



## Initiative 3: Institutional Integration



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## Abbreviations and Acronyms

Abbreviations	Full Forms
BBMP	Bruhat Bengaluru Municipal Corporation
BIEC	Bengaluru International Convention Centre
BMLTA	Bengaluru Metropolitan Land Transport Authority
BMRCL	Bangalore Metro Rail Corporation Limited
BMRDA	Bengaluru Metropolitan Regional Development Authority
BMTC	Bengaluru Metropolitan Transport Corporation
CDP	City Development Plan
CMP	Comprehensive Mobility Plan
CSTEP	Center for Study of Science, Technology and Policy
DULT	Directorate of Urban Land Transport Authority
GO	Government Order
LAMATA	Lagos Metropolitan Area Transport Authority
LTA	Land Transport Authority - Singapore
NUTP	National Urban Transport Policy
PTC	Public Transport Committee
SPV	Special Purpose Vehicle
STIF	Syndicats Transportes Îles-de-France
TD	Transport Department
TfL	Transport for London
TransLink	South Coast British Columbia Transportation Authority
UDD	Urban Development Department
UMTA	Unified Metropolitan Transport Authority



## **Executive Summary**

The Bengaluru Metropolitan Transport Corporation (BMTC) and Bengaluru Metro Rail Corporation Limited (BMRCL) are the primary public transport service providers in Bengaluru, with an aim to provide safe, reliable, clean and affordable transportation. To achieve this aim and make public transport as the preferred mode of transportation in Bengaluru, it is necessary for these two organisations to integrate their services.

In this context, the Government of Karnataka has engaged the Center for Study of Science, Technology and Policy (CSTEP) as a technical research institution, to suggest ways in which BMRCL and BMTC may be integrated. This study focuses on the institutional aspects of integration.

The study on institutional integration provides suggestions on a governance mechanism that will allow BMTC and BMRCL to work in close co-ordination, to increase the public transport modal share. Institutional integration of these two agencies has to be seen in the larger context of urban transport planning integration at a city or regional level driven by a specialised agency, which brings multiple agencies together. This agency would be responsible for strategic planning and policy formulation. In the case of Bengaluru, such an agency already exists in the form of the Bengaluru Metropolitan Land Transport Authority (BMLTA). This agency would set the mandate for different transport utilities, including BMTC and BMRCL. The integration of BMTC and BMRCL would then focus on the tactical and operational functions, including commercial and safety regulations, infrastructure and service planning and co-ordination of common services.



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## **1. Introduction**

BMRCL and BMTC are the two major public transport service providers in Bengaluru, with a combined ridership of approximately 5.5 million trips per day. However, there is a need felt by the government for these two agencies to collaborate and increase the total mode share of public transport. For this to happen, these agencies will have to collaborate rather than compete with each other. Collaboration between two public transport agencies, with independent mandates, can only take place if they are institutionally linked through a formal mechanism. This institutional mechanism would need to be nested at multiple levels. At the highest level, there is a need to create an independent agency, which would be in-charge of co-ordinating all the land transport strategic planning and policy formulation, at the metropolitan level. A second level would look after regulation, infrastructure and service planning, while a third level would take care of public transport operations.

## **2. Progress Review**

The progress review provides a brief overview of the current attempts of institutional integration in Bengaluru.

### **2.1. Overview of Existing Institutional Integration**

The domain of urban transport in Bengaluru is characterised by a high degree of fragmentation, with multiple agencies in-charge of different roles. As can be inferred from

Table 1, policies affecting urban transport are governed by the Urban Development Department (UDD) and Transport Department (TD). The municipal corporation (BBMP) is responsible for the construction and maintenance of roads and bus shelters. The city has two transport utilities, BMTC and BMRCL, which also have a transport planning role; they decide where to run their services. Most importantly, the preparation of the Comprehensive Development Plan (CDP) for the Bengaluru Metropolitan Area is done by the Bengaluru Development Authority (BDA). In addition, the Bengaluru Metropolitan Region Development Authority (BMRDA) is responsible for preparing a structure plan, which is a strategic guidance document for the Bengaluru Metropolitan Region (BMR).

