सत्यमेव जयते

MINISTRY OF HOUSING AND URBAN AFFAIRS
GOVERNMENT OF INDIA

Report on Review of Regulatory, Institutional & Fiscal Policies (Indian)

EFFICIENT AND SUSTAINABLE CITY BUS SERVICES PROJECT (INDIA)

Developing Options & Recommendations for Resolving Regulatory, Institutional and Fiscal Constraints in Providing Efficient and Sustainable City Bus Services

June 2019

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Abbreviations and Acronyms

Abbreviation	Description
ACTSL	Allahabad City Transport Services Limited
AJL	Ahmedabad Janmarg Limited
AICTSL	Atal Indore City Transport Service Limited
AJCTSL	Ajmer City Transport Service Limited
AMCTSL	Agra-Mathura City Transport Services Limited
AMTS	Ahmedabad Municipal Transport Service
APSRTC	Andhra Pradesh State Road Transport Corporation
APTA	American Public Transportation Association
AP - CRUTA	Andhra Pradesh Capital Region Unified Transport Authority
ASRTU	Association of State Road Transport Undertakings
ASTC	Assam State Transport Corporation
BCLL	Bhopal City Link Limited
BEST	Brihanmumbai Electric Supply & Transport Undertaking
BMTC	Bangalore Metropolitan Transport Corporation
BRT	Bus Rapid Transit
BRTS	Bus Rapid Transit System
BPMC	Bombay Provincial Municipal Corporation
BUTSL	Bihar Urban Transport Services Limited
CAA	Constitution Amendment Act
CAGR	Compound Annual Growth Rate
CEO	Chief Executive Officer
CGST	Central Goods and Services Tax
CIDCO	City and Industrial Development Corporation
CIRT	Central Institute of Road Transport
CMP	Co0mprehensive Mobility Plan
CODATU	Cooperation for urban mobility in the developing world
COI	Constitution of India
CPK	Cost Per Kilometre
CRUT	Capital Region Urban Transport
CSTC	Calcutta State Transport Corporation
CTTS	Comprehensive Traffic and Transportation Study

Abbreviation	Description
CTU	Chandigarh Transport Undertaking
DA	Development Authority
DIMTS	Delhi Integrated Multi Modal Transit System Limited
DTC	Delhi Transport Corporation
EPK	Earning Per Kilometre
ESCBS	Efficient and Sustainable City Bus Services
FC	Finance Commission (Central)
FGD	Focus Group Discussion
GEF	Global Environmental Facility
GCC	Gross Cost Contract
GDP	Gross Domestic Product
GMCBS	Gurugram Metropolitan City Bus Limited
GNCTD	Government of National Capital Territory of Delhi
GoI	Government of India
GPMC	Gujarat Provincial Municipal Corporation
GST	Goods and Service Tax
HRTC	Himachal Road Transport Corporation
ICT	Information and Communications Technology
IGST	Integrated Goods and Service Tax
IPT	Intermediate Public Transport
ITS	Intelligent Transport System
JCTSL	Jaipur City Transport Services Limited, Jaipur
JnNURM	Jawaharlal Nehru National Urban Renewal Mission
JV	Joint Venture
KADMTU	Kalyan Dombivali Municipal Transport Undertaking
KCTSL	Kanpur City Transport Services Limited
KfW	Kreditanstalt für Wiederaufbau
KMPL	Kilometre Per Litre
KMTU	Kolhapur Municipal Transport Undertaking
KSRTC	Karnataka State Road Transport Corporation
KTC	Kadamba Transport Corporation
KURTC	Kerala Urban Road Transport Corporation

Abbreviation	Description
LCBSL	Ludhiana City Bus Services Limited
LCTSL	Lucknow City Transport Services Limited
LOS	Level of Service
MBMT	Mira-Bhayandar Municipal Transport
MIS	Management Information System
MMC Act	Maharashtra Municipal Corporation Act
MoEF	Ministry of Environment, Forest and Climate Change
MoHUA	Ministry of Housing and Urban Affairs, GoI
MoRTH	Ministry of Road Transport and Highways, GoI
MSRTC	Maharashtra State Road Transport Corporation
MTC	Metropolitan Transport Corporation, Chennai
MTU	Municipal Transport Undertaking
MV	Motor Vehicle
MV Act	Motor Vehicles Act, 1988
NCC	Net Cost Contract
NCT	National Capital Territory
NMC	Nagpur Municipal Corporation
NMMT	Navi Mumbai Municipal Transport
NRDA	Naya Raipur Development Authority
NRMCL	Nagpur Metro Rail Corporation Limited
NTDPC	National Transport Development Policy Committee, GOI
NURM	National Urban Reform Mission
NUTP	National Urban Transport Policy
NEKRTC/ NEKnRTC	North Eastern Karnataka Road Transport Corporation
NWKRTC/ NWKnRTC	North Western Karnataka Road Transport Corporation
OLTAS	Online Ticket Accounting System
PBMS	Punjab Bus Metro Society
PMPML	Pune Mahanagar Parivahan Mahamandal Limited
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public Private Partnership
PT	Public Transport

Abbreviation	Description
PTA	Public Transport Agency
RFID	Radio-Frequency Identification
RRL	Rajkot Rajpath Limited
RSRTC	Rajasthan State Road Transport Corporation
RTA	Road Transport Authority
RTC Act	Road Transport Corporations Act, 1950
RTO	Regional Transport Office
SFC	State Finance Commission
SGST	State Goods and Service Tax
SLA	Service-Level Agreement
SMT	Solapur Municipal Transport
SPC	Special Purpose Company
SPV	Special Purpose Vehicle
SRTC	State Road Transport Corporation
SRTUs	State Road Transport Undertakings
SSL	Surat Sitilink Limited
STU	State Transport Undertaking
STA	State Transport Authority
SUTP	Sustainable Urban Transport Project
TMTU	Thane Municipal Transport Undertaking
TNSTC	Tamil Nadu State Transport Corporation
TRTC	Tripura Road Transport Corporation
TSRTC	Telangana State Road Transport Corporation
TUTCL	Tripura Urban Transport Company Limited
UA	Urban Agglomeration
UITP	International Association of Public Transport
ULB	Urban Local Body
UT	Union Territory
UMTA	Unified Metropolitan Transport Authority
UPSRTC	Uttar Pradesh State Road Transport Corporation
UTC	Uttarakhand Transport Corporation
UTTIPEC	United Traffic & Transportation Infrastructure

Abbreviation	Description
VCTSL	Varanasi City Transport Service Limited
VMSS	Vadodara Mahanagar Seva Sadan

EXECUTIVE SUMMARY

1. Background

Government of India has undertaken an Efficient and Sustainable City Bus Services (ESCBS) initiative after National Urban Renewal Mission (NURM) and Sustainable Urban Transport Project (SUTP), under GEF 5, to promote bus based public transportation in the country.

The ESCBS initiative is being undertaken through the following components:

- Component 1: National Capacity Building for Urban Bus Sector
- Component 2A: City Demonstration Projects - Physical Improvements
- Component 2B: City Demonstration Projects - Technical Assistance and Capacity Building

As part of Component 1 of the ESCBS initiative, the Ministry of Housing and Urban Affairs (MoHUA) of the Government of India, under this project, desires preparation of options and recommendations on regulatory, institutional and fiscal constraints in providing Efficient and Sustainable City Bus Services.

2. Report Context

This document undertakes a review of the urban bus sector in India and provides an overview of the country wide industry and operator structure; legislative and regulatory framework governing the urban bus sector; existing institutional arrangements supporting the industry; prevailing fiscal arrangements for the sector; and undertakes identification of the gaps and constraints in these areas.

3. Country wide Industry and Operator Structure

3.1. Urbanization Trend

Total population of India in 2011 according to Census of India survey was 1.2 billion, of which 377 million or about 31 per cent live in urban areas. During the last decade (2001 to 2011) was the first time since Independence when more people were added to urban areas (91.7 million) than rural areas (91.4 million). It has been estimated that by the year 2050, urban population will be 50% of the total population in India.[1] There were 5,161 towns in 2001 which increased to 7,935 towns by 2011 in India. Presently, there are about 468 Class I towns, having population of 0.1 million plus which account for 70% of the urban population. Overall, total population living in 53 million plus cities has gone up from 107.85 million to 160.70 million with a decadal increase of 49% between 2001 and 2011.

[1] Census of India, 2011

3.2. Significance of Urban Transport in Indian Cities

Nearly 31%[2] of India's population lives in urban areas and contributes 63% (up from 45% in 1990) of India's Gross Domestic Product (GDP). With increasing urbanization, urban areas are expected to house 40% of India's population and contribute up to 75% of India's Gross Domestic Product (GDP) by 2030.[3] Rapid urbanization during past few decades has given rise to urban transport related challenges in India, and to guide future developments, Government of India (GoI) formulated the National Urban Transport Policy (NUTP) in 2006.

3.3. Vehicle Registration Trend

The motor vehicles ownership in India has been increasing at a significant rate. The total number of registered motor vehicles increased from about 0.30 million in 1951 to 230.03 million in 2016. The number of registered motor vehicles in the million plus cities in 2016 was 70.9 million and it accounted for 31% of total registered motor vehicles in the country.

3.4. Public Transport Modes Share Trend

In the last three decades, three studies have been carried out to assess the urban public transport situation in Indian cities/towns and from that has been observed that there is a continuous decline in share of public transport in all the population size /tier cities/towns in India from 1994 to 2011.

Table: Trend of Public Transport Share

S.N	Cities with Population Size	1994 Study	2007 Study	2011 Study
1.	More than 8 million	59.7% to 78.7%	35.2% to 54.0%	27.7% to 36.7%
2.	4 to 8 million	45.8% to 59.7%	11.2% to 32.1%	5.8% to 25.5%
3.	2 to 4 million	35.6% to 45.8%	Up to 22.2%	Up to 38.8%
4.	1 to 2 million	28.1% to 35.6%	Up to 50.8%	Up to 36.3%
5.	0.5 to 1 million	22.7% to 29.1%	Up to 22.5%	Up to 12%
6.	Less than 0.5 million	14.9% to 22.7%	Up to 15.6%	Up to 12%

3.5. Significance of Intermediate Public Transport

Urban commuters are increasingly using IPT as the primary mode for their daily commutes in cities/towns. The NUTP (2006) of the Ministry of Housing and Urban Affairs, Government of India also recognizes that the deteriorating quality of public transport in many cities has led commuters to shift to IPT for daily commutes. IPTs

[2] Census 2011, Census of India
[3] http://www.makeinindia.com/article/-/v/improving-lives-urban-infrastructure

are plying in the routes and schedules as that of buses and they often operate in competition with the bus services.[4]

3.6. Evolution of the Urban Bus Market in India

In the year 1914, the first Motor Vehicles Act was enacted to regulate and control motor vehicles in the country. In order to address the competition between rail and road transport, as also to ensure better coordination of passenger transport, the Motor Vehicles Act was amended in 1939. Further, the amended Act, provided for the creation of State Transport Authorities (STAs) with powers to grant permits for stage carriages (bus passenger). However, in absence of proper enforcement mechanism, it could not be implemented effectively.

To overcome the issues faced by the fragmented industry, it was decided to introduce controlled monopoly for provision bus transport through public sector. In 1944, various committees recommended for the replacement of the small owners (fragmented single vehicle operators) by large companies so as to provide adequate services and better travelling comforts.

Subsequently, an effort was made to nationalize the bus transport industry and accordingly a policy was formulated to encourage the formation of transport undertakings. Therefore, the Road Transport Corporations (RTC) Act, 1950 was enacted and some of the states like Maharashtra, Gujarat, Haryana and Sikkim adopted complete nationalization of bus transport industry under the RTC Act. However, in other states, both public and private operators were permitted to operate bus services.

Corporations which were established under the RTC Act, received 33% of the capital as loan through Indian Railways (from its budget) and the remaining 67% was to be contributed by the respective State Government(s). Representative(s) from Indian Railways were nominated to the Road Transport Corporation board. This provided the basis for the Government ownership.

The Motor Vehicles Act was consequently amended to incorporate special provisions for State Transport Undertakings (STUs) to enable preparation and publication of nationalization schemes by the State Governments for approving such schemes. As a result of this provision, the private operators were not allowed to operate on such notified areas/routes subsequent to the notification of the scheme.

In 1977, “Chapter IV- A of the Motor Vehicles Act, 1939” was included in the Ninth Schedule of the Constitution by way of amendment to provide it constitutional protection. The States were thus free to nationalize the road transport services without any legal difficulties. The above mentioned changes paved the way for creation of state monopoly. The Government, therefore, became not only the

[4] Ravi Gadepalli- Role of Intermediate Public Transport in Indian Cities(FEBRUARY 27, 2016 vol II no 9) Economic & Political Weekly

regulator but also an operator, operating along with several other small private operators in some cities, where there was no exclusivity.

Market changed from that driven by private sector till 1950s, thereafter the public sector undertakings were the mainstay of public transport for three decades. Service quality of the public sector had deteriorated and their market share also significantly reduced with passengers shifting towards personalized transport and intermediate public transport.

Subsequent to the enactment of Motor Vehicles Act, 1988, the procedure for issuance of permit was liberalized. Restriction or cap for issue of stage carriage permits to individuals and companies were removed in 1994 by way of an amendment.

Government of India, recently (2009) made efforts by way of providing necessary funding support under NURM bus funding scheme with a view to improve/ augment the bus transport. One of the reforms was to establish dedicated city entities (SPVs/SPCs or Societies) responsible for operation and / or management of buses.

Formal bus contracting has emerged in India during the last decade, and is slowly gaining ground. Ministry of Housing and Urban Affairs, Government of India has prepared model contracts for both NCC and GCC and alongside published guidelines for their use for the benefit of cities.

3.7. Urban Bus Service Delivery Mechanism in India

The urban bus service delivery mechanism in India can be categorized into three types: public sector exclusive operations, open market with public sector dominance, and open market with private sector dominance. In case of public sector exclusive operations, the responsibility of providing city bus services is mandated to a government owned and/or controlled Public Transport Agencies (PTA) which have legal monopoly within the jurisdiction (state or city).

The PTAs, however, have no service level agreements (SLAs) or contracts with government. Open market with public sector dominance, unlike in the public sector exclusive operations, no exclusivity right is given to the public sector / PTAs to provide bus services in a city or area or a set of routes. Both - PTAs and private operators (permit holders) - have no service level agreements (SLAs) or contract with government/ permit issuing authority. Open market with private sector dominance, can provide services subject to adhering to the entry level regulatory requirements. The majority of services is provided by the private sector either through a large number of private entities or individual operators while share of public sector is limited or marginal as compared to that of the private sector.

3.8. Types and Size of Players Involved in Urban Bus Sector

The responsibility for organizing city bus services is discharged by the following tiers of governments in India:

(i) Central Government including jointly with States: for example, Union Territories

(ii) State Governments including jointly with ULBs: for example, Tamil Nadu, Delhi, Andhra Pradesh, Telangana, Kerala, Uttar Pradesh, West Bengal and Karnataka

(iii) ULBs including jointly with States/ Parastatal: for example, states of Maharashtra, Gujarat and Jharkhand

The aforesaid different tiers of governments perform the function of providing city bus services directly and/or through one or more dedicated entities for their jurisdictions depending on their requirements.

The section 2 of the Motor Vehicles Act, 1988, defines the State Transport Undertakings (STUs) as those that are established by any of the following to provide road transport services in India:

(i) The Central Government or a State Government;

(ii) Any Road Transport Corporations established under section 3 of the road Transport Corporations Act 1950;

(iii) Any municipality or any corporations or company owned or controlled by the Central Government or one or more State Government; and

(iv) Zilla Parishad or any other similar ULB.

In this report, the agency mandated to provide public bus services in the city has been referred to as “Public Transport Agency (PTA)”.

In terms of the provisions of the above-mentioned Act, different tiers of governments typically provide city bus services through one or more entities like:

(i) Central Government PTAs for city bus services through following means:

  (a) Through Union Territory Administration: for example, CTU; and
  (b) Special Purpose Companies (SPCs) formed jointly with the State Governments: for example, DMRC and NMRCL.

(ii) State Governments PTAs for city bus services through following means:

  (a) Through State Transport Department: for example, Haryana Roadways;
  (b) State Road Transport Corporations (SRTCs): for example, BMTC, APSRTC and DTC; and
  (c) SPCs of State Government / parastatal body/ SRTCs including those formed along with the municipal corporations: for example, MTC, and CRUT.

(iii) ULBs/ Municipal Corporations PTAs for city bus services through following means:

  (a) ULB Transport Cell: for example, Gandhinagar and Mira Bhayander;

(b) Municipal Transport Undertakings (MTUs): for example, BEST, AMTS and NMMT;

(c) SPCs of ULB or along with ULB and parastatatal body established specifically for a city/ urban area: for example, PMPML, AJL, AICTSL and JCTSL; and

(d) Societies established with State Government and municipal participation: for example, Raipur and Bilaspur Urban Public Transport Society.

Size of PTAs has been categorized based on the number of buses either owned and/ or managed by such PTAs.

Central Government entities are either wholly owned by the Central Government or jointly owned by Central and State Government(s). State Transport Department entities and SRTCs are solely owned by the respective State Governments.

Typically, state SPCs are established by the respective State Governments and / or along with its parastatal body or SRTCs, and such SPCs are effectively fully owned by the respective State Governments.

The third tier of the government is directly providing and managing services through its Transport Cell / Unit in some cities and those are fully owned by the respective Urban Local Bodies / Municipal Corporations.

Municipal Transport Undertakings (MTUs) are established under the respective Corporations Act (BPMC/GPMC Act) by some of the Corporations for providing city bus services within the jurisdiction of the Corporation.

In some cases, SPCs are established for a city or urban area, either by ULBs/ Municipal Corporations on its own or along with parastatal body and such SPCs are fully owned by respective ULBs or jointly with parastatal bodies.

Societies are established mostly with participation of the respective State Government(s) and ULBs. In some cases, in order to provide service in the larger urban areas/conglomeration encompassing more than one city/town, several ULBs get jointly involved in providing bus services:

In case of private sector entities, based on the requirements of the contracts executed with the respective PTAs, either they establish a dedicated entity (company or partnership firm) for providing services, or an existing entity is sometimes also allowed to operate or provide services. Typically, such entities are fully owned by a private company or a group of private entities or individuals.

At Country Level, it is estimated that there are about 198 cities/ towns in which organised city bus services are provided. It includes 181 cities/ towns and 17 clusters. There are 92 entities which are responsible for providing city bus services in the above mentioned cities/towns/clusters. Out of the total of 92 PTAs, 45 are State

Government promoted entities, 44 ULB promoted entities, 2 Central-State JV entities, and 1 Union Territory Administration entity.

There are about 45,450 buses deployed for providing organized city bus services in the Country. These buses are either owned and/or managed by the respective PTAs. Of the 45,450 buses, about 32,721 buses are with State Government entities which accounts for about 72% of the total fleet, followed by ULB entities which have about 12,140 buses which accounts for 27% of the total fleet. Besides this, the balance fleet (1% of the total fleet) is shared between Centre and State Joint Venture entities (319 buses) and UT administration (270 buses).

In Million Plus cities, As per Census 2011, there are 53 cities in India with million plus population, out of which only 52 cities have organised city bus services. The city of Ghaziabad does not have organised bus based public transport system in place. There are 49 PTAs involved in 52 cities for providing city bus services, out of which, 23 are State Governments promoted entities, 24 ULB promoted entities, one each is Central -State JV promoted entity, and Union Territory Administration entity.

There are about 36,750 buses deployed for providing organized city bus services in million plus cities. Of the total fleet, about 26,160 buses are with State Government entities which accounts for about 71% of the total fleet. The ULB entities have about 10,051 buses which accounts for about 27% of the total fleet, and the balance fleet (2% of the total fleet) is shared between Centre and State Joint Venture entities (269 buses) and UT administration (270 buses) in million plus cities.

3.9. Urban Bus Operation Arrangements in India

In 198 cities/ towns/ clusters, there are 92 PTAs that are promoted through four different entities i.e. Centre State JV, State, ULB and UT, responsible for providing city bus services. However, the operation of city bus services is undertaken one of the three arrangements: by PTAs themselves as an in-house operation, or contracted by PTAs to private sector (an outsourced operation), or by both arrangements together (in-house as well as outsourced operation). Broadly in India, two types of outsourcing for provision of bus services are being adopted: Gross Cost Model, and the Net Cost Model, both under structured contractual framework between the PTA and the private operator.

The special purpose companies (SPCs) in most cases are providing urban bus services through private operators under concession agreements and the operating model followed by the SPCs is predominantly based on net-cost based concessions being awarded to the private operators selected through public tendering.[5] Many of

[5] Chaudhary, Mahesh L, Gross Cost Contract v/s Net Cost Contract: What Should Indian Cities Opt For? (June 30, 2015). International Journal of Business Management & Research,

the cities [Ahmedabad (AJL), Delhi (cluster buses), Nagpur, Bhubaneswar, Gurugram] have now turned to awarding city bus concessions for their bus operation based on gross cost model which has been recommended by MoHUA[6] and planning commission.[7]

Implementing city bus service through private operators under either model (gross cost or net cost) requires the PTAs to have access to adequate funding (considering the likely revenue being less than the expected cost to run bus operations), and professional bus operators with the required capacity to invest in and manage the bus operations.

At country level, out of the total 92 PTAs, about 49 PTAs (53%) have in-house operations, followed by 37 PTAs (40%) which have outsourced their operations, and the balance 6 PTAs (7%) have both in-house and out-sourced operations. About 45,450 buses are held and/ or managed by 92 PTAs, of which 84% (38,157) are under in-house operations, and the balance 16% (7,293) are under outsourced operations.

In Million plus cities, there are 49 PTAs in million plus cites in India, out of which about 26 PTAs (53%) have in-house operations, followed by 19 PTAs (39%) outsourced their operations and balance 4 PTAs (8%) have both in-house and out-sourced operations. There are 36,750 buses in million plus cities, of which 84% (30,986) are under in-house operations, and the balance 16% (5,764) are under outsourced operations.

Over the last decade, many corporates from other sectors have entered into the city bus service space, built capacity, and have started participating in the tenders being floated by the PTAs for awarding city bus concessions. This has led to cost of bus operations becoming competitive as against those currently being incurred by the older public sector organisations in managing urban bus operations.[8]

3.10. Performance Analysis of Urban Bus Sector

The performance analysis of different operating entities (20 PTAs) has been carried out based on various parameters and the details are available in Chapter 2 (Section 2.5).

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[6] Ministry of Urban Development, GoI, communication dated 21 April 2014 to states (http://mohua.gov.in/upload/uploadfiles/files/Advisory.pdf)

[7] Recommendations of Working Group on Urban Transport for 12th Five Year Plan (http://planningcommission.gov.in/aboutus/committee/wrkgrp12/hud/wg_%20urban%20Transport.pdf)

[8] A Roadmap for Improving City Bus Systems in India, Shakti Foundation (July 2016)

4. Legislative and Regulatory Framework

4.1. Legislative Framework

The subject of road transport is covered under List III (Concurrent List) of the Constitution as "*Mechanically propelled vehicles including the principles on which taxes on such vehicles are to be levied*." Accordingly, institutions of both central government as well as states have concurrent responsibilities in these matters.

The subject of local governance is covered under List II (State List) of the Constitution as "*Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, districts boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration*"

The above imply that territorially, the states are responsible for urban development whereas the subject matter of "Mechanically propelled vehicles" is a concurrent responsibility of the central government as well as that of the states.

4.2. Regulatory Framework

The primary regulations governing the urban bus service are The Motor Vehicles Act, 1988; The Maharashtra Municipal Corporations Act, 1949; and Gujarat Provincial Municipal Corporation Act 1949 (earlier, The Bombay Provincial Municipal Corporations Act, 1949). Table below briefly lists the areas covered by these regulations.

Table: Key Areas Covered By Important Regulations

Act	Areas Covered
The Motor Vehicles Act, 1988	• Necessity for driving licence (Section 3) • Necessity for conductor's licence (Section 29) • Necessity for registration of a motor vehicle (Section 39) • Certificate of fitness of transport vehicles (Section 56) • Necessity for permits for transport vehicles (Section 66) • Powers to State Government to control road transport (Section 67) • Limits on the number of stage carriage permits in towns with a population of not less than five lakhs (Section 71(3)(a)) • Preparation and publication of proposal regarding road transport service of a State transport undertaking (Section 99) • Issue of permits to state transport undertakings (Section 103) • Restriction on grant of permits in respect of a notified area or notified route. (Section 104) • Necessity for insurance against third party risk (Section 146)

Act	Areas Covered
	• Using vehicle in unsafe condition (Section 190)
The Road Transport Corporations Act, 1950	• Establishment of Road Transport Corporations in the States (Section 3) • Management of Corporation and Board of Directors (Section 5) • Managing Directors, Chief Accounts Officer and Financial Adviser (Section 15) • Establishment of subsidiary corporations (Section 17A) • Powers of Corporation (Section 19) • General principle of Corporations finance (Section 22) • Capital to the Corporation (Section 23) • Borrowing powers (Section 26) • Budget (Section 32) • Directions by the State Government (Section 34)
The Maharashtra Municipal Corporations Act, 1949 (earlier, The BPMC Act, 1949); and GPMC Act, 1949	• Appointment of Transport Committee (Section 25) • Appointment of Transport Manager (Section 40) • Contracts relating to Transport Undertaking (Section 75) • Estimates of expenditure and income of the Transport Undertaking to be prepared annually by Transport Manager (Section 97) • Management of Undertaking by Transport Manager (Section 342) • Levy of fares and charges for transport services subject to the provisions of any enactment for the time being in force and any license granted to the Corporation thereunder (Section 343) • Constitution of Transport Fund (Section 351) • Purposes for which Transport Fund is to be applied (Section 357)

5. Institutional Arrangements

5.1. Institutional Arrangements for Urban Bus Operation

A number of institutions at the Central, State and ULB Levels are involved in urban bus services (Figure below).

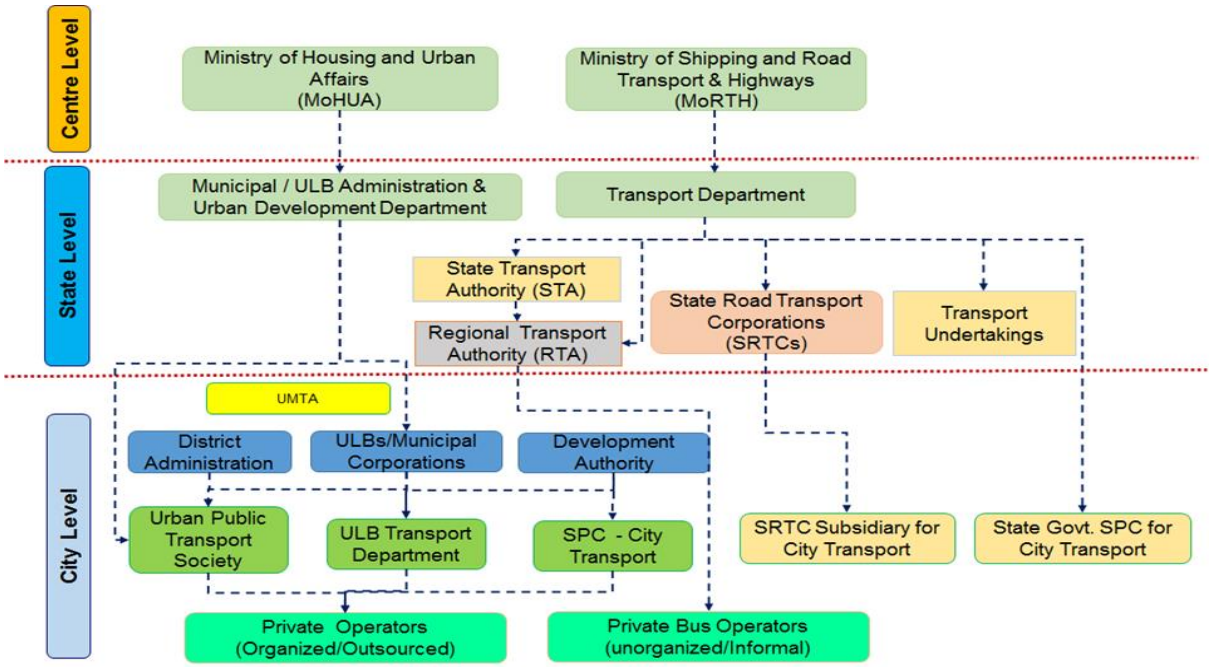


Figure: Existing Institutional Arrangements for Urban Bus Operation

At the central government level, the urban transport matters relate to two ministries: Ministry of Road Transport and Highways (MoRTH), and Ministry of Housing and Urban Affairs (MoHUA).

MoHUA is responsible for "*Planning and coordination of urban transport systems with technical planning of rail-based systems being subject to the items of work allocated to the Ministry of Railways, Railway Board.*"[9]

MoRTH is responsible for Motor vehicles legislation; and Administration of the Road Transport Corporations Act, 1950, and the Motor Vehicles Act, 1988.

At the state government level also, the urban transport matters relate to two departments: Transport Department and Urban Development Department.

State transport departments perform according to policies and guidelines of MoRTH in implementation of the provisions of the Motor Vehicles Act, 1988. The State Road Transport Corporations established by the state work under the guidance of the respective state transport departments. Many such corporations provide city bus services.

State urban development departments perform according to policies and guidelines of MoHUA on matters connected with the urban development including city bus service. The city bus special purpose companies generally have shareholding of urban local bodies/parastatals/states and these work under the guidance of the

[9] Government of India (Allocation of Business) Rules, 1961

respective shareholders and the state urban development departments. In some cities, the urban local bodies are directly involved in providing city bus services.

5.2. Organization Structures of Public Transport Agencies

The organization structures of Public Transport Agencies (PTA) providing city bus services follow the governing laws/regulations which cover details regarding their constitution, functions and other matters related with their activities. The following types of PTAs under the public sector are providing city bus services in India:

(a) Road Transport Corporations formed by the State/ UT Government under the Road Transport Corporations Act, 1950

(b) Departments of Transport of States/ UT Governments

(c) Special purpose companies incorporated under the Indian Companies Act, 1956/2013 by urban local bodies, states, and state agencies

(d) Transport undertakings established by municipal corporations under the Maharashtra Municipal Corporations Act, 1949 (earlier BPMC Act, 1949) /GPMC Act, 1949.

(e) Established under Societies Registration (state) Act.

In addition, there are individual permit holders providing city bus service in some cities under the private sector. Such players are not organized and often supplement the network of services provided by public sector PTAs by running their services on feeder or other assigned routes.

6. Fiscal Arrangements

6.1. Capital Funding

Table below presents sources of capital funding for PTAs in urban operation during 2012-13 to 2016-17 [10]. In order to observe the trend at national level, DTC's capital funding amount was excluded, as the central and state government contribution was much higher than in other PTAs. Share of State Governments contribution to the total capital funding was between 7% and 33% during the aforementioned period. However, during 2013-14, the State Governments contribution constitute about 33% of the total capital funding. For example, during this period, MTC (Rs. 4,300 Million) and BMTC (1,577 Million) both have received State Governments contribution towards procurement of fleet and other infrastructure facilities. Share of loan from financial institutions to the total capital funding was ranging between 7% and 24% during the assessment period. General and other reserves constitute 7% to 60% of the total capital funding during the period considered for analysis. Share of 'Other'

[10] Adapted from CIRT's report 'State Transport Undertakings Profile & Performance 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17'

sources varying between 24% and 40% of the capital funding during the assessment period. Typically, other sources includes central assistance and grant from state governments. [11] It may be noted that this analysis is limited to the STUs that submit data to CIRT and excludes the vast majority of SPCs.

