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## Urban Transport Governance Practice and Challenges in an Emerging Economy – Case Study of India

Vaishali Gijre<sup>a</sup>, Sanjay Gupta<sup>b</sup>

<sup>a</sup> Visiting Faculty, Department of Transport Planning, School of Planning & Architecture, New Delhi-11001, India

<sup>b</sup> Head, Department of Transport Planning, School of Planning & Architecture, New Delhi-11001, India

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### Abstract

India is witnessing rapid urbanization with 31% of country's population in urban areas which have witnessed a growth rate of 3.16% per annum. Projections (*Census 2011*) are that by 2031, about 600 million Indians will reside in urban areas, an increase of over 200 million in just 20 years. This Urban India is expected to contribute about 75% to GDP by 2030, up from 63% in 2014. These changes have placed heavy demands on urban transport systems, and to facilitate this, what is required is a sound urban transport policy which can be understood and implemented by officials who are part of the institutional set-up for effective governance.

The importance of appropriate transport institutional framework is critical to implementing informed policy decisions. India's urban transport governance currently has fragmented authority, limited institutional support and capacity for creating a transport system that can be leveraged for urban planning, environment, and social goals (including, in particular, limited scope for coordination between land use planning and transport system development), and lack of channels for broad input from local citizens and businesses.

This paper attempts to critically analyze the emerging mobility challenges consequent to urbanization pattern in India. It provides an overview of the best urban transport governance practices across the globe and identifies key takeaways in urban transport governance for cities in the developing world such as India for possible adoption.

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## 1. Introduction

Urban transportation is the single most important component in shaping urban development and urban living. Since transport is one of the prime determinants of quality of life, it is for governments to articulate the need for mobility and facilitate it through appropriate mechanisms. In fact, efficiency of cities greatly depends on the development of transport systems, as urban transport is a catalyst for overall development. Urban transport governance is central to facilitating the realisation of a developmental local government, yet this issue is not mentioned specifically and explicitly in policy documents and legislation. However, the adequacy of existing transport governance institutional arrangements and strategies for local/municipal government to facilitate the implementation of action plans that deal with local economic development has come for serious questioning of late in India. India lacks the governance infrastructure for intergovernmental coordination around points where pieces of the transport system link together (Ranganathan, 2002).

Good governance, inclusive transport and socio-economic development are therefore closely intertwined (Chakwizira & Mashiri, 2008). Urban Transport Governance relates to the processes and systems of transport flows and networks between and among many actors and stakeholders impacting on the ultimate quality and quantity of transport infrastructure and services provision (Chakwizira & Mashiri, 2008). In 2005, a team of experts from the University of Toronto in Canada reviewed the factors that contribute to ‘best practice’ in urban transport and concluded that the most critical requirement is effective governance – more important even than finance, infrastructure and urban land-use planning (Kennedy et al, 2005). A failure in governance leads to poor decision-making processes, compromises accountability and encourages public transport infrastructure and services network that exhibits sub-optimal performance (Chakwizira & Mashiri, 2008). The role of governance in implementing the urban transport policy is critically important (Padam 2000).

Institutional framework is regarded by many (Brinkerhoff, 1996) as a very critical instrument in ensuring the success of policy planning and implementation. Brinkerhoff (1996: 1497) states that policy implementation brings together multiple agencies and groups that intend to work in concert to achieve a set of objectives. Making these multi-actor arrangements work effectively is a vital management challenge requiring creative and flexible solutions. Linkages created among implementation actors are often multiple and create interdependency among them. These interdependencies bring about the need for coordinated action.

## 2. Urbanization Patterns and Policy Initiatives in India

India, world’s second largest country with 1.37 billion populations has witnessed rapid urbanization and motorization in recent decades. While the urban population is growing at a rate of 3.16% per year, motor vehicles are growing at a rate of 9%. About 377 million Indians, comprising of about 31 per cent of the country’s population, live in urban areas according to the 2011 Census. Projections are that by 2031, about 600 million Indians will reside in urban areas, an increase of over 200 million in just 20 years. This Urban India is expected to contribute about 75% to GDP by 2030, up from 63% in 2014 (Mckinsey 2010). This huge population results in increasing travel demand requiring supportive policies for enabling access to employment and social opportunities.