Table 1: Bengaluru transport agencies and functions

No.	Functions	Institution
1.	Policies and framework affecting transport sector	UDD and TD
2.	Road building, road maintenance, street lighting, construction of select ring roads, grade separators, construction of bus shelters, traffic islands	BBMP
3.	Enforcement of traffic laws and regulations, management of traffic junctions and corridors, regulation of right of way, parking	Bangalore city traffic police
4.	Public transport systems (bus-based), construction and maintenance of bus depots, terminals and passenger centres	BMTC
5.	Public transport system – Metro rail	BMRCL
6.	Preparation of comprehensive development plan, formulations of regulations, construction of select ring roads and grade separators	BDA
7.	Planning of transport system in BMR	BMRDA
8.	Registration of motor vehicles, issue of licenses and enforcement of regulation of motor vehicle act	Regional Transport Office, Transport Department, GoK
9.	Monitoring of air quality and noise levels	Karnataka State Pollution Control Board
10.	Infrastructure and finance	Karnataka Urban Infrastructure and Finance Corporation Limited
11.	Construction and operation of rail system	Indian Railways
12.	Construction and maintenance of National Highways	National Highway Authority of India

Source:(BMRDA 2012)

With so many agencies handling different portfolios, they often work in a competitive manner on cross-cutting themes—this feature is present across multiple Indian cities.

In order to address this problem, in 2006, the National Urban Transport Policy (NUTP) was formulated. One of its tenets was decentralised urban transport planning, which would be

facilitated by a new institution called the Urban Metropolitan Transport Authority (UMTA), for specific cities. This agency is supposed to facilitate co-ordination in the planning and implementation of urban transport programmes and projects, as well as integrated management of urban transport systems. Thus, in 2006, GoK (through a government order) set up the Bengaluru Metropolitan Land Transport Authority (BMLTA). Its role was to function as an umbrella organisation to coordinate planning and implementation of urban transport initiatives in an integrated manner. BMLTA is a committee comprising of senior government officials from transport, urban development, infrastructure and finance and planning departments, headed by the Chief Secretary (DULT 2018b). The functions of BMLTA include:

- Coordinate all land transport matters in BMR.
- Prepare a detailed Master Plan for Transport Infrastructure, based on the comprehensive Traffic and Transport Study for Bengaluru.
- Oversee the implementation of all transportation projects.
- Appraise and recommend transportation and infrastructure projects for bilateral Central assistance.
- Function as an empowered Committee for all Urban Transportation Projects.
- Initiate action for a regulatory framework for all land transport systems in BMR.
- Initiate steps, where feasible, for common ticketing systems.
- Take any other decision for integrated urban transport and land use planning, along with implementation of projects.

GoK also established the Directorate of Land Transport Authority (DULT) in 2007. The key objective of DULT was to ensure integration and coordination of land use planning and development of transport related infrastructure in Karnataka's urban areas. DULT serves as BMLTA's secretariat; hence BMLTA has never had any dedicated staff. Since its inception in 2006, BMLTA has conducted five meetings, from 2006–08 (DULT 2018a).

Currently, DULT is responsible for a number of initiatives in Karnataka including,

- The creation of cycling lanes in Bengaluru
- Feasibility studies for introduction of Bus Rapid Transit Systems (BRTS) in Hubli-Dharwad
- Preparation of a Comprehensive Mobility Plan (CMP) for nine cities in Karnataka
- Implementation of suburban railway systems for Bengaluru

- Other related projects (DULT 2017).

Currently BMLTA does not have the legislative support, nor the funds or fund raising and disbursal power to be effective in its mission. The website of DULT/BMLTA has evidence to show that DULT is conducting feasibility studies, as opposed to being the co-ordinating agency as per its original mandate.

Given the lack of institutional integration at the higher level, there is no official mandate for line agencies, including transport organisations like BMTC and BMRCL to integrate operations.