[11] Adapted from CIRT's report 'State Transport Undertakings Profile & Performance 2012-13 to 2016-17' for the chapter

Table: Capital Funding Sources for PTAs for Urban Bus Operation (excluding DTC)

Sr. No.	Capital Funding Source	2012-13		2013-14		2014-15		2015-16		2016-17	
		Rs. (in Million)	Percent	Rs. (in Million)	Percent	Rs. (in Million)	Percent	Rs. (in Million)	Percent	Rs. (in Million)	Percent
1	State Govt. Contribution	6,017	7%	18,838	33%	6,202	8%	7,004	5%	8,089	7%
2	Central Govt. Contribution	1,371	2%	6	-	235	0%	748	1%	243	0%
3	General & other Reserves	50,531	60%	4,228	7%	35,397	44%	44,232	34%	48,519	43%
4	Loan from Financial Institutions	6,265	7%	11,484	20%	12,953	16%	31,383	24%	12,517	11%
5	Others	19,642	24%	22,465	40%	25,979	32%	45,236	35%	44,606	39%
Total		**83,826**	**100%**	**57,021**	**100%**	**80,766**	**100%**	**1,28,603**	**100%**	**1,13,974**	**100%**

Table: Capital Funding Sources for PTAs for Urban Bus Operation (including DTC)

Sr. No.	Capital Funding Source	Rs. (in Million)	Percentage
1	State Govt. Contribution	124,850	29%
2	Central Govt. Contribution	20,081	5%
3	General & other Reserves	63,974	15%
4	Loan from Banks	12,480	3%
5	Public Deposits	37	-
6	Others	208,096	48%
	Total	**429,518**	**100%**

As can be seen from the above, the overall average capital contribution from central and state governments constitute about 34% of the total capital funding of the PTAs (2016-17). The loans and advances from banks and financial institutions on average account for only about 3% of the capital funds. A major constituent is 'Other' sources (about 48%) for which details are not available but do include central assistance and grants from state governments.

6.2. Revenue Sources

A summary of the revenue sources for PTAs for urban bus operation is provided in the table below.[12] As can be seen from the above, major part of the revenue for the PTAs come from traffic revenue (ranging between 83% and 89% of total revenue) followed by Non-traffic revenue (5% to 6% of total revenue) during the assessment period. The subsidies and reimbursement of concessions also constitute less than 10% of the total revenue during 2012-13 and 2016-17.

[12] CIRT's report 'State Transport Undertakings Profile & Performance 2012-13 to 2016-17'

Table: Revenue Sources for PTAs from Urban Bus Operation

Sr. No.	Revenue Source	2012-13		2013-14		2014-15		2015-16		2016-17	
		Rs. (in Million)	%	Rs. (in Million)	%	Rs. (in Million)	%	Rs. (in Million)	%	Rs. (in Million)	%
1	Traffic Revenue	58,898	89%	61,611	88%	61,344	86%	61,509	86%	5,8374	83%
2	Non-traffic Revenue	3,585	5%	4,177	6%	3,706	5%	3,926	5%	4,282	6%
3	Subsidies	3,539	5%	4,042	6%	4,879	7%	4,628	6%	5,103	7%
4	Reimbursement of Concessions	4	0%	53	0%	1,467	2%	1,687	2%	2,424	3%
Total		**66,026**	**100%**	**69,883**	**100%**	**71,396**	**100%**	**71,749**	**100%**	**70,183**	**100%**

6.3. Expenditure

A summary of the break-up of various categories of expenditure of the PTAs providing urban bus services during 2012-13 to 2016-17 is provided in the table below[13].

Table: Cost Details for PTAs from Urban Bus Operation

Sl. No.	Description	2012-13		2013-14		2014-15		2015-16		2016-17	
		Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage
1	Staff Cost	46,216	54%	51,428	47%	56,393	56%	62,738	60%	65,361	61%
2	Fuel and lubricants	22,308	26%	25,036	23%	23,788	24%	20,337	20%	20,943	19%
3	Spares and material	5,578	6%	5,610	5%	5,621	6%	6,115	6%	6,364	6%
4	Miscellaneous costs	3,487	4%	18,146	17%	5,937	6%	5,132	5%	5,006	5%
5	Payment towards bus hire	1,868	2%	2,092	2%	3,108	3%	3,440	3%	3,796	4%
6	Taxes	1,643	2%	1,814	2%	1,862	2%	2,280	2%	2,062	2%
7	Depreciation	4,982	6%	4,629	4%	4,502	4%	4,176	4%	4,232	4%
Total (Excl. Interest cost)		**86,082**	**100%**	**108,755**	**100%**	**101,211**	**100%**	**104,218**	**100%**	**107,764**	**100%**

[13] Adapted from CIRT's report 'State Transport Undertakings Profile & Performance 2012-13 to 2015-16'

The staff cost is the major constituent of the total cost of the PTAs, followed by interest and fuel cost.

Table: Cost Details of SPV (JCTSL) for Urban Bus Operation

Sl. No.	Description		Cost (Rs. Mn)	Percentage (%)
			JCTSL-Jaipur (2016-17)	
1	Staff Cost		218.46	19
2	Fuel and lubricants & Spares and material		419.63	37
3	Miscellaneous costs		178.81	16
4	Payment towards bus hire (PPP Model)	Gross Cost	152.83	14
		Net Cost	110.33	10
5	Depreciation		49.85	4
Total			**1129.91**	**100**

For JCTSL, the fuel and lubricants & Spares and material cost (37%) is the major constituent of its total expenditure, followed by Payment towards bus hire for Gross Cost as well as Net Cost model (24%) and Staff cost (19%).

Table below provides Delhi Cluster Scheme bus operations cost break-up of private sector. Cost of fuel and lubricants is the major constituent of total expenditure, followed by staff cost and miscellaneous cost in case of private operators in Delhi.

Table: Cost Details for Private Operator for Urban Bus Operation

Sl. No.	Description	Delhi	
		Operator 1	Operator 2
1	Staff Cost	19%	20%
2	Fuel and lubricants	26%	27%
3	Spares and material	16%	12%
4	Miscellaneous costs	18%	18%
5	Interest	7%	12%
6	Depreciation	15%	10%
Total		**100%**	100%

In case of urban PTAs, staff cost constitute a major share of total expenditure (upto 61%) during 2012-13 and 2016-17, followed by fuel and lubricants cost (upto 24%). however, in case of private sector, for example in Delhi, fuel and lubricants cost is

major item (i.e 27% of total expenditure) and followed by staff cost (19% to 20%) and miscellaneous cost (18%).

6.4. Gap in Revenue and Expenditure

The PTAs are not able to meet their expenditure through the revenue, leaving a significant gap. The PTAs are not able to meet their expenditure through the revenue, leaving a significant gap. A summary of the revenue and expenditure of the PTAs providing urban bus services during 2012-13 to 2016-17 is provided in the Table below[14].

Table: Gap in Revenue and Expenditure

Sl. No.	Description	2012-13	2013-14	2014-15	2015-16	2016-17
		Rs. Million				
A	Total Revenue	66,025	69,884	72,698	71,749	70,183
B	Total Expenditure	1,09,345	99,755	1,19,971	1,39,511	1,48,809
Profit/Loss		**-43,320**	**-29,871**	**-47,273**	**-67,762**	**-78,626**
Cost Recovery %		**60%**	**70%**	**61%**	**51%**	**47%**

The PTAs incurred total expenditure varying from Rs. 99.76 billion (2013-14) to 148.81 billion (2016-17) as against their total revenue of Rs. 66.03 billion (2012-13) to Rs. 72.70 billion (2014-15), leaving a gap of Rs. 29.87 billion to Rs. 78.63 billion. The PTAs were able to earn revenue to the extent of only 70% of their total expenditure (2013-14). Such a huge gap in the revenue and expenditure of PTAs severely impacts the capacity of PTAs to provide efficient services to their customers, to procure new fleet or replace their ageing fleet, to create support infrastructure and implement modern technology based interventions.

6.5. Assessment of Total Taxes

The quantum of total taxes calculated on per kilometre basis in city bus operations for the four PTAs (each subject to a different motor vehicle tax regime as detailed in Chapter 5, Section 5.3.2) is provided in the Figure below.

[14] Adapted from CIRT's report 'State Transport Undertakings Profile & Performance 2015-16'

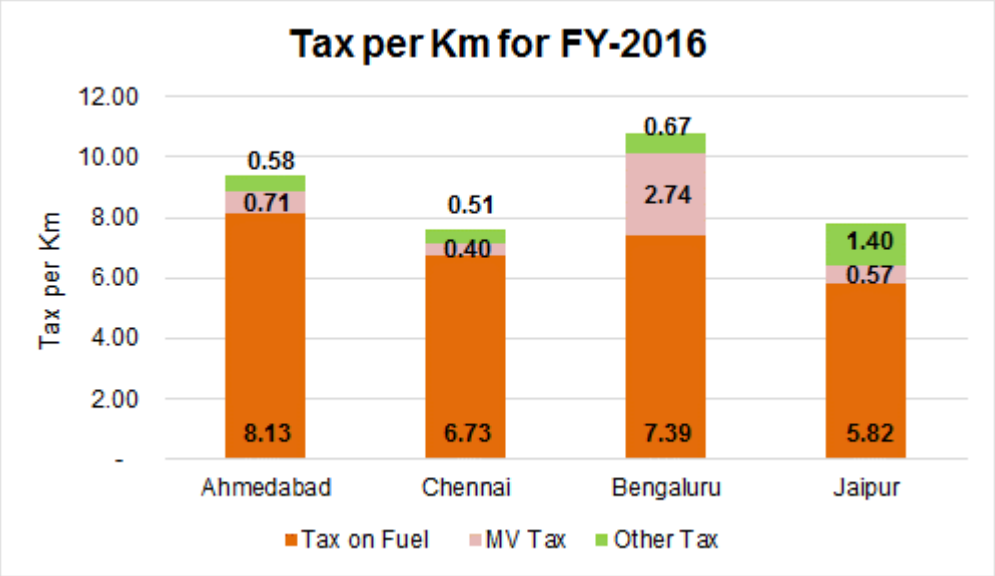


Figure: Tax per Km

The total tax per kilometre of city bus operations varies from Rs. 7.64 per km (Chennai) to Rs. 10.81 per km (BMTC-Bengaluru). The taxes on fuel is the highest component of the total taxes on PTAs, which is in the range of Rs. 5.82 per km (Jaipur) to Rs. 8.13 per km (AMTS-Ahmedabad).

The Motor Vehicle Tax is another significant component of the total taxes on PTAs operations, which varies from Rs. 0.40 per km (Chennai) to Rs. 2.74 per km (Bengaluru). All other taxes combined range from Rs. 0.51 per km (Chennai) to Rs. 1.40 per km (Jaipur). The other taxes in case of JCTSL is higher as compared to other PTAs, due to outsourcing of bus operations, which attracts an additional GST burden at the rate of 18% on the payments to the private operator.

The total tax burden on MTC (Chennai) is lowest at Rs. 7.64 per km., which is about 15.0% of the cost per km. (Rs. 51.04) and 20.7% of the revenue per km. (Rs. 36.91) of MTC. The quantum of total taxes in case of Bengaluru is highest at Rs. 10.80 per km., which is about 22.0% of the cost per km. (Rs. 49.09) and 21.9% of the revenue per km. (Rs. 49.39) of BMTC.

The gap in the revenue and cost per km, including and excluding the tax burden is provided in the Figure below.

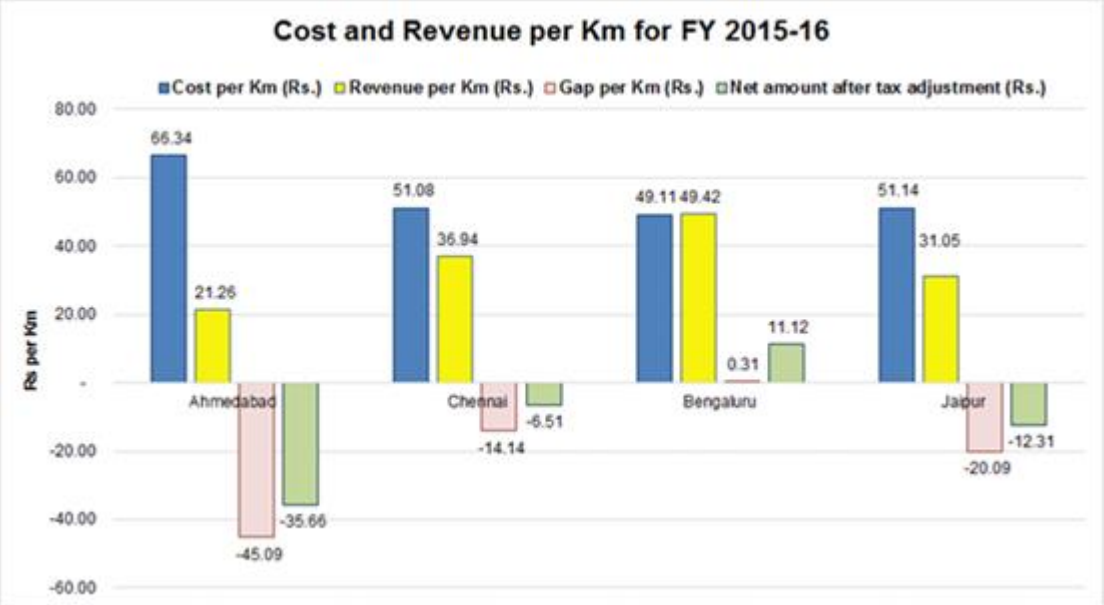


Figure: Cost and Revenue per Km

As can be seen, after adjusting the tax burden, the gap between the PTAs' revenue and cost is significantly reduced.

6.6. Impact of Financially Unviable Operations and Concessions on PTAs

Most of the PTAs do not quantify the monetary impact of financially unviable operations and various concessions on their revenue. The Fourteenth Finance Commission (FC) constituted by Government of India, in its report, has observed that the accounting information system is incomplete and lacks transparency and that annual reports are not released in time. The said FC has recommended that accounting systems in the SRTUs should make explicit all forms of subsidy, the basis for determining the extent of the subsidies and also the extent of reimbursement by State Governments.

The CIRT's report 'State Transport Undertakings Profile & Performance 2015-16' estimates the revenue of STUs and the financial burden on STUs due to various concessional passes as provided in the Table below. The data includes that for urban as well as rural operations carried out by the STUs whose figures are reported in the CIRT's report.

Table: Impact of Concessions on PTAs

Sl. No.	Description	Amount (Rs. in million)	Percentage Impact on Traffic Revenue
A.	Total Traffic Revenue	425,666	
Financial Burden due to Concessional Passes			

Sl. No.	Description	Amount (Rs. in million)	Percentage Impact on Traffic Revenue
1	Concessions to students	38,104	9.0%
2	Free pass to blinds and physically handicapped	6,598	1.6%
3	Freedom fighters and MLAs	285	0.1%
4	Journalists	459	0.1%
5	Senior citizens	7,344	1.7%
6	Others	2,355	0.6%
B.	Total financial burden due to concessions	55,145	13.0%

7. Gaps and Constraints

The gaps and constraints being faced by the urban bus sector due to the existing legislative, regulatory, institutional, financial and fiscal arrangements are provided in the table below:

Table: Gaps and Constraints - Urban Bus Sector

Sl. No.	Issues
A	**Country wide Industry and Operator Structure**
1	In adequate supply of buses
2	Absence of Service Level Agreements for PTAs
3	Inefficiency in service delivery
4	Outsourced operations are typically cheaper than in-house operation
5	Enforcement of compliance with permit related regulations not effective as the formal bus operation facing competition from unorganized /fragmented operators
6	Absence of use of advanced IT tools in managing city bus operations
7	Lack of fare revision mechanism, fixing of fares at lower level to meet socio-political objectives. It's periodic revision often not being undertaken for several years.
8	Inadequate support infrastructure for city operations
9	Lack of modern depot /workshops with required equipment/tools.
B	**Legislative and Regulatory Issues**
1	Urban Transport matter has not specifically been addressed in the Constitution.
2	Provision of public transport is not a core or mandatory function of ULBs
3	Difficulty in making/amending laws on concurrent subjects.
4	Central Government has retained the power to direct the State, having regard to the number of vehicles, road conditions and other relevant matters, to limit the

Sl. No.	Issues
	number of stage carriages operating on city routes in towns with a population of five lakhs or more.
5	Schemes for exclusivity of bus operation by STUs under Chapter VI (Special Provisions Relating to STUs) of the Motor Vehicles Act, 1988 not designed scientifically nor are they periodically reviewed to assess their need for continuation.
6	No independent urban bus regulator for the sector to monitor its functioning, fare setting and other regulatory aspects
C	**Institutional Issues**
1	Focus of SRTUs is not urban bus operations
2	Evolving organization structure of SPCs as these are constituted only recently
3	Dearth of skilled resources to manage city bus operations
4	Lack of training to SPC staff for specific roles
5	Operation model of SPCs facing constraints
6	Frequent change of guard at SPCs
7	No association of urban SPCs
8	No dedicated training institute to support SPCs
9	Absence of benchmarking mechanism for operation of city services
10	PTAs do not follow any uniform approach/ format to capture all the relevant financial particulars.
11	Non-availability of standardized operational and financial data from urban PTAs.
D	**Fiscal and Financial Issues**
1	City bus service is an inherently financially unviable proposition
2	Inadequate compensation for various concessions
3	Lack of support for socially desirable but financially unviable route operations
4	Inadequate financial resources with ULBs
5	Challenges in financial sustenance of PTAs
6	State finance commissions not set up in many states regularly
7	GST on public passenger transport vehicles
8	Central excise duty / sales tax / VAT on fuel
9	Motor Vehicle Tax is a cost burden on PTAs already suffering losses
10	Income tax payment applicable on PTAs
11	Absence of dedicated fund for public transport

1 INTRODUCTION

This chapter provides the background of the project, an overview covering the report context, its various stages and tasks, and approach.

1.1 Project Background

Government of India has undertaken an Efficient and Sustainable City Bus Services (ESCBS) initiative after National Urban Renewal Mission (NURM) and Sustainable Urban Transport Project (SUTP), under GEF 5, to promote bus based public transportation in the country.

The ESCBS initiative is being undertaken through the following components:

- Component 1: National Capacity Building for Urban Bus Sector
- Component 2A: City Demonstration Projects - Physical Improvements
- Component 2B: City Demonstration Projects - Technical Assistance and Capacity Building

As part of Component 1 of the ESCBS initiative, the Ministry of Housing and Urban Affairs (MoHUA) of the Government of India, under this project, desires preparation of options and recommendations on regulatory, institutional and fiscal constraints in providing Efficient and Sustainable City Bus Services.

1.2 Project Overview

The instant project component is required to be undertaken in the following stages and tasks are listed in the Table 1-1 below:

Table 1-1: Project Stages and Tasks

Stage	Task Details
Stage 1	Review and assessment of relevant domestic policies and international cases impacting the urban bus operations: • Task 1: Desk Review of Domestic Level Policies Applicable to Urban Bus Service Operations • Task -2: Review of International Policies Applicable to Urban Bus Service operations
Stage 2	Identification of key issues and possible recommendations and Focus Group Discussions (FGD) with industry / sector specialists and important stakeholders: • Task 3: Development of Hypothesis with regard to Key Issues and Possible Recommendations • Task 4: Identification of 15 sample States / cities for review of impact of regulatory, institutional and fiscal constraints on city bus operations • Task 5: Conduct a Focus Group Discussion with Industry / Sector Specialist and Important Stakeholders

Stage	Task Details
	• Task 6: Revised Report on Initial Hypothesis
Stage 3	Detailed review of regulatory, institutional and fiscal constraints in selected cities / states with a focus on their performance and resulting anomalies: • Task 7: Data collection and review of the regulatory, institutional and fiscal constraints of the Identified States / Cities • Task 8: Identification of Issues and recommendations for improvement of city bus operations
Stage 4	Stakeholder discussion and workshops to share the observations, issues and gaps and outline recommendations: • Task 9: Detailed stakeholder discussions in all the case study cities • Task 10: Conduct workshop to present recommendations and to seek feedback
Stage 5	Final recommendations for filling in policy gaps and necessary amendments in legislation, regulatory and fiscal arrangements: • Task 11: Final Recommendations
Stage 6	Draft options and recommendations on resolving regulatory, institutional and fiscal constraints: • Task 12: Draft Options and Recommendations on Regulatory, Institutional and Fiscal Constraints
Stage 7	Consultations and deliberations for finalizing the options and recommendations: • Task 13: Final options and recommendations on resolving regulatory, institutional and fiscal constraints

1.3 Report Context

This document is titled as the Report on Review of Regulatory, Institutional and Fiscal Policies (Domestic) [Stage 1, Task 1]. It will be followed by the deliverables 3 to 8 listed in the Table 1-2 below:

Table 1-2: Project Deliverables

S. No.	Deliverables
1	Inception Report
2	Report on Review of Regulatory, Institutional and Fiscal Policies (Indian)
3	Report on Review of Regulatory, Institutional and Fiscal Policies (International); Gap Analysis & Initial Hypothesis
4	Report on Case Study Selection, Revised Hypothesis and Proceedings of Focus Group Discussions
5	Report on Review of Regulatory, Institutional and Fiscal Constraints of Case Studies States & Cities

S. No.	Deliverables
6	Report on National and State Level Workshops and Final Recommendations on Regulatory, Institutional and Fiscal Constraints in Urban Bus Sector
7	Draft options & recommendations on resolving Regulatory, Institutional and Fiscal Constraints
8	Final options & recommendations on resolving on Regulatory, Institutional and Fiscal Constraints

1.4 Approach Followed for the Report

This Report on Review of Regulatory, Institutional and Fiscal Policies (Indian) has been prepared based on review of published data and reports related to legislative, regulatory, institutional and fiscal aspects of public transport agencies providing city bus services. It includes findings based on review of the provisions in the Constitution of India, applicable laws such as the Motor Vehicles Act, 1988, the Road Transport Corporations Act, 1950, Maharashtra Municipal Corporations (MMC) Act, 1949, among others. We have also relied, *inter alia,* the statistical publications of the Central Institute of Road Transport and Ministry of Road Transport and Highways, and Ministry of Company Affairs for data on state road transport undertakings.

1.5 Report Overview

This report has been structured as set out below:

Executive Summary provides a summary of the report highlighting the key findings.

Chapter 1 provides a brief background of the project, overview of the project covering its various stages and tasks, report context, approach followed in preparation of the report, and the report overview.

Chapter 2 provides an public transport mode share trend, evolution of urban bus market; urban bus service delivery mechanism; number, types and size of players involved in managing and operating public transport services in the country; ownership structures; bus operations arrangements; analysis of comparative financial and operational performance of the sector – industry averages, good practice and benchmarks; and key takeaways.

Chapter 3 covers, with respect to urban bus operations, the roles of three tiers of governments in India; types and hierarchy of existing laws; legal and regulatory provisions; impact of legal and regulatory provisions; and rigidity/flexibility in legal and regulatory provisions.

Chapter 4 undertakes a review of the current institutional arrangements applicable to city bus services in India; the organisational structures, functional areas,

responsibilities and powers of different types of public transport agencies (PTAs) involved in providing city bus services; staffing levels and availability of trained human resources in PTAs, and an overview of functionality, strengths and weaknesses, and financial sustenance of PTAs.

Chapter 5 provides an insight into the existing fiscal arrangements followed by urban bus operators for their capital and operational requirements, undertakes a review of the applicable taxing policies and taxes being paid by such operators, and makes an assessment of the loss being suffered by the urban bus operators on account of various concessions, undertaking socially relevant but financially unviable operations and extent to which they are being compensated for such activities.

Chapter 6 discusses the gaps and constraints being faced by the urban bus sector due to country wide industry structure, the existing legislative, regulatory, institutional, financial and fiscal arrangements.

2 COUNTRY WIDE INDUSTRY AND OPERATOR STRUCTURE

2.1 Introduction

This chapter narrates the overview of urban transport in India; significance of urban transport in Indian cites; vehicle registration trend; urban public transport modes; public transport modes share trend; significance of intermediate public transport; evolution of the urban bus market in India; urban bus service delivery mechanism in India; types and size of players involved in urban bus sector; urban bus operation arrangements in India; an analysis of comparative financial and operational performance of the sector – industry averages, good practice and benchmarks; and key takeaways/conclusions.

2.2 Overview of Urban Transport in India

2.2.1 Urbanization Trend

Total population of India in 2011 according to Census of India survey was 1.2 billion, of which 377 million or about 31 per cent live in urban areas. With the increase in population, people from rural areas migrate to urban areas for better employment opportunities and other reasons thus increasing the population in the urban areas.

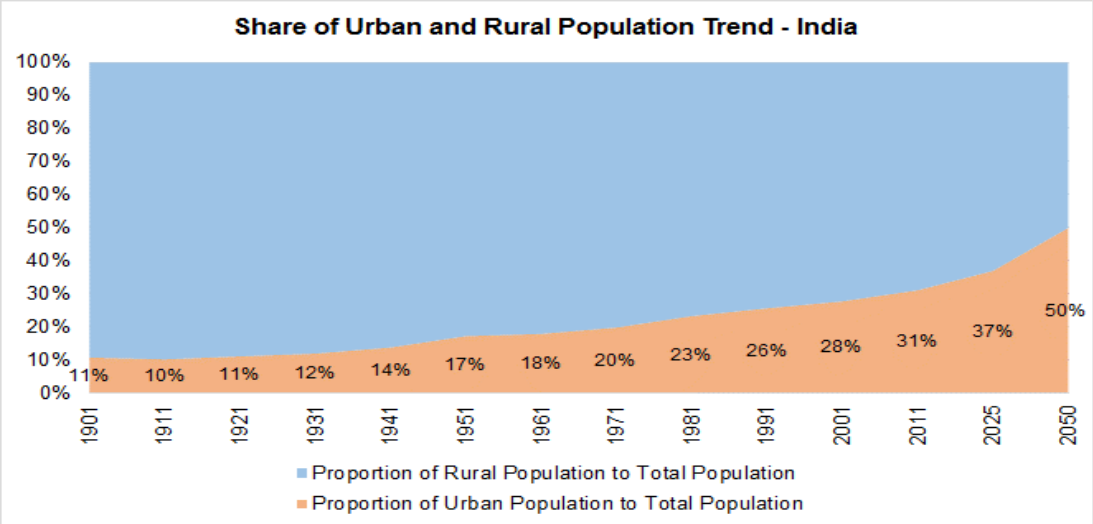


Figure 2-1: Share of Urban and Rural Population Trend in India

India's urban population has been increasing more rapidly than rural population (Figure 2-1). More particularly the last decade (2001 to 2011) was the first time since Independence when more people were added to urban areas (91.7 million) than rural

areas (91.4 million). It has been estimated that by the year 2050, urban population will be 50% of the total population in India. [15]

Goa, Mizoram, Tamil Nadu, Kerala and Maharashtra are some of the highly urbanized States/UTs in India. Urbanization rate of Kerala is 47.7% as per 2011 Census; this indicates that the state has gone through a rapid urbanization during the last decade i.e. from 25.9% in 2001 to 47.7% in 2011. In the north east states, Mizoram has 51.5% of population as urban which is higher as compared to other north east states. Amongst the least urbanized states, Himachal Pradesh (10%) ranks lowest followed by Bihar (11.30%) and Assam (14.08%) as on 2011.

Delhi, being the capital, is the most urbanized among all the Indian States/ Union Territories having 97% of the population as urban population.

There were 5,161 towns in 2001 which increased to 7,935 towns by 2011 in India. Presently, there are about 468 Class I towns, having population of 0.1 million plus which account for 70% of the urban population.

From the graph (Figure 2-2), it can be seen that there were 35 cities as per 2001 Census with more than a million population which increased to 53 cities/Urban Agglomerations (UAs) as per the latest Census (2011). Million plus cities/UAs are further categorized into 8 million plus, 4 to 8 million, 2 to 4 million and 1 to 2 million. There are 5 cities having population more than 8 million, 4 cities with 4 to 8 million, 10 cities with 2 to 4 million and 34 cities with 1 to 2 million population size as per 2011 Census.

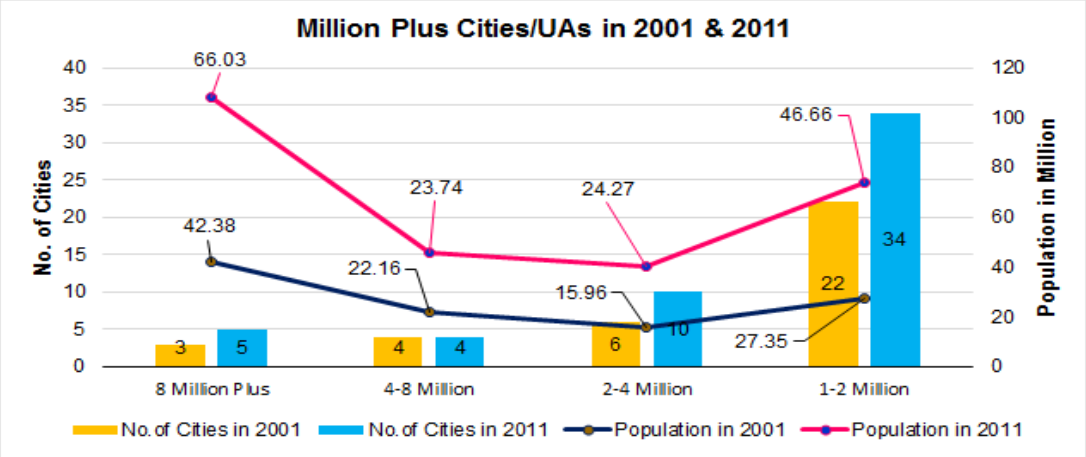


Figure 2-2: Number and Population of Million plus Cities/UAs (2001/ 2011)

It is observed that in all category/population size of cities (except 4 to 8 million category of cities) there is an increase in number of cities. Maximum number of cities (12 cities) were added in the 1 to 2 million category of cities between 2001 and 2011. Owing to the aforesaid, the population of 1 to 2 million size cities registered a growth

[15] Census of India, 2011

of about 71% between 2001 and 2011. Overall, total population living in million plus cities has gone up from 107.85 million to 160.70 million with a decadal increase of 49% between 2001 and 2011.

2.2.2 Significance of Urban Transport in Indian Cities

Cities are engines of growth for the economy of every nation, including India. Nearly 31%[16] of India's population lives in urban areas and contributes 63% (up from 45% in 1990) of India's Gross Domestic Product (GDP). With increasing urbanization, urban areas are expected to house 40% of India's population and contribute up to 75% of India's Gross Domestic Product (GDP) by 2030.[17]

Rapid urbanization during past few decades has given rise to urban transport related challenges in India, and to guide future developments, Government of India (GoI) formulated the National Urban Transport Policy (NUTP) in 2006. The key objectives of the policy are to ensure safe, affordable, quick, comfortable, reliable and sustainable access for the growing number of city residents to jobs, education, recreation and such other needs. In order to achieve the aforesaid objectives, the Policy encourages greater use of public transport and non-motorized modes, instead of personal motor vehicles. It further calls for effective regulatory and enforcement mechanisms for all operators of transport services and enhanced safety for the transport system users. It also suggests suitable institutional mechanisms for enhanced coordination in the planning and management of transport systems, and other initiatives.

2.2.3 Vehicle Registration Trend

The motor vehicles ownership in India has been increasing at a significant rate. The total number of registered motor vehicles increased from about 0.30 million in 1951 to 230.03 million in 2016. Two-wheelers constituted 8.8% of the total in 1951 and about 74% in 2016. Over the years, number of buses has been increasing but the share of buses to total vehicles has sharply decreased. In the year 1951, buses constituted about 11% of the total motor vehicles in India; however, their share fell to 1.1% in 2011. [18]

The number of registered motor vehicles in the million plus cities in 2016 was 70.9 million and it accounted for 31% of total registered motor vehicles in the country. Delhi had (8.9 million) - highest number of registered motor vehicles, followed by Bengaluru (6.1 million), Chennai (4.9 million), Ahmedabad (3.7 million), Greater Mumbai (2.8 million) and Surat (2.7 million). These six cities accounted for 41.3% of the total registered vehicles in million plus cities.

[16] Census 2011, Census of India
[17] http://www.makeinindia.com/article/-/v/improving-lives-urban-infrastructure
[18] Road Transport Year Book, 2015-16, MoRTH

Delhi has the highest number of registered two wheelers, followed by Bengaluru, Chennai, Ahmedabad, Surat, Pune and Jaipur. In case of million plus cities, two wheelers' share is about 80% of the total registered private vehicles in such cities.

The total registered two wheelers' growth rate is observed at 43% during 2008-2016. The total registered vehicles in the country grew at a compound annual growth rate (CAGR) of 10% during 2008-2016. The registered two wheelers in the country grew at a CAGR of 11% during the same period. This shows that the annual growth rate of two wheeler is higher than the CAGR of total motor vehicles registered in India.

