Bus is the key mode of mass transit in the major cities in India. More than 150,000 buses are operated by state transport undertakings (STUs) in India. Carry around 70 million people every day. After the launch of Jn-NURM scheme (Phase I and II), the production capacity of Indian bus manufacturer has increased to 50,000 per annum. However, it is still very low compared to that of the Peoples’ Republic of China where the production capacity is around 550,000 buses every year.

Government of India has launched two flagship programmes – 100 Smart Cities and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) for 500 cities (with population of 100,000 or more) with a funding of $8 billion and $8.3 billion respectively. The smart cities initiative, focus will be on core infrastructure service, whereas, AMRUT will adopt a project approach to ensure basic infrastructure services. Both the mission highlights the importance of the efficient Urban Mobility and Public Transport (PT). This can’t be achieved without strengthening bus transport system.

Key Emerging Areas

The Indian bus industry plays an important role to provide mobility to people. As per recent data published by Indian Census 2011 on different modes of transport used by workers commuting to workplace, Buses provided transport to more than 23 million people daily to reach their offices. However, more numbers of people use two-wheelers, i.e. 25.5 million / day.

Bus is an important connecting point – STUs (State Transport Undertakings) in the country roughly own 170,000 buses and carry 3 times the passengers than Railways. Also connectivity to remote areas is provided by buses. But the need of the hour is to revamp the bus transport, with focus on shifting commuters from private to public transport.
Buses are going through makeover - swankier, spruced up versions are coming up. Bus transport should adapt to new emerging challenges. The public operators should have the ability to identify the opportunity to change instead of opposing it. Data is available, but how much are we using?

“The first quality required is the ability to embrace change, not to resist it. In fact, being proactive with dealing with the rapid developments and disruption is a less risky option to resisting or stalling the change we need to do.”

– Mr. Nandan Nilekani, Chief Architect of Aadhaar and Co-founder of Infosys Limited

**Big Data is the most critical component for bus transport** and there is need for analysing the data to improve Public Transport, incorporated with ITS. Tools are available in the world, and also are in constant evolution through extensive research to improve the comfort level and improve the reliability of the bus. However, challenges such as shortage of manpower with the required skills have to be overcome through planned capacity building programmes. More training programmes need to be conducted in India.

“Adoption to new technology will be the key for the survival of bus transport organization in the future. There is need to recruit manpower with new skillsets”

- Shri Rajender Kumar Kataria, IAS, Vice President, Association of State Road Transport Undertakings (ASRTU) & Managing Director, Karnataka State Road Transport Corporation, Bengaluru

“The focus in India is on improved mobility. No matter whatever mode comes, buses shall always be the backbone and bulk of people would continue to use it.”

- Dr. Ekroop Caur, IAS, Managing Director, Bangalore Metropolitan Transport Corporation and Chairperson, UITP India Board, Bengaluru

There is need for appropriate policies to promote buses and public transport overall. For example, the city services round the clock and bus fares within reach of all strata of society. In India, people still do not consider Public Transport as basic services, such as water supply, electricity, education, etc. Huge investments are required in Urban Bus Transport. Inefficiencies need to be addressed – no asset should go waste like improving load factor and fuel efficiencies. Buses in Delhi carry about double the passengers carried by metro, but the quality of service is poor.

One of the critical questions is - How to raise funds? Lessons from across the globe should be adopted to make our operations better. Procurement of buses is one of the critical issues: L-1 may not be the only method. There is need for learning among authorities within and outside India.

Gross Cost Model in Delhi is one of the global best practices. Improved Supply and Improved Demand goes hand in hand. Quality buses – private players can play a role in it. Further, there is need for IT Enhancement – GPS, CCTV and WiFi for better safety.
Delhi Government has planned to induct 3,000 more buses this year, out of which 1,000 buses will be procured by Delhi Transport Corporation (DTC), 1,000 buses will be inducted under the cluster scheme and 1,000 buses will be inducted under Premium Bus service by allowing new players to operate the service.