### **3. Problem Statement**

*High level of institutional fragmentation in urban transport planning and services in Bengaluru.*

As mentioned in the earlier section, there is a high degree of fragmentation in Bengaluru's urban transport governance.

Table 1 aptly shows that planning functions are spread across multiple agencies, while service delivery agencies do not necessarily work in conjunction with each other.

Attempts at institutional integration or coordination, through the creation of a unified transport authority in the form of BMLTA, have not been successful. This is because BMLTA neither has the authority, nor appropriate funding sources, to implement its mandate.

### Evaluation Question

*What could be an appropriate governance structure for urban transport's institutional integration in Bengaluru?*

This study provides suggestions on a governance structure for effective institutionalisation of urban transport in Bengaluru. Such a structure would comprise different levels, their associated functions and the different agencies responsible for carrying out those functions.

## 4. Objectives and Issues for Evaluation

### Objective

To recommend an appropriate governance structure for urban transport's institutional integration in Bengaluru.

### Scope

- Targeted population: The targeted population includes all the agencies responsible for urban transport planning and service delivery, in Bengaluru.
- Geographical coverage: The geographical coverage is BMR.

## 5. Evaluation Design

### 5.1. Information Sources

Secondary sources consulted for this study included global best practices on institutional integration. These included case studies from Singapore, London, Vancouver, Lagos and other global cities. The study also refers to certain institutional integration frameworks, which have been developed by the World Bank and academic institutions.

### 5.2. Research Methods

#### **Secondary data collection: Case studies, global best practices and frameworks**

The secondary data referred to for this study included case studies of cities that have successfully implemented institutional integration mechanisms. The secondary data consulted also concentrated on integration frameworks. Previous research on institutional analysis of urban transport in Bengaluru was also considered.

### 5.3. Evaluation Criteria or Indicators

An institutional integration framework, as defined by the World Bank, has been used to develop the Evaluation Criteria represented in Figure 1.

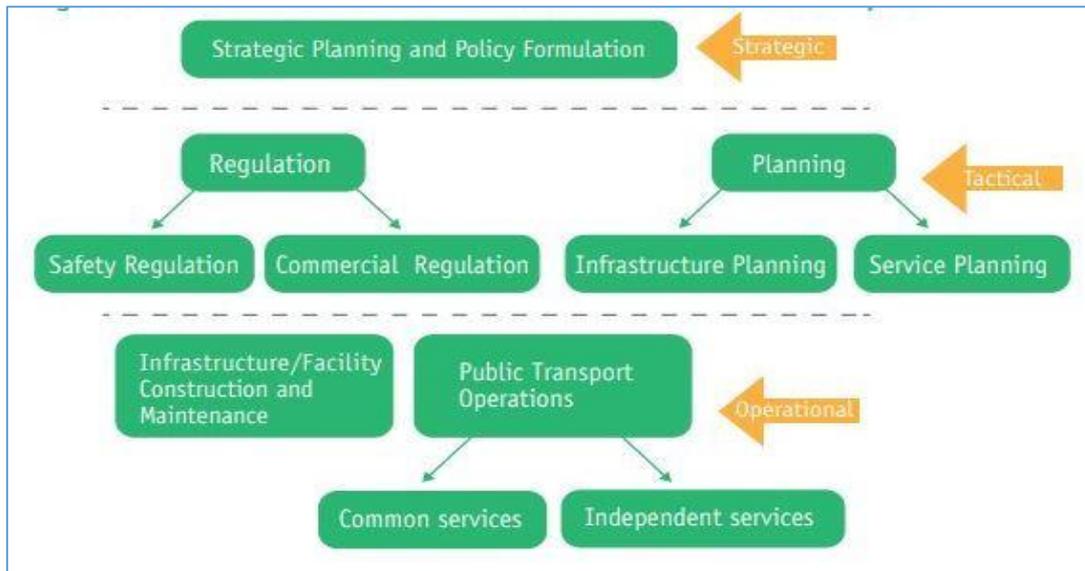


Figure 1: World Bank's institutional integration framework

Source: (Kumar and Agarwal 2013)

The indicators for institutional integration are defined in a three tier format, along with the associated functions at each tier and agencies responsible for these functions at each level.