During the period from 2006 to 2016, the highest CAGR of registered motor vehicles was observed (higher than the national average) in some cities such as Surat (14.4%) followed by Kanpur (13.8%), Vadodara (12.5%), Kochi (11.7%), Lucknow (11.5%) Pune (11.2%) Patna (10.9%) and Madurai (10.1%).

Similarly, in case of million plus cities, the share of registered cars is about 19% of the total registered private vehicles. Number of cars registered in million plus cities grew at a CAGR of 8% between 2008 and 2016.

2.2.4 Urban Public Transport Modes

Followed by walking, the different modes used by the Indian urban population for public transport services are:

(i) Buses / Bus Rapid Transit System (BRT)

(ii) Urban Rail System –Sub-urban Rails, trams (only in Kolkata), Metro Rail and Monorail (only in Mumbai).

(iii) Intermediate Public Transport - Three Wheeled Auto Rickshaws, e-rickshaws, Tempos, and Cycle Rickshaws

Bus service is one of the cost-effective and popular modes of public transport services in India.

Commuter rail, metro, tramways and monorail, referred to as urban rail systems, exist in some of the large cities in India including Delhi, Mumbai, Chennai, Kolkata, Bengaluru and Hyderabad.

Besides the aforesaid, some of the cities, such as Kochi (Kerala) and Kolkata (Bengal), use Inland Waterways to provide public transport services by means of ferries, in addition to other modes.

Alternate modes of flexible passenger transport such as shared three wheeled auto rickshaws, mini-buses, etc. that do not follow any fixed routes or scheduled services are commonly termed as Intermediate Public Transport.

2.2.5 Public Transport Modes Share Trend

In the last three decades, three studies have been carried out to assess the urban public transport situation in Indian cities/towns. Table 2-1 provides summary of population wise public transport share based on the aforesaid studies conducted in the year 1994[19], 2007[20] and 2011[21].

It has been observed that there is a continuous decline in share of public transport in all the population size /tier cities/towns in India from 1994 to 2011. The maximum share of public transport could be seen in case of 2 to 4 million size cities with 38.8% amongst all tiers of cities/towns based on 2011 study. However, the share of public transport in cities with population size more than 4 million has declined by more than 50% from 1994 to 2011.

Table 2-1: Trend of Public Transport Share

S.N	Cities with Population Size	1994 Study	2007 Study	2011 Study
1.	More than 8 million	59.7% to 78.7%	35.2% to 54.0%	27.7% to 36.7%
2.	4 to 8 million	45.8% to 59.7%	11.2% to 32.1%	5.8% to 25.5%
3.	2 to 4 million	35.6% to 45.8%	Up to 22.2%	Up to 38.8%
4.	1 to 2 million	28.1% to 35.6%	Up to 50.8%	Up to 36.3%
5.	0.5 to 1 million	22.7% to 29.1%	Up to 22.5%	Up to 12%
6.	Less than 0.5 million	14.9% to 22.7%	Up to 15.6%	Up to 12%

However, share of public transport in cities with population size between 1 to 2 million has gone up to 50.8% between 1994 and 2007.

The declining trend of public transport share could be attributed to shift in travel demand in favour of personalised or intermediate public transport modes operating in the cities/towns. It could also be attributed to inadequate investments in public transport sector more particularly in city bus sector.

2.2.5.1 Average Trip Length

Projected average trip length is presented in the graph (Figure 2-3) below for different categories of cities based on population. It can be seen from the graph that the average trip length is expected to increase over the years for all categories of cities, and cities with population more than 8 million are projected to experience an increase in the average trip length from 10.3 km to 14.8 km between 2007 and 2031 as per

[19] RITES study , 1994
[20] Study on traffic and transportation policies and strategies in urban areas in India, MoHUA 2007-08
[21] Review of Urban Transport in India, CSTEP 2014

study conducted by MoHUA.[22] Further, all categories of cities are expected to achieve a minimum average trip length of 7.9 km by 2031 which was 4.9 km in 2007. Therefore, public transport, more particularly bus based public transport, is essential to avoid modal shift to private transport.

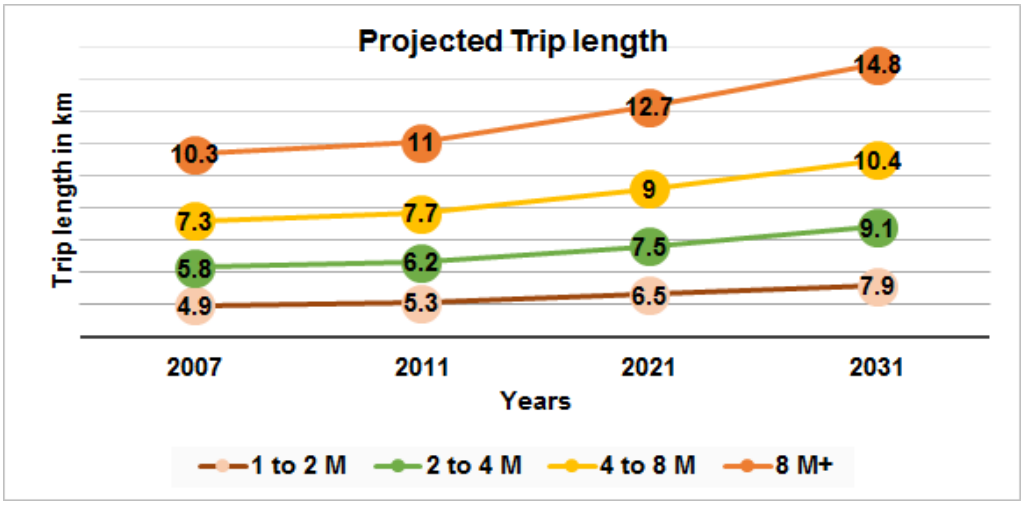


Figure 2-3: Project Trip Length

2.2.6 Significance of Intermediate Public Transport

Intermediate public transport modes provide last mile connectivity, and are normally expected to fulfil a need that neither public transport nor personal vehicles are able to fulfil.

As per the Road Transport Year Book 2015-16 (MoRTH), the share of Intermediate Public Transport vehicles (both taxis and light motor vehicles) is categorized by the size of the population. In million plus cities, Bengaluru has the maximum number such vehicles registered as compared to other million plus cities in India (Figure 2-4).

Urban commuters are increasingly using IPT as the primary mode for their daily commutes in cities/towns. The NUTP (2006) of the Ministry of Housing and Urban Affairs, Government of India also recognizes that the deteriorating quality of public transport in many cities has led commuters to shift to IPT for daily commutes.

[22] Study on Traffic and Transportation Policies and Strategies in Urban Areas in India, 2007-08, MoHUA

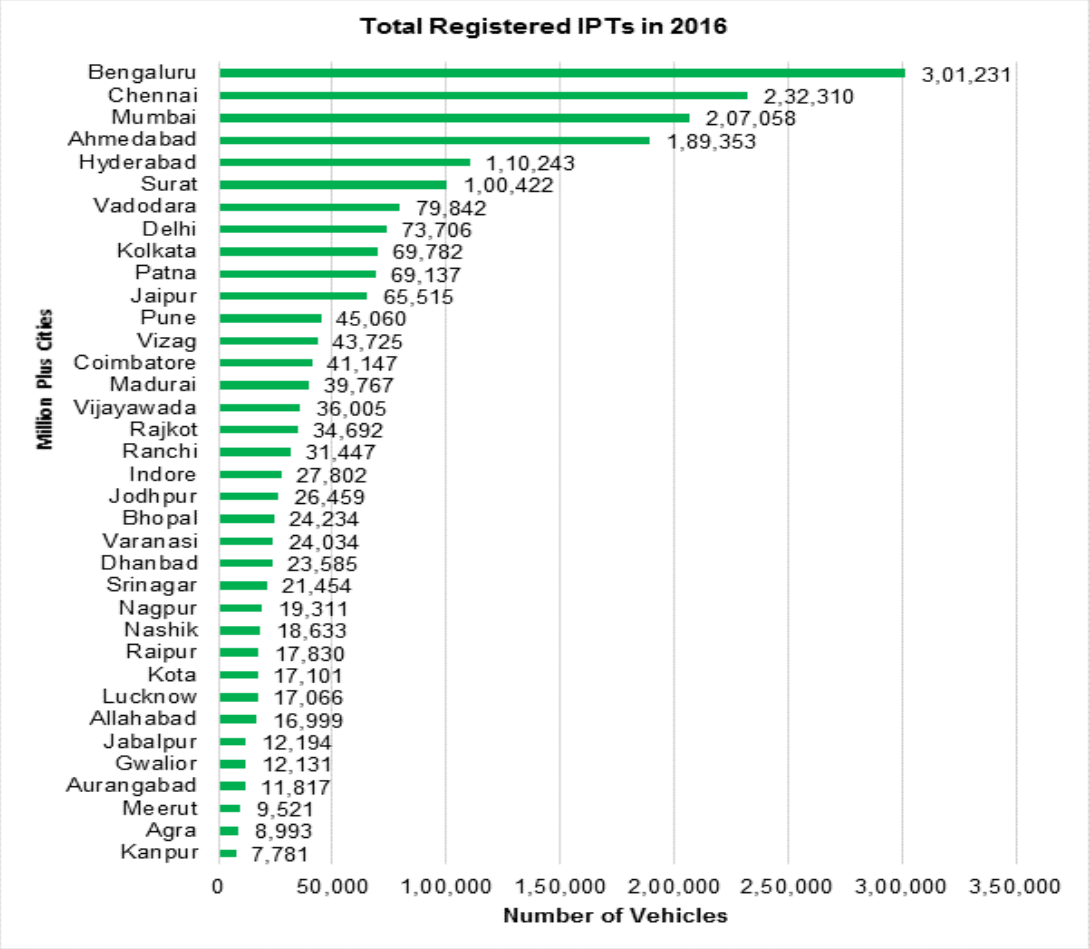


Figure 2-4: Number of Registered IPTs (2016)

For some of the selected cities, based on their Comprehensive Mobility Plan (CMP), Comprehensive Traffic and Transportation Plan (CTTS), or other study reports, the IPT mode share has been compiled and same is presented in the graph below (Figure 2-5).

From the graph, it can be seen that highest IPT mode share is observed in Agra with 42% followed by Amritsar (37%), Ranchi (35%), Kanpur (35%) and Meerut (34%) amongst the cities considered. Modal share of Intermediate Public Transport in selected cities in India is provided as Annexure 1.

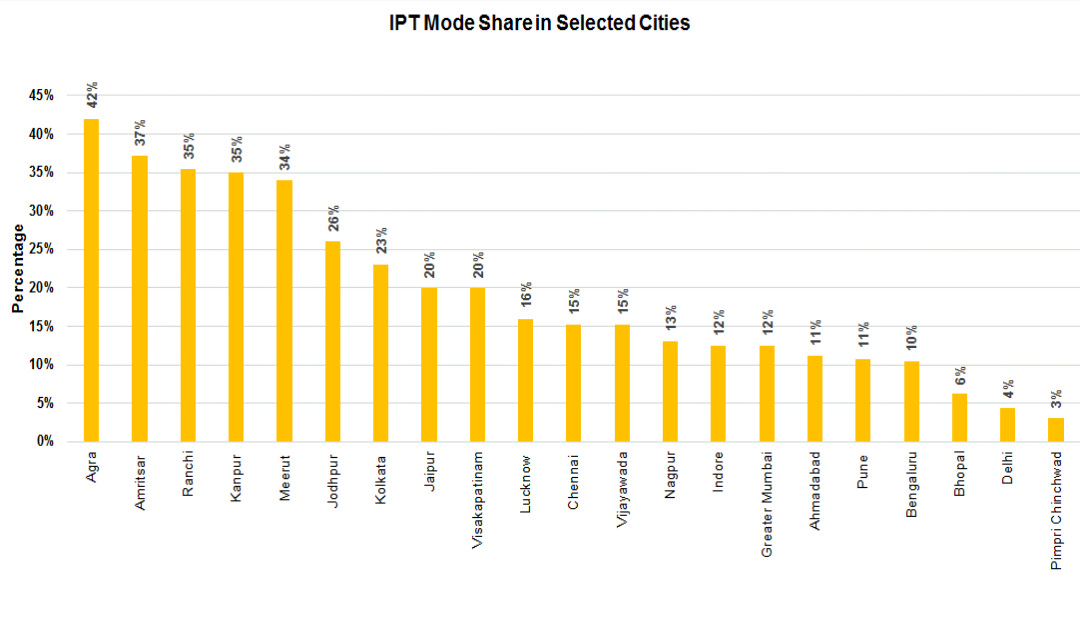


Figure 2-5: IPT Mode Share in Selected Cites

In many cities, IPTs like e-rickshaw or Tata Magic acts as an access-dispersal modes.[23] IPTs are plying in the routes and schedules as that of buses and they often operate in competition with the bus services.[24]

IPT mode share is more than 20% in many cities; it is competing with public transport instead of playing its intended role as feeder services as envisaged in NUTP, 2006.

2.3 Evolution of the Urban Bus Market in India

2.3.1 Unregulated Market

In the year 1914, the first Motor Vehicles Act was enacted to regulate and control motor vehicles in the country. At the end of First World War, there was an increase in bus transport mainly due to diversion of surplus army vehicles[25]. Competition among bus transport operators became very intense during this period. Further, by 1930, the large diversion of passengers was seen from railways to road transport resulting in considerable loss to railways.

[23] Megha Kumar, Seema Singh, Akshima T. Ghate, Sarbojit Pal, Sangeetha Ann Wilson - Informal public transport modes in India: A case study of five city regions(IATSS Research 39 (2016) 102–109.

[24] Ravi Gadepalli- Role of Intermediate Public Transport in Indian Cities(FEBRUARY 27, 2016 vol II no 9) Economic & Political Weekly

[25] First Five Year Plan

2.3.2 Introduction of Regulations

In order to address the competition between rail and road transport, as also to ensure better coordination of passenger transport, the Motor Vehicles Act was amended in 1939 with a view to, among others, curtail undesirable competition among bus transport operators. This was the first initiative to ensure fair conditions of competition and controlling the development of bus transport. Further, the amended 1939 Act, provided for the creation of State Transport Authorities (STAs) with powers to grant permits for stage carriages (bus passenger) and with control over bus route and time schedule/ table. As per this provision, the entry to the bus transport market was regulated and controlled through the requirement for bus operators to obtain permits from STAs to operate bus services. However, in absence of proper enforcement mechanism, it could not be implemented effectively.

For the purpose of providing organized bus transport, a Transport Company was formed for the first time in India in 1916 for the princely state of Gwalior. However, first public sector road transport undertaking was established in 1932 in the erstwhile Hyderabad State. Similar approach was adopted by the princely State of Travancore (1938) and the Kutch State (1942). The Madras State Transport Department was formed in the year 1947.

2.3.3 Consolidation of Operators

To overcome the issues faced by the fragmented industry, it was decided to introduce controlled monopoly for provision bus transport through public sector. It was expected that the public sector would provide services in both the remunerative and the non-remunerative routes and be able to implement stable and uniform fare structure.

In 1944, various committees recommended for the replacement of the small owners (fragmented single vehicle operators) by large companies so as to provide adequate services and better travelling comforts.

2.3.4 Emergences of Public Sector Entities

Subsequently, an effort was made to nationalize the bus transport industry and accordingly a policy was formulated to encourage the formation of transport undertakings. For this purpose, Road Transport Corporations Act, 1948 was enacted and under which the Bombay State Road Transport Corporation was established in 1949. However, the 1948 Act was declared *ultra vires* by the Bombay High Court.

Subsequently, a more comprehensive Act, the Road Transport Corporations (RTC) Act, 1950 was re-introduced by replacing the 1948 Act. Some of the states like Maharashtra, Gujarat, Haryana and Sikkim adopted complete nationalization of bus transport industry under the RTC Act. However, in other states, both public and private operators were permitted to operate bus services.

In order to provide efficient bus transport services, the First Five Year Plan (1951-56) recommended for formation of large operators by consolidating the individual smaller operators. It was thought that only large organizations, with adequate financial resources, could provide the workshop and other essential facilities. Therefore, State participation in public road transport was felt necessary to achieve greater efficiency and economy in operation and management which, it was believed, a large number of small operators functioning separately will not be able to do.

Corporations which were established under the RTC Act, received 33% of the capital as loan through Indian Railways (from its budget) and the remaining 67% was to be contributed by the respective State Government(s). Representative(s) from Indian Railways were nominated to the Road Transport Corporation board. This provided the basis for the Government ownership.

Certain State Governments made provision in their schemes for financial participation by private operators at their option. Enabling situation was created for the existing private operators' units to amalgamate, wherever possible, into big, viable units to enable them to achieve better returns and maintain better standards of operation.

Subsequently, it was highlighted in the Industrial Policy Resolution of 1956 that "progressively state-owned and in which the State will, therefore, generally take the initiative in establishing new undertakings, but in which private enterprise will also be expected to supplement the efforts of the State". Since road transport was a state subject, it was not possible to formulate a cohesive and time-bound national policy for bus transport industry.

2.3.5 Introduction of Scheme for Nationalization

The Motor Vehicles Act was consequently amended to incorporate special provisions for State Transport Undertakings (STUs) to enable preparation and publication of nationalization schemes by the State Governments for approving such schemes. The nationalization schemes were complete exclusion schemes, partial exclusion schemes, and supplementation schemes. Complete exclusion scheme enabled exclusion of private sector from the specified route with no exceptions. As a result of this provision, the private operators were not allowed to operate on such notified areas/routes subsequent to the notification of the scheme. Partial exclusion schemes were those where both existing public, as well as private transport services, were allowed to operate but new permits could be rejected for such routes. Supplementation scheme enabled the STUs to run and operate the stage carriage service in supplementation of the then existing passenger transport service on the routes concerned. However, all supplementation schemes were replaced with the partial exclusion scheme in 2007-08[26].

[26] https://www.cppr.in/events/spearheading-the-discussion-on-nationalisation-of-bus-routes

For promoting State monopoly in bus transport and to grant more powers to the State Governments in nationalizing the road transport services, an amendment was introduced in 1969 to the principal Motor Vehicles Act. The validity and justification of the amendment under the Constitution was challenged in various courts including in the Hon'ble Supreme Court, and same was struck down citing lack of constitutional protection. Thus, in 1977, "Chapter IV- A of the Motor Vehicles Act, 1939" was included in the Ninth Schedule of the Constitution by way of amendment to provide it constitutional protection. The States were thus free to nationalize the road transport services without any legal difficulties.

The above mentioned changes paved the way for creation of state monopoly. The Government, therefore, became not only the regulator but also an operator, operating along with several other small private operators in some cities, where there was no exclusivity.

2.3.6 Re-emergence of Private Sector

Market changed from that driven by private sector till 1950s, thereafter the public sector undertakings were the mainstay of public transport for three decades. Since the late 1980s, not many states have notified new schemes for nationalization. This may be attributable to the liberalization policy adopted by the Government, as the public sector was unwilling or unable to expand its services in line with the growth both in population and in demand for travel. Service quality of the public sector had deteriorated and their market share also significantly reduced with passengers shifting towards personalized transport and intermediate public transport.

Subsequent to the enactment of Motor Vehicles Act, 1988, the procedure for issuance of permit was liberalized and as per Section 80 of the said Act any person could apply for permit, at any time and it was not to be refused ordinarily. This provision now applies to all permits issued under Chapter V (Control of Motor Vehicles) of the Motor Vehicles Act, 1988 while the permit issued under Chapter VI of the Act (Special Permission relating to STUs) are to be in line with the scheme conditions approved by the State Governments. Permits issued under Chapter VI override those issued under Chapter V, unless otherwise provided for in the State notified schemes. Most states have schemes under Chapter VI of the Motor Vehicles Act thereby further controlling the entry of players in the market.

Restriction or cap for issue of stage carriage permits to individuals and companies were removed in 1994 by way of an amendment. This amendment enabled individuals and private companies to have more than 5 and 10 stage carriage permits respectively for operation of bus services.

2.3.7 Competition from Unregulated Eco-friendly Vehicles

In the Motor Vehicles Act, 1988, an amendment was made in 1994 to exempt requirement of obtaining and/ or maintaining permits for vehicles operating on eco–

friendly fuels and the owners of such vehicles, in addition, were given discretion in fixing fares. The intention for bringing about the said amendments was to encourage operation of eco-friendly vehicles. Subsequently, it was observed that not only the supply of eco-friendly fuels like CNG has increased tremendously but also a large number of such vehicles were on the road which were operating without any requirement to have permits and were not subject to any control/enforcement by the State Governments. This was one of the reasons for emergence of on-road competition with the organized bus service providers as owners of such vehicles could operate on any route and had flexibility to fix fares to attract commuters. Thus an amendment (1996) was made to remove such exemptions so that eco-friendly vehicles were also subjected to permit and fare setting requirements followed for other passenger motor vehicles. Therefore, such vehicles are now under the State Government /STA/RTA enforcement regime.

2.3.8 Government of India's Bus Funding Scheme

Government of India, recently (2009) made efforts by way of providing necessary funding support under NURM bus funding scheme for procurement of buses either to replace the existing old buses, or to add new buses to the existing fleet with a view to improve/ augment the bus transport. One of the reforms was to establish dedicated city entities (SPVs/SPCs or Societies) responsible for operation and / or management of buses.

2.3.9 Evolution of Contracting Models

Formal bus contracting has emerged in India during the last decade, and is slowly gaining ground. In 1992, Delhi became the first city in the country to privatize bus transport and however, there were some shortcoming including absence of a management structure, unhealthy completion and safety concerns[27]. Net Cost Contracts (NCC) were initially adopted in cities such as Indore, Surat and Jalandhar (during 2006-2007) in which the operator took the revenue risk. In 2009, Ahmedabad entered into a Gross Cost Contract (GCC) with a private operator for the Janmarg BRT services. In 2010, Delhi started the Cluster Bus scheme in which 13 bus operation 'Clusters' were implemented under GCC with financial support from the Government of National Capital Territory of Delhi. The trend towards GCC continued in the following years, with Jaipur, Surat BRTS, Indore BRTS and Pune all proceeding on that basis. Recently, some cities have again sought to engage operators on NCC basis, but have experienced difficulty in finding interested bidders. Among the main

[27] Kiran Dhagra and Sujata Savant, Implications of liberalisation of bus services : Case Study of Delhi (1998), Urban Transport Policy a Sustainable Development Tool, Proceedings of the international conference CODATU VIII, Cape Town South Africa, Compilation of Selected Papers, The institute of Urban Transport, New Delhi

challenges are the perceived risk from the operator perspective, lack of financial and management capacity on the city side, lack of depot and other support facilities, lack of general experience in the industry with such contracts, and (so far) a shortage of experienced companies who can engage in such contracts, despite the very large size of the private sector in India.[28]

Ministry of Housing and Urban Affairs, Government of India has prepared model contracts for both NCC and GCC and alongside published guidelines for their use for the benefit of cities.

2.4 Urban Bus Service Delivery Mechanism in India

The urban bus service delivery mechanism in India can be categorized into three types: public sector exclusive operations, market initiatives by public sector, and market initiatives by private sector.

2.4.1 Public Sector Exclusive Operations

In this arrangement, the responsibility of providing city bus services is mandated to a government owned and/or controlled Public Transport Agencies (PTA) which have legal monopoly within the jurisdiction (state or city). The right to provide bus services is thus reserved for the PTAs. Therefore, entry of any private entities for providing city operations in the same jurisdiction is not permissible, except under contract with such PTAs. As a result of that PTAs have the sole responsibility in providing or organizing necessary urban bus services within its jurisdiction.

In order to fulfil the delegated responsibility, such PTAs either undertake provision of organized bus services in-house for example, Bengaluru (BMTC), Chennai (MTC), Delhi (DTC) and Hyderabad (TSRTC), or outsource the same to private entities under contract - for example, Delhi (Transport Department), Gurugram (GMCBL), Nagpur (NMC) and Noida (NRMCL). Annexure 2 provides city wise organized bus services in India.

The selection process of engaging the private entity for operating city bus services is typically based on competitive tendering process with a structured contract indicating routes/area, contract period, and other terms and conditions. Generally, there will not be any competition between contracted private entities in the same city as they are awarded route-based contracts or area based contracts.

The PTAs, however, have no service level agreements (SLAs) or contracts with government, whether such services are provided by the PTAs as in-house operation or through outsourcing arrangements. There is thus no benchmark to monitor their operational and financial performance. Inability of public sector to deploy the required

[28] Brendan Finn, Emerging Issues and Practice in Urban Passenger Transport in Indian Cities (2016), Proceedings of the ITRN2016

number of buses in keeping with the demand often leads to emergence of illegal/fragmented para-transit service providers to fill the demand-supply gap.

2.4.2 Open Market with Public Sector Dominance

In market initiatives (with public sector dominance), unlike in the public sector exclusive operations, no exclusivity right is given to the public sector / PTAs to provide bus services in a city or area or a set of routes. However, PTAs can provide city bus services subject to adhering to the entry level regulatory requirements such as obtaining/maintaining permits and fulfilling the stage carriage permit conditions as stipulated in the Motor Vehicles Act, 1988. Public sector entities are dominant service provider in this type of initiative. However, subject to meeting the conditions provided in the said Act, private sector can also provide city bus services in the same jurisdiction/route /area along with the PTA.

Public sector entities typically provide services on both remunerative as well as socially relevant but financially unviable routes. Whereas, mostly remunerative routes are operated by private operators/individual permit holders.

In this initiative, operators are allowed to compete freely with each other and upon their initiative even by providing services parallel to each other.

Both - PTAs and private operators (permit holders) - have no service level agreements (SLAs) or contract with government/ permit issuing authority. Therefore, regular monitoring of service level is not possible.

This type of arrangement exists in cities such as Salem (Tamil Nadu); Mangalore, Bellary and Bijapur (all in Karnataka).

2.4.3 Open Market with Private Sector Dominance

In this arrangement, private sector (entities and/or individual permit holders) can provide services subject to adhering to the entry level regulatory requirements such as obtaining/maintaining permits and fulfilling the stage carriage permit conditions as stipulated in the Motor Vehicles Act, 1988. The majority of services is provided by the private sector either through a large number of private entities or individual operators while share of public sector is limited or marginal as compared to that of the private sector. These services are mostly unorganized / fragmented operations by private sector. Further, exclusive right is not given to the private sector (entities or individuals) to provide services in jurisdiction / area / routes.

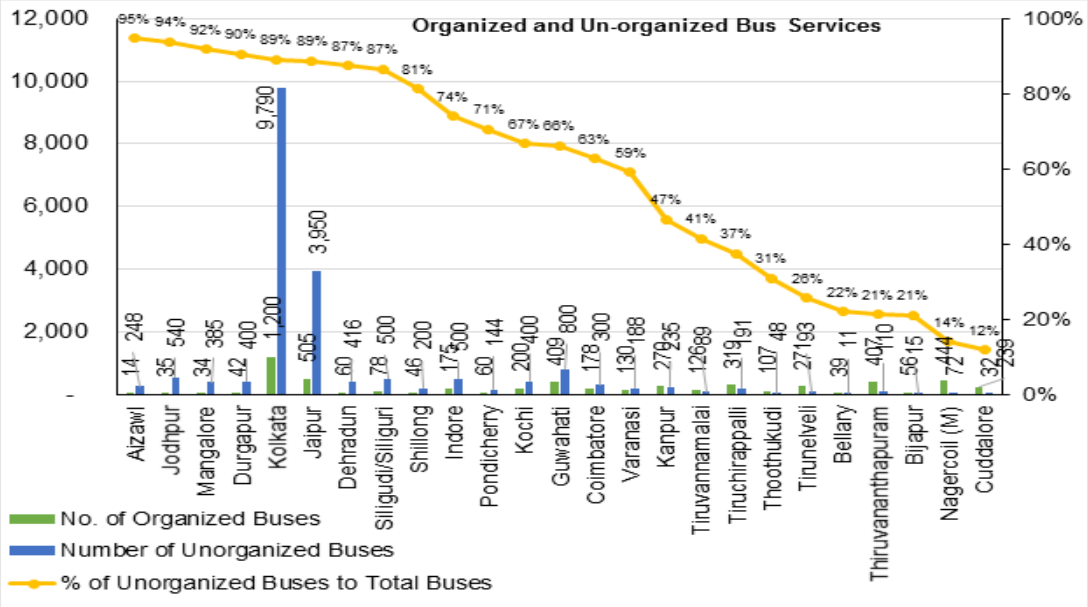


Figure 2-6: Organized and Unorganized/Fragmented Services in Selected Cities

There are over 20,000 buses under unorganised/fragmented sector in India of which about 60% is being operated in cities with 8 million plus population. From the graph (Figure 2-6) it can be seen that some of the cities where the unorganized/fragmented bus services are more than the organized operations by public sector are Kolkata, Jaipur, Dehradun, Jodhpur, Durgapur, Mangalore, etc. In this arrangement, operators typically compete with each other often by providing services similar/parallel to each other. City wise unorganized bus services in India is presented as Annexure 3.

Private sector provides services mostly on remunerative routes whereas the public sector operates on socially relevant/ non-remunerative routes along with the remunerative routes.

Both private operators (permit holders) and public sector have no service level agreements (SLAs) or contract with government/ permit issuing authority. Therefore, regular monitoring of service level is not possible in this type of initiative. Moreover, with large number of private operators, regulation becomes difficult / unwieldy.

Further, absence of any city bus services or insufficient supply of services could lead to proliferation of multiple individual private operators. Typically, fragmented para-transit services develop (as discussed in section 2.2.6), where there is unsatisfied demand due to a shortfall in the availability of service or quality of the formal bus services, and where regulatory and enforcement capability is weak. Para-transit services can offer severe competition to the organized city bus services due to their door to door services and/or flexible routing, high frequency, and very affordable costs.

2.5 Types and Size of Players Involved in Urban Bus Sector

This section discusses the types of players who are involved in provision of bus services in urban areas, their size in terms of fleet strength, ownership structure of such entities, and the types of operation they undertake. Further, type, size of players and ownership analysis at country level and million plus cities has also been carried out.

2.5.1 Types, Size and Ownership of Players

A. Types of Public Transport Agencies

The responsibility for organizing city bus services is discharged by the following tiers of governments in India:

(i) Central Government including jointly with States: for example, Union Territories

(ii) State Governments including jointly with ULBs: for example, Tamil Nadu, Delhi, Andhra Pradesh, Telangana, Kerala, Uttar Pradesh, West Bengal and Karnataka

(iii) ULBs including jointly with States/ Parastatal: for example, states of Maharashtra, Gujarat and Jharkhand

The aforesaid different tiers of governments perform the function of providing city bus services directly and/or through one or more dedicated entities for their jurisdictions depending on their requirements.

The section 2 of the Motor Vehicles Act, 1988, defines the State Transport Undertakings (STUs) as those that are established by any of the following to provide road transport services in India:

(i) The Central Government or a State Government;

(ii) Any Road Transport Corporations established under section 3 of the road Transport Corporations Act 1950;

(iii) Any municipality or any corporations or company owned or controlled by the Central Government or one or more State Government; and

(iv) Zilla Parishad or any other similar ULB.

In this report, the agency mandated to provide public bus services in the city has been referred to as “Public Transport Agency (PTA)”.

In terms of the provisions of the above-mentioned Act, different tiers of governments typically provide city bus services through one or more entities like:

(i) Central Government PTAs for city bus services through following means:

(a) Through Union Territory Administration: for example, CTU; and

(b) Special Purpose Companies (SPCs) formed jointly with the State Governments: for example, DMRC and NMRCL.

(ii) State Governments PTAs for city bus services through following means:

(a) Through State Transport Department: for example, Haryana Roadways;

(b) State Road Transport Corporations (SRTCs): for example, BMTC, APSRTC and DTC; and

(c) SPCs of State Government / parastatal body/ SRTCs including those formed along with the municipal corporations: for example, MTC, and CRUT.

(iii) ULBs/ Municipal Corporations PTAs for city bus services through following means:

(a) ULB Transport Cell: for example, Gandhinagar and Mira Bhayander;

(b) Municipal Transport Undertakings (MTUs): for example, BEST, AMTS and NMMT;

(c) SPCs of ULB or along with ULB and parastatatal body established specifically for a city/ urban area: for example, PMPML, AJL, AICTSL and JCTSL; and

(d) Societies established with State Government and municipal participation: for example, Raipur and Bilaspur Urban Public Transport Society.