- Shri K. K. Sharma, IAS, Chief Secretary, Government of NCT of Delhi, New Delhi

Most Indian cities have much lesser buses than needed. In Indian cities, there were 55 million vehicles in 2000; more than doubled in about 10 years!

Bus Mobility needs to be studied in terms of all road users, even for the cyclists and also as part of integrated system, for first and last mile connectivity. Although planned in number of cities, only 9 cities in India have adopted BRTS and even fewer have implemented it.

Major challenges are faced in formation of SPVs, formation of fare policies, ancillary infrastructure such as depots. Agencies need to focus on regular preventive maintenance and driver training. Real time data is also very important.

With initiatives such as smart cities, transport needs to be smart too. Bus mobility is a key element in Smart City Mission – major investments are planned. TODs are a tool of value capture. As part of Smart City Mission, demands for buses have emerged from all citizen interactions. Mobility projects – 25% of budget have been committed for better mobility including NMT – ICT/ ITS systems.

The contribution of public transport is to increase the competitiveness of cities. Most of cities believe that PT is expensive to build and operate. PT contributes to all pillars of city development such as Quality of life, human resource. PT allows better connectivity, better access to jobs, and economic development of city (GDP). As per UITP Global Study, Economic benefits exceed the initial investments in PT. it is already proved that Benefits to Cost Ratio is very high.

**Better Accessibility**
- Through better accessibility, access to different parts of city is possible - PT links people to places. It facilitates the development of the human capital – building skills and better jobs. People can travel from one place to the other in pursuit of their aspirations
- PT itself creates large no. of jobs, requires different types of competencies

**Physical Investment**
- Areas served by PT are more attractive to live and work
- Attracts Private Investments to make the city better
Global Appeal
- PT supports Tourism – tourists can go around the city to discover local attractions
- Economy is also benefitted as a result

Quality of life
- Cost of mobility in PT is less – the money can be used in something else – to improve local economy
- Physical Activity due to travel in PT results in Better health, thus there is less expense on public health

Thus, we see that PT generates value for all, including citizens, local government.

“Public Transport contributes to all pillars of city development such as Quality of life, human resource. Public Transport allows better connectivity, better access to jobs and economic development of city.”
- Shri Jerome Pourbaix, Head of Policy & Outreach, UITP Brussels

There is a need to contextualize the kind of PT we are looking for our cities. More and more people live in urban areas. 54% of the world's population now lives in urban areas and it is expected to increase to 66% by 2050 as per UN report "World Urbanization Prospects 2014". It is expected that more than 590 million people will live in the Indian cities by 2030.

The main causes of high density are not obvious. But it could be because of high rises, or low income people living in packed conditions. Indian Cities, irrespective of type and size, walking is the dominant mode of transport. PT is usually buses or IPT, including indigenously designed vehicles.

It is important to highlight that car ownership is higher than Delhi in other cities such as Greater London & Singapore – yet no. of people travelling by PT are higher. Mostly low income people in Delhi are either walking or use public transport. There is a strata of low income people who live in informal settlements and are completely depending on walking. Unemployed people are also dependent on walking.

Studies have revealed that metro gives slight advantages over bus system for longer trips (above 15 km). On the other hand, bus system offers more accessibility – close to origin & destination, close bus stop spacing (as low as 500 meters). PT users in Delhi have expressed concern for safety (especially women), comfort and need for dedicated lanes.

Direct services may influence shift to PT. Also fares have to be designed keeping in mind that the paying capacity of people - 55% of households have income upto just INR 20,000 per month!
**BUS RAPID TRANSIT**

Car infrastructure is not the solution to address traffic congestion and pollution. Citizens find themselves stuck in jams in spite of lot of flyovers. Public Transport in Developing Countries is very important and Bus Rapid Transit (BRT) is important component to facilitate PT. France has 30 km of Rapid Transit per million residents and India has just 1 km of Rapid Transit. There is scope to build more.

