement of traffic in station area and thereby segregating the various modes of traffic, providing dedicated passage to pedestrian movement to, encourage use of non-motorized mode of transport, providing dedicated passage to public transport to improve functioning and thereby encouraging use of public transport system, providing additional space for traffic in station area and avoiding conflicting movements in junctions.

The elements of improvement proposal include split level for pedestrians, buses and auto/ taxi, exclusive low level deck for buses in front of station having capacity to accommodate 16 bus stops, dedicated elevated corridor of about 800m for Public Transport, direct access to the deck from railway fobs, two skywalks of length 410 meters on North and South side connecting Railway FOBs and Deck, providing safe passage to pedestrians and separate passage for IPT movement.

The expected outcomes of the scheme are seamless integration of different modes of transport viz. Railways, Public Transport Buses, other IPT modes (Auto-Rickshaws & Taxis) and Non-motorized modes, encouragement of non-motorized modes of transport (By provision of dedicated corridors to pedestrian through skywalks), enhancement of efficiency of public transport and thereby encouragement of Public Transport Services, besides large savings on account of VoT and VoC. The estimated EIRR of the project is 29.60%

TECHNICAL SESSION - VI

Innovative Financing for Urban Transport

(i) Mr. Huber Nove Josserand "Urban Public Transport Financing: The Employer's Transport Charges";

He observed that roads are congested, public transport is crowded and demand exceeds supply. The financing paradox is that road infrastructure is charged below its cost to the society, incentives are biased towards use of private transport and there is a lack of commercial mechanisms to finance sustainable urban transport

The proposed approach for financing urban transport is as under: Road infrastructure could be charged via congestion pricing, parking policy, fuel surcharge. Other public transport pricing and finance discussed were that road infrastructure is usually not charged to its full social cost (road safety, air pollution). Financial support may be required for public transport. The financial support can be associated with private sector operating public transport for the market through adequate regulation. Reduced tariffs should be compensated by the originator. User of beneficiaries charges are appropriate sources of financing(betterment tax, versement transport etc.

He described in France: about versement transport (VT) and explained that there is a tax on payroll paid by employer's employing more than 9 employees, located within a Metropolitan area. Tax rates are fixed by the local UMTA within a limit fixed by law (between 0.55% to 2.6% of payroll). Tax is reimbursed to employers who provide transport for their employees or those who are located in special development areas. The use of the funds is for providing public transport services. Advantages are that it is dedicated to public transport funding, is predictable, is stable, is economically rational as large employers of city centre benefit from the labor market widening and is practical. The disadvantage is that it misses the real estate value gains capture

Brazil model was discussed. This is implemented progressively in major cities. Public transport in Brazil is essentially privately operated regulated by cities with hardly any subsidy from the Government. The Vale Transport is a targeted subsidy mechanism that allowed the public transport sector to raise fare and progress while mitigating the financial impact for the poor formal workers. This is an employee right. For each participating employee employers retain 6% of formal workers earnings. The employee receives from the employer transport vouchers for the home-to to-work and return trips required on a monthly basis; work, employers buy these vouchers from a selling agency; Transport operators accept these vouchers and trade them in with the issuing agency for money. Part of the cost borne by the employer to manage the program is tax-deductible, globally, Government pays about 35% of the cost in foregone tax revenue while the remaining costs of the program are paid by employers. The advantages of it were that it targets poor workers. The mechanism is designed so that better-off workers opt out the system. It is estimated that workers with wage rates more than 3 times minimum wage find it cheaper to buy fares than participate in the. Amongst the drawbacks he indicated that unemployed, informal sector workers are excluded from the system. It is estimated that 40% of metropolitan workers in Brazil belong to the informal sector. There is a substantial black market for reselling "free" tickets and then workers walk, carpool and cycle.