A detailed list of city wise types of Public Transport Agencies involved in city bus services is provided as Annexure 2.

B. Size of Public Transport Agencies

Size of PTAs has been categorized based on the number of buses either owned and/ or managed by such PTAs. For example, BMTC has a highest number of buses amongst all PTAs in the country with 6,193 buses, followed by MTC- Chennai (4,002), DTC (3,985) and BEST (3,844). Whereas, Transport Department of GNCTD manages 1,641 buses (which are owned by the private sector) which is the highest in this type amongst all PTAs. City wise size of Public Transport Agencies is presented as Annexure 2.

Mostly, SRTCs have a larger fleet as they typically provide bus services in larger cities; other city specific entities in general have smaller fleet compared to those of the SRTCs.

C. Ownership of Players

As discussed above, three tiers of governments are involved in organizing city bus services and typical ownership of such entities are detailed out in the following paragraphs.

Central Government entities are either wholly owned by the Central Government or jointly owned by Central and State Government(s). For example, CTU (Chandigarh) is completed owned by Central Government, and it is managed through the Union Territory Administration. Whereas, Central Government and respective State Governments jointly own DMRC and NMRCL.

State Transport Department entities and SRTCs are solely owned by the respective State Governments. Some of the State Transport Department entities include Haryana Roadways, Manipur State Transport, Mizoram State Transport, Nagaland State Transport, and Sikkim National Transport.

Entities such as KSRTC, NEKSRTC, NWSRTC, KURTC, MSRTC, HRTC, UTC and ASTC are some of the examples of SRTCs, which the respective State Governments fully own and all their board members, therefore, are nominated by the State Government concerned. Besides the aforesaid, in some cases, Central Government also nominates board members: for example, APSRTC.

Typically, state SPCs are established by the respective State Governments and / or along with its parastatal body or SRTCs, and such SPCs are effectively fully owned by the respective State Governments. For example, the State Government of Uttar Pradesh fully owns the entities such as KCTSL, LCTSL, ACTSL and VCTSL. In those entities, through its SRTCs i.e. UPSRTC holds equity stake. BUTSL is fully owned by the Bihar State Government through its Urban Development Department. NRMTL is also fully owned by Chhattisgarh State Government through its parastatal body Naya Raipur Development Authority. In case of TUTCL, the Tripura State Government through its Transport Department, its SRTC i.e. TRTC, and Agartala Municipal Corporation jointly hold stake in the entity. However, as the chairman of the SPC is nominated by the State Government, it is categorized as a State Government owned entities.

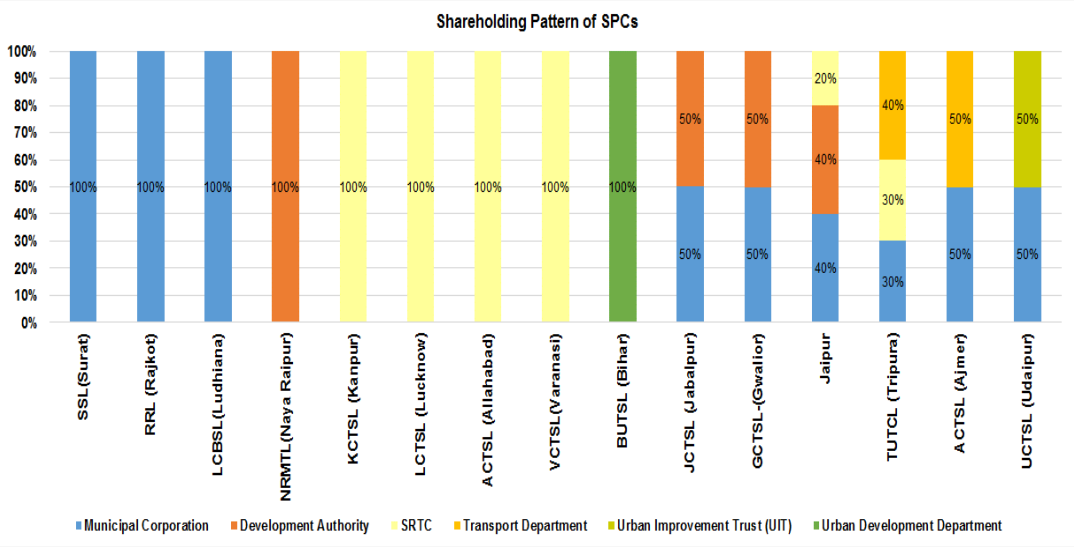


Figure 2-7: Shareholding Pattern of some of the SPCs (State and / or ULB owned)

The third tier of the government is directly providing and managing services through its Transport Cell / Unit in some cities and those are fully owned by the respective Urban Local Bodies / Municipal Corporations; for example, Municipal Corporations of Mira Bhayander, Gandhinagar, Ranchi and Dhanbad. In this arrangement, the ultimate decision making body is the General Council of the Municipal Corporation consisting of Mayor, Deputy Mayor and other elected representatives.

Municipal Transport Undertakings (MTUs) are established under the respective Corporations Act (BPMC/GPMC Act) by some of the Corporations for providing city bus services within the jurisdiction of the Corporation. Such MTUs are also fully owned by the respective Corporations. Entities such as BEST, AMTS, NMMT and TMTU are some of the examples. The general body of the Corporation appoints a Transport Committee to manage the Transport Undertaking. The members of the Transport Committee is headed by a Chairman. The Chairman is selected from amongst the members of the Transport Committee.

In some cases, SPCs are established for a city or urban area, either by ULBs/ Municipal Corporations on its own or along with parastatal body and such SPCs are fully owned by respective ULBs or jointly with parastatal bodies. Entities such as SSL, RRL and LCBSL are fully owned by Surat Municipal Corporation, Rajkot Municipal Corporation and Ludhiana Municipal Corporation respectively. Entities such as Jabalpur City Transport Service Limited and Gwalior City Transport Service Limited are owned by the respective Municipal Corporations since Chairman of the board is nominated by the respective Municipal Corporations. However, respective Municipal Corporations and Development Authorities are also holding equal equity stake in these SPCs.

Besides the aforesaid, for example, AJCTSL is a city specific entity established jointly by the Municipal Corporation of Ajmer and Transport Department of Rajasthan State Government with equal equity stake in the SPC. However, it is categorized as ULB owned entity since the representative of the ULB is the Chairman of the board. Similarly, in case of JCTSL (Jaipur), Municipal Corporation of Jaipur, Jaipur Development Authority and RSRTC hold equity stake in the SPC. Nominee from the ULB is the Chairman of the board; therefore, it is grouped under a ULB owned entities.

Societies are established mostly with participation of the respective State Government(s) and ULBs. Municipal Commissioner is the Member Secretary of the Society and District Collector is the Chairman. In some cases, in order to provide service in the larger urban areas/conglomeration encompassing more than one city/town, several ULBs get jointly involved in providing bus services: for example, Durg-Bhilai Cluster in Chhattisgarh State. In such PTA, lead Municipal Corporation's Commissioner is nominated as its Member Secretary. Since such entities are created for a city or cluster of cities, it is categorized under ULB owned entities; for example, Urban Public Transport Societies established for cities of Chhattisgarh State like Bilaspur, Korba, Raigarh, Rajnandgaon, etc.

In case of private sector entities, based on the requirements of the contracts executed with the respective PTAs, either they establish a dedicated entity (company or partnership firm) for providing services, or an existing entity is sometimes also allowed to operate or provide services. Typically, such entities are fully owned by a private company or a group of private entities or individuals.

D. Types of Operations by PTAs

Typically, PTAs provide operations in one of the three types: dedicated urban or city bus services, mix of urban and inter-city services, and along with bus services other modes of services in the same jurisdiction.

Examples of dedicated urban or city services are those provided by BMTC, MTC-Chennai, City Bus Services of Kanpur, Lucknow, Varanasi, Meerut, Allahabad, Agra-Matura and AMTS.

PTAs which are providing both inter-city operations, and urban or city bus services include APSRTC, HRTC, DTC, TSRTC, MSRTC, KSRTC, NEKRTC, and NWKRTC.

PTAs such as DMRC (Delhi) and NMRCL (Noida) provide bus services as feeder to their metro services, or city bus operations along with metro rail operations.

Private sector players generally operate dedicated city bus services; however, in some cases both inter-city as well as city bus services are also operated.

2.5.2 Country Level Details

2.5.2.1 Types of Players

From the secondary sources[29], it is estimated that there are about 198 cities/ towns in which organised city bus services are provided. Complete list of cities / towns / clusters compiled is provided as Annexure 2. It includes 181 cities/ towns and 17 clusters.

There are 92 entities which are responsible for providing city bus services in the above mentioned cities/towns/clusters. Out of the total of 92 PTAs, 45 are State Government promoted entities, 44 ULB promoted entities, 2 Central-State JV entities, and 1 Union Territory Administration entity (Figure 2-8).

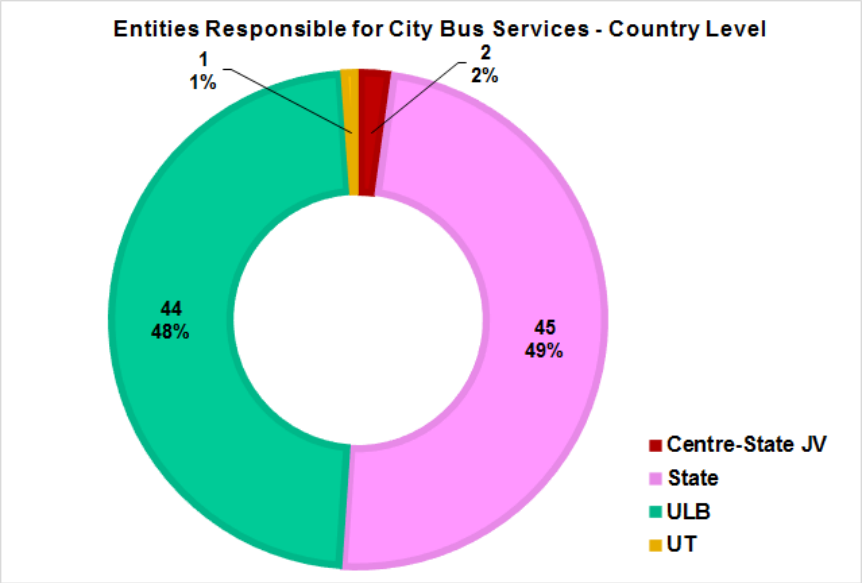


Figure 2-8: Entities Responsible for City Bus Services – Country Level

Table 2-2 presents the types of PTAs and number of PTAs in the Country. It is observed that State Government promoted PTAs are more prevalent in the cities/ towns/ clusters with a share of 49% (45 PTAs) of the total PTAs in the Country.

Table 2-2: Types and Number of PTAs in India

S.N	Types of PTAs	Total No. of Entities	Percentage to Total
1.	Central Government PTAs		
a)	Union Territory Administration	1	1%
b)	SPCs	2	2%
2.	State Government PTAs		

[29] Includes reports like CMPs, Bus Funding Report, CDPs, Smart City Proposals and other study reports available for public use and respective city / PTA websites.

S.N	Types of PTAs	Total No. of Entities	Percentage to Total
a)	Transport Departments	8	9%
b)	SRTCs	15	16%
c)	SPCs	22	24%
3.	ULBs/Municipal Corporations PTAs		
a)	Transport Cell/Unit	5	5%
b)	MTUs	9	10%
c)	SPCs	19	21%
d)	Societies	11	12%
	Total	**92**	**100%**

Prior to NURM bus funding scheme, there were only few SPCs (State Government entities) like MTCs and TNSTCs; and similarly almost all SPCs (ULB promoted entities) were established subsequent to announcement of said program for obtaining funding to provide city bus operations in million plus cities and other important cities/towns/clusters. Two new SRTCs were recently established due to bifurcation of State of Andhra Pradesh (TSRTC) and for providing bus services in urban areas in the State of Kerala, a separate entity for all urban areas within the state, namely KURTC was established. Further, all society entities were registered for accessing GoI funding. Similarly, some of the ULBs for example, Dhanbad, Ranchi and Jamshedpur commenced their bus operations through their department/cell.

Amongst the State Government entities providing city bus services, SPCs are the largest in number with 22 out of a total of 45 PTAs; examples of SPCs include MTC (Chennai), UP city transport companies and CRUT (Bhubaneswar). This is followed by 15 SRTCs (for example, APSRTC, TSRTC, DTC, BMTC, KSRTC, HRTC and UTC), and 8 State Governments (Figure 2-9) through their Transport Department Undertakings. Entities such as Manipur State Transport, Mizoram State Transport and Haryana Roadways are some of the examples of State Government directly through Transport Department undertaking provision of services.

The share of Urban Local Bodies/Municipal Corporation entities in providing city bus services is about 48% (44 PTAs out of the total 92 PTAs) in the Country. Out of total ULB entities, 19 PTAs are SPCs which are specifically established for providing city bus services (for example, AJL, PMPML, AICTSL, BCLL, JCTSL, UCTSL, RCBL, RRL and SSL) and it is highest amongst ULB promoted entities. Further, there are 11 ULB promoted Societies (for example, Urban Public Transport Societies in Chhattisgarh) mostly in Chhattisgarh state.

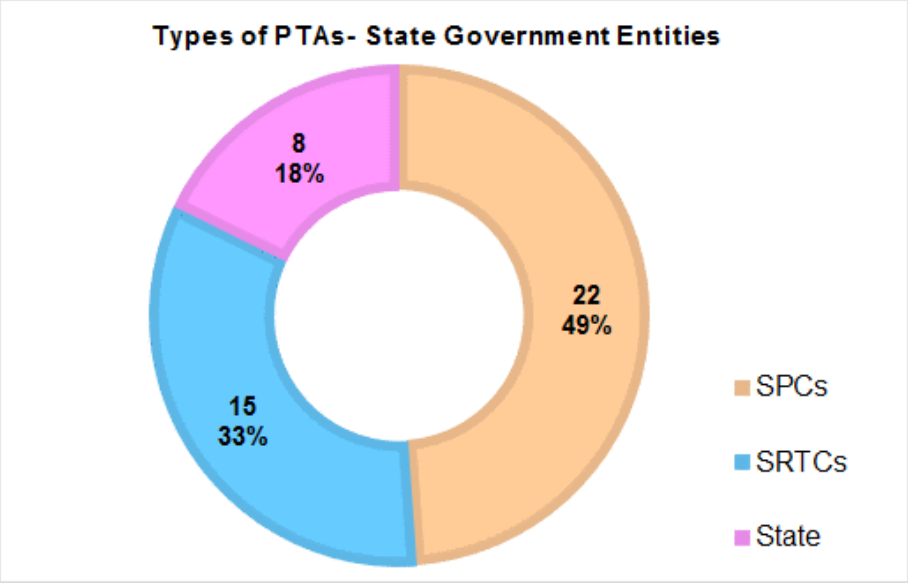


Figure 2-9: Types of PTAs at Country Level – State Government Entities

Then there are 9 MTUs in the State of Maharashtra and Gujarat (for example, BEST, NMMT, KADMTU and AMTS), and 5 ULBs which are directly providing city bus services for example, Ranchi, Dhanbad, Gandhinagar and Mira Bhayandar.

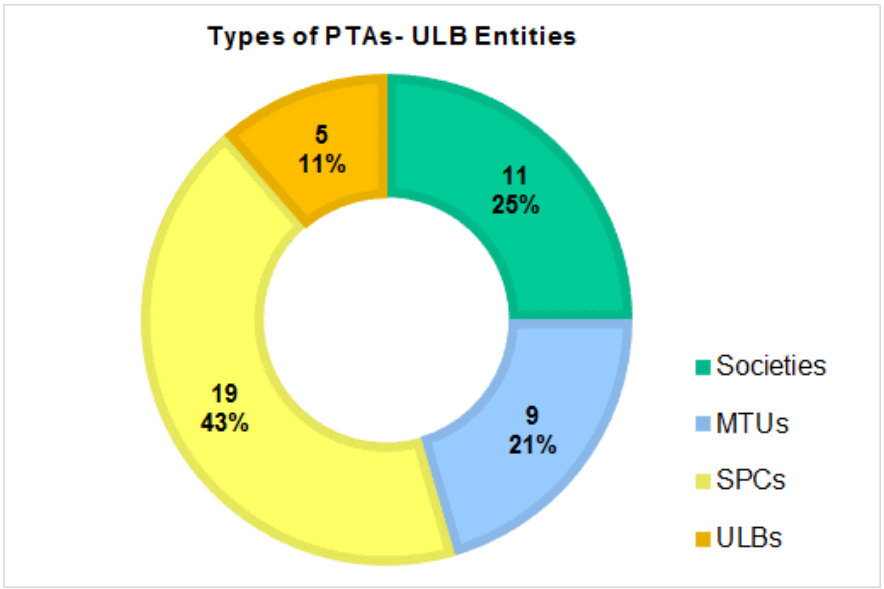


Figure 2-10: Types of PTAs at Country Level- ULB Entities

There are 2 PTAs of Central Government and State Government(s) Joint Venture (Figure 2-11) namely NMRCL (Noida) and DMRC (Delhi) involved in city bus services, which account for 2% of the total PTAs in the Country. In addition, there is one UT administration entity (i.e CTU) which constitutes about one percentage of total PTAs in the Country.

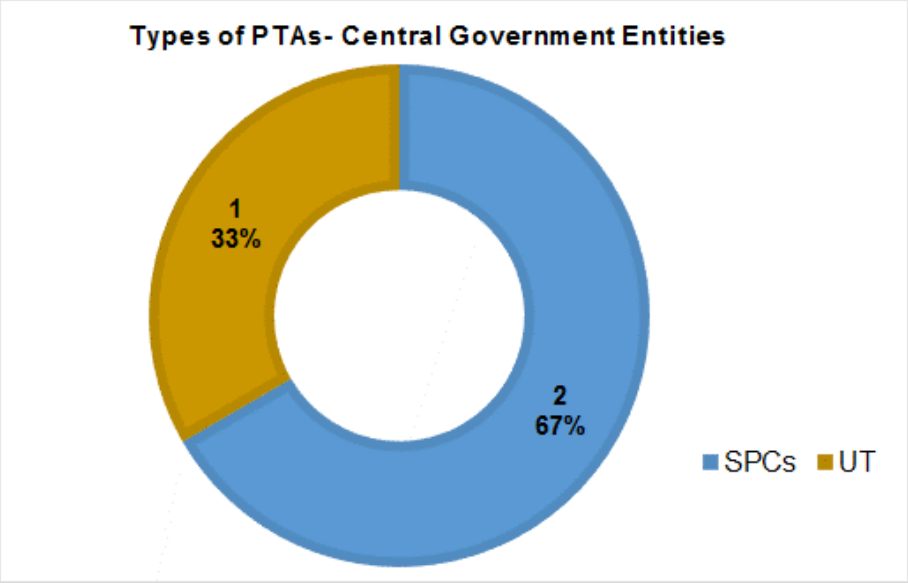


Figure 2-11: Types of PTAs at Country Level - Central Government Entities

2.5.2.2 Size of Players

The distribution of fleet varies across 92 PTAs in the Country ranging from entities having fleet size less than 50 to those which have fleet size of over 5,000. Annexure 2 provides detail list of cities and size of fleet. It is observed that out of 92 PTAs, about one-fourth of PTAs in the Country i.e. 24 PTAs (26%) have fleet size less than 50 buses, 15 PTAs (16%) have fleet size between 50 to 100 buses, 15 PTAs (16%) have fleet size between 100 to 200 buses, 22 PTAs (24%) have fleet size between 200 to 500 buses, 10 PTAs (11%) have fleet size between 500 to 2,000 buses, 5 PTAs (6%) have fleet size between 2,000 to 5,000 buses and remaining one PTA (1%) has fleet size more than 5,000 buses. The fleet strength distribution of PTAs is given in the Table 2-3 below.

Table 2-3: Country Level Distribution of PTAs by Fleet Size

S.No.	Fleet Level Distribution	% of PTAs	No. of PTAs	Some Examples
1	Less than 50 buses	26	24	Arunachal Pradesh State Transport, Bastar Urban Public Transport Society, Ajmer City Transport Services Limited and Gandhinagar Municipal Corporation
2	Between 50 to 100	16	15	Noida Metro Rail Corporation, Hubli–Dharwad BRTS, North Bengal State Transport Corporation, Sikkim NT, Punjab Bus Metro Society (PBMS), Gurugram Metropolitan City Bus Limited and Ranchi Municipal Corporation

S.No.	Fleet Level Distribution	% of PTAs	No. of PTAs	Some Examples
3	Between 100 to 200	16	15	Allahabad City Transport Service Limited, Uttarakhand Transport Corporation, Nagaland State Transport, Vasai Virar Municipal Transport and Atal Indore City Transport Services Ltd
4	Between 200 to 500	24	22	Delhi Metro Rail Corporation, Lucknow City Transport Service Limited, Maharashtra State Transport Corporation, Kalyan Dombivali Municipal Transport, Ahmedabad Janmarg Limited and Chandigarh Transport Undertaking
5	Between 500 to 2,000	11	10	West Bengal Transport Corporation Limited, Kerala Urban Road Transport Corporation (KURTC), Ahmedabad Municipal Transport Service and Jaipur City Transport Services Limited
6	Between 2,000 to 5,000	6	5	Metropolitan Transport Corporation, Delhi Transport Corporation, Telangana SRTC, Brihanmumbai Electric Supply & Transport Undertaking and Pune Mahanagar Parivahan Mahamandal Limited
7	More than 5,000 buses	1	1	Bangalore Metropolitan Transport Corporation
	Total	**100**	**92**	

2.5.2.3 Fleet under Management

There are about 45,450 buses deployed for providing organized city bus services in the Country. Detail list of city wise fleet is set out as Annexure 2. These buses are either owned and/or managed by the respective PTAs.

Of the 45,450 buses, about 32,721 buses are with State Government entities which accounts for about 72% of the total fleet (Figure 2-12), followed by ULB entities which have about 12,140 buses which accounts for 27% of the total fleet. Besides this, the balance fleet (1% of the total fleet) is shared between Centre and State Joint Venture entities (319 buses) and UT administration (270 buses).

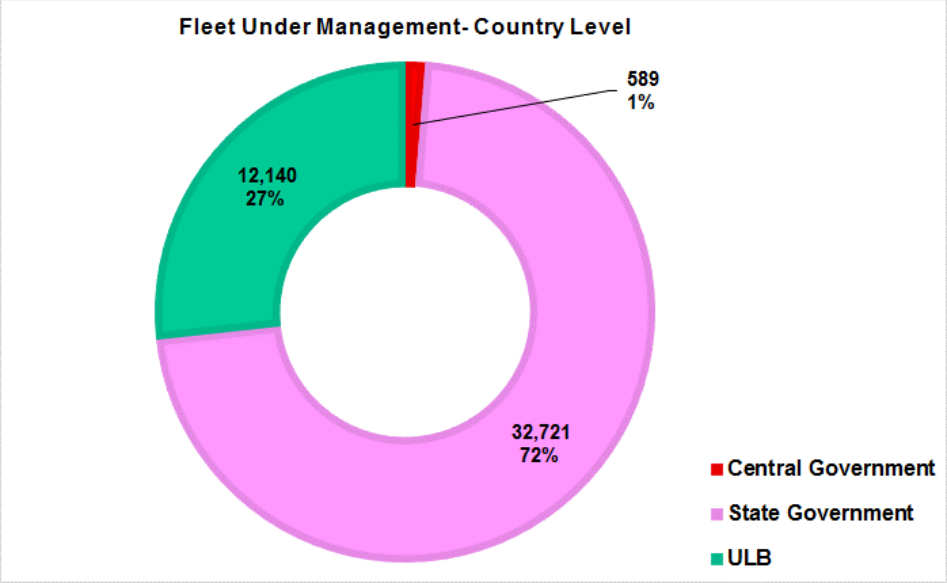


Figure 2-12: Fleet under Management – Country Level

A. Fleet under Management - State Government Entities

Out of 32,721 buses with the State Government entities (Table 2-4), the largest share of bus fleet is with the SRTCs (20,564 buses) which accounts for 63% of the total fleet held by such entities. BMTC has the largest fleet strength (6,193) amongst the SRTCs and lowest is with North Bengal State Transport Corporation (78).

Table 2-4: Fleet under Management – State Government Entities

S.N	Types of PTAs	Fleet Strength	Percentage to Total
1.	State Government PTAs		
a)	Transport Departments	2,060	6%
b)	SRTCs	20,564	63%
c)	SPCs	10,097	31%
	Total	**32,721**	**100%**

SPCs have the second largest fleet amongst the State Government entities (10,097 buses) accounting for about 31% of the total fleet (Figure 2-13) held by such entities. MTC has largest number of buses (4002) under its management and lowest is observed in case of NRMTL (30).

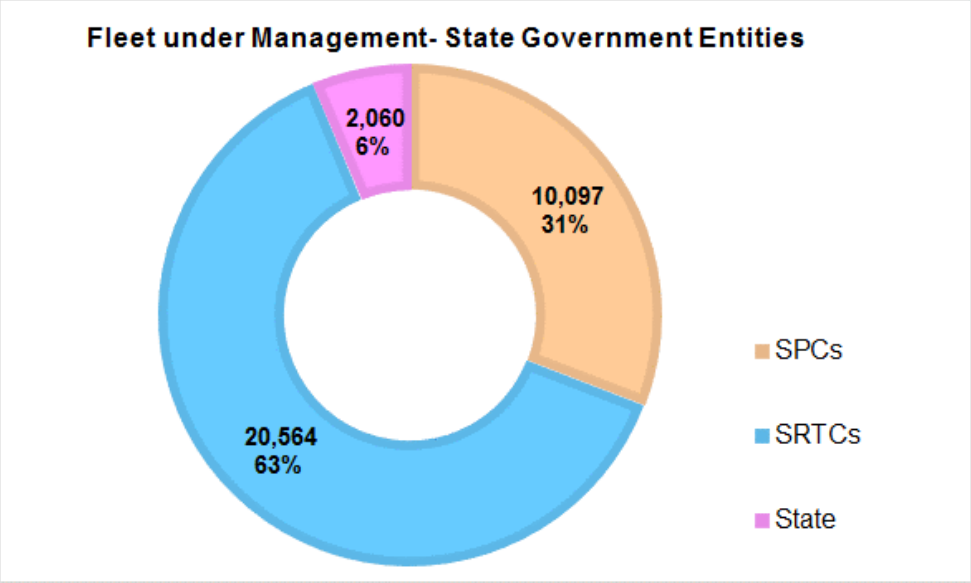


Figure 2-13: Fleet under Management at Country Level– State Government Entities

About 2,060 buses are held directly by the State Governments through their Transport Departments accounting for about 6% of the fleet held by the State Government entities. Of the total fleet, about 1,641 buses are under the management of the Transport Department of GNCTD and the lowest fleet strength of 14 buses is observed in two entities namely, Manipur State Transport and Mizoram State Transport.

B. Fleet under Management - ULB Entities

Amongst ULB entities, MTUs have the highest share with 55% of the total fleet held by ULB entities i.e. 6,703 buses (Table 2-5). BEST has the largest fleet (3,844 buses) amongst all MTUs and the lowest is observed with Vasai Virar Municipal Transport with 122 buses.

Table 2-5: Fleet under Management – ULB Entities

S.N	Types of PTAs	Fleet Strength	Percentage to Total
1.	ULBs/Municipal Corporations PTAs		
a)	Transport Cell/Unit	247	2%
b)	MTUs	6,703	55%
c)	SPCs	4,625	38%
d)	Societies	565	5%
	Total	**12,140**	**100%**

SPCs have the second largest fleet size amongst ULB entities which accounts for 38% of the total fleet (Figure 2-14) held by such entities i.e. 4,625 buses. The highest fleet size amongst SPCs is with PMPML (2,045 buses) and the lowest is seen with Udaipur City Transport Services Limited (14 buses).

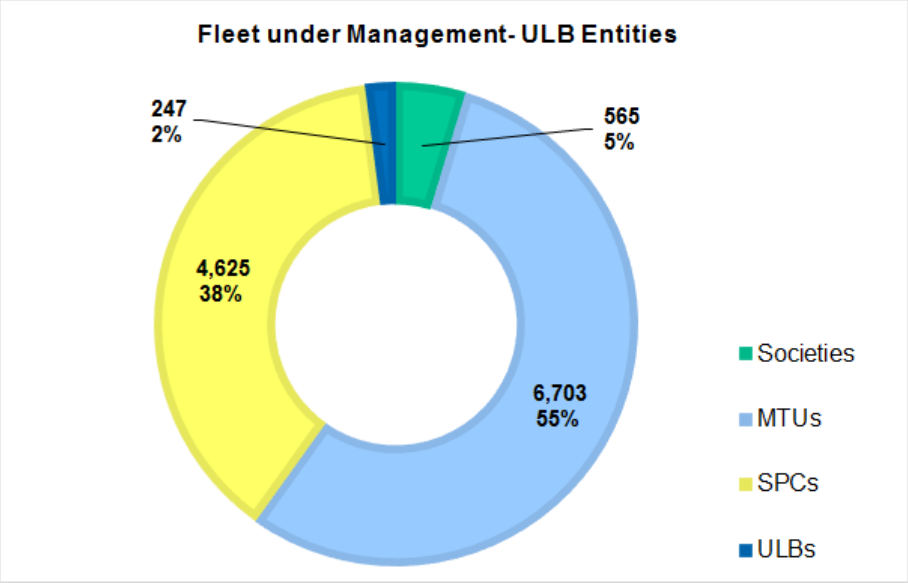


Figure 2-14: Fleet under Management at Country Level – ULB Entities

Only about 565 buses (5% of fleet held by ULB entities) are with Societies. The Punjab Bus Metro Society has highest fleet size (97 buses) amongst Societies and lowest is observed with Koriya Urban Public Transport Society (7 buses).

It is noted that the least share of fleet is held by ULB directly amongst ULB entities which accounts for only 2% of fleet held by ULB entities i.e. 247 buses. The highest fleet size amongst ULB is with Ranchi Municipal Corporation (70 buses) and lowest is seen with Gandhinagar Municipal Corporation (30 buses).

C. Fleet under Management - Other Entities

The rest of fleet share is shared (1% of total fleet) between Centre and State Joint Venture entities and UT administration. Table 2-6 provides break-up of fleet held by UT administration and SPCs.

Table 2-6: Fleet under Management – Other Entities

S.N	Types of PTAs	Fleet Strength	Percentage to Total
1.	Central Government PTAs		
a)	Union Territory Administration	319	54%
b)	SPCs	270	46%
	Total	**589**	**100%**

Figure 2-15 exhibits share of Central Government entities fleet strength.

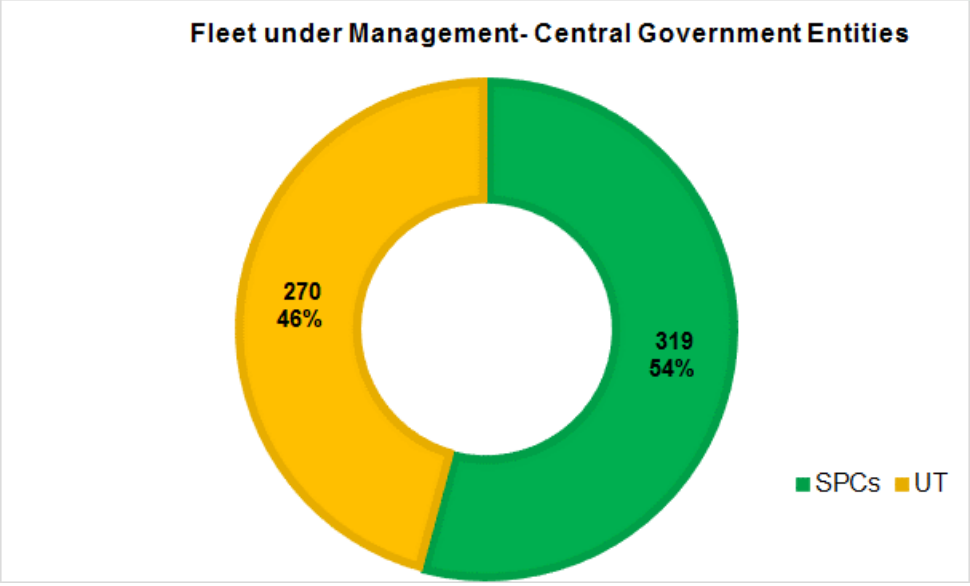


Figure 2-15: Fleet Strength – Central Government Entities

2.5.2.4 Single PTA for Multiple Cities and Multiple PTAs in One City

In the 198 cities/ towns, 92 PTAs are responsible for operating organised city bus services. There are two patterns which have been observed from these cities with regard to service delivery: some of the PTAs are involved in providing city bus services in more than one city/town; and in few cities, more than one PTAs are responsible for providing services.