There exists huge backlog of investments required in PT. Efficient mobility is extremely important to build sustainable cities. Now-a-days cities seem to want to have metros, without going for BRT or other systems. Other modes need to be explored first as metro is capital-intensive and time taking.

According to the study conducted by ITDP 2015 in Tamil Nadu, Infrastructure investment is INR 31.6 per car trip while that for bus user is INR 0.9 per trip.

PT share is declining in most Indian cities, causing issues of rising car ownership & dependence, pollution, ill health and more. In 2006, a very progressive NUTP (National Urban Transport Policy) brought urban transport issues centre stage, stressing on the need for mobility of people and goods.

Many cities have bus systems, some even have BRT systems planned but only few have seen light of the day. The implementing agencies have to work on image of BRT – think about people’s convenience. Buses should be able to have their way instead of being stuck behind other modes. The road space is for all road users and space should be available for all.

Delhi BRT is scrapped by the government owing to negative publicity by car-users. Recently, the government has announced to construct Elevated BRT corridor. However, many experts felt that elevated BRT is a sub-optimal solution – expensive, inflexible and difficult to access. There should be comfortable boarding for all, including wheelchairs (same level boarding as the bus stops and entry of the bus). Buses are faster with better access and Off-board fare collection should be done for passenger convenience.

To ensure successful BRT system, it is important to take learning from some other BRT network.
Pimpri Chinchwad – Pune is a major residential hub to IT professionals. There are 4 BRT networks, 45 km in total length, in the city – two along highways & two on greenfield land, forming a grid pattern. The BRT has witnessed steep rise in ridership, and received positive feedback from commuters. **Proactive public interaction** has helped remove some perceptions and encouraged people to use the BRT. However, the system is facing challenges such as coordination with multiple authorities with different priorities, signal phasing not matching with frequencies, etc. ITS (Intelligent Transport System) component also needs to stabilize.

Naya Raipur – It is new capital city of Chhattisgarh. The BRT system connects Raipur city with Naya Raipur, a length of 17 km. Major issue faced in coordination with railways and design of signalling systems.

Hubli-Dharwad – Hubli and Dharwad are twin cities, located in North-Western part of Karnataka state. Hubli-Dharwad BRT system, with a length of 22.25 km, will connect both cities. The positive part was that there was high volume of trips already being carried by the PT system. However, there was need of modernization of bus system and massive land acquisition.

BRT projects are complex and require detailed planning. The system faces many challenges such as land acquisition, coordination with different agencies, and need for dedicated authority and SPV.

“It is important that BRT system should be looked at from service side and implementation side. Having a State Govt. on board always help, but the agency should appoint expert to design, implementation & operation. Public outreach is equally important for BRT System.

- Ms. Nupur Gupta, Senior Transport Specialist, World Bank Group, India

**BUS CONTRACTING**

The participation of private sector is important to further strengthen this sector. The cities around the world are following different contracting structure to attract private players and adopting different mechanism to ensure quality of service (QoS).

Wide spectrum for bus operations exist all over the country – perhaps the need is for Intermediate models for bus operations. Two extremes can be seen – the Net Cost & Gross Cost Model.

<table>
<thead>
<tr>
<th><strong>Net Cost Model</strong></th>
<th><strong>Gross Cost Model</strong></th>
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<tbody>
<tr>
<td>• Private operators bring the bus, operates, and keeps the fare collection</td>
<td>• Operator gets the asset – provides the cost of operation. Provision of penalties</td>
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<tr>
<td>• Demand (revenue) risk is with the operator</td>
<td>• Government takes risk of demand</td>
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Currently, there are around 29 bus contracts in India, including 14 Gross Cost, 13 Net Cost and 02 Net Cost with viability gap. It is important to see successful contracting models within and outside India.