Over the past two decades, due to increasing vehicle ownership of private vehicles in the country, all cities are finding hard coping up to meet its increasing infrastructure demands. The total vehicle population has increased from 55m in the year 2001 to shocking 210m in 2015 (Open Government Data, 2018). It comprised of 73.5% two wheelers, 13.6% cars, jeeps and taxis, 1% buses, 4.4% goods vehicle and 7.5% other vehicles. As compared to the year 2001, the share of two wheelers changed by 3.40%, the share of cars, jeeps and taxis changed by 0.80%, the share of buses changed by -0.2%, the share of goods vehicle changed by -1% and the share of other vehicles changed by -3%. The public transport has generally dwindled across all cities and some public transport services have been even pushed out of business. Consequently, street congestion has dramatically increased and overall speeds on major corridors have dropped. Another important observation is the decline of NMT especially cycling. The percentage of roads with footpaths runs to hardly 30% in most cities (MoUD Study, 2008), while share of walk trips range between 19- 25% in all metros. The trip rate in mega cities is on an increase. Mumbai has the highest trip rate (1.67) among all cities, while, Panaji has the lowest (0.76) against the average trip of 1.13 for all cities. Looking at all the urban mobility indices across Indian cities, the situation in urban areas is seemingly appalling.

Recently the Government of India has launched the Smart Cities Mission on 25 June 2015. The objective is to promote sustainable and inclusive cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of ‘Smart’ Solutions. The focus is on sustainable and inclusive development and the idea is to look at compact areas, create a replicable model which will act like a lighthouse to other aspiring cities. The Smart Cities Mission is meant to set examples that can be replicated both within and outside the Smart City, catalysing the creation of similar Smart Cities in various regions and parts of the country. As per the GOI guidelines (Oct 2010) for Smart Cities for sustainable development, the four pillars include Physical Infrastructure, Social infrastructure, Economic infrastructure and Institutional infrastructure (Including governance). Institutional infrastructure refers to the activities that relate to the planning and management systems in the city. The smart city policy initiatives include smart transport, green mobility, Transit Oriented Development and smart governance.

As per the *Ministry of Housing and Urban Affairs 2018*, a total investment of Rs.2,01,981 crores has been proposed by the 99 cities under their smart city plans. Projects focusing on revamping an identified area (Area Based Projects) are estimated to cost Rs. 1,63,138 crores. Smart initiatives across the city (Pan City Initiatives) account for the remaining Rs. 38,841 crores of investments. The implementation of the Smart Cities Mission is done by a Special Purpose Vehicle (SPV) to be set up at city level in the form of a limited company under the Companies Act, 2013 and will be promoted by the State/UT and the Urban Local Body (ULB) jointly both having 50:50 equity shareholding. After selection, each selected Smart Cities have to set up SPVs and start implementation of their Smart City Proposal, preparation of Detailed Project Reports (DPRs), tenders etc. Till date 91 SPVs have already been formed. The SPV will convert the Smart City Proposal into projects through Project Management Consultants (PMCs) and implementation thereafter. Looking at the high order of investments being done under this Smart City mission, it is critical to note that not much heed has been paid for any kind of investments being done in setting up of a suitable institutional framework with appropriate technical skills. It is important that institutional capacity be strengthened at all levels of government for proper implementation of the policy and utilization of the funds. Up till now only 4% of total funds have been utilized by the city authorities across all over India and this clearly reflects the issue of inadequate institutional capacity and poor governance and hence weak implementation of policy initiatives set up government.

Most of the cities in India have been facing urban transport problems for many years, affecting the mobility of people and the economic growth of urban areas. These problems are due to a prevailing imbalance in modal split, inadequate transport infrastructure and no integration between land use and transport planning. Besides roads congestion, traffic accidents, public health incidence and air pollution, sharp increases in road transport also have a huge impact on fuel consumption and greenhouse gas (GHG) emissions. In order for cities to perform their role as engines of economic growth and innovation, while providing an improved quality of life to its residents it is very important to integrate the competing demands of transport, housing, and commercial real estate in their development. In the absence of adequate provision of Urban Transport (UT) infrastructure including public transport, congestion diseconomies can outweigh the benefits of agglomeration. Well-planned and implemented UT can augment the agglomeration advantages of cities and minimize their congestion diseconomies. UT solutions not only have to look at the efficiency in terms of time and cost and convenience of each mode but also the inter dependency of one mode on the other.

### **3. Existing Urban Transport Governance System in India**

#### *3.1 Historical perspective*

Urban transport planning in India is a relatively new phenomenon and is in a very nascent stage. It is largely top-down and is constantly evolving. Urban transportation planning in India is ever evolving and the term ‘planning’ with respect to urban transportation has emerged just a decade or so ago. Prior to that, (*Vaidya, Singh, Jong, 2017*) urban transportation planning was limited to a few cities including Delhi, Mumbai, Chennai and Calcutta. These cities had a mix of commuter rail systems, metro rail systems and bus services. Very few cities outside the ones mentioned above had any kind of transportation plans.