SRTCs such as KSRTC (17 cities), KURTC (14 cities) and HRTC (13 cities) are some of the examples amongst the State Government entities. Similarly, SPCs such as CRUT (3 cities) and AMCTSL (2 cities) are also providing city bus services in more than one city.

Further, Societies established by ULBs are also providing services in more than one city/town: for example, Raipur Urban Public Transport Society (5 cities/towns), Bastar Urban Public Transport Society (4 cities/towns) and Rajnandgaon Urban Public Transport Society (3 cities/towns).

In case of Delhi, three PTAs such as DTC, DMRC and Transport Department, GNCTD are involved in city bus service delivery. Whereas, in Ahmedabad two PTAs AMTS and AJL; and in and Raipur, Raipur City Bus Limited and Raipur Urban Public Transport Society are responsible for providing city bus services.

2.5.3 Details for Million Plus Cities

2.5.3.1 Type of Players

As per Census 2011, there are 53 cities in India with million plus population, out of which only 52 cities have organised city bus services. Type of players detail in million plus cities is provided as Annexure 2. The city of Ghaziabad does not have organised bus based public transport system in place.

There are 49 PTAs involved in 52 cities for providing city bus services (Figure 2-16), out of which, 23 are State Governments promoted entities, 24 ULB promoted entities, one each is Central -State JV promoted entity, and Union Territory Administration entity.

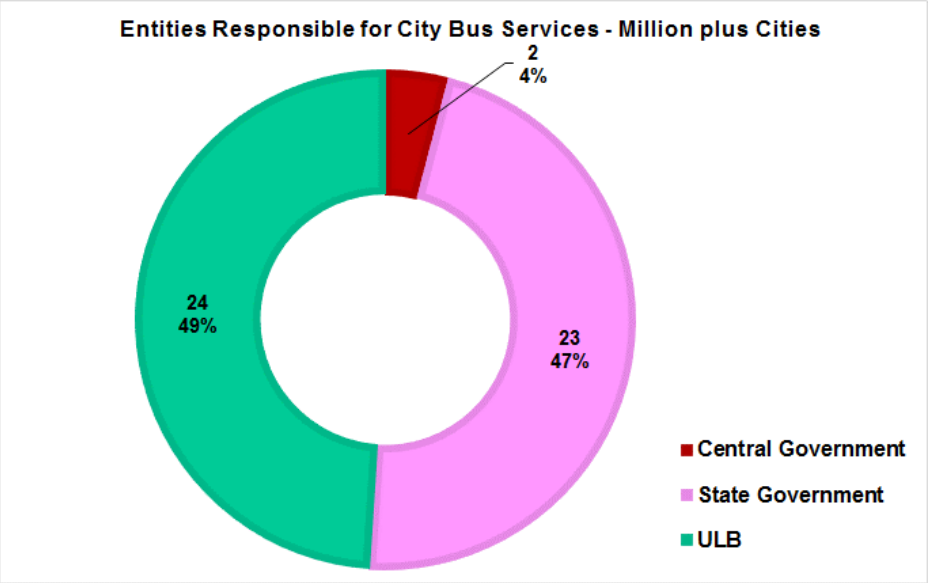


Figure 2-16: Entities Responsible for City Bus Services – Million plus Cities

Table 2-7 presents the types of PTAs and number of PTAs in million plus cities in India. It is observed that ULB promoted PTAs are more prevalent in the Million plus cities with a share of 49% (24 PTAs) of the total PTAs.

Table 2-7: Types and Number of PTAs in Million plus Cities

S.N	Types of PTAs	Total No. of Entities	Percentage to Total
1.	Central Government PTAs		
a)	Union Territory Administration	1	2%
b)	SPCs	1	2%
2.	State Government PTAs		
a)	Transport Departments	2	4%
b)	SRTCs	8	16%
c)	SPCs	13	27%

S.N	Types of PTAs	Total No. of Entities	Percentage to Total
3.	ULBs/Municipal Corporations PTAs		
a)	Transport Cell/Unit	3	6%
b)	MTUs	5	10%
c)	SPCs	13	27%
d)	Societies	3	6%
	Total	**49**	**100%**

Amongst State Government entities providing city bus services, SPCs are the highest in number with 13 out of total 24 PTAs (Figure 2-17); some examples of SPCs include MTC, LCTSL and VCTSL. This is followed by SRTCs with 8 (for example, DTC, TSRTC, APSRTC and BMTC), and 2 State Government directly through Transport Department /its undertakings e.g. Transport Department, Government of National Capital Territory of Delhi (GNCTD) and Transport Department, Haryana Roadways, Government of Haryana.

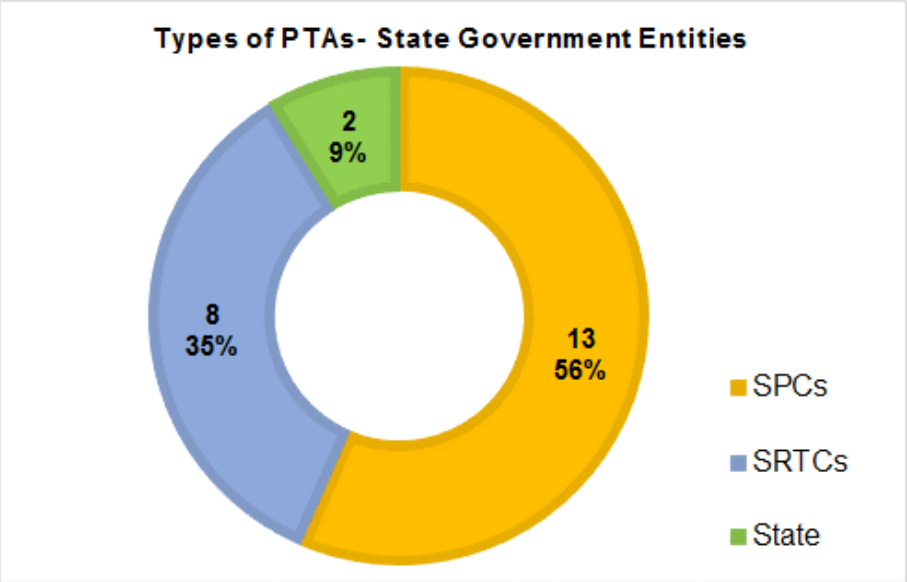


Figure 2-17: Types of PTAs in Million plus Cities – State Government Entities

Urban Local Bodies/Municipal Corporation entities providing city bus services is about 49% (24 PTAs) of the total 49 PTAs in million plus cities (Figure 2-18). Out of these, 13 PTAs are SPCs which are specifically established for providing city bus services (for example, PMPML, LCBSL, BCLL, JCTSL, RRL, SSL, etc.) and it is highest amongst ULB promoted entities. In addition, there are 5 MTUs in the State of Maharashtra and Gujarat (for example, BEST and AMTS). Further, there are 3 ULB promoted Societies (for example, Raipur Urban Public Transport Society) and 3 ULBs which are directly providing city bus services for example, Ranchi and Dhanbad.

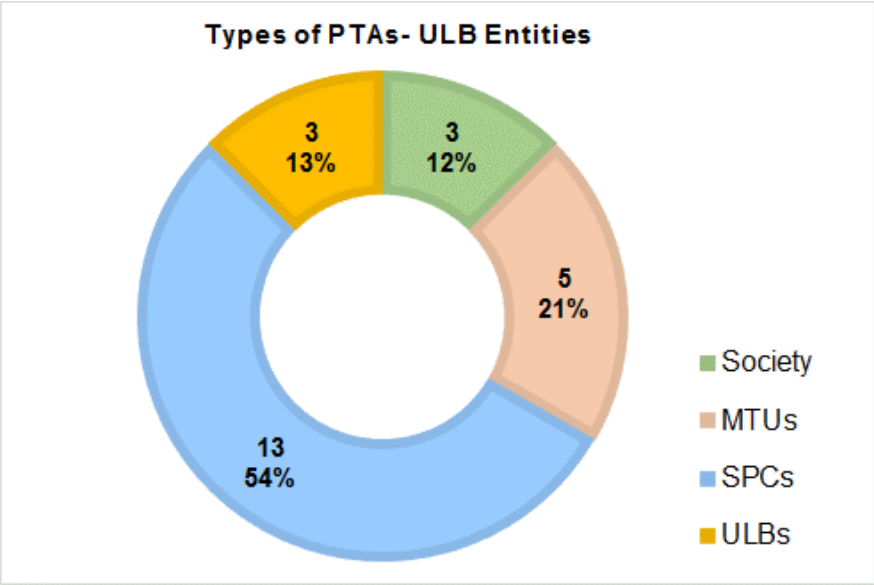


Figure 2-18: Types of PTAs in Million plus Cities – ULB Entities

DMRC, providing feeder bus services in Delhi, is the Central Government and State Government Joint Venture entity (Figure 2-19) and accounts for 2% of the total PTAs in million plus cities under this category. There is one UT administration PTA (i.e CTU) constituting 2% of the total PTAs in million plus cities.

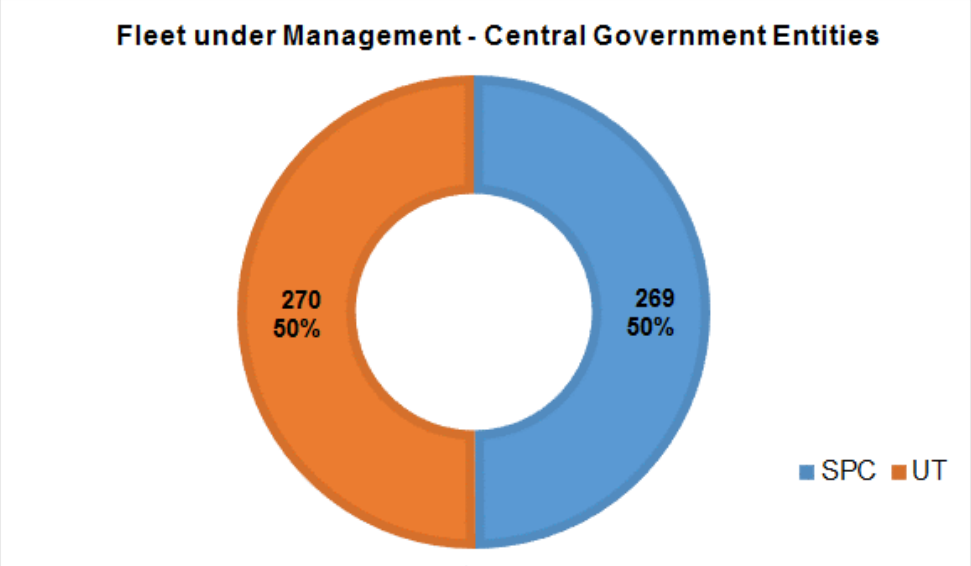


Figure 2-19: Fleet under Management in Million plus Cities – Central Government Entities

2.5.3.2 Size of Players

The distribution of fleet varies across the 49 PTAs in the million plus cities from those having less than 50 buses to those with over 5,000 buses. Fleet strength details is provided as Annexure 2. It is observed that out of 49 PTAs, about 29% of PTAs in the i.e. 14 PTAs have fleet size between 200 to 500 buses, 10 PTAs (20%) have fleet size between 100 to 200 buses, 7 PTAs (14%) have fleet size less than 50 buses, 6 PTAs (12%) have fleet size between 50 to 100 buses, another 6 PTAs (12%) have fleet size between 500 to 2,000 buses, 5 PTAs (11%) have fleet size between 2,000 to 5,000 buses and remaining one PTA (2%) has fleet size more than 5,000 buses. The fleet strength distribution of PTAs is given in the Table 2-8.

Table 2-8: Fleet Level Distribution of PTAs at Million Plus Cities

S.No.	Fleet Level Distribution	% of PTAs	No. of PTAs	Some of the Examples
1	Less than 50 buses	14	7	Kota Bus Service Limited, Raipur Urban Public Transport Society and Aurangabad Smart City Development Corporation Limited
2	Between 50 to 100	12	6	Haryana Roadways, DurgBhilai Urban Public Transport Society, Rajkot Rajpath Limited and Ranchi Municipal Corporation
3	Between 100 to 200	20	10	Allahabad City Transport Service Limited, South Bengal State Transport Corporation, Vadodara Mahanagar Seva Sadan and Atal Indore City Transport Services Ltd
4	Between 200 to 500	29	14	Delhi Metro Rail Corporation, Meerut City Transport Service Limited, Maharashtra State Transport Corporation, Nagpur Municipal Corporation, Ahmedabad Janmarg Limited and Chandigarh Transport Undertaking
5	Between 500 to 2,000	12	6	West Bengal Transport Corporation Limited, Andhra Pradesh SRTC and Ahmedabad Municipal Transport Service
6	Between 2,000 to 5,000	11	5	Metropolitan Transport Corporation, Delhi Transport Corporation, Telangana SRTC and BEST
7	More than 5,000 buses	2	1	Bangalore Metropolitan Transport Corporation
	Total	**100**	**49**	

2.5.3.3 Fleet under Management

There are about 36,750 buses deployed for providing organized city bus services in million plus cities excluding Ghaziabad (which does not yet have organised bus service). These buses are either owned and/or managed by the respective PTAs.

Of the total fleet, about 26,160 buses are with State Government entities which accounts for about 71% of the total fleet (Figure 2-20). The ULB entities have about 10,051 buses which accounts for about 27% of the total fleet, and the balance fleet (2% of the total fleet) is shared between Centre and State Joint Venture entities (269 buses) and UT administration (270 buses) in million plus cities.

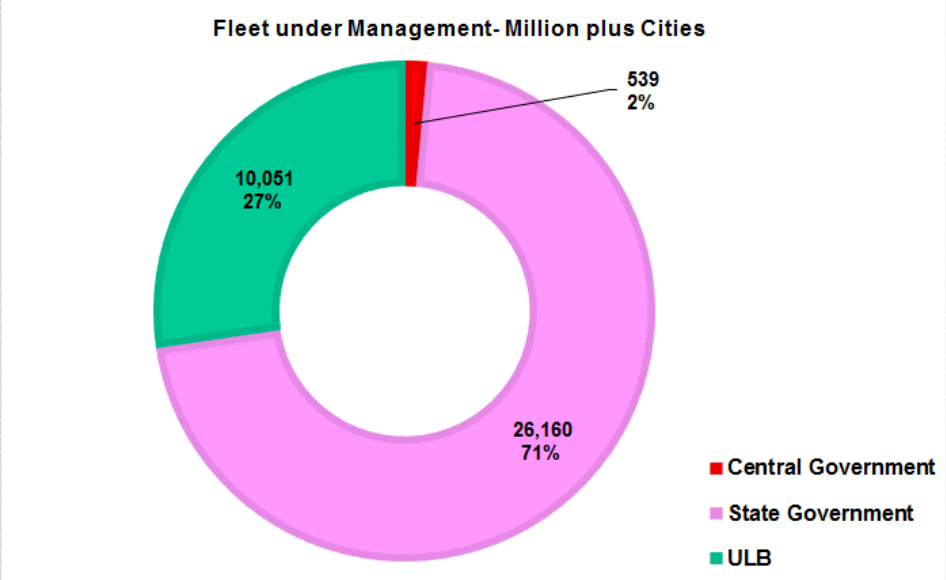


Figure 2-20: Fleet under Management – Million plus Cities

A. Fleet under Management - State Government Entities

Out of the 36,750 buses with the State Government entities, the largest share of bus fleet is with the SRTCs (16,883 buses) which accounts for 64% of the total fleet (Table 2-9) with State Government entities (Figure 2-21). BMTC has highest fleet strength (6,193) amongst SRTCs and the lowest is with Jammu & Kashmir Road Transport Corporation (102).

Table 2-9: Fleet under Management – State Government Entities

S.N	Types of PTAs	Fleet Strength	Percentage to Total
1.	State Government PTAs		
a)	Transport Departments	1,723	7%
b)	SRTCs	16,883	64%
c)	SPCs	7,554	29%
	Total	**26,160**	**100%**

SPCs have the second largest fleet under their management amongst the State Government entities with 7,554 buses accounting for about 29% of fleet held by such entities (Figure 2-21). MTC has highest number of buses (4,002) under its management and lowest is observed in case of Kota Bus Services Limited with 34 buses.

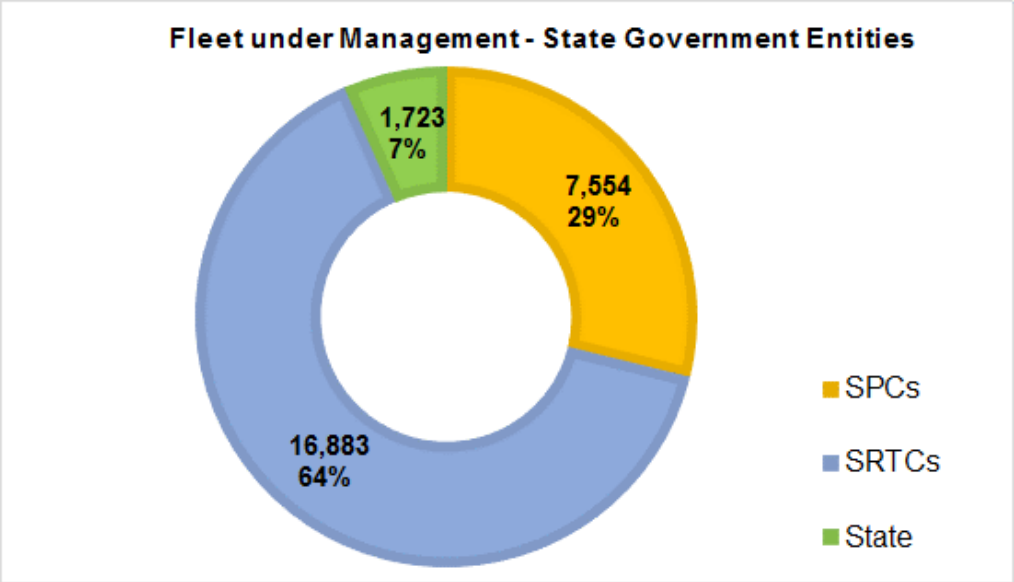


Figure 2-21: Fleet under Management in Million plus Cities – State Government Entities

About 1,723 buses are held directly by the State Governments through their Transport Departments which accounts for 7% of fleet held by the State Government entities. Of the total fleet, about 1,641 buses are under the management of the Transport Department of GNCTD, and lowest fleet strength of 82 buses is with Haryana Roadways/Transport Department of Haryana (Faridabad).[30]

B. Fleet under Management – ULB Entities

Amongst ULB entities, MTUs have the maximum share with 54% of the total fleet (Table 2-10) held by ULB entities i.e. 5,411 buses. BEST has largest fleet (3,844 buses) amongst all MTUs and the lowest is observed with Vasai Virar Municipal Transport with 122 buses.

Table 2-10: Fleet under Management – ULB Entities

S.N	Types of PTAs	Fleet Strength	Percentage to Total
1.	ULBs/Municipal Corporations PTAs		
a)	Transport Cell/Unit	170	2%
b)	MTUs	5,411	54%
c)	SPCs	4,260	42%

[30] Detailed Project Report for City Bus Services in Faridabad, Faridabad Smart City Limited (August 2018)

S.N	Types of PTAs	Fleet Strength	Percentage to Total
d)	Societies	210	2%
	Total	**10,051**	**100%**

SPCs have the second largest fleet size amongst ULB entities which accounts for 42% of fleet (Figure 2-22) held by such entities i.e. 4,260 buses. The highest fleet size amongst SPCs is with PMPML (2,045 buses) and lowest is observed with Gwalior City Transport Services Limited (28 buses).

Only about 210 buses (2% of fleet the held by ULB entities) are with Societies. The Punjab Bus Metro Society has highest fleet size (97 buses) amongst Societies and lowest is observed with Raipur Urban Public Transport Society (48 buses).

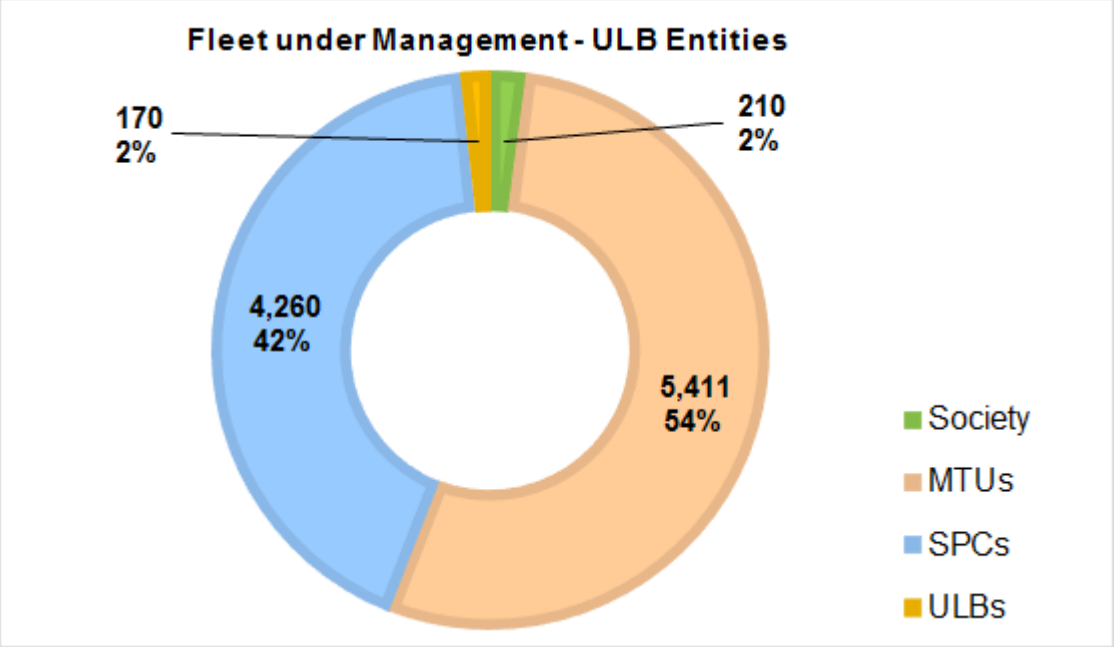


Figure 2-22: Fleet under Management in Million plus Cities – ULB Entities

It is noted that the least share of fleet is held by ULB directly amongst ULB entities which accounts for only 2% of fleet held by ULB entities i.e. 170 buses. The highest fleet size amongst ULB is with Ranchi Municipal Corporation (70 buses) and the lowest is seen with Dhanbad Municipal Corporation and Jamshedpur Notified Area Committee (each with 50 buses).

C. Fleet under management – Other Entities

The rest of the fleet share is 2% of total (Table 2-11) which is shared between Centre (Figure 2-23) and State Joint Venture entities (i.e DMRC with 269 buses), and the UT administration (i.e CTU with 270 buses) (Figure 2-23).

Table 2-11: Fleet under Management – Other Entities

S.N	Types of PTAs	Fleet Strength	Percentage to Total
1.	Central Government PTAs		
a)	Union Territory Administration	270	50%
b)	SPCs	269	50%
	Total	**539**	**100%**

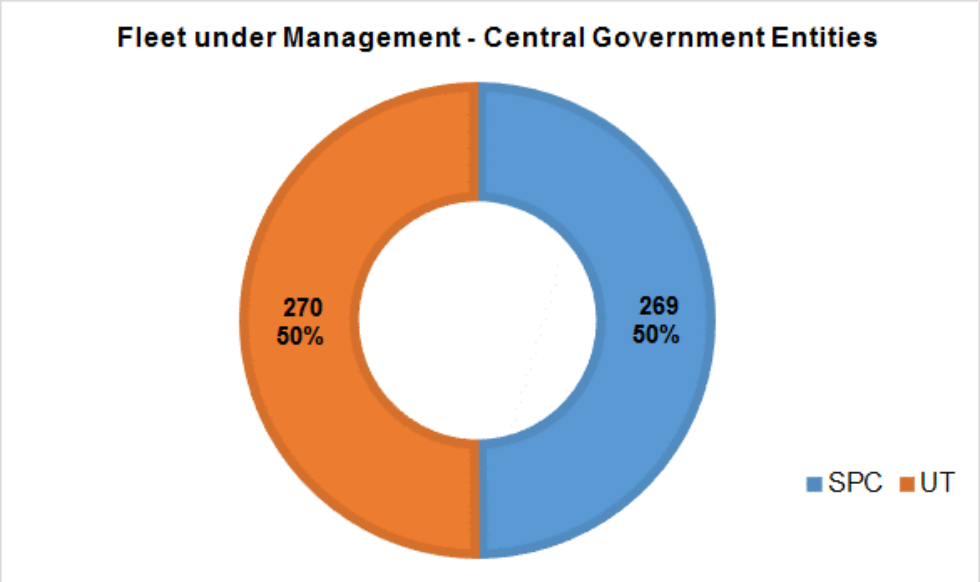


Figure 2-23: Fleet under Management in Million plus Cities – Central Government Entities

2.6 Urban Bus Operation Arrangements in India

2.6.1 Overview of Bus Operation Arrangements

In 198 cities/ towns/ clusters (Annexure 2), there are 92 PTAs that are promoted through four different entities i.e. Centre State JV, State, ULB and UT, responsible for providing city bus services. However, the operation of city bus services is undertaken one of the three arrangements: by PTAs themselves as an in-house operation, or contracted by PTAs to private sector (an outsourced operation), or by both arrangements together (in-house as well as outsourced operation).

Private entities (individuals /companies/firms) largely operate on their own by taking permits from authorities i.e. STA/RTA, and in some cities, private sector is providing city bus services under agreement with the PTAs.

2.6.2 Operational Practices

Following summarizes some of the key operational practices followed by PTAs based on recent study reports[31] and other secondary sources.

2.6.2.1 Strategic Planning Tools

In India, City Master Plans, City Development Plans (CDPs), Common Mobility Plans (CMPs), and Comprehensive Traffic & Transportation Study (CTTS) are some of the strategic planning tools available for public transport. However, no single plan covers all aspects of the public transport, for example Master Plans provide hierarchy of road networks, allocate spaces for parking facilities, mass rapid transit systems, terminals, depots, bus shelters etc. While, CDPs cover only requirement of buses and necessary funding required based on broad assessment. CMPs include optimization of mobility patterns of people and goods with focus on public transport, non-motorized transport, pedestrians and also integrated land use and transport planning. Table 2-12 provides comparison of different strategic tools presently followed and their focus with respect to transport sector. It may be noted that only City Master Plan/Development Plan has the statutory backing.

Table 2-12: Comparison of Strategic Planning Tools

Elements	Master Plan	CDP	CTTS	CMP
Review of existing transport system		■	■	■
Transport demand survey			■	■
Review of land use plan	■		■	■
Analysis of urban transport situations			■	■
Preparation of future land use scenario	■			■
Future transport network scenario			■	■
Transport demand forecast model			■	■
Preparation of mobility framework				■
Formulation of urban transport measures	■	■	■	■
Implementation programs		■		■
Stakeholder consultation	■	■	■	■
Periodical update and maintenance	■			■

[31] "Roadmap for improving City Bus Systems in India (July 2016), Shakti Sustainable Energy Foundation (SSEF)

2.6.2.2 Route Planning and Rationalization

In most of the cities, planning of new routes, changes in alignment of existing routes or its extension are typically carried out based on local knowledge and not using any scientific method/tool. However, in some cities, for example, Delhi (transport modelling based on Cube Voyager software), Ahmedabad (AMTS and AJL), Indore (AICTSL) and Mysuru follow scientific approach to designing the route network. Similarly, Delhi and Mysuru have rationalized bus routes based on scientific studies and transport modelling with Cube Voyager software. Even where planning is carried out following a scientific approach, the route network is often not updated periodically to account for the new developments.

2.6.2.3 Service Planning

In most PTAs, service plans or timetables are prepared manually based on average speed for different routes which are in effect static timetables and each trip is allocated equal time irrespective of time of the day and the passengers demand. In case of Mysuru, time table optimization is done based on GPS recorded travel time in peak and off hours using Lumiplan software. In Ahmedabad (AJL), although the timetable preparation is done manually, speeds measured from ground are utilised for estimating travel times for peak and off periods on BRT routes.

2.6.2.4 Fare Revision Schedule and Fare Structure

Power to notify fares for city bus services is vested with State Governments in accordance with the Motor Vehicles Act, 1988. In most cities, there is no fixed time-frame for revision of fare, as can be seen from the Table 2-13. The table has been prepared based on the CIRT Reports (2006-07 to 2015-16) for urban PTAs which have reported such revisions. Fare was revised only once in 10 years in case of MTC and TNSTCs, while BEST, AMTS and KMTU took 7 years to revise fare during the period under consideration. The city bus fare was last revised in 2009-10, in case of DTC and CSTC, during the period under assessment.

Table 2-13: Fare Revision Schedule

PTAs	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
APSRTC										
KSRTC										
NWKRTC										
NEKRTC										
BEST										
DTC										

PTAs	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
BMTC										
TMTU										
KMTU										
MTC & TNSTC										
AMTS										
PMPML										
CSTC										
KSRTC / KURTC										

DTC, for example, has the lowest fares among all the PTAs in metropolitan cities, with ticket prices starting from Rs. 5 (for first 3 km). The last time the fares were hiked, cost of CNG was around Rs 19 per kg and now it costs around Rs. 45 per kg (May 2019). Further, Consumer Price Index (CPI) for Industrial Workers for Delhi has gone up more than 200% from 2009 (147) to April, 2019 (299). Besides aforesaid, the minimum wages for various types of workers were revised upwards regularly during the assessment period. The aforesaid has resulted in accumulation of huge losses for DTC during the assessment. Many other PTAs are also in similar situation.

2.6.2.5 Land Planning and Allotment Process for Depot Facilities

Most cities face difficulty in earmarking land parcels within the transport demand zone/vicinity owing to rapidly growing urban population. For development city bus transport infrastructure facilities including Depot facilities, cities undergo a general process to reserve land in their Master Plan / Development Plans. During the plan preparation stage, the development authority assess the requirement; thereafter, the authority earmarks land parcels for “Transport” purpose which includes development of transport infrastructure for the future demand. In Navi Mumbai, for example, NMMT received land based on availability from City and Industrial Development Corporation (CIDCO) at Ghansoli (7 acres).

Some of the well-established PTAs like SRTCs have space for depot to accommodate their existing fleet. However, adequate space is not made available by the land owning agencies/development authorities to meet the growing demand. For example, the total bus depot land available is 257 acres in Delhi and non-availability

of additional depot land led to delay in augmenting/inducting the bus fleet[32]. The additional land requirement for a fleet of 11,000 buses is 202 acres and for a fleet of 16,000 buses it is 409 acres[33].

Any additional land availability to support augmentation of bus fleet by the PTAs in a city / urban area depends on the availability of land at suitable location to meet requirements, ownership of land and the existing land use. Land availability, land acquisition and land-use change are all challenging issues in a growing city.

Sometimes authority allots land parcels where it is available that may lead to increase in dead-mileage / non-revenue km. Dead-mileage as percentage of gross kms operated indicates whether the starting point of a revenue km is closer to the depot or located far away from the starting point of the revenue km. As per the latest CIRT Report (2016-17), the Urban PTAs' industry average is about 1.8% of the gross kms operated annually, while some of the PTAs have higher than the industry average, for example, 5.5% (AMTS), 4.7% (NMMT), 3.6% (BMTC and PMPML), 2.5% (KMTU) and 2.2% (MTC).

However, some PTAs have adopted innovative long-term planning approach that help the agency in creating infrastructure facilities; for example, BTMC has undertaken land-bank planning as an approach towards improved financial sustainability and public transport accessibility.