**Singapore** is an island country, with a population of 5.5 million. Currently, car population of the city is about 1 car per 10 persons. The city has very good public transport. Singapore has about 5000 buses and fairly good mass transit system. Yet, the buses carry more trips than MRT & LRT combined.

The public buses are operated by franchised operator – SMRT and SBS Transit. However, they do not compete with each other. Under the current model, capital funding is totally covered by the government, but Operators have responsibility of buses, operation & revenue (Net Cost). The bus transport was losing attraction owing to deteriorating service. The government launched a new initiative - Bus Service Enhancement Programme (BSEP) in 2012. The government provided funds to purchase more buses, for improved services to people.

The government has also introduced new Gross Cost system to invite more operators. Currently, 2 packages were given to 2 operators – Tower Transit and GoAhead. The transition from one model to other is done gradually for smooth shift and also for learnings. With the new system, requirement of manpower was lesser. But the government ensured that existing staff (especially drivers) be absorbed. No union issues were faced due to good employment practices.

Bus schedules were matched with the demand. Around 35% services have 10 minutes headway. Understanding of ground conditions is extremely important for designing bus services. The common man was involved in the decision making process through feedback, and even in deciding the colour of the buses.

> “LTA has invited bids for the operation of the buses and the buses are procured by the authority. He shared that bids were evaluated on quality & price and the contract was awarded to the bidder with highest score, not always lowest quote.”
> 
> - Mr. Choi Chik Cheong, Deputy Director, Land Transport Authority, Singapore

Delhi has also implemented bus reform system by inviting the private operators to run the bus system. The fare structure set by the Government cannot meet all the costs of operation and maintenance of buses. There was scarcity of IT based monitoring systems and use of technology.

Blue Line buses were introduced as a replacement of Red Line buses which were wreaking havoc on Delhi Roads. In this model, the operator had to operate the route allotted by the government and revenue source was only fare. There were issues such as low maintenance, unfair practices – they would try to cut corners to save money.

On the PT side, there are no incentives or dampeners for operation quality/ monopoly of the operators. There is no commuter or public orientation; and the
decision making process is also slow. In the private sector too, similar issues are faced.

In 2008, a New Model, called Cluster Scheme, was adopted where clear service level benchmarks were defined - quantitative parameters that are prescribed & monitored, and qualitative ones, such as cleanliness etc. The tendering process is transparent. Also, there are clear formulae to compute payments. The service operator (concessionaire) enters into a service contract with regulatory authority.

Key features of Cluster Scheme in Delhi, includes:

- All bus routes are classified in 17 distinct clusters
- Buses on a route is operated under Unified Time Table (UTT) with state owned entity
- Operator bears the operational risk; but the revenue risk is not passed on the operator
- Regimes of penalties and rewards are defined
- ITS forms the backbone - Innovations such as real-time monitoring of operations, ticket sales proceeds makes it an unique system
- All ticketing is done on ETMs. ETMs can read smart cards too. Conductors are trained to operate the ETMs.
- BMS provides pointers for improvements in operation

Similarly, some other examples of Bus Contracting models are:

**TransMilenio, Bogota**

- Operator is paid on the basis of km operated. Overall revenue is shared by both operator and government
- The payment is a function of capital cost, operation cost (including additional km) and share of revenue
- Fix no. of km is prescribed - the operator has to maintain a level of passenger km on an aggregate level
- This ensures that the operator does not run empty km – to match demand and services, such that buses are delivered when the demand is there
- No operation when the demand is not there

**Santiago, Chile**

- Bus systems are complex and there is need for complex models of contracting too
- Need for evolving bus contracting, which has components of fixed cost, variable cost, quality of service and risking a portion of demand with operator
NEW TECHNOLOGY INITIATIVES FOR BUS TRANSPORT

It is important to highlight that bus operations in India are not regulated. Technologies that will be brought in have to take care of all these challenges. There are many stakeholders – Regulators, operators and Commuters. Further, owing to multiplicity of responsibilities there is an issue of long gestation period.