In conclusion he said that the French Versement Transport works along with a strong decentralized institutional framework and has a sustainable large financial support but may have reached its limit. Financing mechanisms have to be multiple and combined (VT, Congestion charge, land value development) They have to be in coherency with the targets of the metropolitan area for urban development, modal choice and metropolitan area for urban development, modal choice and social fairness.

(ii) Mr. Ashish Sharma: "Financing Through Property Development and Advertising";

He mentioned that Pimpri Chinchwad Municipal Corporation (PCMC) is unlocking value from indirect beneficiaries by Loading of Transferable Development Rights (TDR,) Building permission charges in the zone, Incremental Property Taxes, Advertisements & lease of utility ducts.

The funding model of the total project cost of Rs 1500 Crores was described which included Internal accruals and exploitation of land worth Rs. 275cr., debt from DFI/ Multi laterals Banks for Rs. 650, PCMC internal sources Rs.100cr. and JNNURM (GoI and GoM) Rs. 475cr.

He Indicated measures to capture indirect benefits for debt syndication. PCMC has created a SPV which Will help PCMC to raise long term loans (12 yrs +) from multilateral agencies such as IFC, ADB. It has been perceived that the SPV would have other benefits viz. it would ensure focused and timely implementation, necessary for projects with borrowing, it can focus on generating the revenues for the projects, existing employees can be deputed to the SPV, and can be given more focussed role in SPV for timely implementation.

An Urban Transport Fund (UTF) has been created, which will be managed by PCMC Infrastructure Company. It has notified 100 m on either side of BRT route as BRT corridor zone and Increased ceiling FSI from 1 to 1.80– 0.80 loading is through TDR with payment of a premium. This will protect the value of TDR and make it more attractive hence encouraging implementation of DP. Estimated Premium on TDR in BRT corridor is Rs. 1745 Crores. Other Income from 100 m BRT corridor are development charges potential. Advertisement; Incremental property tax and lease of utility ducts. The total income potential of BRT corridors is estimated to be – Rs. 2945 Crs;

Explaining the sustainability of the model, he indicated that the road network has been designed to cater to future growth patterns of the city, it is a priority based approach, which will spur substantial real estate development and provide additional direct benefits to the property owners along the corridor. Funding model is designed to capture this future growth benefits to fund road development. Fund makes the revenues secure which helps raise finance from lending agencies. Without fund structure it will be difficult to channelize earnings from direct beneficiaries into development

Other PPP models complementing the project are PPP for road furniture (Bus stops– Public toilets,– Landscaping– General Maintenance) and advertising rights. PPP model for using land as resource (Lease Rights,Development rights on land and Development Premium).

He also highlighted the key success factors were that the model required real estate momentum to ensure that TDR loading and other activities are profitable and the Mumbai Pune corridor has already been commissioned and land rates have seen upward revision

(iii) Ms. S. Aparna:"Urban transport fund in Surat";

The strategies to meet the urban travel demand identified are contain travel demand, developing an optimal modal split, promoting the use of non-motorized modes,reduce emissions from motor vehicles, and improving urban public transport.

Implementing the outlined strategies for meeting the future urban travel demand using public transport will, clearly, require large capital investments, whether they are for constructing highly capital intensive Rail Transit System or merely segregated rights-of-way for cycles and pedestrians. Most state governments and urban local bodies have financial constraints and therefore, alternate methods of financing are to be explored. A judicious mix of private capital with public funds can competitively deliver urban transport services to reduce the financial burden on the state and even leave a surplus for meeting universal urban transport needs. In her opinion the commercial utilization of land resources, available with public transport service providers, seems to offer a promising opportunity for mobilizing substantial resources.

Giving an overview of the city of Surat it was informed that the city did not have any significant public transport system and has been dependent mainly on personal vehicles. The number of vehicles registered in Surat district has grown sharply from four lakhs in 1994 to thirteen lakhs in 2007 accounting for a yearly growth rate of 11.89%. Accordingly there has been an extraordinary growth in transport sector, both for passenger and goods traffic, within the city resulting in unacceptable levels of congestion, road fatalities etc. This necessitated an urgent need to examine and address the traffic concerns in the city. As per the Comprehensive Mobility Plan for Surat the investment requirement for urban transport would be to the tune of Rs. 10352 crores.