2.6.2.6 Duty Roaster, Crew and Bus Scheduling

In most PTAs, management of bus and crew scheduling is undertaken manually. In case of APSRTC (Vishakhapatnam), online ticket accounting system (OLTAS) is used for allocation and information to staff through SMS. The crew can confirm or decline the duty through SMS. Duty sheets are printed through computers. Many of the PTAs (BCLL, MBMC, CTU, JCTSL etc.) are in the process of implementing ICT based MIS tools, with World Bank support, to manage their bus operations.

2.6.2.7 Maintenance Practices

Typically, three types of maintenance are needed for buses: (a) preventive, (b) maintenance for defects developed on route and reported by drivers after coming back to the depot, and (c) maintenance of defects that have led to breakdown.

Maintenance records are kept manually through registers. The ledger section maintains vehicle wise details of expenditure.

32https://www.indiatoday.in/pti-feed/story/delhi-facing-acute-shortage-of-public-transport-requires-11-000-buses-aap-govt-to-sc-1290644-2018-07-19

33 http://www.epca.org.in/EPCA-Reports1999-1917/Report-no.57.pdf

In most of the cities, odometers of the buses malfunction and kms are recorded on the basis of daily scheduled operation and is recorded by adding the actual kms operated (using the schedule) and idle kms.

Manual process is followed for tyre management in most PTAs. A tyre card is maintained and managed for every tyre which keeps the record of mileage and Resoling / Re-treading history of every tyre.

The documents and records pertaining to Fuel Management are also manual. In some cities, the refuelling stations are setup by oil companies which manage the delivery and inventory of diesel. For example, Mysuru has implemented advance filling and dispensing system using RFID.

2.6.2.8 Human Resources Management

Manual attendance and leave records are managed at the depot level in most cities. In Bengaluru (BMTC) and Mysuru (KSRTC), kiosk based Leave Management System has been installed to sanction leaves of the crew and maintenance staff.

2.6.2.9 Commuters Feedback Mechanism

In most of the cities, passengers can submit their feedback / suggestions / complaints though complaint book available in the buses. In addition, commuters can also write to the operator or authority. In some PTAs, toll-free call centre has been setup to receive passengers' complaints. Besides the aforesaid, some other modes made available include email, website and mobile app. Social media channels like Facebook and Twitters are also used for receiving feedback from users.

2.6.3 Types of Outsourcing Model by PTAs

2.6.3.1 Typical Roles of Private Sector

Typical roles of the private sector in providing city bus services in Indian cities include procurement and deployment of the bus fleet (where applicable), operate and maintain the bus fleet, operate and maintain the bus depots, development of depot infrastructure facilities, terminal development along with real estate development under PPP, provide bus services while adhering to the schedule and other performance standards according to the contract provisions, and perform fare collection services.

Broadly in India, two types of outsourcing for provision of bus services are being adopted: Gross Cost Model, and the Net Cost Model, both under structured contractual framework between the PTA and the private operator. Following sections describe these two contract models and the examples of PTAs following the same.

Over the last decade, many corporates from other sectors have entered into the city bus service space, built capacity, and have started participating in the tenders being floated by the PTAs for awarding city bus concessions. This has led to cost of bus operations becoming competitive as against those currently being incurred by the older public sector organisations in managing urban bus operations.[34].

2.6.3.2 Gross Cost Model

Under this model, towards providing bus service, the operator is paid by the PTA a specified amount on the basis of the sum quoted by the operator. There is no revenue or market risk transferred to the operator; the operations risk though is required to be borne by the operator. The operator is also required to adhere to the service level agreements / contract terms and conditions. The PTA which has entered into contract with the operator, typically engages a fare collection agency, or directly undertakes the role of fare collection.

All revenues including fare box revenue, advertisement revenue and any other stream of revenue related to bus services is generally retained by the PTA. If the service earns more revenue than the cost payable to the operator, the surplus amount will be retained by the PTA. Where the service cost is more than the revenue generated, the PTA is required to mobilize the shortfall from its own sources or any other means. In this model, more than one operator can also provide services on a particular route, and PTA has the flexibility to change the route and scheduling based on the demand / requirements of the commuters.

The Gross Cost Model of bus operation has been recommended by MoHUA[35] and the erstwhile planning commission.[36]

Some of the PTAs which have outsourced bus operations under Gross Cost Model include Transport Department (Delhi Cluster), JCTSL, AJL, NMRC, CRUT, Vasai Virar Municipal Transport and PBMS. Annexure 2 provides list of cities/PTAs which have outsourced under gross cost model.

2.6.3.3 Net Cost Model

Under this model, towards providing bus service, the operator is paid an agreed amount on the basis of the sum quoted by the operator which is typically the difference between the expected revenue and the estimated total cost of operations. If the service is profitable, the operator pays a premium or royalty to the PTA.

[34] A Roadmap for Improving City Bus Systems in India, Shakti Foundation (July 2016)

[35] Ministry of Urban Development, GoI, communication dated 21 April 2014 to states (http://mohua.gov.in/upload/uploadfiles/files/Advisory.pdf)

[36] Recommendations of Working Group on Urban Transport for 12th Five Year Plan (http://planningcommission.gov.in/aboutus/committee/wrkgrp12/hud/wg_%20urban%20Transport.pdf)

However, in case the service is not sufficiently remunerative to meet the cost of operations, the operator seeks through its quote a financial support in the form of viability gap funding. In this model, the revenue collection responsibility is also vested with the operator along with the operations and maintenance responsibility. The operator retains all potential revenue from operations. Further, the operator is required to adhere to the SLAs / contract terms and conditions.

Many of the city bus SPCs have adopted net cost model for outsourcing the bus operations.[37] PTAs including VMSS, Raipur Urban Public Transport Society and BCLL have outsourced the operations to private operators under net cost model. Annexure 2 provides list of cities/PTAs which have outsourced under net cost model.

2.6.3.4 Bus Ownership

Most of the PTAs in India have provided buses to the operators to provide bus service under contract. Some of the PTAs have arrangements with the operators requiring that at the end of the contract period, the operators is required to take-back the buses by paying a nominal payment (for example, JCTSL) to PTAs which is generally, equivalent to the scrap value of the fleet. In this arrangement, during the contract period the fleet ownership of the bus is vested with the PTA which upon expiry is transferred to private operators. In some cases, the operator is required to hand-back the fleet at the end of the contract period. In this arrangement, during operation and after expiry of the contract, the fleet ownership continues to remain with the PTAs.

In many cases, the private operator is required to procure buses and maintain the same during the contract period (for example, Delhi cluster scheme and Gurugram). In this arrangement, the ownership of fleet is always with the private operators.

2.6.3.5 Fuel Supply by PTAs

Some of the PTAs have arrangements with the operators under which the PTAs provide fuel to the private operators based on pre-specified fuel efficiency targets (for example, JCTSL). This approach would help the PTA to ensure that the operator maintains the buses/engines regularly so that fuel consumption remains within the limits.

[37] Chaudhary, Mahesh L, Gross Cost Contract v/s Net Cost Contract: What Should Indian Cities Opt For? (June 30, 2015). International Journal of Business Management & Research, ISSN(P): 2249-6920; ISSN(E): 2249-8036, Vol 5, Issue 3, Pg 9-18. Available at SSRN: https://ssrn.com/abstract=2649777

2.6.4 Country Level – Urban Bus Operation Arrangements

2.6.4.1 Operation Arrangements by PTAs

As discussed earlier, there are 92 PTAs in the Country, out of which about 49 PTAs (53%) have in-house operations, followed by 37 PTAs (40%) which have outsourced their operations, and the balance 6 PTAs (7%) have both in-house and out-sourced operations.

Out of 49 PTAs which have in-house operations, there are 38 State Government entities, followed by 10 ULB entities, and 1 Union Territory Administration.

Of the total 37 outsourced entities, 29 are ULB entities, 6 State Government entities and 2 Central and State Government joint venture entities.

Five ULB entities and one State Government entities are involved in both in-house and out-sourced operations.

Table 2-14 provides PTA type wise operations arrangements at the country level; the detailed list is set out as Annexure 2.

Table 2-14: Operations Arrangements by PTAs – Country Level

S.N	Types of PTAs	Total No. of Entities	In-House Operations	Outsourced Operations	Both
1.	Central Government PTAs				
a)	Union Territory Administration	1	1		
b)	SPCs	2		2	
2.	State Government PTAs				
a)	Transport Departments	8	7	1	
b)	SRTCs	15	14		1
c)	SPCs	22	17	5	
3.	ULBs/Municipal Corporations PTAs				
a)	Transport Cell/Unit	5	4	1	
b)	MTUs	9	3	4	2
c)	SPCs	19	2	14	3
d)	Societies	11	1	10	
	Total	**92**	**49**	**37**	**6**
	Percentage to Total		**53%**	**40%**	**7%**

2.6.4.2 Operation Arrangements by Fleet Strength

About 45,450 buses are held and/ or managed by 92 PTAs, of which 84% (38,157) are under in-house operations, and the balance 16% (7,293) are under outsourced operations.

Out of total 38,157 buses which are under in-house operations, about 30,247 buses (79% of fleet under in-house operation) are with State Government entities, followed by ULBs which have about 7,640 buses (20% of fleet under in-house operation), remaining 270 fleet (1% of fleet under in-house operation) is with Union Territory Administration.

Of the total outsourced buses (7,293 buses), majority of buses are outsourced by ULB entities which is estimated about 4,500 (62% of outsourced fleet) buses, followed by 2,474 buses (34% of outsourced fleet) are outsourced to private operators by State Government entities, balance 319 buses are outsourced to private operators by the Central and State Government Joint Venture entities.

Following table presents PTA wise number of buses under in-house, outsourced operations and total fleet strength. Details of city wise operations arrangement and fleet strength is set out as Annexure 2.

Table 2-15: Operations Arrangements by Fleet Strength – Country Level

S.N	Types of PTAs	Total No. of Fleet	No. of In-house Fleet	No. of Outsourced Fleet
1.	Central Government PTAs			
a)	Union Territory Administration	270	270	
b)	SPCs	319		319
2.	State Government PTAs			
a)	Transport Departments	2,060	419	1,641
b)	SRTCs	20,564	20,444	120
c)	SPCs	10,097	9,384	713
3.	ULBs/Municipal Corporations			
a)	Transport Cell/Unit	247	217	30
b)	MTUs	6,703	5,212	1,491
c)	SPCs	4,625	2,121	2,504
d)	Societies	565	90	475
	Total	**45,450**	**38,157**	**7,293**
	Percentage to Total		**84%**	**16%**

2.6.5 Million plus Cities – Urban Bus Operation Arrangements

2.6.5.1 Operation Arrangements by PTAs

There are 49 PTAs in million plus cites in India, out of which about 26 PTAs (53%) have in-house operations, followed by 19 PTAs (39%) outsourced their operations and balance 4 PTAs (8%) have both in-house and out-sourced operations.

Of the 26 PTAs having in-house operations, 20 are State Government entities, followed by 5 ULB entities, and 1 Union Territory Administration.

Of the 19 PTAs having outsourced operations, majority is ULB entities with 15 PTAs, 3 State Government entities, and 1 Central and State Government joint venture entities.

Four ULB entities have both in-house and out-sourced operations.

Table 2-16 provides PTA type wise operations arrangements for million plus cities and the detailed list is set out as Annexure 2.

Table 2-16: Operations Arrangements by PTAs – Million plus Cities

S.N	Types of PTAs	Total No. of Entities	In-House Operations	Outsourced Operations	Both
1.	Central Government PTAs				
a)	Union Territory Administration	1	1		
b)	SPCs	1		1	
2.	State Government PTAs				
a)	Transport Departments	2	1	1	
b)	SRTCs	8	8		
c)	SPCs	13	11	2	
3.	ULBs/Municipal Corporations PTAs				
a)	Transport Cell/Unit	3	3		
b)	MTUs	5	1	3	1
c)	SPCs	13	1	9	3
d)	Societies	3		3	
	Total	**49**	**26**	**19**	**4**
	Percentage to Total		**53%**	**39%**	**8%**

2.6.5.2 Operation Arrangements by Fleet Strength

49 PTAs manage about 36,750 buses in million plus cities, of which 84% (30,986) are under in-house operations, and the balance 16% (5,764) are under outsourced operations.

Of the 30,986 buses under in-house operations, about 24,129 buses (78% of fleet under in-house operation) are with the State Government entities, followed by ULBs which have about 6,587 buses (21% of fleet under in-house operation), and the remaining 270 buses (1% of fleet under in-house operation) is with the Union Territory Administration.

Of the 5,764 buses under outsourced operations, ULB entities have 3,464 buses (60% of the outsourced fleet), followed by 2,031 buses (35% of outsourced fleet) with State Government entities, and the balance 269 buses are with the Central and State Government Joint Venture entity.

Table 2-17 presents PTA wise number of buses under in-house, outsourced operations and total fleet strength in Million plus cities (Annexure 2).

Table 2-17: Operations Arrangements by Fleet Strength – Million Plus Cities

S.N	Types of PTAs	Total No. of Fleet	No. of In-house Fleet	No. of Outsourced Fleet
1.	Central Government PTAs			
a)	Union Territory Administration	270	270	
b)	SPCs	269		269
2.	State Government PTAs			
a)	Transport Departments	1,723	82	1,641
b)	SRTCs	16,883	16,883	
c)	SPCs	7,554	7,164	390
3.	ULBs/Municipal Corporations			
a)	Transport Cell/Unit	170	170	
b)	MTUs	5,411	4,435	976
c)	SPCs	4,260	1,982	2,278
d)	Societies	210		210
	Total	**36,750**	**30,986**	**5,764**
	Percentage to Total		**84%**	**16%**

2.6.6 Midsize Cities – Urban Bus Operation Arrangements

For the purpose of this analysis, cities with population between 1 to 4 million as per 2011 census are considered as midsize cities. Accordingly, there are 43 cities in the midsize category.

2.6.6.1 Operation Arrangements by PTAs

There are 37 PTAs in the midsize cites in India, out of which 20 PTAs (54%) have in-house operations, followed by 16 PTAs (43%) which have outsourced their operations, and the balance 1 PTA (3%) has both in-house and out-sourced operations.

Of the 20 PTAs with in-house operations, 15 are State Government entities, followed by 4 ULB entities, and 1 is the Union Territory Administration.

Of the 16 PTAs with outsourced operations, majority is the ULB entities (14 PTAs), and the balance (2 PTAs) are the State Government entities.

Table 2-18 provides PTA type wise operations arrangements for midsize cities; the detailed list is set out as Annexure 2.

Table 2-18: Operations Arrangements by PTAs – Midsize Cities

S.N	Types of PTAs	Total No. of Entities	In-House Operations	Outsourced Operations	Both
1.	Central Government PTAs				
a)	Union Territory Administration	1	1		
b)	SPCs				
2.	State Government PTAs				
a)	Transport Departments	1	1		
b)	SRTCs	5	5		
c)	SPCs	11	9	2	
3.	ULBs/Municipal Corporations PTAs				
a)	Transport Cell/Unit	3	3		
b)	MTUs	3		3	
c)	SPCs	10	1	8	1
d)	Societies	3		3	
	Total	**37**	**20**	**16**	**1**
	Percentage to Total		**54%**	**43%**	**3%**

2.6.6.2 Operation Arrangements by Fleet Strength

There are 8,062 buses held by 37 PTAs in midsize cities, of which 70% (5,673 buses) are under in-house operations, and the balance 30% (2,389 buses) are under outsourced operations.

Table 2-19 presents PTA wise number of buses under in-house, outsourced operations and total fleet strength in million plus cities (Annexure 2).

Table 2-19: Operations Arrangements by Fleet Strength – Midsize Cities

S.N	Types of PTAs	Total No. of Fleet	No. of In-house Fleet	No. of Outsourced Fleet
1.	Central Government PTAs			
a)	Union Territory Administration	270	270	
b)	SPCs			
2.	State Government PTAs			

S.N	Types of PTAs	Total No. of Fleet	No. of In-house Fleet	No. of Outsourced Fleet
a)	Transport Departments	82	82	
b)	SRTCs	2,871	2,871	
c)	SPCs	2,352	1,962	390
3.	ULBs/Municipal Corporations			
a)	Transport Cell/Unit	170	170	
b)	MTUs	588		588
c)	SPCs	1,519	318	1,201
d)	Societies	210		210
	Total	**7,992**	**5,603**	**2,389**
	Percentage to Total		**70%**	**30%**

2.7 Performance Analysis of Urban Bus Sector

The performance of urban bus sector has been assessed in terms of the following:

Country Level: The following broad indicators have been used to assess the bus sector performance:

(i) Public Transport (bus) Modal Share;
(ii) Presence of organized bus services; and
(iii) Extent of supply or availability of fleet

City Bus Sector Industry Trend Analysis: A detailed trend analysis has been carried out for some of the key physical and financial performance indicators to assess the city bus sector industry in India.

Operating Entity (PTA) Level: At the operating entity level, the following key parameters have been used to assess the performance of such entities:

(i) Physical Performance indicators:

a) Fleet Utilization
b) Fuel Efficiency
c) Vehicle Productivity
d) Staff to Bus Ratio
e) Passenger Carried or Ridership Per Bus per Day

(ii) Financial Performance indicators:

a) Revenue or Earning per km (EPK)
b) Revenue per Bus per Day
c) Cost per km (CPK)
d) Cost per Bus per Day

e) Surplus or Deficit per km
f) Staff cost as percentage of Total Cost of Operation
g) Staff cost per km
h) Fuel Cost as percentage of Total Cost of Operation
i) Fuel Cost per km
j) Cost comparison of in-house and outsourced bus operations

Data Sources: Performance analysis has been carried out based on published data available from the following sources:

(i) State Transport Undertakings Profile & Performance 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17, CIRT

(ii) Review of the performance of State Road Transport Undertakings for April, 2015 – March, 2016, MoRTH

(iii) City Bus Sector Assessment India, KfW study

(iv) Data obtained from Jaipur, Navi Mumbai and Chandigarh transport undertakings

(v) Quarterly Progress Report, MoHUA for cities like Bhopal, Jaipur and Mira Bhayander

Following sections provide the details of key performance indicators for various cities as well as the corresponding industry averages.

2.7.1 Country Level Assessment

2.7.1.1 Public Transport Modal Share

The distribution of travel among different modes of transport varies across the towns/ cities in India. As bus based transport is the major mode of public transport (PT), public transport modal split has been taken for this analysis.

As per the study undertaken by MoHUA,[38] a general decline in public transport trips was projected over the years in case of business-as-usual scenario. The study projected the public transport share up to 2031 for different category of cities based on population for Do-Nothing Scenario/ Business-as-usual scenario. Maximum drop in share of public transport of about 20% by 2031 was projected for cities with more than 8 million population (Figure 2-24).

[38] Study on Traffic and Transportation Policies and Strategies in Urban Areas in India, MoHUA (2008)

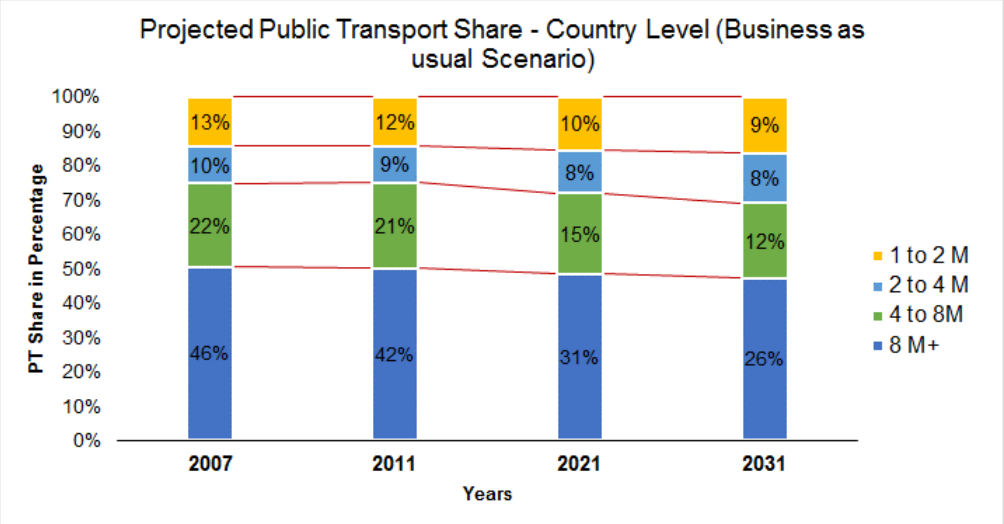
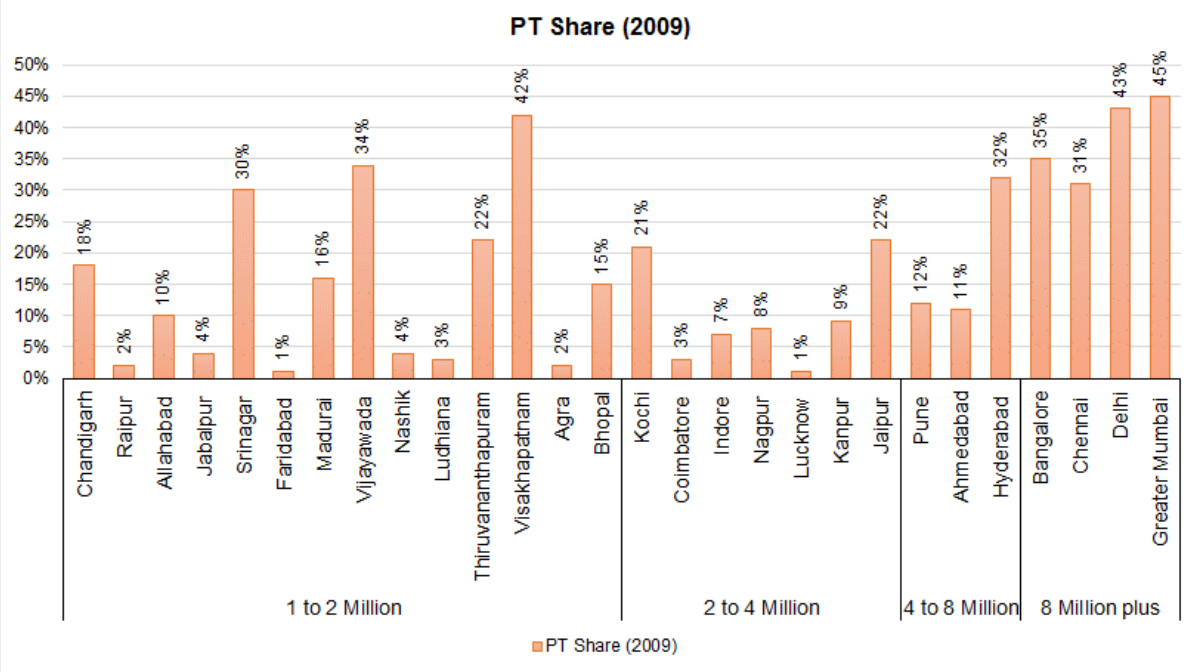


Figure 2-24: Projected Public Transport Share – Country Level

Following bar chart (Figure 2-25) depicts the city wise Public Transport mode share[39] in 2009 for some of the cities. Highest PT share was in Greater Mumbai at 45%, followed by 43% in Delhi. Relatively lesser PT share is observed in most of the cities except Visakhapatnam (42%), Vijayawada (34%), Hyderabad (32%) and Srinagar (30%) with population less than 8 million.



[39] Transforming City Bus Transport in India through Financial Assistance for Bus Procurement under JnNURM, Presentation (2009)

Figure 2-25: City wise Public Transport Share in 2009

2.7.1.2 Presence of Organized Bus Services

Total urban population in India as per Census 2011 was 377[40] million i.e. about 31 percent of the total population living in 7,935[41] towns/cities. According to Census of India for the same period, about 70% of the total urban population was residing in 468[42] towns/cities (Class I size[43] cities/towns). There are 53[44] cities/Urban Agglomerations (UA) with more than a million population and it accounts for about 43% (160.7 million) of the total urban population. Accordingly, presence of organized bus service has been assessed and the same is presented in Table 2-20.

Organized bus services are available in only in 2.5% of the total urban settlements (towns/cities) in India. Of the Class I towns/cities, about 127 towns/ cities are covered with organized bus services, which works out to be about 27.1% of the total Class I towns/cities.

Table 2-20: Presence of Organized City Bus Services in India

Description	Total No of Towns/ Cities	Organized Bus Services provided in number of cities /towns	% of Towns or Cities Covered with Organized Bus Services
Total Number of Urban settlements (towns/cities)	7,935	198	2.5%
Total Number of Class I Towns/Cities	468	127	27.1%
Total Number of Towns/Cities with >0.5 Mn population	90	69	76.7%
Total Number of Cities with population more than a million	53	52	98.1%

In case of million plus cities (53 cities/UAs), except Ghaziabad, all other cities/UAs have organised city bus services. This has been catalysed by the Bus funding scheme (under NURM) introduced by MoHUA to provide organized bus services in urban areas in India. As a result of above mentioned scheme, about 90 cities/towns/ UAs were

[40] http://censusindia.gov.in/2011-prov-results/paper2/data_files/India2/1.%20Data%20Highlight.pdf

[41] http://mohua.gov.in/cms/number-of-cities--towns-by-city-size-class.php

[42] http://censusindia.gov.in/2011-prov-results/paper2/data_files/India2/1.%20Data%20Highlight.pdf

[43] Population more than 0.1 million

[44] http://mohua.gov.in/cms/urban-growth.php

started providing city bus services. About 18,229 buses of different type/models were procured of which 76% of the buses were procured for million plus cities/UAs. Following graph (Figure 2-26) exhibits the number of buses procured under phase 1 and phase 2 of the NURM scheme for million plus cities/UAs. Six cities have procured more than 1,000 buses (including Hyderabad & all 8 million plus category cities) under the funding scheme. Table 2-21 provides break-up of the number of buses that were procured under the bus funding scheme for the million plus cities.

Table 2-21: Buses Procured under NURM Bus Funding Scheme – Million plus Cities

City Category	Total no. of buses Procured	% to total Buses Procured for Million Plus Cities
8 Million Plus	6,399	46%
4-8 Million	2,364	17%
2-4 Million	1,741	12%
1-2 Million	3,392	24%
Total	**13,936**	**100%**

Under the aforesaid scheme, more than 100 cities were funded for procurement of buses with an objective to ensure provision of organized bus services in those cites/towns.

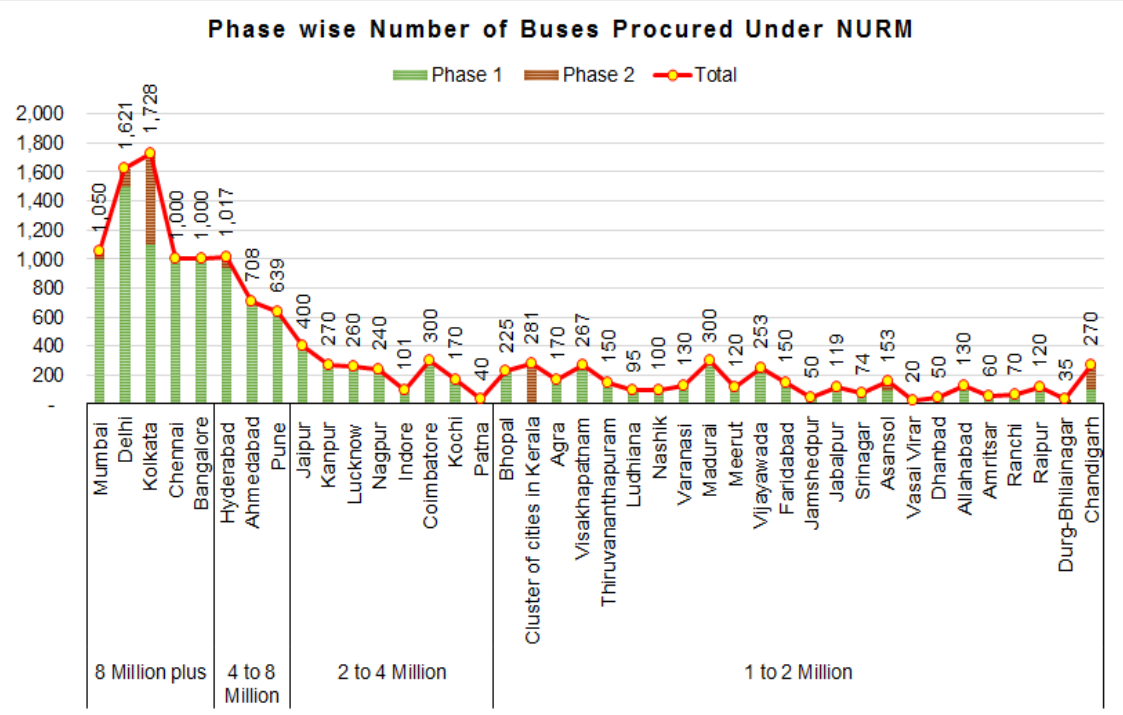


Figure 2-26: Number of Buses Procured under NURM

2.7.1.3 Extent of Supply or Availability of Fleet

The supply or availability of fleet is critical for ensuring adequate bus services in a city. The minimum requirement regarding availability of buses will differ considerably from city to city. Therefore, for country level analysis, it has been taken at 0.5 bus for every 1,000 population (LOS 2 level as per MoHUA norms is between 0.4 and 0.6) and one bus per 1,000 population based on international (between 0.5 and 1.2 per 1,000 population, average is taken at 1 per 1,000 population).[45]

Table 2-22 provides present supply of urban buses at the country level, and demand based on different norms i.e. MoHUA norms for LOS 2 and international norms based on PPIAF Urban Bus Toolkit.

Table 2-22: Assessment of Fleet Requirement – Total Urban Population

Description	Level of Services (LOS) as per MoHUA norms	Level of Services (LOS) as per PPIAF norms
Total Urban Population (as per 2011 Census) in India		377.1 million
Number of Buses per 1,000 population	0.5	1
Number of Buses Required	1,88,500	3,77,100
Total Number of Buses Available (approx.) under organized services	46,000	46,000
Total Number of buses under unorganized services (approx.)	20,000	20,000
Gap or Shortfall (only with organized bus services)	**142,500**	**3,31,100**
Gap or Shortfall (with both organized and unorganized services)	**122,500**	**3,11,100**

Total bus supply gap (only organized services) in 7,935 towns / cities (urban areas) is estimated as 1,42,500 buses based on MoHUA norms (for LOS 2) and 3,31,100 buses based on international norms. If we include both organized and unorganized services the total gap is estimated to be 122,500 buses based on MoHUA and 3,11,100 buses based on international norms. Similarly, analysis has been carried out for million plus

[45] PPIAF Urban Bus Toolkit

cities/UAs and the same is provided in the Table 2-23 below. About 42,407 buses are required to meet even LOS 2 of MOHUA norms considering the 2011 population.

Table 2-23: Assessment of Fleet Requirement –Million Plus Cities / UAs

Description	Level of Services (LOS) as per MoHUA norms	Level of Services (LOS) as per PPIAF norms
Total Million Plus Cities / Urban Agglomeration Population (as per 2011 Census)		160.7 million
Number of Buses per 1,000 population	0.5	1
Number of Buses Required	80,350	1,60,700
Total Number of Buses Available (approximate)	37,943[46]	37,943
Gap or Shortfall	**42,407**	**1,22,757**

The shortfall in supply of buses will have a significant influence on the service reliability, coverage, and overall public transport modal share.

At City level, based on the availability of fleet (refer Annexure 4 for assessment at city level), Level of Services (LOS) has been assessed for some of the selected cities and the same is provided below graph (Figure 2-27).