Data has to be device agnostic. The regulator needs to give flexibility to operator to choose devices. ETMs are often perceived as ticket dispensers, but they are much more than that, for example:

- Load calculation can be based on real time data, can be used to predict seat availability
- Dynamic scheduling can be done based on varying demands during the day
- Fraud can be detected

Advanced analytics is required to bring in & validate improvement of revenue & operation performance. It is also important to compare with old data, just like look into rear view mirror. Modern consumers are digitally savvy. Experience should be great for the commuters – mobile app has made it possible.

"MoUD (Ministry of Urban Development) has planned to roll out National Common Mobility Card. DIMTS will introduce mobility card compliant with MoUD guidelines."
- Shri Manish Kumar, SVP – IT, DIMTS Ltd

New buses & new technologies have been explored in different cities of Europe. Bus network has to have adequate coverage to answer the customers’ needs. The new network has to be faster (straight corridors can be implemented, and priority for buses increase the speed of travel by PT). The network should be more connected, combining nodes and bus stops to minimize the gap between bus stops. For example, Simple nomenclature makes the network intuitive and easy to use. Very positive results/customers feedback has been obtained.

Another important area is bus and crew scheduling of the buses. In India, Schedules are usually prepared manually, but has issues such as lack of flexibility, permutation is difficult, time consuming, and not dynamic or demand responsive. Also a small group of persons cannot tweak it as per demand. Thus there is need for computerization as manual schedules were not bringing in efficiency; and also were not very flexible. However, the implementation of these new initiatives requires radical change in business practices. There will be resistance from other stakeholders, mainly depot staff and crew.

BEST Mumbai implemented the scheduling system to manage a fleet of 3,600 buses. The corporation introduced the scheduling system in one depot on pilot basis and achieved a saving of 4.50% of the crew. The systems expanded to further depots, covering all types of combinations of routes, crew and other aspects. Lot of resistance was received initially for fear of harsh decisions for employees. Political
intervention was needed to solve the issue. Changes of schedules were done gradually, bulldozed in spite of resistance from unions. It is critical to continue the change management & implement new systems gradually.

Further, Software can be used for planning of multiple aspects of PT such as network, timetable. Instead of implementing everything on ground, it is possible to model the scenario through simulation, based on density pattern and areas covered (influence area) – helps in identification of corridors with high demand. The authority should use scientific tools for the selection of a system – LRT/MRT or bus, through demand analysis based on pre-analysed (PPHDT).

Software can also model the interchange and its behaviour. It analyses temporal variation of demand and predicts the required levels of service with respect to peak & off peak hours. It helps in also deciding on optimized route alignment and the appropriate fare structure – between zones, based on distance, etc.

**BUS TECHNOLOGY**

Multiple pollutants in the environment cause multiple effects on health, climate, giving rise to a complex situation. According to recent study, Heavy vehicles (buses & trucks) – account for 2/3rd of the pollution in India. With the advent of new emission standards (BS-IV by 2017, BS-VI by 2020), image of dirty polluting diesel buses needs to improve.

In 2014, car ownership in China exceeded 154 million. And the number increases more than 12% per year. New vehicles account for 70% of the annual increase in oil consumption. However, it was observed that PT accounts for 2% of motorized vehicles, but contributes to 34% of the pollution.

However the situation of air pollution in India is much more serious. 51% of air pollution is due to transportation. Transport Sector accounts for 70% of diesel consumption all over India, of which 12% of diesel in India has been consumed by bus.

It is important to highlight that the emission from one diesel taxi in a given day is around 10 gasoline private cars, owing to high utilisation. The emission of one bus in a given day is 30 gasoline private cars. Thus, there is need to promote taxis and buses with cleaner technology. China is leading the introduction of electric buses and taxis. In Shenzhen, around 850 electric taxis and 780 electric buses are running.