- Tier I consists of strategic and policy functions, which involve the development of a vision and formulation of appropriate policies to realise the vision. These functions set the standards for more geographically focused planning activities. These functions should be performed by a lead agency. This agency should be supported by the appropriate legal and financial authority.
- Tier II is a tactical level, comprising of regulatory and planning functions. The functions at this level focus on issues of public transport pricing—from an equity and monopoly prevention point of view—infrastructure planning, investment decisions based on demand forecasting, economic and financial assessment and other relevant aspects. Functions at this level would also focus on service delivery, such as preparation for actual delivery of public transport services—whether the service needs to be carried out in-house, or if it can be outsourced. This level is especially critical since there is a clear demarcation between the planning and delivery responsibilities. In the case of Bengaluru, like many other Indian cities, public transport utilities often undertake both planning and service delivery activities, which may not be the best use of that organisation's resources. These functions can be performed by the lead agency, in dialogue with the urban transport planning and service delivery agencies.

- Tier III is the operational level, comprising of the construction, management and maintenance of transport infrastructure, such as inter-modal transfer points, passenger information systems, revenue sharing, security services, dispute resolution, etc. It also includes the actual operations of running public transport. These functions can be performed by urban transport service providers such as BMTC and BMRCL.

## **6. Evaluation Methodology**

### **6.1. Types of Data Collected from Various Sources**

Secondary literature: The secondary literature on global best practices, case studies and frameworks helped with the compilation of the following:

1. List of lead agencies and their responsibilities
2. Elements that form a part of the integration framework.

### **6.2. Protocols for Data Collection and Ethics Followed**

For the secondary data collection, references in the form of published data and literature were used for identifying institutional best practices and case studies.

## **7. Data Analysis**

Institutional integration, primarily involves a process of defining the roles and responsibilities of the lead agency. Thus this section focuses on the existing UMTAs, their structure and roles, and the contextualisation of these factors for Bengaluru.

### **7.1. Lead Institutions**

Different cities are governed by their respective legal frameworks for the lead institute. For instance:

1. Municipal Authority (Ahmedabad and Seoul)
2. Separate organisation under a dedicated statute (London, Singapore and Paris)
3. Government Order establishing separate organisation without legislative backing (Bengaluru, Mumbai and Chennai)
4. Multiple jurisdictions agreeing to establish a separate organisation (Colombia).

While cities like Singapore or London have opted for lead agencies backed by legal mandate, cities like Ahmedabad have entrusted the municipal corporation to be this lead agency. Cities like Kochi are still in the process of setting up their lead agency, however the metro rail corporation has taken the lead in organising feeder bus services to and from metro stations,

which is the case for Delhi too. There are different lead agency models that are being tested in India. However, none of these agencies have the authority to make significant changes.

### 7.2. Functions Performed by the Lead Agency

Once the lead agencies have been set up, the next step involves the definition of the functions it needs to perform. Figure 2 gives a glimpse into the functions performed by different lead agencies in some international cities.

City	Lead Agency	Strategic Planning	Transport Policy Planning	Fare Setting	Planning	
					Infrastructure Planning	Service Planning
Cities with a lead agency						
Lagos	LAMATA	✓	✓	✓	✓	✓
London	TfL	✓	✓	✓	✓	✓
Paris	STIF	✓	✓	✓	✓	✓
Singapore	LTA	✓	✓	✗	✓	✓
Vancouver	TransLink	✓	✓	✓	✓	✓
✓ Means this function is performed by the lead institution , and ✗ means it is not performed by the lead institution						

Figure 2: Functions of lead institutions

Source: (Kumar and Agarwal 2013)

As can be seen in Figure 2, lead institutions normally have the mandate for transport policy planning and infrastructure and service planning. They decide the larger policy context (sustainable urban transport) and associated transport investments/infrastructure projects that are needed to achieve these sustainable urban transport goals.