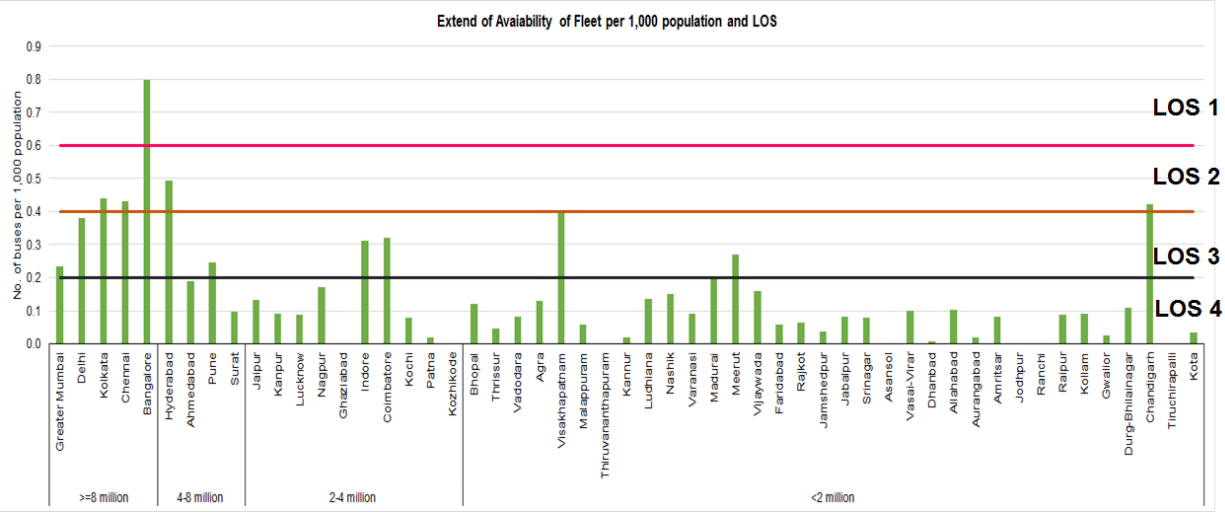


Figure 2-27: City wise Availability of Fleet and Level of Services

[46] Total buses in million plus cities is 36,750 however, including Urban Agglomeration areas the number of fleet in those areas is estimated at 37,943 buses.

Table 2-23 provides broad indication of gap in supply of buses in million plus cities. Further, following table (Table 2-24) presents city category / tier wise supply and gap in fleet (only organized bus services) has been estimated based on 2011 population and MoHUA norms. In case of Bengaluru and Visakhapatnam where the existing supply is more than the requirement (i.e 0.5 buses per 1,000 population) therefore, fleet strength is maintained as same for both existing and required number of buses. Annexure 4 provides city wise existing supply, number of buses required and gap or shortfall in million plus cities in India.

Table 2-24: Supply and Gap Assessment of Fleet in Million Plus Cities / UAs

City Category	Existing Number of Fleet	Number of Buses Required as per MoHUA norms	Gap in supply of Fleet	Gap as percentage of Total
8 Million Plus	22,327	34,958	12,631	28%
4-8 Million	7,554	11,870	4,316	10%
2-4 Million	2,077	12,135	10,058	23%
1-2 Million	5,985	23,423	17,438	39%
Total	**37,943**	**82,386**	**44,443**	**100%**

Similarly, following table (Table 2-25) presents city category / tier wise supply and gap in fleet for both organized and unorganized services has been estimated based on 2011 population and MoHUA norms. In case of Kolkata, Bengaluru, Jaipur, Visakhapatnam and Jodhpur where the existing supply is more than the requirement (i.e 0.5 buses per 1,000 population) therefore, fleet strength is maintained as same for both existing and required number of buses. City wise total existing supply, number of buses required and gap or shortfall for million plus cities in India is provided as Annexure 5.

Table 2-25: Total Supply and Gap Assessment of Fleet in Million Plus Cities / UAs

City Category	Existing Number of Fleet	Number of Buses Required as per MoHUA norms	Gap in supply of Fleet	Gap as percentage of Total
8 Million Plus	32,117	38,893	6,776	19%
4-8 Million	7,554	11,870	4,316	12%
2-4 Million	7,462	15,055	7,593	22%
1-2 Million	7,235	23,438	16,203	46%
Total	**54,368**	**89,256**	**34,888**	**100%**

2.7.2 Urban Bus Sector Industry Trend

Following section discusses key performance analysis of Urban PTAs based on the CIRT Report on State Transport Undertakings Profile & Performance for the year 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17 for the Urban Bus Sector.

It may be noted that all the PTAs don't furnish details to CIRT, and only 14 PTAs have been providing data periodically in the standard format prepared by the CIRT. The reporting PTAs Urban operations itself accounts for about 52% of the total fleet strength in urban operations in the country as on 2016-17. Therefore, urban average figure as published in CIRT annual reports have been used to assess the Industry Average Trend during aforesaid 5 year period for the various key performance parameters.

2.7.2.1 Physical Performance

A. Fleet Utilization

During the past 5 years (2012-13 to 2016-17), there is no significant variation in the fleet utilization for the Urban PTAs and it is about 85%. Figure 2-28 provides industry average fleet utilization trend for Urban PTAs between 2012-13 and 2016-17.

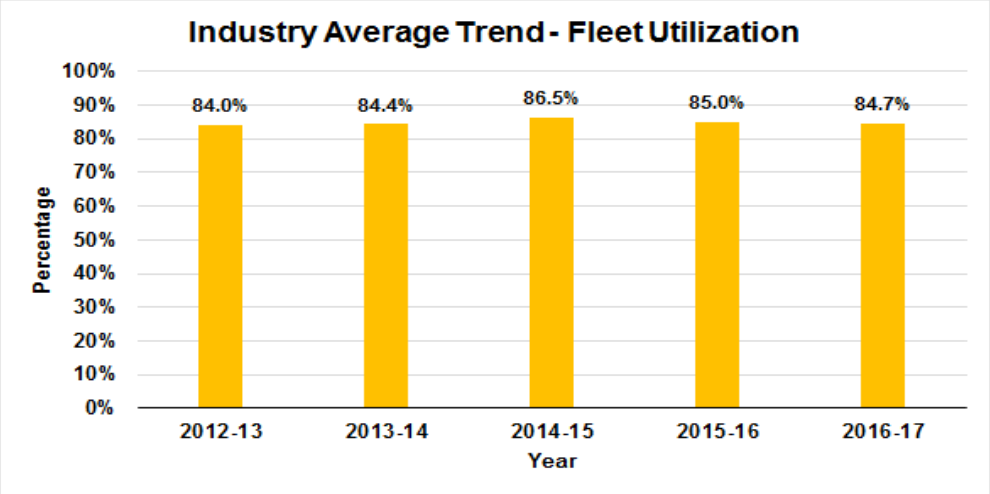


Figure 2-28: Industry Average Trend – Fleet Utilization

B. Fuel Efficiency

Fuel efficiency has been increasing over the period under consideration from 3.5 Kmpl to 3.9 Kmpl. It could be attributable to induction of new buses and, adoption of some good practices such as driver training and better maintenance etc. Figure 2-29 provides the industry average fuel efficiency trend for Urban PTAs between 2012-13 and 2016-17.

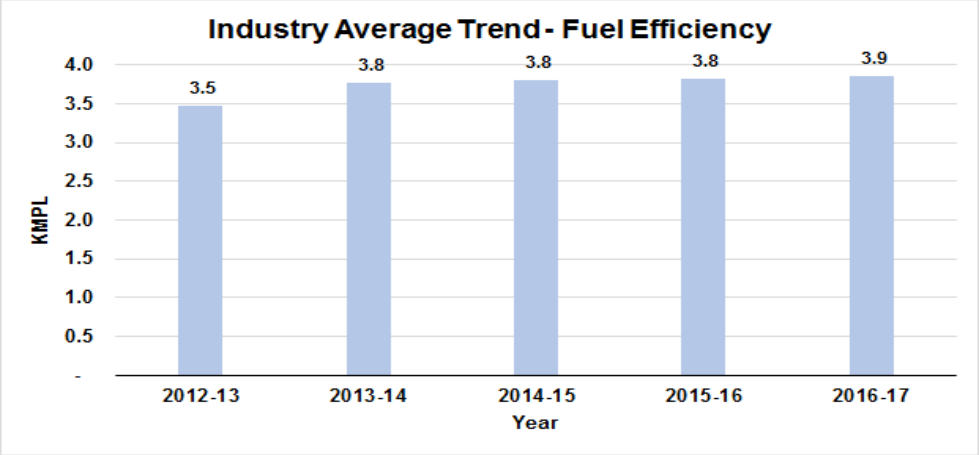


Figure 2-29: Industry Average Trend – Fuel Efficiency

C. Vehicle Productivity

Bus utilization for Urban PTAs shows an increasing trend from 188 km per bus per day to 207 km per bus per day during the assessment period between 2012-13 and 2016-17. Figure 2-30 provides industry average bus utilization (km per day per bus) trend for Urban PTAs between 2012-13 and 2016-17.

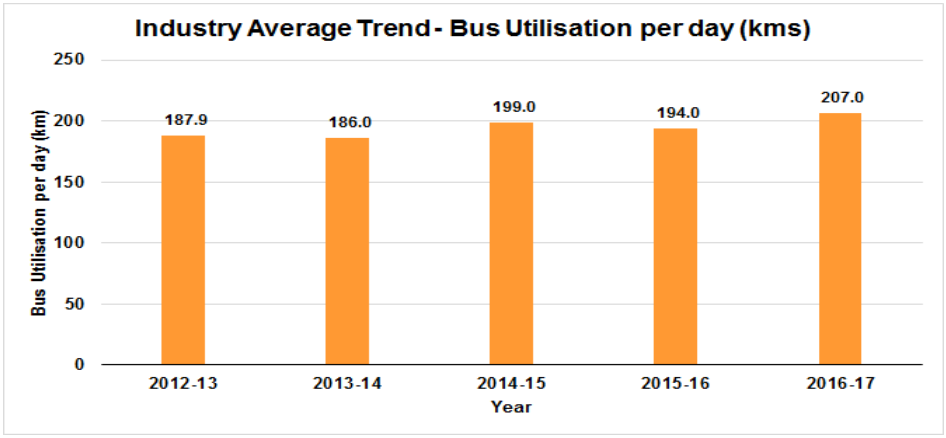


Figure 2-30: Industry Average Trend – Bus Utilization per Day (km)

D. Staff to Bus Ratio

Staff per bus ratio for the Urban PATs has been reducing from 7.7 staff per bus to 6.6 staff per bus. Most of the PTAs are including hired buses into their fleet where the driver and maintenance are provided by the private operator. Some of these PTAs have also outsourced part of their services such as security, office maintenance etc. which is also the reason for reduction of Staff to bus ratio for the urban STUs. Figure 2-31 provides industry average staff to bus ratio trend for Urban PTAs between 2012-13 and 2016-17.

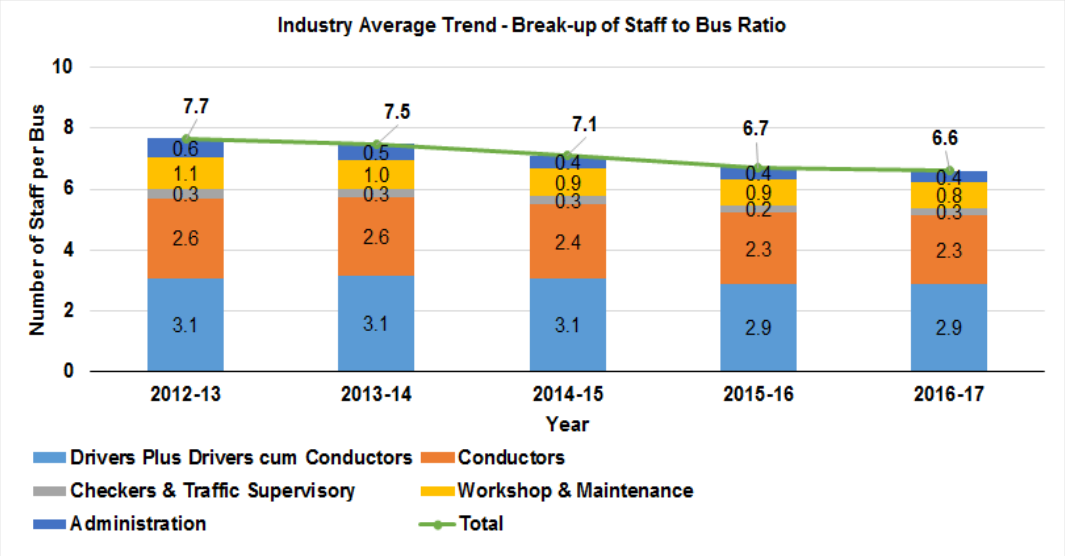


Figure 2-31: Industry Average Trend – Staff to Bus Ratio

E. Passengers Carried or Ridership per Bus per Day

Ridership per bus per day trend shows a mixed pattern for Urban PTAs during the 5 year period of assessment. Passengers carried per bus per day is significantly reduced during the year 2015-16 mainly for the PTAs such as BEST, NMMT, TMTU, etc. though there is not much variation in the other performance parameters affecting the ridership such as punctuality in services, breakdown, accident and schedule km etc. Figure 2-32 provides industry average ridership per bus per day trend for Urban PTAs between 2012-13 and 2016-17.

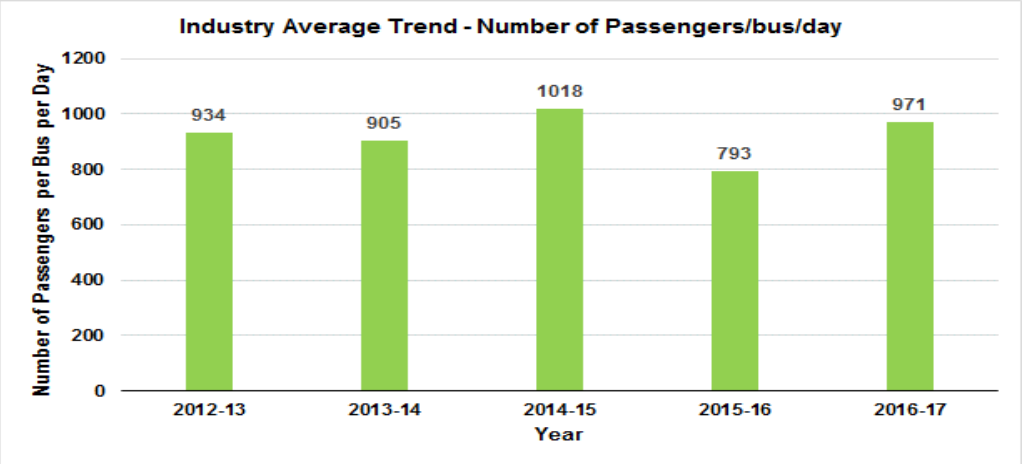


Figure 2-32: Industry Average Trend – Ridership per Bus per Day

2.7.2.2 Financial Performance Indicators

A. Revenue per km

Marginal increase in total revenue per km has been observed during the assessment period. The total revenue per km has increased from Rs. 39.4 per km in 2012-13 to Rs. 46.8 per km in 2016-17. The total revenue consists of traffic revenue, non-traffic revenue and other revenue. The traffic revenue is the major revenue source and during the assessment period it has increased by Rs. 3.8 per km. Further, an increase of Rs. 2.9 per km in other revenue is also witnessed during the assessment period. Increase in non-traffic revenue is mainly due to commercial development of bus shelters, terminals and depots, advertisement revenue, etc. Other revenue includes the subsidy and reimbursements from the government. Figure 2-33 provides Revenue per km trend for Urban PTAs industry average between 2012-13 and 2016-17.

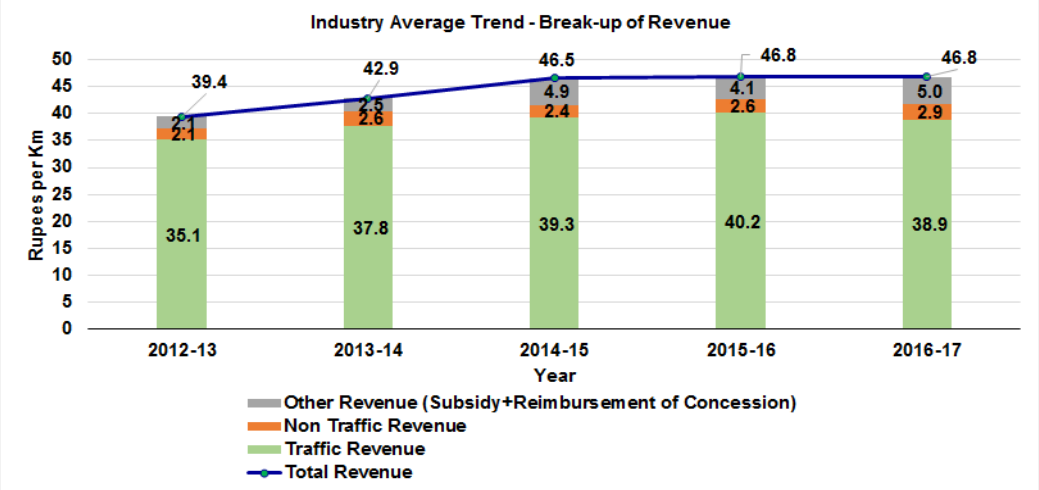


Figure 2-33: Industry Average Trend – Break-up of Revenue per km

B. Cost per km

Total Cost per Km has increased from Rs. 65.3 per km to Rs. 99.2 per km during the assessment period. Primary factor for such high increase is due to rise in manpower cost which accounts for about Rs. 17.4 per km i.e. 51% of the total increase in cost per km followed by interest cost increase which is about Rs. 14.4 per km. Besides the aforesaid, fuel cost (Rs. 1 per km) and other costs including depreciation cost (Rs. 1.1 per km) also increased during the period. It may be noted that break-up data/figures for the year 2013-14 and 2014-15 do not add-up to the total cost for the corresponding period; therefore, those two years' break-up figures have been excluded from the analysis. Figure 2-34 provides industry average Cost per km break-up trend for Urban PTAs between 2012-13 and 2016-17.

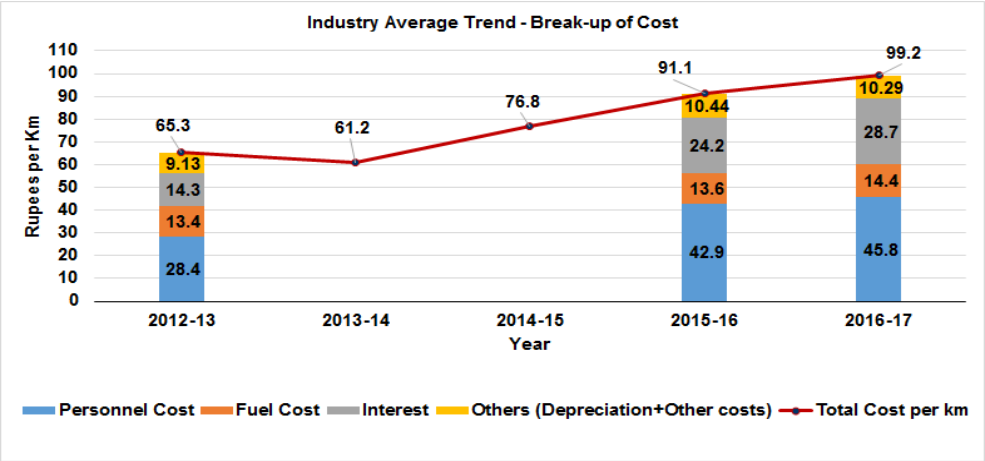


Figure 2-34: Industry Average Trend – Break-up of Cost per km

C. Revenue per km Composition

The traffic revenue as percentage of the total revenue has been declining from 89% to 83% and at the same time other revenue as percentage of total revenue km has been increasing from 5% to 11% during the assessment period for the Urban PTAs. Figure 2-35 provides Revenue composition trend for Urban PTAs industry average between 2012-13 and 2016-17.

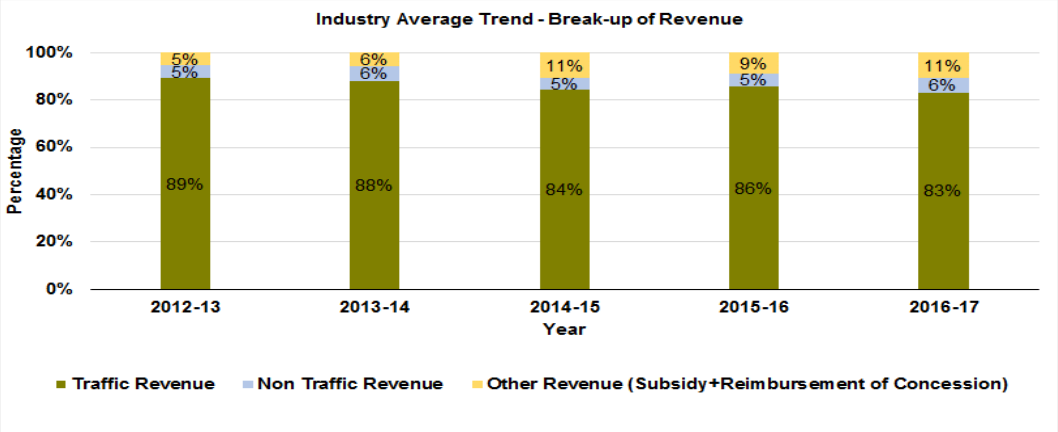


Figure 2-35: Industry Average Trend – Revenue Break-up in terms of Percentage

D. Cost per km Composition

During the assessment period, interest cost as percentage of total cost for Urban PTAs have been increasing from 21% of total cost per km to 29% of total cost. While fuel cost as percentage of total cost has been reducing from 21% of total

cost to 15% of total cost during the period. Figure 2-36 provides Cost composition trend for Urban PTAs industry average between 2012-13 and 2016-17.

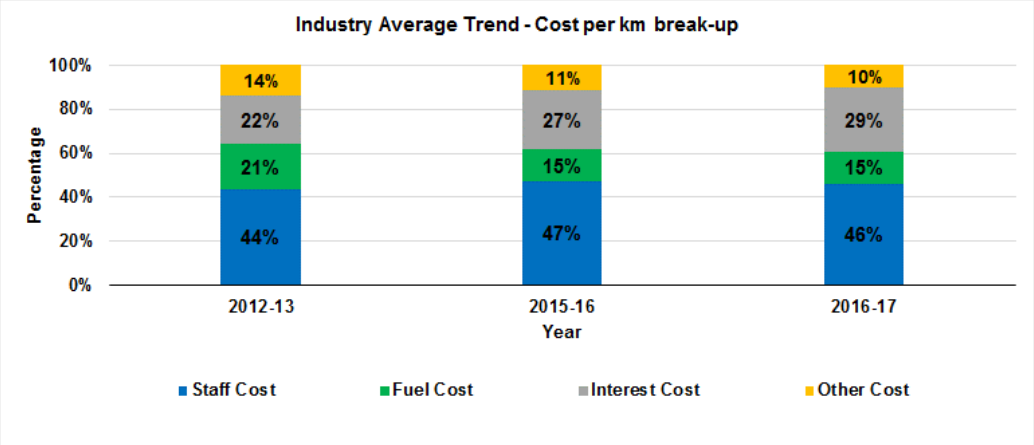


Figure 2-36: Industry Average Trend –Cost Break-up in terms of Percentage

E. Surplus or Deficit per km

During the assessment period, deficit per km has doubled from Rs. 26 per km to Rs. 52 per km for Urban PTAs. Total deficit/loss for the reported Urban PTAs in 2016-17 was Rs. 78,630 million as per the CIRT report for the year 2016-17.

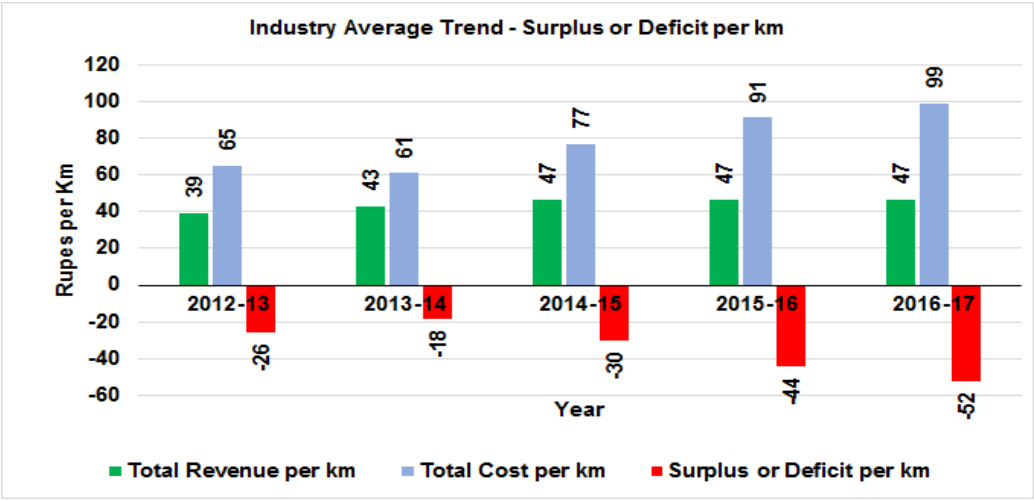


Figure 2-37: Industry Average Trend – Revenue, Cost and Surplus or Deficit per km

Figure 2-37 provides industry averages for Revenue per km, Cost per km and Surplus or Deficit per km trend for Urban PTAs between 2012-13 and 2016-17.

2.7.3 Performance Analysis by Type of PTAs

2.7.3.1 Physical Performance by Type of PTAs

A. Fleet Utilization

The Fleet/ Bus Utilization indicates the extent to which buses are used for productivity purposes. It is worked out based on the number of buses operated in a day as a percentage of the number of available buses. Bus utilization normally varies during different times of the day, different days of the week, and different times of the year. The urban industry average [47] is seen ranging between 84.0 and 86.5% for urban PTAs in India during 2012-13 to 2016-17.

SRTCs fleet utilization trend is presented in the following graph (Figure 2-38). The fleet utilization is seen varying between 82.9% (DTC) and 99.7% (APSRTC) during the assessment period.

It can be seen that SRTCs' fleet utilization is higher than the Urban PTAs industry average except in case of DTC during two years. Maximum fleet utilization is observed in APSRTC, NWKnRTC and TSRTC whereas minimum in DTC; however, fleet utilization levels remained largely stable with marginal variation for rest of SRTCs.

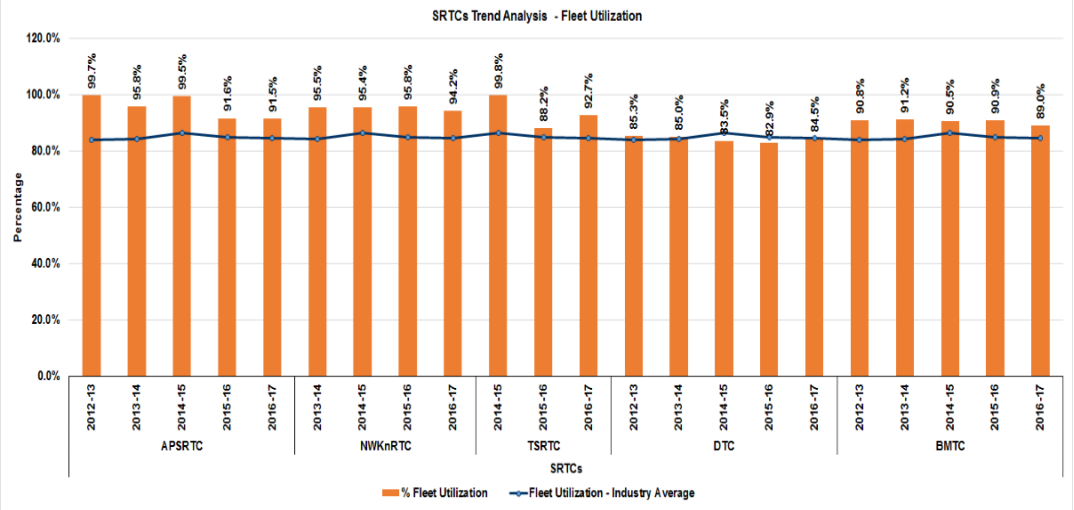


Figure 2-38: SRTCs Fleet Utilization Trend

Amongst SPCs/SPVs, lowest fleet utilization is observed in case of JCTSL (53.6% in 2015-16, 56.2% in 2016-17 and 60% in 2014-15), whereas MTC - Chennai is closer to the Urban PTAs industry average. Reason for such low bus fleet utilization could be poor maintenance and management practices, in case

[47] Urban PTAs Average, CIRT, State Transport Undertakings Profile & Performance, 2012-13 to 2016-17

of JCTSL and PMPML (PMPML has outsourced the maintenance activity for part of its fleet). Some of the SPVs' fleet utilization trend is presented in the following graph (Figure 2-39).

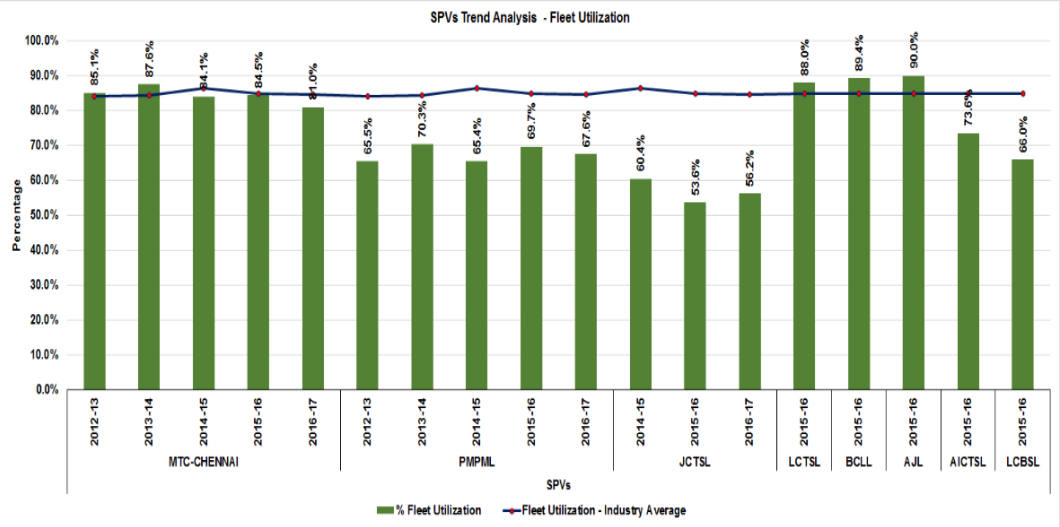


Figure 2-39: SPVs' Fleet Utilization Trend

MTUs show a mixed performance for fleet utilization with BEST, CTU and KMTU closer to the Urban PTAs' industry average. In case of Government Department Undertakings, namely CTU, the fleet utilization trend is closer to the Urban PTAs' industry average during the assessment period. Some of the MTUs and Government Department PTAs' fleet utilization trend is presented in Figure 2-40.

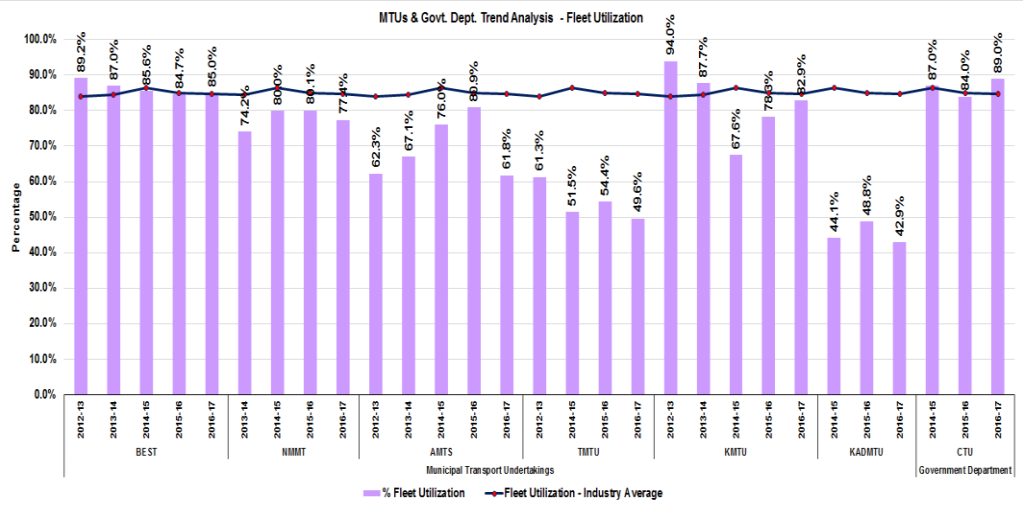


Figure 2-40: MTUs and Govt. Dept. Fleet Utilization Trend

B. Fuel Efficiency

Fuel efficiency is one of the important parameters which directly influences the operating cost of city bus services. Some of the cities like Delhi are using alternate fuel i.e. CNG, and most other cities are using diesel as the type of fuel for city bus operations. Recently, few cities have embarked on pilots with electric buses. Average fuel efficiency (diesel as fuel) is ranging between 3.5 and 3.9 km per litre for Urban PTAs during the assessment period.