### 3.2 Existing Practice of Urban Transport Governance

According to the Seventh Schedule (Article 246) of the Indian Constitution, urban development which includes urban transport is in the state list (Ranganathan, 2002). It is primarily a responsibility of the state governments in India. The urban development policies are under the control of several authorities in India. At the national level, the Ministry of Housing and Urban Affairs develop policy recommendations and provide financial support for issues that are given priority in urban development. The policy recommendations and strategies outlined by the central government are implemented by the state governments through their municipal bodies. However, the directives of ministries act as incentives and do not formally bind state governments, which are allowed to determine their own norms. The 74<sup>th</sup> Constitutional Amendment Act of 1992 brought urban development within the remit of state or local governments and made these lower tiers of public administration important actors of urban development and management (Sharma and Tomar, 2010). Urban Transport was always under the purview of the Urban Development Ministry but in 2017, the Union Government merged the Ministries of Urban Development and Housing and Urban Poverty Alleviation to form the Ministry of Housing and Urban Affairs and Urban Transport falls under this ministry now. Since Urban Transport is a “State subject “, it does not fall under the Ministry of Road Transport & Highways (MoRTH).

At the Central Government level, UT is being managed by three Ministries Housing and Urban Affairs, Railways, and Road Transport and Highways. Urban Transport Wing of Ministry of Housing and Urban Affairs is the nodal division for coordination, appraisal and approval of Urban Transport matters including Metro Rail Projects at the central level. All the interventions in the urban transport by the Ministry of Urban Affairs such as Bus Rapid Transit System (BRTS), urban transit infrastructure or financing of metro rail projects etc, are carried out as per the provisions of National Urban Transport Policy, 2006. The UT division also deals in proposals that encourages innovative financing mechanisms in transport sector, capacity building at institutional and individual levels under Sustainable Urban Transport Project (SUTP), financing of various traffic/transportation studies and surveys under the Scheme for Urban Transport Planning to encourage cities to better plan and manage their urban transport systems etc. It also organizes annual conference and exhibition on urban transport for knowledge sharing amongst experts and stakeholders. Other than this, the laying down of standards and norms for urban roads is being undertaken by the Indian Roads Congress.

### 3.3. Experience with Unified Metropolitan Authority (UMTA)

The Ministry of Urban Development’s National Urban Transport Policy (NUTP)-2006 recommended that each city of more than a million residents form a Unified Metropolitan Transport Authority (UMTA). Only a few cities acted on the recommendation, and even then the UMTAs operate more like committees than planning secretariats. They are the equivalent of the National Development Committee without the kind of technical secretariat that the Planning Commission provides and its ability to generate options for consideration. As of the 2011 Census, there are 53 cities of that size, but there are only 15 UMTAs existing in any form. There are fifteen UMTAs/UMTA-like entities as per the Final Report, (MoUD, 2014). As per the 2011 census, there are a total of 53 cities with an urban area population of more than 1 million, out of which UMTAs have been established in only 15 cities (MoUD, 2014). During the interaction with the cities, it has been noted that most of the cities have established UMTA as a mandatory requirement rather than from actual need. This has resulted in UMTAs being established only on paper without any active functional role.

The State Government of Karnataka and Rajasthan were the pioneering states to establish UMTA in 2007. In Karnataka, (MoUD, 2014) Directorate of Urban Land Transport (DULT) was set up at state level to cover Municipal Corporation areas of Bangalore, Mysore, Mangalore, Hubli-Dharwad, Belgaum, Gulbarga, and Bellary. Subsequently in the same year, Bangalore Metropolitan Land Transport Authority (BMLTA) was created for Bangalore Metropolitan Area. Government of Rajasthan has established state level UMTA in 2007. Hyderabad and Mumbai have established UMTA in 2008 for Metropolitan Region. In 2009, most of the UMTAs were established for group of cities. Single UMTA (MoUD, 2014) has been established covering group of cities namely, Vijayawada, Guntur, Tenali and Manglagiri in Andhra Pradesh. Similarly, single UMTA has also been set up covering group of cities namely Ranchi, Dhanbad& Jamshedpur in Jharkhand and Bhubaneswar &Puri in Orissa. Most of the UMTAs

established in 2009 were created under the influence of urban transport reform under JnNURM scheme, under which funding from government could be availed only if UMTA existed in the state/city.