Efficiency is important as the diesel prices have gone up. Energy audit of a transit bus in urban condition reveals scope for intervention. Tyres are the key area to improve upon, also a cheap intervention. Tyre pressure monitoring systems are mandatory for high temperature and high speed – saves money, although it may be a side benefit.

With time, bus shall be greener – but selection of technology is also critical. It should suit different climatic conditions. Electric bus gives the opportunity to create a
different interface experience between the bus and customers – so silent that the buses can run in a library or in an indoor environment.

The cities should move from reduced emission to zero emission. Electric buses are available in different sizes, deck levels as per city requirements. However, the most feasible & reasonable bus situation is 12 meters electric bus for city operation. However, some of the experts feel that 9 meters length is suitable for Indian roads.

ZeEUS (Zero Emission Urban Bus System) is a tool developed by UITP that assesses the effect on the energy consumption of an electric bus. 8 new electric buses have been introduced – charging takes about 6 minutes only, in fast charging mode. 70% reductions in CO2 emissions have been achieved.

Better comfort, less noise, enhanced convenience, predictability – all contribute to a superior travel experience. Bus body looks good with separate driver area, USB charging at seats for passengers and WiFi on board. Also with enhanced security features – public transport thus becomes more of “experience” than “system”.

It is important to take the benefit of Hybrid buses. More than 100 fuel cell buses have been deployed in Europe and now limited introduction has been done in India. Currently, there are around 170,000 buses operated by public bus operators in India. It is not possible to replace the fleet. Thus, the government or authorities should explore other possibilities like retrofitting existing buses to hybrid or electric technology.

The authorities should look for adaptation of automatic transmission technology for the buses. Currently, only luxury buses are fitted with the same, whereas ordinary buses are using the old technology. Automatic transmissions are used to reduce stress level for the drivers and leads to better efficiency. The other key advantages are reliability, low maintenance, and lower cost of ownership.

“Ministry of Road Transport and Highway (MoRTH), Government of India is very positive about public transport. Air Pollution is an alarming issue in India and everyone has realized the importance of public transport.”
- Mr. PS Ananda Rao, Executive Director, Association of State Road Transport Undertaking (ASRTU)

INDIA’S PERSPECTIVE

The term “Smart” is often used loosely and interpreted differently in different contexts. Different types of buses are run by different operators in various contexts, so design has to be smart, technology wise, specification wise, etc.

There is severe competition on road with so many modes plying on it. Only a system that is adaptive to changes can survive or it will perish. So PT has to evolve. Stakeholders are many, such as government & special groups, operators & public Infrastructure providers, passengers themselves & society at large. The key to effective planning for PT is advocacy of interests of all stakeholders.
A planner has to look into interests of all stakeholders. It is possible to reduce migration from rural to urban areas through extending sustainable bus solutions to rural areas as well, although load factor may be a hindrance factor in rural areas as areas are spread out. Government should cover that. Urban Transport has to be part of urban planning for adequate space allocation. Urban Transport should be run by urban authorities who may be made competent if required through capacity building programmes.

Technology should be used in planning and operation part of it. Innovation need to be translated to reality. Bus sustainable system has to come from needs of masses – low cost, high quality buses to be produced. Education level of crew is a major challenge. Also limitations include ill-designed facilities for crew, lack of proper training, high stress levels with less leaves, indulgence in bad habits.

“A group of ministers, headed by Transport Minister of Rajasthan has been brought together to prepare an action plan for road sector; with focus on public transport.”
- Shri Pankaj Kumar, IAS, VC & MD, Gujarat State Road Transport Corporation

Conclusions

Buses are the important part of public transport system in the country and playing an important role to provide mobility to citizens. The cities with good metro system also rely on the buses to transport people.