In line with the recommendations of the National Urban Transport Policy, SMC has decided to set up an “Urban Transport Fund” with an initial outlay of Rs. 10 crore. Different elements for the proposed income for UTF were also discussed. Furthermore discussions are ongoing to incorporate innovative means of financing and utilizing them for generation of Capital/Revenue income for the Urban Transport Fund.

(iv) Mr. O.P. Agarwal:”Financing Modern City Bus Services”

He identified various features of modern bus service and indicated that it uses an attractive bus that is well maintained and safe, has pleasing interiors, incorporates a passenger information system, has comfortable and safe bus stations, is convenient and easy to access, has well designed schedules, is scientifically managed, has prioritization – at intersections & along the route, one that people are happy to use and not forced to use and finally that it is a “middle class choice” - Not just a “poor man’s compulsion”

He observed that a modern bus service costs virtually nothing to the public budget under well structured PPP arrangements and listed the following Capital cost elements of a modern bus service viz. Coordinating institution, Buses, Terminals, depots and bus stations, ITS/MIS infrastructure, Fare collection infrastructure, Right of way improvements, Prioritization arrangements and Training and skill development. The Sources of financing were identified as fares, advertising rights, property development, special services and public budget.

He also observed that each city will be different and how much will be financed from each source will be different for each city which will depend on population and ridership levels, strength of para-transit services, status as a business center, land availability and possibility of special services

He highlighted the need for public budget to invest in the quality of the right of way, invest in capacity building, institutional, development and regulatory framework and significantly reduce the tax on public transport.

TECHNICAL SESSION - VII

Institutional Arrangement

(i) Dr. Von Berlepsch :"Urban transport integration – the case of Rhein Main and of Frankfurt transit association";

He gave an Impression of Frankfurt / RheinMain and its public transport System and explained the different forms of public transport system viz. the Regional Transport (commuter train), with electrical trains longer stopping distances high travel speed,; Underground / Metro which is a fast inner-city light rail high traveling speed, Trams Inner-city distribution tracks at level Short distances between tram-stops and bus acting as shuttle transport with short distances between stops

He gave a detailed description of the *Transport and Tariff association (Structure and organization) of* Local Public Transport Authority Frankfurt / RheinMain. Explaining the idea of the Transport Association he mentioned that the local passenger transport system is strengthened with the formation of transport associations, thereby contributing to an ongoing solution of transport problems. The Traffic Association establishes a uniform platform for all local passenger transport systems, with access barriers to the passenger transport system being reduced as a result. Customers thereby have a transparent and attractive local transport product. Today there is almost a national application in Germany *with one tariff – one ticket.*

Advantages of an integrated association for the customers and association were explained. Rhein-Main-Transport Association (RMV) has led to Integration of approximately 110 tariff rates, approximately 150 transport ompanies, 26 districts and large towns as partners.

Different types of tickets in operation in the / RheinMain-Transport Association were also described. These were combination tickets (combined with e.g.football World Cup 2006,concerts, events etc.), job ticket- for the whole staff of a company; student ticket for all the students of a university *and* season ticket tickets for a period of time (day, week, month or year) tariff.

Electronic ticketing and electronic travel recording being considered for Rhein-Main-Transport Association (RMV) together which along with its advantages and application were also described.

In conclusion it was mentioned that the German way of establishing tariff and transport associations has been and will continue to be successful.

(ii) Mr. Gaurav Gupta:"Bangalore Metropolitan Land Transport Authority – UMTA for BMR".

He gave a quick profile of city of Bangalore and the existing scenario of city transportation of Bangalore. He followed it up by tracing the genesis of creation of Bangalore Metropolitan Land Transportation Authority (BMLTA), which basically emerged out of the National Urban Transport Policy. The activities of BMLTA were indicated, which included coordination of all land transport activities, overseeing implementation of CTTP for Bangalore quick win projects- traffic assessment, TDM, NMT promotion and advocacy functions- raising public awareness & learning.