Unified Traffic and Transportation Infrastructure (Planning and Engineering) Centre (UTTIPEC) had been set up as a part of Delhi Development Authority in 2009 under the Chairmanship of Lt. Governor, Delhi, under Section 57 of the Delhi Development Authority Act. The primary aim of UTTIPEC is to ensure that various engineering solutions are implemented by various agencies. It is also intended to ultimately become a part of the UMTA for Delhi as and when it is set up. In fact, in April 2010, the Council of Ministers of the Government of NCT of Delhi cleared a draft bill for setting up of ‘Delhi Urban Mass Transit Authority’ (DUMTA) for comprehensive planning, development, operation, management and regulation of mass transit facilities under unified structure in the NCT of Delhi. The bill is still under consideration. Chennai UMTA has been established in 2010 through Special Enactment. The city of Imphal and Mysore are non-million cities and have established UMTA in 2010. Capital city of Kohima has established UMTA in 2011. The State Government of Madhya Pradesh (*MoUD 2014*) has established state level UMTA (S-UMTC) in 2012 covering five cities, namely Bhopal, Indore, Ujjain, Jabalpur and Gwalior. Establishment of city level UMTA (C-UMTC) is also envisaged post establishment of MPCs in the cities. The above exhibit presents the progress made by various cities/states in establishment of UMTA. Available information suggests that even the older UMTAs are in the early stages of institutional development. According to *Agarwal and Chauhan (2011)*, the Guwahati initiative held one meeting and the original Delhi Transport Planning Group never met. Both were established by executive order, but did not gain momentum once their political champions were moved. Mumbai’s MTA was also created by executive order, but meets more regularly. The strongest organization seen is the Hyderabad UMTA. It has the power to approve projects and the Chief Secretary plays an active role in convening the various stakeholders.

As per (*MoUD, 2014*) a few reasons were seen for slow progress of UMTA are; a number of committees have already been formed by the government on project to project basis; Similar coordinating agencies already exists, so no need to create another agency; A separate authority may lead to over-governance and some cities with single municipalities consider that they don’t need an UMTA because the municipality carries out all the functions. Generally city and state governments are not sure of the form and role of UMTA for their metropolitan areas, and this is hindering the establishment process. Some of the cities requested that the Ministry of Urban Development provide guidelines and procedures for establishment of UMTA to help them understand what is required (*MoUD, 2014*).

#### 4. Challenges & Constraints

State and urban governments appear to be creating, for the most part, committees or committee-like structures in their efforts to integrate transport planning across the many stakeholder agencies and departments existing in the city. These committees may improve information flow and inter-agency negotiation, *but do not address the deep need for the technical capacity required* to evaluate technology options, assess and compare likely impacts of collections of projects, and otherwise generate integrated policy and investment packages to meet urban and regional development goals. Committees are also by definition evolving organizations with limited investment in maintaining knowledge bases or documenting organizational learning. There are no substitutes for an organization with a standing professional staff as well as a core, spatially referenced database on urban development.

Unresolved inter-governmental allocation of powers over land use planning and urban administration affects the prospects for coordinated thinking about land use and infrastructure development. This is the case across India. *Planning Commission Report 2011* spells out the national impediments to ‘urban strategic planning’: urban planning without attention to regional development and the urban periphery, ‘rigid master planning’ that is not integrated with spatial planning including transportation and land use planning, utopian plans without basis in financial and operational realities, ‘inadequate institutional clarity,’ and lack of capacity and enabling tools such as

GIS and GIS-enabled management information systems. It is witnessed, that to some extent this fragmentation of institutions is a natural consequence of ad-hoc efforts to invest in urban transport in the absence of a clear institutional ‘home’ as well as the rapid pace of some cities’ growth and need to accommodate larger flows of goods and people.

There is a whole gamut of organizations that co-exist at various levels of the government to carry out the Urban Transport functions. Current practice in cities shows that several agencies are involved in the management of various components of UT such as Police, Local Municipality etc. At the state level, UT is managed either by the Urban Development, Municipal Administration, or by the Transport Ministry as a subject, though often there are a number of agencies that provide urban transport services that may not report to these departments administratively. In recent initiatives by Government of India on introduction of JNNURM schemes, to encourage more integrated transport planning in India’s larger cities expose the significant gaps in capacity to leverage urban transport for metropolitan development.