### 7.3. Funding Sources

Each of the cities, which has a lead agency for transport planning, has dedicated funding sources. These sources of funding are shared in

Table 2. In many cities, local revenue or taxes are channelised to fund the operations of lead agencies. However, when it comes to investing monies in capital intensive projects, they have

to be procured from the state or central government. This is true even for places like Singapore and London, where a portion of capital investments in transport projects come from the federal government.

Table 2: Lead agencies and their sources of funding

City	Lead Agency	Funding Sources
London	TfL	Congestion charges Central and local government General revenue
Singapore	LTA	Management fee from Govt Administrative fee Government grants
Vancouver	TransLink	Fuel tax Property tax Govt transfers Transit fare
Paris	STIF	Transport tax Fare Public subsidies Employers
Lagos	LAMATA	State budget Road taxes Licence plate registration Vehicle registration Bus concessions

Sources:(Mobereola 2006; TransLink 2011; Land Transport Authority 2011; Transport for London and Mayor of London 2011)

What emerges, very clearly, is the need to establish a lead agency in order to get transport planning and implementation agencies on-board, in order to avoid institutional fragmentation. In many of the cases cited internationally, lead agencies are also in charge of land use planning for the jurisdictional area. This is not possible in Bengaluru because agencies such as the BDA are responsible for land use planning. Thus, a lead agency in the context of Bengaluru would be in charge of land transport planning. In addition, it would co-ordinate with BDA and other land use planning agencies to draw up transport plans for the city.

What is equally clear is that such a lead agency would need to have a legal mandate, accompanied by financial sources to fulfil its mandate. Such an agency would need to define its functions and the functions to be carried out by each agency related to urban transport.

In the case of Bengaluru, there is a need to re-organise the lead agency, BMLTA, by enacting a law that would give this agency sufficient power. It is also important to identify sources of funding, which would allow BMLTA to fulfil its mandate. By using the World Bank framework (cited earlier), this study recommends certain functions, which can be performed by BMLTA at the three levels—policy, regulation and planning, and operations—in order to be effective. These functions have been described, in detail, in the Recommendations Section.

## 8. Recommendations

Based on the results obtained from this study, the primary recommendation for BMLTA is that it be reorganised through legislation and funding, in order to implement urban transport investment decisions for the city. It would also need to be effectively empowered in order to co-ordinate between multiple agencies involved in land use planning (BMRDA, BDA, BBMP), as well as transport infrastructure and service agencies (BMTCL, BMRCL, Indian Railways). Specific functions to be performed by BMLTA, in the context of the institutional framework discussed earlier, have been suggested below.

### 8.1. Policy Level

- Revival of BMLTA through legislation, with dedicated sources of funding
- BMLTA could decide the nature of transport investments for the region, based on the principles of sustainable urban transport planning
- BMLTA could co-ordinate land use planning; specifically transport infrastructure provision, with city planning agencies (BMRDA, BDA and BBMP).

### 8.2. Regulatory and Planning Level

- BMLTA could set up a Public Transport Committee (PTC) to regulate public transport fares and integration of ticket payment systems
- The PTC could be funded by a dedicated transport fund (through collection of congestion fee from private vehicles and cab aggregators)
- BMLTA could decide the areas of operations by different public transport service providers (based on timely studies) so as to serve a larger population base and avoid competition between transport service providers.

### 8.3. Operational Level

- BMLTA could own and operate the interchange facilities and inter-modal terminals. This would help enhance inter-agency coordination and cooperation.

## Discussion Points

Empowerment of lead agency: Different cities in India are experimenting with different forms of UMTA; some through an act of legislature, some through a Government Order and others through Urban Local Bodies. The experience of UMTAs in Indian cities has not been positive due to the lack of empowerment. Thus, if UMTAs are to fulfil their mandate of land transport planning, they need to be empowered legally and financially.

Defining functions of different agencies: Transport planning and operating agencies often work at odds with each other. Thus there is a need to clearly define their respective areas of operations so that they don't compete with each other, and adhere to the principles of sustainable transport. For this to materialise, they would be need to be insured against loss of revenue or ridership.

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