The various sub-committees of BMLTA were listed and the outcomes of subcommittees were also elaborated. The outcomes listed were: Intermodal Transit Centers (IMTC) in progress, improved airport connectivity, planning for commuter rail, parking policy, BTTI – an association with City-Connect

–an industry + NGO body for taking up joint initiatives in Traffic & Transportation and Decisions on implementation of transport plans in accordance with CTTP.

The BMLTA goals were explained as 6 E's viz. equity, education, enforcement, ecology, efficiency and endurance, all leading to sustainable urban transportation.

The BMLTA challenges were listed out as augmenting public transportation (PT), integrating agency plans to fit within the CTTP, pedestrian commuting & cycling - encourage NMT, innovative strategies to implement projects in pipeline, innovative financing mechanisms for projects, use of technology to review & monitor transport plans and communication with all stakeholders to make them see the big picture & take up sustainable transport projects

(iii) Mr Mohinder Singh: "Integrated Transport Management in Singapore – Institutional Framework";

He gave an overview of Singapore and its transport and travel Statistics. He also gave an overview of the organizational structure of Land Transport Authority (LTA) of Singapore, its role and functions.

He also explained the Integrated Transport Management and Regulatory Framework. The Regulation of public transport in Sinagpore is done by LTA. It licenses & regulates taxi services, approves vocational licenses and regulates Rapid Transit System (RTS) services. There is a Public Transport Council (PTC) which provides technical and agency services to LTA. The PTC approves bus & RTS fares, approves bus routes licenses & regulates bus services. It functions as an independent body and is entrusted with the challenging mission of balancing commuters' interest with the long-term viability of the public transport operators

Describing the public transport industry in Singapore he indicated that there are 2 major multi-modal operators which operate namely train, bus and taxi services. There is better integration of different transport modes within the same corridor and benchmarking in terms of service standards and performance. There is no direct competition amongst various modes.

Explaining the roles & functions of Land Transport Authority of Singapore he indicated that it was responsible for the formulation of land transport policies; planning of land transport infrastructure and systems, management of road traffic and maintenance of road network, regulation of public transport services; and regulation of private transport ownership and usage

The statutes administered by LTA included Land Transport Authority of Singapore Act which defines the functions and duties of the Authority, Road Traffic Act which regulates the road traffic and the use of vehicles and the users of roads, Rapid Transit Systems Act which provides for the planning, construction, operation and maintenance of rapid transit systems, Parking Places Act that regulates parking places and Streets Works Act which provides for the construction, improvement, repair, maintenance and management of streets and back lanes.

(iv) Mr. Richard de Cani :"Overview of Transport for London"

He gave an overview of the travel facts of Greater London and followed it with the operational modes structure under which Transport for London operates. TFL is responsible for surface transport, London Underground and the London Rail. It is a complete integrated network with unifying ticketing, branding and information on all TfL services.

Details of funding and financing of public transport in London was explained. The funding is done through a mix of central government grant, fare revenue and borrowing. There is a mix of public and private finance with the latter ranging from individual projects to systems wide.

He highlighted the key successes since year 2000 which are a 5 percent modal shift from car to public transport, increased patronage for bus service by over 40% (2bn journeys p.a.), the underground (including DLR) travel increased by 7% p.a. (over 1bn journeys p.a.) and cycling has increased by 90%. Overall the traffic in Central London reduced by over 20%. Enabling public transport became a cornerstone of London's 2012 Olympic bid

This was achieved through increased funding, strong leadership, clear direction through the Mayor's Transport Strategy, support through public consultation and relationships with stakeholders, buy-in from Boroughs through local transport plans and a unified organisation with an integrated approach

The biggest challenge for London is the large, acute congestion on roads and public transport system together with ageing infrastructure and poor air quality and financial challenges. The steps taken for meeting the challenges included reducing road traffic via a refined congestion charge, increasing capacity by improving bus services, ensuring best possible value from private finance and building new transport infrastructure.