India’s transport policy and governance environment is fragmented between modes and level of government, with infrastructure investment planning, policy-making, regulatory oversight (to the extent that it exists), and financing strategies scattered across and within levels of government. The country is unique in having separate national ministries for each mode of transport. India’s intergovernmental division of responsibilities is somewhat more centralized than in other geographically large federations, and the country lacks the governance infrastructure for intergovernmental coordination around the points where the pieces of the transport system link together. It also has an unusually complex urban policy environment, with limited metropolitan-level fiscal or administrative powers to coordinate transport infrastructure or policy in denser areas. It is only in the Eighth Five year (1992-97) Plan that separate allocation of funds was done for Urban Transport sector.

There is lop-sided transport development seen in the cities as the decisions are taken based on skewed opinions of the officer in-charge/bureaucrats and influenced by politicians. In such situations when the officer in charge changes the entire transport development in the city takes a new direction. In this process, the heavy amounts of funds being invested in the infrastructure projects gets diluted and often get wasted. The same is the case with smart city mission wherein huge amount of funds have been invested without any investment in developing the proper institutional framework for effective governance. Till such governance structures are in place in the special purpose vehicles (SPVs) that have been set-up in the 91 smart cities across the country, no proper utilisation of funds and complete infrastructure projects shall be visible. There have been questions raised about the feasibility of many urban transport projects which have been commissioned. A polycentric governance system with a focus on multiple actors and power centres, a decentralized and participative decision making process offers a different way of understanding governance processes and decision making.

India’s current structure of separate ministries for each mode of transport is an anomaly in global practice. Transport governance is also unusually centralized, compared to peer countries and there are limited institutional mechanisms for intergovernmental coordination in integrating networks and developing important nodes such as airports and ports. Local government, particularly urban local governments’ limited role in regional transport decisions is also somewhat unusual. Most global cities of sizes comparable to India’s metros and Tier One cities have far more autonomy to shape their transport infrastructure for development.

While the National Urban Transport Policy (NUTP) talks about the need for decentralization and urban local bodies to take charge of urban transport planning, it (the Central government) can only enact a central law (*Vaidya, Singh, Jong, 2017*). Provincial governments have to enact corresponding provincial laws for the NUTP to be effective. In most cases, provincial governments have not done so because empowering local bodies would mean giving up their own administrative and financial powers. Even in a few cases, where agencies to co-ordinate city transport plans have been created, they lack the teeth and muscle to fulfill the mandate given to them.

## 5. Review of global literature and practices in urban transport governance

Policy implementation research has identified various reasons for the lack of inter-organizational coordination in the context of public policies in developing countries. Constraints to coordination include the perceived threat to the autonomy of the organization, lack of consensus regarding the tasks at hand, and competing demands on the organization stemming from its involvement in a variety of horizontal and vertical networks (*Brinkerhoff 1996*). In threat to autonomy, Brinkerhoff states that a fundamental approach in most organizations is to try to maintain as much independent control. In the case where coordination requirements impinge upon agency independence, an agency will be reluctant to coordinate unless there are clear and significant benefits to be gained. In this context, threats to autonomy are said to be increased when stakeholder interests are diverse, cooperating agency operational procedures are different and linkages among agencies are multiple and interlocking. Since many of the urban transport policy implementation are only partially understood, lack of agreement on what to do, for whom and how are very likely to be encountered. Furthermore, in urban transport policy implementation, diversity among stakeholder perceptions and interests, multiplicity of linkages, and scarcity of resources may likely aggravate coordination problem. More often than not, hierarchy is used to deal with lack of task consensus; the problem is handled at a higher level and subordinate entities are issued instructions on their tasks.

Majority of members in implementation networks belong to more than a single system, and frequently coordination places the unit whose actions are to be coordinated in a situation where it is subject to conflicting demands (*Ariffin & Zahari, 2014*). Some of the difficulties here arise from legal barriers imposed by legislation and administrative statutes that place limits on an agency's margin to maneuver. Sometimes there may be restrictions on use of funds that can impede coordination. The potential for this conflict is high where resources are scarce because agencies have little capital available and the costs of coordination were not taken into account in the budget during the planning stage. Complex and diverse linkages (*Ariffin & Zahari, 2014*) also heighten the probability of conflict because there are basically so many connecting threads that some degree of working at cross purposes becomes inevitable

Global review shows that cities like Vienna, Stockholm, Auckland, Brisbane, Copenhagen, London, Vancouver are one of the top10 liveable cities across the globe with efficient high quality urban transport services being delivered and having a sustainable environment for its citizens to live a quality life. The best governance models that exist in urban transport across the world are endorsed by these cities's ranking as the most liveable cities in the Global Survey List 2017 published by Global Finance. In all these cities there is a wide range of governance models that are adopted for urban transportation systems. Internationally, Transport for London (TfL) is considered one of the most efficient governance model for urban transport (*Marsden, 2013; Arjen Jaarsma, 2018*). The LTA model (Singapore) is also considered as a good & efficient transport governance model especially in the South east Asia.