The following are the key takeaways from the seminar:

- PT allows better connectivity, better access to jobs, and economic development of city (GDP). The investment in PT has multiplier effect

- The policy makers should take appropriate measures to promote buses and public transport overall, by putting a restriction on private vehicles and increase investment in PT

- The bus sector need to be modernized and should adopt new emerging trends and technology changes like on-demand service

- BRT system is not just creating a dedicated lane for the buses. The agencies require to build a new system and think about people’s convenience

- The participation of private sector is important to further strengthen bus sector. The contracting model should not follow only low cost criteria but also look for higher quality

- Private players can help to bring more innovative technologies and improve quality of service (QoS)
• Technology is playing a crucial role today. Data is the foundation for transport industry and all critical decisions should be backed by key data.

• The cities should move from reduced emission to zero emission. Hybrid and Electric buses are getting costlier but has a long term impact on environment

• The cities cannot bear the increasing migration load. It is possible to reduce migration from rural to urban areas through extending sustainable bus solutions

The cities can work towards building a strong bus transport system, keeping an important learning shared by the experts.

Decentralized prosperity through mobility

...... After all, a properly functioning transport system is the basis for growth, wealth and jobs. When looking at the wealth pyramid of modern economies, we see there can be no prosperity without mobility – this is a fundamental principle of economics. Besides, mobility is the prerequisite for individual freedom, social inclusion and for a high quality of life of our citizens.

Alexander Dobrindt
Federal Minister of Transport and Digital Infrastructure, Germany
The Seminar took place in Delhi on 29 March 2016

Special Guests:

- Pankaj Kumar, IAS, Vice-chairman & Managing Director, Gujarat State Road Transport Corporation, Ahmedabad
- KK Sharma, IAS, Chief Secretary, Government of NCT of Delhi, New Delhi
- Rajendra Kumar Kataria, IAS, Vice President, Association of State Road Transport Undertaking (ASRTU) and Managing Director, Karnataka State Road Transport Corporation, Bengaluru

Chairman:

- Sanjay Bandopadhyaya, IAS, CEO, National Automotive Testing and R&D Infrastructure Project (NATRIP)
- Dr. Ekroop Caur, Managing Director, Bangalore Metropolitan Transport Corporation, Bengaluru
- M Ramsekhhar, Executive Director and Joint CEO, DIMTS Limited
- P. S. Ananda Rao, Executive Director, Association of State Road Transport Undertakings, New Delhi

Speakers:

- Siddharth Pandit, CIDCO Smart City Chair, National Institute of Urban Affairs, New Delhi
- Jerome Pourbaix, Head of Policy & Outreach, UITP, Brussels
- Dr. Geetam Tiwari, Chair Professor, TRIPP-IIT Delhi
- Nupur Gupta, Senior Transport Specialist, World Bank Group, India
- Choi Chik Cheong, Deputy Director, Land Transport Authority, Singapore
- Abhijit Sarkar, Chief (Road Transport), DIMTS Limited, India
- Amit Bhatt, Strategy Head – Integrated Urban Transport, World Resource Institute India
- Prabhu Dhandapani, Transport Planner (Middle East), PTV MENA Region, Dubai
- Dr. Jagdish D. Patil, General Manager, BEST Undertaking, India
- Manish Kumar, SVP - IT, DIMTS Limited, India
- Prabhu Dhandapani, Transport Planner (Middle East), PTV MENA Region, Dubai
- Michele Tozzi, Project Senior Manager, UITP-EU Project, Brussels
- Shreya Gadepalli, Regional Director, ITDP Chennai, India
- Dr. Anup Bandivadekar, Passenger Vehicles Program Director, International Council on Clean Transportation (ICCT), USA
- Jie Zhang, Managing Director to South Asia, BYD Auto Industry Co. Ltd., China
- Michail Voigt, Senior Sales Manager, Siemens AG, Germany
- Zoeb Karampurwala, Asst. General Manager - Vehicle Integration, Tata Motors Limited
- Salil Gupta, Director – Commercial, Allison Transmission India Pvt. Ltd., India
- Kishor Patil, Chief Executive Officer, KPIT Technologies Ltd, India
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