TECHNICAL SESSION - VIII

Climate Change and Opportunities for Clean Development Mechanism CDM for Urban Transport

(i) Ms. Divya Sharma : "Climate Change & Opportunites for Clean Development Mechanism (CDM) in Urban Transport";

She mentioned that transport contributes substantially to climate change. In the Indian context, there has been an increased motorization due to lack of public transport facilities, more so in smaller cities leading to increase Co2 emissions. The mitigation options are reducing travel demand, improving vehicle and fuel technologies, initiating modal shifts and adopting fuels and technologies with lower carbon density. CDM is a tool to enhance sustainable development benefits to local communities while producing GHG emission reduction credits for the global markets. Focus areas at present are fuel intensity and fuel choice components. Future areas for CDM are mode share components like improving fuel utilization with new occupancy vehicles; displace private vehicle travel with public transport and reduction in number and length of trips.

CDM transport challenges identified include setting up of a baseline and variation in baseline, financing issues and issue like induced demand and project based sectoral approach of CDM mechanism.

The solutions for meeting the challenges suggested are building capacity to model transportation, investing model development, expertise and data collection and use of dynamic baselines.

The future course of action proposed at National Level are Setting emission, fuel quality and fuel economy standards, formulating laws to enforce inspection and maintenance, laws to manage transport demand, Empower and equip local governments to make transport sustainable and streamline procedures for private sector participation. At the State Level provide for an integrated authority, incentivize private investments in public transport and provide adequate funding for public transport and NMT. Integrate benefits from GHG reductions in private investments, and provide the legal framework to establish UMTA in cities.

(iv) Mr. J. Adam :"Strategies Towards Low Carbon & Energy Efficient Urban Transport";

He mentioned that in Asian Emerging Countries, AFD interventions in all sectors are driven by a global environment rationale (including Climate change, Biodiversity): interventions in India have to be justified from an energy efficiency rationale in particular. There is an accelerated growth of energy demand in transport and associated CO2 emissions. Therefore, adequate urban development and transport policies are required to can help curb emissions of GHG while providing economic benefits and contributing to reducing local air pollution.

The urban sector has always represented a sizable part of AFD's portfolio worldwide, which include support to urban infrastructure projects, to urban planning and city development strategy, decentralization, etc along varied rationales

The reasons why cities should aim at CO2 emission reduction are because it has a major impact on climate change. Urban public transport has an important role to play in reducing urban areas pollution. CO^2 emission reduction is achieved mostly through Energy Conservation, thus inducing lower energy

costs. Integrated transport solution provides better service, increase public transport traffic, reduces congestion, which is consistent with CO^2 emission reduction. Infact, the cheapest solutions may be the best ones for CO^2 emission reduction. CDM, in spite of difficulties, is applicable to urban transport projects, and in some cases the cost of CO^2 emissions avoided is low, consequently returns from CDM can be high.

The benchmarking strategies for CO2 emissions were discussed along with the impact of such strategies for CO2 emission reduction. The bicycle use policies adopted in France were explained.

Financial tools and levels of intervention by AFD were also explained these included Directed funding of projects by AFD loan, support at pre-feasibility or feasibility stage through grant financing as support to energy/climate evaluation, economic travel studies leading to or accompanying loan financing and support to formulation of long-term policies, plans, upstream of projects through grant financing leading to loan financing of projects.

(iii) Mr. Vinayak Bansal :"CDM in Transportation Sector".

He pointed out the two approaches being pursued to deal with climate change. The first is the compliance approach which is generally being followed by Kyoto Protocol signatories and also of the clean projects being implemented in developing economies to generate CERS. The second is the voluntary approach wherein corporate houses, business firms and states undertake voluntary initiatives to participate in this effort. After evaluating current level of emissions, they set and achieve targets through in-house projects or financing external projects that result in emission reduction.