### 4.1 London

Transport for London (TfL) is the integrated transport authority for London and is Statutory body created by the Greater London Authority (GLA) Act 1999. It is the strategic regional authority for London, with powers over transport, policing, economic development and fire and emergency planning, (*MoUD, 2014*). GLA consist of executive Mayor of London and the London Assembly (which has scrutiny powers) and it has functional bodies. GLA Act 1999 gives the Mayor of London a general duty to develop and apply policies to promote and encourage safe, integrated, efficient and economic transport facilities and services to, from and within London. The Mayor appoints the TfL Board, determines TfL's budget for each financial year, having consulted with the London Assembly; and has the power to direct TfL to do certain things. The London Assembly holds the Mayor to account by publicly examining policies and programmes through committee meetings, plenary sessions, site visits, investigations and at Mayor's Question Time; and is consulted by the Mayor before producing statutory strategies and the budget for the GLA Group (including TfL).

The responsibilities of TfL have full range of transport (Marsden, 2013) that includes; London's Underground, Over-ground rail, including some national rail services into Liverpool Street, trams, buses, river services, 580km of streets and all traffic lights, cycling, traffic management on red routes; taxi licensing and regulation, Dial-a-ride, Congestion Charging, the Docklands Light Railway (DLR) and Air Line. TfL is in direct control of operation of rail based public transport services and management of road pricing systems, so it can easily ensure that these services and systems are integrated with other urban transport services and systems.

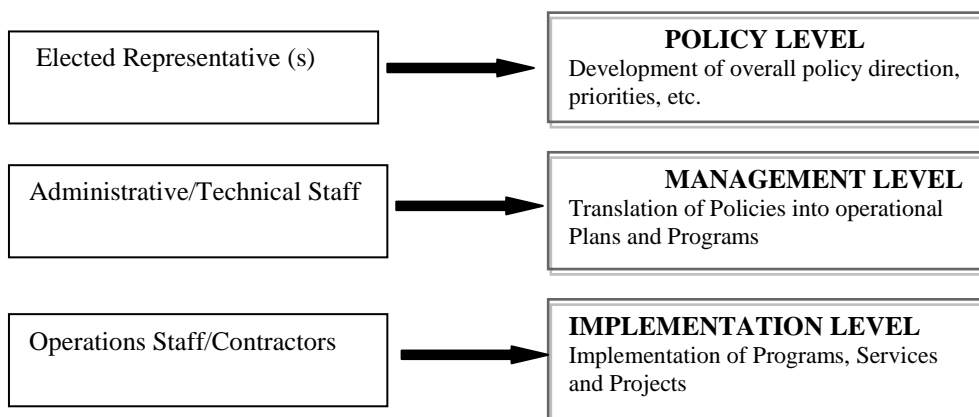
#### 4.2 Singapore

Singapore spreads over 718 sq.km of area with about 5.5 M population. It's a special case because of its small geographical size and population, and single level governance structure. Many regard these as the key or even dominant influences in the successful integration of land use and transport in Singapore. The Land Transport Authority (LTA) established in 1995 with the merger of public sector entities, namely the Registry of Vehicles, Mass Rapid Transit Corporation, Roads & Transportation Division of the Public Works Department and Land Transportation Division of the former Ministry of Communications.

LTA is responsible for planning, policy and regulation of all urban (or land) transport modes, and their inclusion in the development of the Concept Plans. This made Singapore (Barter & Dotson, 2013) one of the pioneers of integrating so many urban transport responsibilities within one organization. The LTA also constructs and maintains road, MRT and other public transport infrastructure, in accordance with the provisions of the Concept Plans. It is also a statutory board. LTA reports to Ministry of Transport under Prime Minister's office directly. Most of the land transport activities are controlled and managed by a single authority. So, integration of transport and multi-modal transport system can be ensured in an effective manner. Registration and licensing of private vehicles and management of the private vehicle quota is only possible because the urban area encompasses the whole state. This is the advantage of it being an island city/state.

### 6. Lessons learnt for adoption in context of Developing countries

All the best governance models (Steer Davies Gleave, 2013) seen across the globe have direct political accountability at the "Policy Level" either to Provincial /State ministers or to county/ city / regional elected officials (Figure 1).



**Figure 1 -Governance – Who does what? Similarities- International Examples**

The gap between the global and Indian governance structures shows that the best governance models reflect the basic criteria for good governance for UT i.e having Clarity of purpose, Advocacy, Accountability, Transparency and Productive relationship. Strong legislative powers have been vested with the agency/unitary authority. Financing principles need to be strong for developing a sustainable transport network as practiced by LTA.



Simply having a vision for the country is not enough. The processes and structures at the national level must be coordinated and compatible with a sustainable vision. At a minimum, clear protocol's guiding coordination between social, economic, and environmental ministries at the national level must exist (*Steer Davies Gleave, 2013*). For instance, in Europe, transport issues are often addressed holistically with environment, energy, or other infrastructure issues under one ministry's roof, and there is additional coordination with national land-use and natural-resources ministries. To overcome the challenge of multilevel, multi-agency coordination, many countries simply need to add capacity to institutions at the national level to carry out the vision.

Many cities, both in developing and developed countries, are currently facing the same issues as faced by cities in India. Cities in the developing world often do not have local precedents for the design of urban transport institutions, but have the opportunity to benefit from the experience and successes of metropolitan areas in the developed world, while avoiding the mistakes. Common urban transport governance challenges seen in the developing countries seem to fit around central elements of framework, for common governance constraints to service delivery, in particular policy (in)coherence, bottom-up and top-down performance monitoring and oversight and space for local problem-solving.

There is considerable amount of evidence that indicates that governance plays an important causal role in the effective delivery of services in urban areas, alongside financial challenges and technical concerns (*Harpham and Boateng, 1997*). Decentralization is a common concern in administration and financing in Urban Transport in general across all cities. Studies either argue or assume that an increased level of political devolution and distribution of responsibilities to city-level administrative units will result in improved service delivery outcomes (*Harpham and Boateng, 1997*). Setting up institutions and establishing governmental authority at the level that is best suited to provide a coordinated perspective across the entire urban transport system is critical to any national vision's sustainability and, in turn, to the sustainability of the mobility network in its entirety. There is need of stronger legislative powers to be vested with the institutions at UMTA level as seen in (TfL model) for stricter implementation of the policy. There is also need to have an Urban Mobility Law for effective governance and stricter implementation of goals and vision of the urban transport policy.

Transport for London has succeeded by creating an integrated transport authority from the fragmented patchwork of services it has inherited piece by piece since 2000. Today, 30M journeys are completed on TfL's network every day. The key to TfL's success is the strong leadership by the Mayor of London who champions the transport agenda and secures political and financial support for it. A testament to the TfL model is that both Sydney and Auckland adopted many aspects of it.

The key take aways for the developing cities for effective governance are as follows:

- All the international bodies are usually statutory authorities rather than just coordinating committees as the UMTAs are in India. Hence the UMTA needs to be a statutory body. The advantage of this is that they are legally independent entities with their own powers provided for in their Act so that they are able to perform their functions without depending on other agencies to do this. Legal provisions are a must for establishing and effective functioning of UMTA.
- Authority to be headed by Mayor/ Lieutenant Governor (appointed by the ruling party as the case may be) with scrutiny powers and shall be accountable (as in case of TfL Model). The direct reporting to state/national level government enhances the accountability of UMTA and hence better functioning. Also authority to have some control over funds.
- Roles, responsibilities and functions need to be clearly defined between agencies, with more strategic functions at a higher level in metropolitan areas.
- The policy function to be done at the government level hence and should not be function of the transport authority.
- There should be a strategic land-use and transport plan at the municipal or metropolitan level with which detailed planning, both for transport and land use, should be aligned (Barter & Dotson 2013).

- Most of the urban transport authorities are responsible for some project preparation and implementation, regulatory, operational and management activities to ensure comprehensive management of urban transport (MoUD, 2014). This would not be applicable for current Indian UMTAs, which are essentially committees, but some of these functions could be assigned to a statutory authority.