Clean Development Mechanism (CDM) was explained wherein that GHG emissions contribute equally to climate change irrespective of where they occur. CDM encourages investment in clean technologies in developing countries and 'rewards' emissions reduction of the 6 key Green House Gases.

He listed the identified climate change mitigation opportunities in transportation sector which included – changing mode of transportation, i.e. switching from inefficient private or public transportation systems to more efficient public transportation systems, vehicle technology improvements, alternate fuels, promotion non-motorized transportation and location efficiency. It also included examining GHG impacts associated with different land use patterns as a result of reduced travel demand and how the CDM might be used as an incentive for more location efficient urban development.

The key Challenges faced are comparatively low awareness regarding CDM; methodologies, no methodologies yet for systems such as NMT, large scale fuel switch etc. and establishing baseline. The phase-1 of Kyoto Protocol is ending in 2012, however targets beyond 2012 are still to be decided by World Forum. Developing countries need an integrated approach in which transportation is part of a larger focus on sustainable development that also addresses housing, land use and economic development and quantification of GHG reductions. Case study of BRTS Bogota and Delhi Metro were also discussed.

Members of the Organizing Committee & its Sub Committees of the Urban Mobility India, 2008 Conference – cum-Exhibition

The Organizing Committee was constituted to decide all the arrangements required for the event, will have proper coordination with other sub committees. This Committee was to meet regularly at least once in a month and later on quite frequently when the event is closer. List of Organizing Committee & its Sub Committees are as follows:

1. Organizing Committee

1. Shri S.K.Lohia, Director (UT) – Chairman
2. Shri O.P. Agarwal, Vice President, IUT-Alternate Chairman
3. Prof.P.K. Sikdar, Vice President, IUT-Alternate Chairman
4. Shri S.K.Sah, Director (F)-MoUD
5. Prof.(Dr) P.K. Sarkar, Hony.Secretary, IUT
6. Sh. S.K. Jagdhari, Hony. Joint Secretary
7. Shri A.A. Sahay, Hony.Treasurer, IUT
8. Dr. Sanjay Gupta, SPA, Member-GC/IUT
9. Shri A.K. Jain, National Project Manager
10. Shri Amitabh Bajpai, AITS
11. Shri K.S. Saha, Advisor, IUT
12. Shri B.S. Diwan, Executive Secretary, IUT - Convener

The Sub Committees were as follows

2. Award Coordination Sub-Committee

This committee comprised of:

1. Prof.(Dr.) P.K. Sarkar, Chairman
2. Dr. Vinay Maitri, SPA
3. Dr S.Gangopadyay, CRRI
4. Dr Geetam Tiwari, Member, IIT
5. Ms Kanika Kalra, IUT, - Convener

This committee was to issue letters to all the State Governments Consultants etc to call for their proposals for the IUT Award, to evaluate the proposal for a decision to be taken by the Committee set up to decide the final awards. Maintain contact with awardees prepare citations and present them at award function.

3. Presentation and Publications Sub-Committee

This committee comprised of:

1. Dr Sanjay Gupta, Chairman
2. Dr K. Ravinder, CRRI
3. Dr N.C. Satyawadi, Transport Economist
4. Ms Sonia Kapoor, IUT - Convener

This Committee was to organize the Technical sessions of the event, arrange presentation and publications from invited speakers and also will be responsible for the complete coordination of the technical sessions (including panel discussion and valedictory session) during the event. Rapporteur for each session co-ordinate with venue committee for dias setting, audio visual arrangements, maintain contact with speakers, presenters, session chairmen to be briefed etc. Arrange for any gifts, momentos / bouquets etc. to be presented on the conclusion of each session.