## **7. Summing up**

Most of the cities in India have been facing urban transport problems for many years, affecting the mobility of people and the economic growth of urban areas. In order for cities to provide an improved quality of life to its residents it is very important to provide adequate urban transport infrastructure. The delivery of efficient urban transport services in cities is a critical task and needs to be given priority to make cities livable with good quality of life. Government policies have been observed to be difficult to implement. For this, there needs to be proper urban transport governance structures in place at appropriate level of decision making to implement and monitor the urban transport policy. Good governance can help to improve the resiliency and adaptive capacity of cities in the case of urban mobility. The major constraint observed in providing urban transport infrastructure is inadequacy of existing transport governance institutional arrangements and strategies for local/municipal government to facilitate the implementation of action plans to provide

It is apparent from the international case studies cited in this paper that considerable benefits can be gained through more joined-up planning of transportation, spatial planning and economic planning. All these are crucial functions in maintaining the livability and prosperity in urban areas. The institutional arrangement and governance structure for urban transport vary widely between different countries and cities reflecting historical, political, social factors but also reflecting the maturity of their transport systems, which in turn is related to the stage of economic development of the country. The international best practices in transport governance show that strong legislative powers have been vested with the agency/unitary authority. Also the financing principles of the unified authority need to be strong for developing a sustainable transport network as practiced by LTA (Singapore).

The key elements of a good institutional framework (setting up of UMTA) for effective governance should have clear attainable objectives consistent with broader policy; well defined working procedures; adequate resources—funds and qualified, motivated staff; sound legal basis for performance of functions and exercise of powers; accountability for performance to a higher administrative or political body and procedures for public reporting and consultation with stakeholders.

Strong national-level governance is necessary to sustainably manage rapidly growing urban populations and global economic and environmental challenges. Institutional reforms in the urban transport sector have been more professed and debated than acted upon. There is dire need to develop benchmarks to enable more informed policy decisions for transport investment and development in the country. Evaluation of the governance structures is also required for which benchmarks need to be developed based on typology of the cities ( Mega cities, metro cities and non-metro cities).

Now with the Ministry of Housing and Urban Affairs. GOI (earlier named as MoUD) taking active interest in development and implement of smart cities coupled with positive steps initiated in formation of UMTAs across Indian metropolitan cities, definitive reforms of institutions set ups needs to be initiated to promote rational of urban transport system all over the country. To sum up there is a need to make concerted efforts to develop and strengthen urban transport governance mechanisms and practices for sustainable urban transport development in India .

**References:**

- Census of India, Government of India- GOI, 2011
- National Transport Development Policy Committee (NTDPC), GOI -2013
- Review of National Urban Transport Policy, 2014 by Institute of Urban Transport, Delhi
- Urban Transportation Institutions, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Source book, 2004
- India's urban awakening: Building inclusive cities, sustaining economic growth, Mckinsey Report, 2010
- Understanding urban transportation in India as polycentric system, Vivek Vaidya, Robin Singh, Martin de Jong, , 2017
- <https://data.gov.in/> Open Government Data (OGD) Platform India, Government of India, 2018
- The contribution of transport governance to socio-economic development in South Africa, JamesChakwizira& Mac Mashiri, 2008
- Kennedy, C. et al. (2005): "The Four Pillars of Sustainable Urban Transportation", *Transport Reviews*, Vol. 25, No. 4, 393-414.
- State of the Art-Review and Structures for UMTA and UTF-Final Report, Ministry of Urban Development-GOI, MoUD, 2014
- Brinkerhoff D.W, Co-ordination issues in policy implementation networks: an illustration of Madagascar's Environmental Plan, *World Development* 1996; 24 (9):1497-1510
- The challenges of implementing urban transport policy in the Klang Valley, Malaysia Raja Noriza Raja Ariffin and RustamKhairiZahari, SUSTAIN, 2012.
- Integrated Institutions for Integrated Solutions –(TiL) – Nov 2013, Dr Greg Marsden, ITS, Leeds University
- The right governance model for urban public transport, Arjen Jaasma, 2018
- Towards Coordinated Urban Transport Planning in India, *Transport Research Record* 2239, Agarwal and Chauhan (2011)
- Institutional reforms and Restructuring- Prof N Ranganathan, 2002
- Urban Governance in India, Challenges and Responses: A Framework for Reforms, Planning Commission Report, 2007
- Urban Transport Institutions and Governance and Integrated Land Use and Transport, Singapore, Paul Barter & Edward Dotson, *Global Report on Human Settlement*, 2013
- Urbanisation and Urban Transport in India: Sketch for Policy, Dr SudarsanamPadam, Director CIRT, Pune, 2000
- Six things other cities can learn from Transport for London's Success-Journal, Nicole Badstuber, University College, London, 2015
- Mainstreaming climate change adaptation in Indian cities, Divya Sharma and Sanjay Tomar, *Environment and Urbanization*, 2010
- Urban Governance in Relation to the Operation of Urban Services in Developing Countries', Habitat International, Trudy Harpman and Kwasi A. Boateng, 1997