4. Venue and Catering Sub-Committee

This committee comprised of:

1. Shri A.A. Sahay, Chairman
2. Shri Y.P. Sachdeva, AGM, RITES
3. Smt.Suman Chopra. Editor, Impressions India
4. K.S. Saha, Advisor, IUT - Convener

The Committee was to make all the arrangements at the venue for the conference as well as Exhibition and to have proper coordination with the Event Manager and ensure proper catering arrangements including dinners are made for the delegates. Front desk and 'May I help you' desk management to ensure various panels (backdrop, stage side panels, outside venue etc.) are properly placed.

5. Hospitality Sub-Committee (Accommodation and Transport)

This committee comprised of:

1. Shri S.K. Jagdhari, Chairman
2. Shri Rajender Verma, ITDP
3. Shri Rajeev Sharma, HSMI
4. Smt. Sujata Sawant, RITES - Convener

This Committee was to be responsible for providing suitable accommodation to all delegates international or local, to organize their reception at airport and transfer to designated hotels during the event to look after all hospitality for these delegates.

6. Logistic Sub-Committee

This committee comprised of:

1. Dr N.B. Johri, Chairman
2. Shri Satbir Singh, AIHDA
3. Ms. Rana A. Amani, Transport Specialist, IUT
4. Shri Sandeep Sharma, Accounts Executive, IUT - Convener

The committee was to organize filling of bags containing material of the conference and brochures of AITS, UITP, Policy circular of the Urban Development, IUT Newsletters and Journals, Copies of the programme, Pen and Pad. The committee was also to ensure that the bags are distributed properly at the reception by the volunteers provided by the Event Manager. All correspondence, lists of delegates and invitees, invitation letters and cards, Maintain up-to-date website with proper linkages for Directions for venue and Managing special e-mail.

7. Award Evaluation Committee

This committee comprised of:

1. Shri K.C. Shivaramakrishna, Former Secretary (UD)
2. Shri S.Sunder, Sr. Fellow, TERI
3. Prof. E.F.N.Riberio, Former Director, AMDA.
4. Shri B.I.Singal, Former MD, RITES
5. Dr P.S. Rana, Former CMD, HUDCO
6. Shri R.C. Sharma, Transport Economist
7. Dr Y.P. Anand, Retd.Chairman, Railway Board.
8. Prof. P.K. Sarkar, SPA - Convener

This Committee was to evaluate the various entries received for the awards in excellence in the field of Urban Transport and make its recommendations. Suitable assistance was to be provided by Award Coordination Committee.

List of Exhibitors – Urban Mobility India Exhibition

1 Ahmedabad Municipal Corporation

2 Andhra Pradesh State Road Transport Corporation (APSRTC)

3 Atac Spa

4 Bangalore Metro Rail Corporation Ltd.

5 BFG International Ltd., Bahrain

6 ERG Transit Systems, Australia

7 Forum 8 Co. Ltd., Japan

8 India Mart

9 Institute of Urban Transport - Participants from IUT

10 International Association of Public Transport (UITP)

11 ITERIS INC

12 Jindal Steel & Power Ltd.

13 Karnataka State Road Transport Corporation (KSRTC)

14 Kemrock Industries and Exports Ltd.

15 Kolkata Municipal Corporation

16 Manmachine India Pvt. Ltd.

17 Mitsubishi Electric Corporation

18 M-Tech Innovations Ltd.

19 Mumbai Metropolitan Region Development Authority

20 N.W.K.R.T.C

21 Navi Mumbai Municipal Corporation

22 Pimpri Chinchwad Municipal Corporation

23 Pune Municipal Corporation

24 Rail Coach Factory, Bangalore

25 Rail Wheel Factory

26 Rajpurohit Cardtec Pvt. Ltd.

27 RZD, Russian Railways

28 Scomi, Malaysia

29 SIAM - TATA Motors

30 State RTCs of Karnataka

31 Surat Muncipal Corporation

32 Tete Enterprises (Pvt) Ltd.

33 Thane Municipal Corporation

34 Thetis S

35 Volvo

Exhibition was Organized by

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