Consumption of higher quantum of fuel could be attributable to poor road condition, traffic situation, maintenance issues, poor engine quality, driving style, and other such factors.

It can be seen from the graph (Figure 2-41) that in case of SRTCs fuel efficiency varies between 3.74 km per litre (BMTC) to 5.25 km per litre (APSRTC). SRTCs show figures above or close to industry average for fuel efficiency.

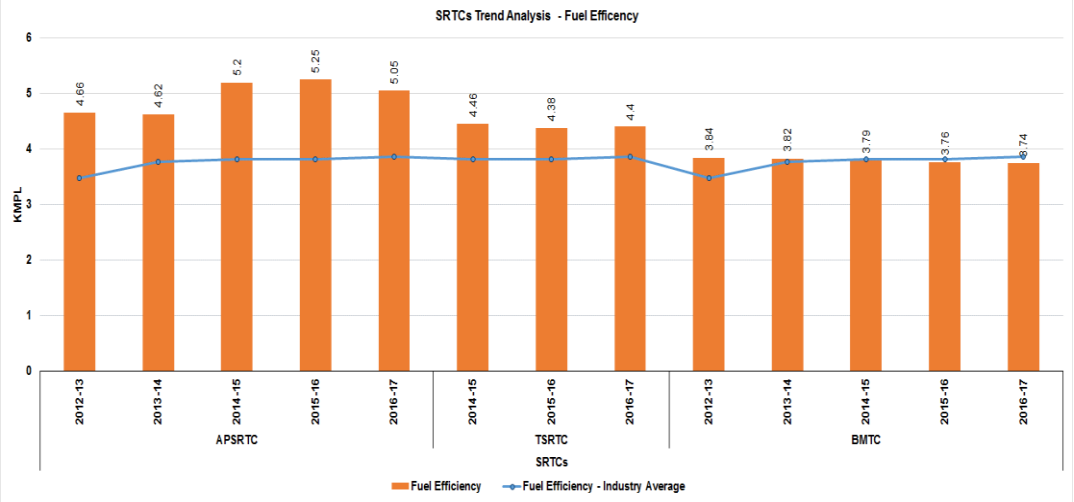


Figure 2-41: SRTCs Fuel Efficiency Trend

SPVs indicate a mixed performance for fuel efficiency with MTC-Chennai, AICTSL and LCTSL having figures above the Urban PTAs' industry average during the assessment period. Some of the SPVs' fuel efficiency trend is presented in the following graph (Figure 2-42).

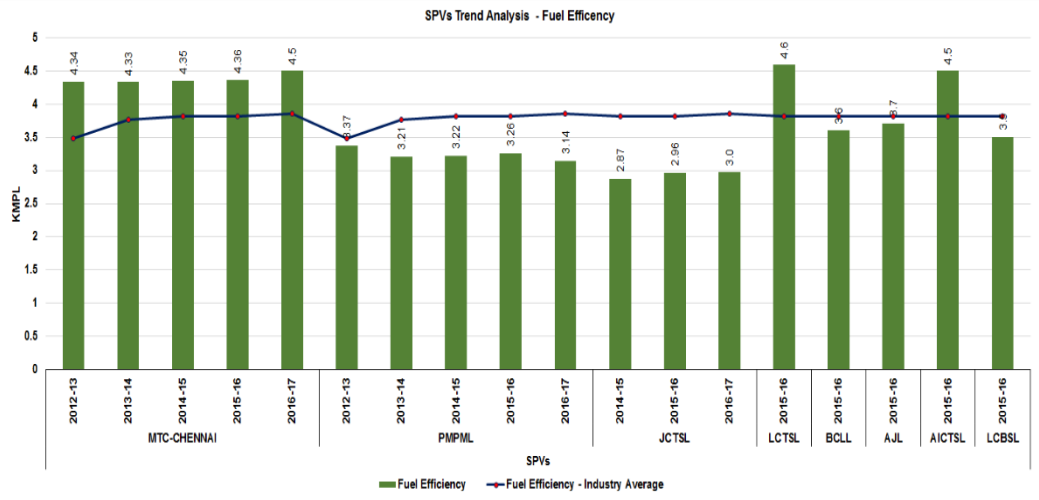


Figure 2-42: SPVs Fuel Efficiency Trend

MTUs and Govt. Dept. (except KMTU) have their fuel efficiency below the Urban PTAs' industry average during the period under consideration. Some of the MTUs and Government Department PTAs fuel efficiency trend is presented in Figure 2-43.

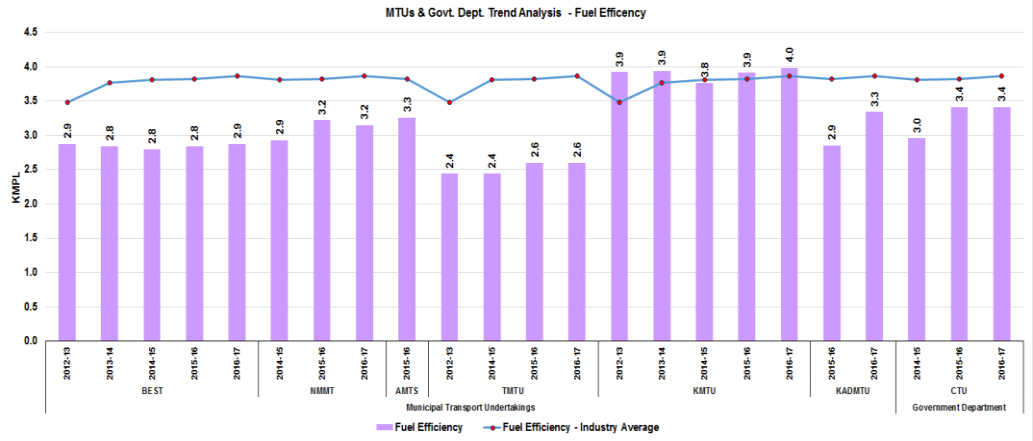


Figure 2-43: MTUs and Govt. Dept. PTAs Fuel Efficiency Trend

Graph below (Figure 2-44) exhibits the fuel efficiency of CNG buses for SRTCs and the same varies from 2.2 km per kg (DTC) to 4.6 km per kg (APSRTC). DTC has fuel efficiency lower than the other two SRTCs (APSTC and TSRTC) during the assessment period. It may be noted that industry average figure for Urban PTAs is not published by CIRT for the assessment period.

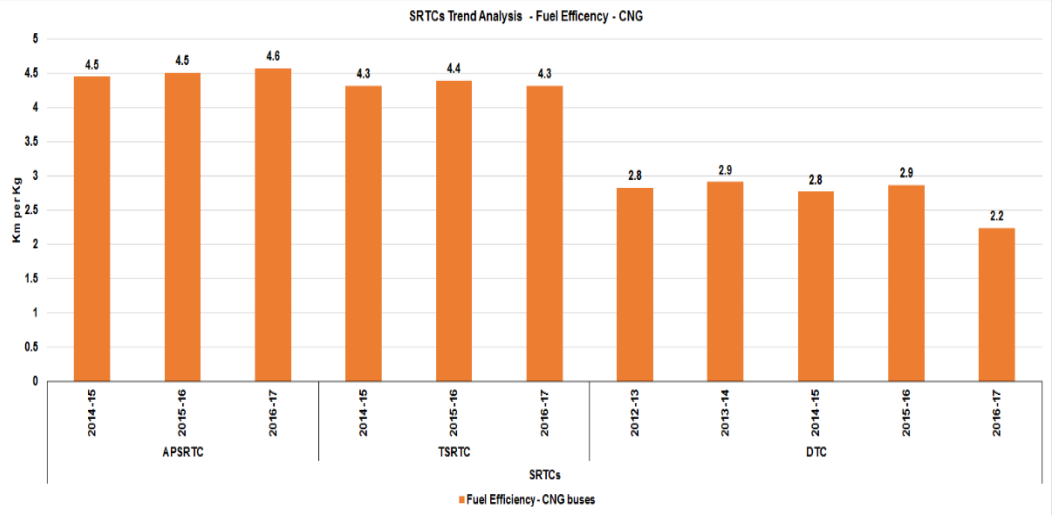


Figure 2-44: SRTCs Fuel Efficiency Trend for CNG Buses

In case of PMPML, a declining trend is observed (Figure 2-45) during the assessment period and fuel efficiency for CNG buses is seen reducing from 3.5 km per kg (2012-13) to 3.1 km per kg (2016-17).

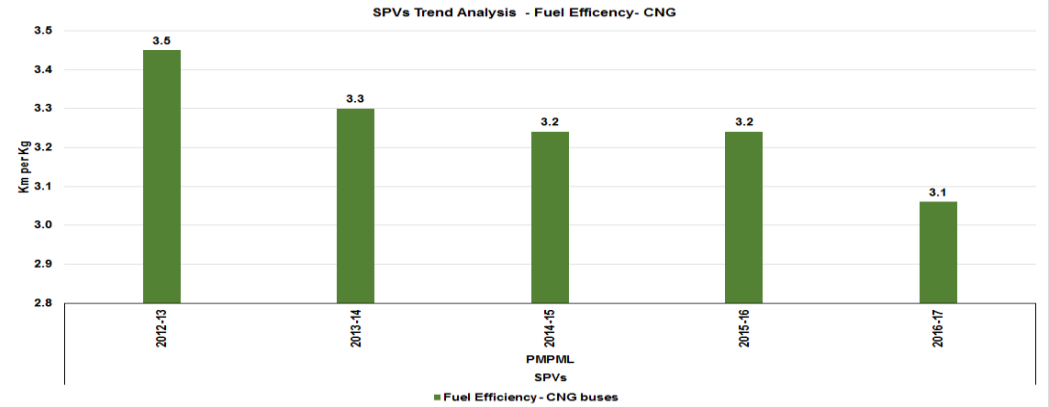


Figure 2-45: SPV Fuel Efficiency Trend for CNG Buses

MTUs such as BEST, NMMT and TMTU show a mixed performance for fuel efficiency for CNG buses during the assessment period (Figure 2-46).

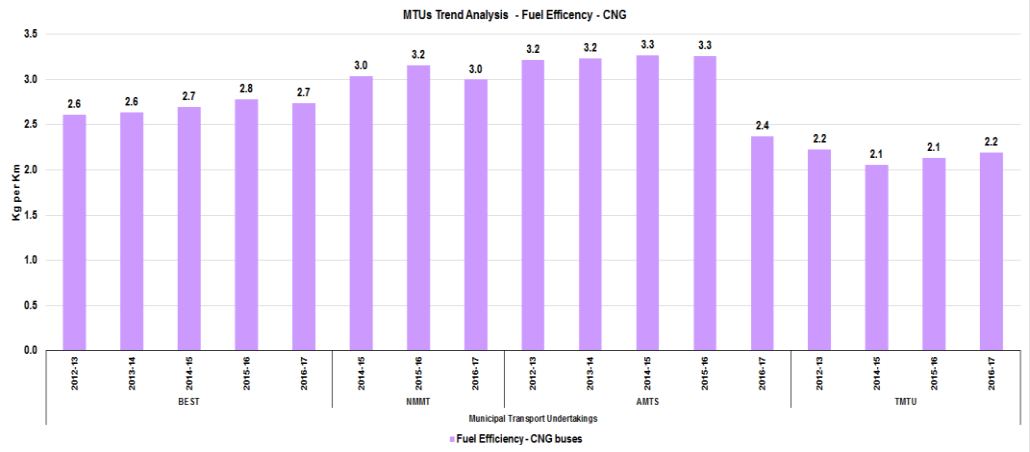


Figure 2-46 : MTUs Fuel Efficiency Trend for CNG Buses

C. Vehicle Productivity

Buses are used to provide services to commuters based on the daily demand. The intensity of usage of fleet is an important factor which needs to be considered as it is directly linked to the cost of operation and capital deployed. Average kilometres (effective/ revenue earning kilometres) per bus per day is influenced by the speed at which the bus is operated in the urban area, proportion of idle to running time, and hours of operation each day. Typically, on an average, buses are operated anywhere between 150 km and 300 km per day, and some buses are operated more than this to meet the peak demand while the average will be in the same range as specified above. Industry average[48] for Urban PTAs is ranging between 186 km per bus per day to about 207 km per bus per day.

SRTCs show a mixed performance for vehicle productivity with APSRTC, NWKnRTC and TSRTC above the Urban PTAs' industry average during the assessment period. Figure 2-47 provides SRTCs' Bus Utilization Trend during the assessment period.

[48] Urban PTAs Average, CIRT, State Transport Undertakings Profile & Performance, 2012-13 to 2016-17

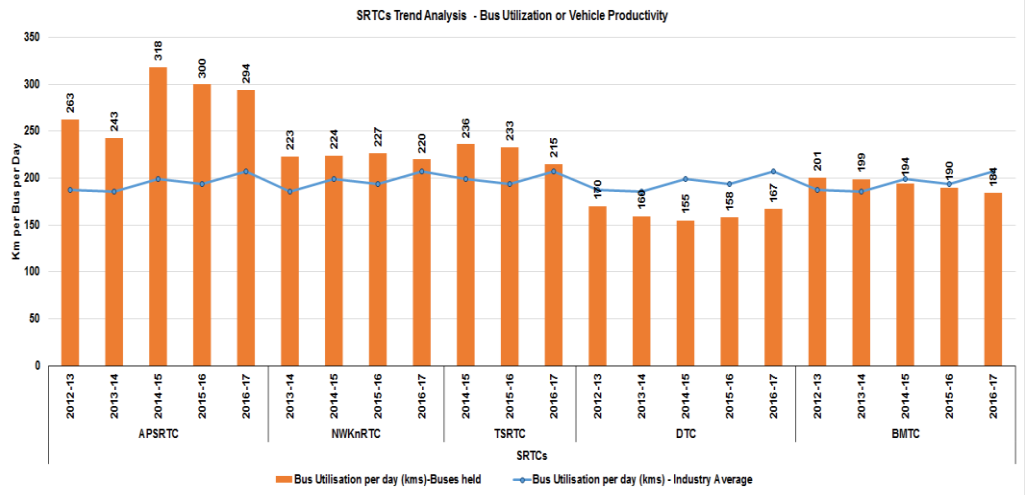


Figure 2-47: SRTCs Bus Utilization Trend

SPVs show a mixed performance for vehicle productivity with MTC Chennai and AICTSL are above industry average. Graph below (Figure 2-48) exhibits SPVs' Bus Utilization Trend during the assessment period.

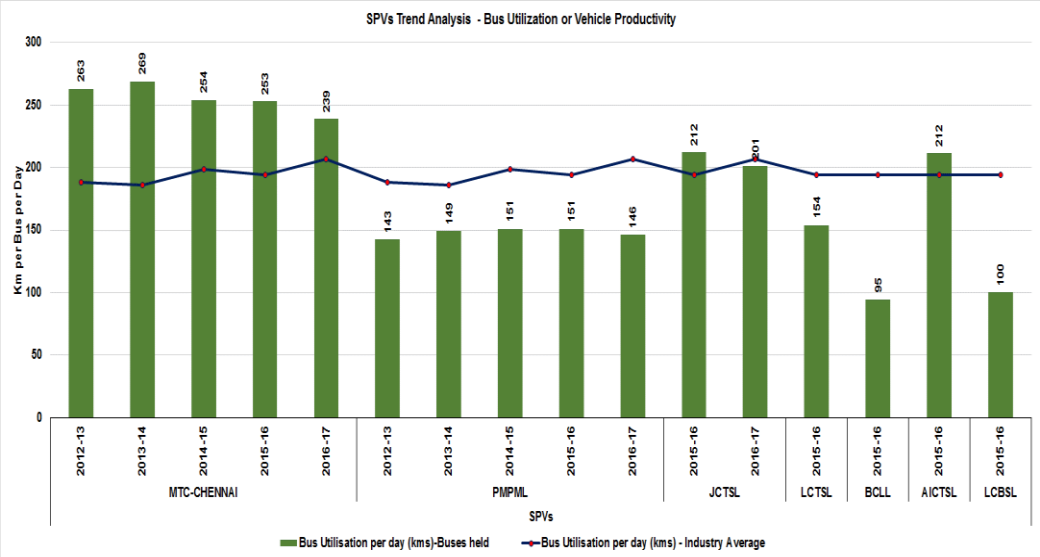


Figure 2-48: SPVs Bus Utilization Trend

MTUs and Govt. Dept. have their vehicle productivity less than the industry average. Figure 2-49 provides MTUs and Government Department PTAs Bus Utilization Trend during the assessment period.

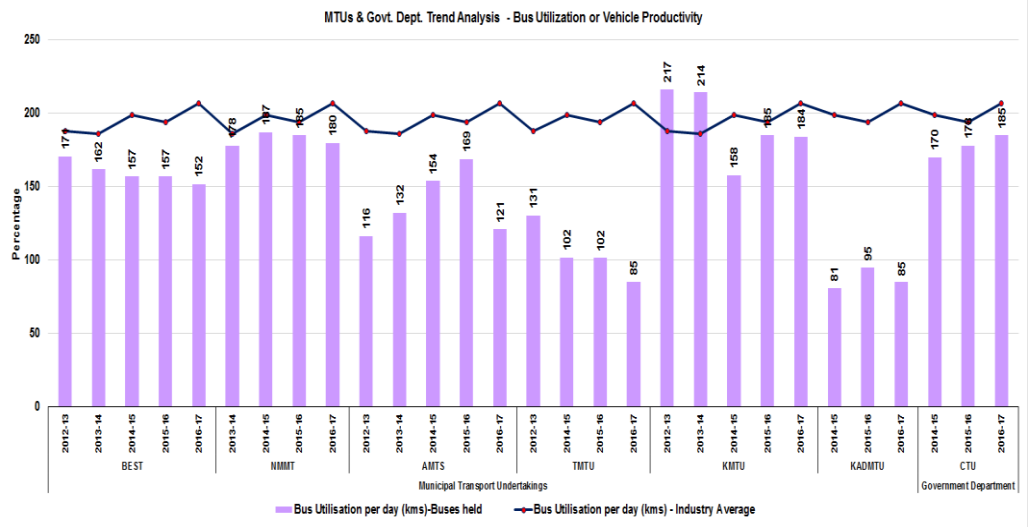


Figure 2-49: MTUs and Govt. Dept. PTAs Bus Utilization Trend

D. Staff to Bus Ratio

Staff to Bus Ratio or Staff Productivity is one of the critical parameters that impacts the operational efficiency. It is a broad indicator based on which efficiency of different operating entities is compared. Further, if some or many of the activities including fleet maintenance activities are outsourced, then ratio will be comparatively lesser than that for an operator who is undertaking all such activities in-house. However, contract staff details are generally not reported; therefore, actual ratio would vary if such contract staff details are also included. The staff to bus ratio industry average[49] for Urban PTAs is ranging from 7.7 to 6.6 during the assessment period.

From the graph below (Figure 2-50), SRTCs show mixed performance for staff to bus ratio with NWKnRTC and DTC having staff to bus ratio above industry average during the assessment period. BMTC has done multi-skilling of manpower for maintenance (number of trades were reduced from 25 to 3). Further, outsourcing of maintenance and driver has been driving down the staff to bus ratio.

[49] ibid.

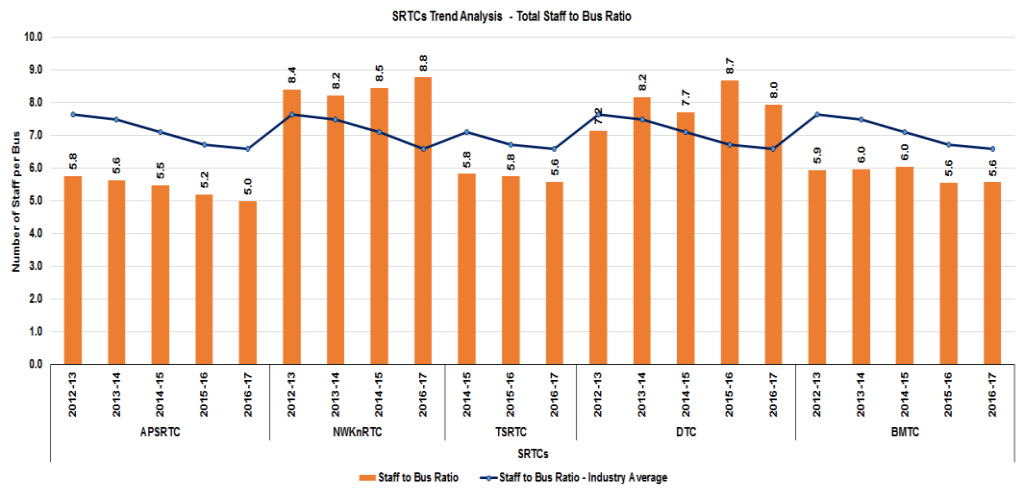


Figure 2-50: SRTCs Total Staff to Bus Ratio Trend

It can be seen from the Figure 2-51, SPVs (except PMPML) have their staff to bus ratio less than the industry average during the assessment period.

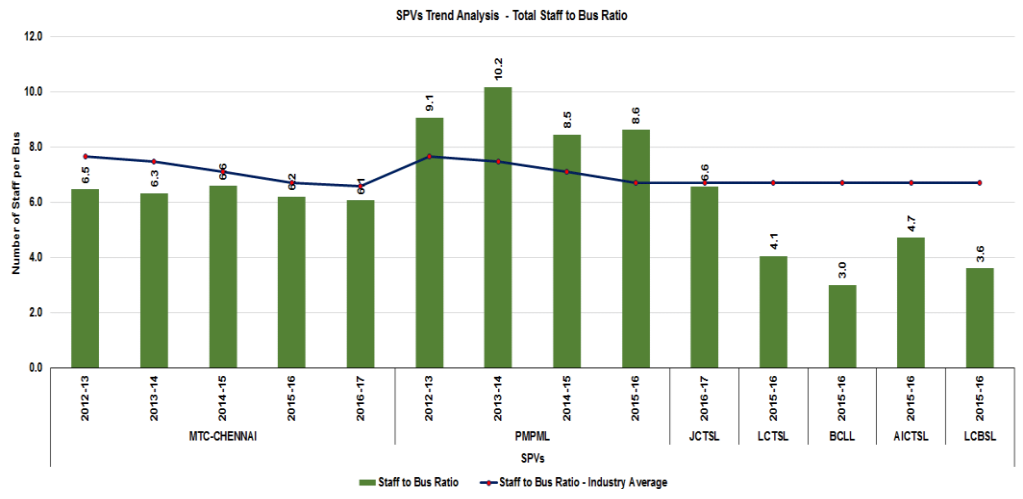


Figure 2-51: SPVs Total Staff to Bus Ratio Trend

MTUs and Government Department PTAs (except AMTS) have their staff to bus ratio above or close to industry average. Figure 2-52 provides MTUs and Government Department PTAs Total Staff to Bus Ratio Trend during the assessment period.

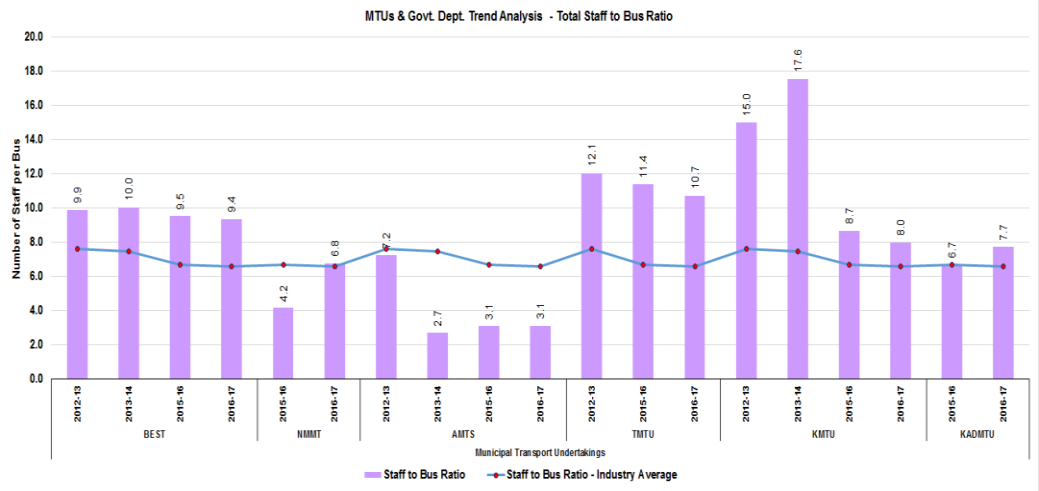


Figure 2-52: MTUs and Govt. Dept. PTAs Total Staff to Bus Ratio

E. Passenger Carried or Ridership per Bus per Day

In this case, the number of passengers carried per bus per day is assessed. It provides an insight about the bus capacity, mix of type of buses deployed (standard, mini buses and midi buses, etc.), duration of operating hours and route length. Average passengers carried per bus for urban PTAs is ranging between 793 passengers per bus per day and 1,018 passengers per bus per day during the assessment period.

SRTCs show a mixed performance for Ridership per Bus per Day with NWKnRTC having figures above industry average. The graph below (Figure 2-53) exhibits SRTCs Passenger Carried or Ridership per Bus per Day Trend during the assessment period.

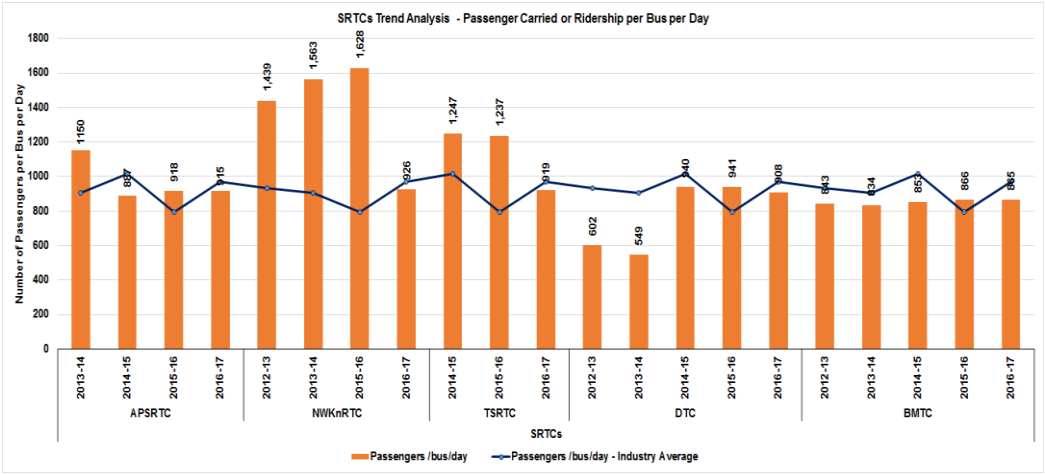


Figure 2-53: SRTCs Passenger Carried or Ridership per Bus per Day

SPVs show a mixed performance for ridership per bus per day with MTC-Chennai, AICTSL and LCBSL having figures above industry average. Figure 2-54 provides SPVs Passenger Carried or Ridership per Bus per Day Trend during the assessment period.

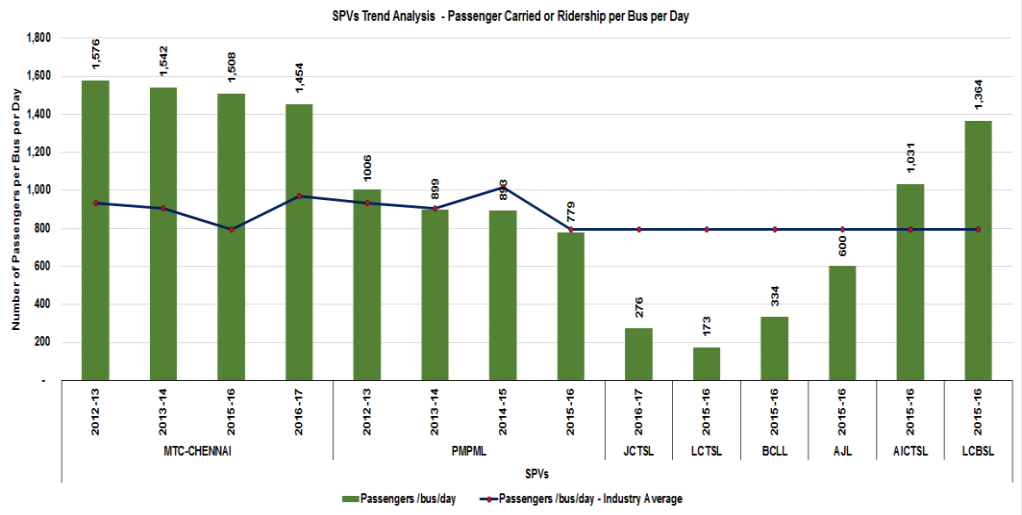


Figure 2-54: SPVs Passenger Carried or Ridership per Bus per Day Trend

MTUs and Government Department (except TMTU) have their ridership per bus per day less than the industry average. Figure 2-55 exhibits MTUs and Government Department PTAs Passenger Carried or Ridership per Bus per Day Trend during the assessment period.

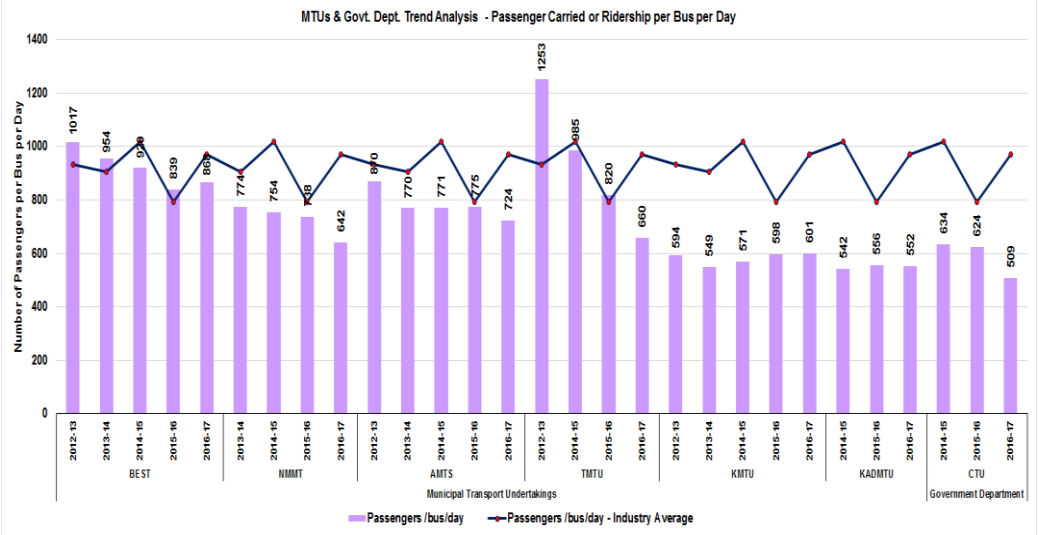


Figure 2-55: MTUs and Govt. Dept. PTAs Ridership per Bus per Day Trend

2.7.3.2 Financial Performance by Type of PTAs

A. Revenue or Earning per Km

It is the ratio of average total revenue earned per bus per day and effective kilometres or revenue kilometres operated per bus per day. It indicates the revenue earning potential of the operator for every kilometre it operates. The total revenue typically includes fare box revenue, non-fare box revenue, reimbursement of concession and subsidy. Average Revenue per km (Industry average[50]) is ranging between Rs. 39.4 per km to Rs. 46.8 per km during the assessment.

From the graph (Figure 2-56), SRTCs show within the Urban PTAs industry average during the assessment period except NWKnRTC (Rs. 29.7 per km in 2015-16) for the total Revenue per km. Highest traffic revenue per km (Rs. 42.9 per km in 2015-16) is observed in case of BMTC during the assessment period amongst SRTCs.

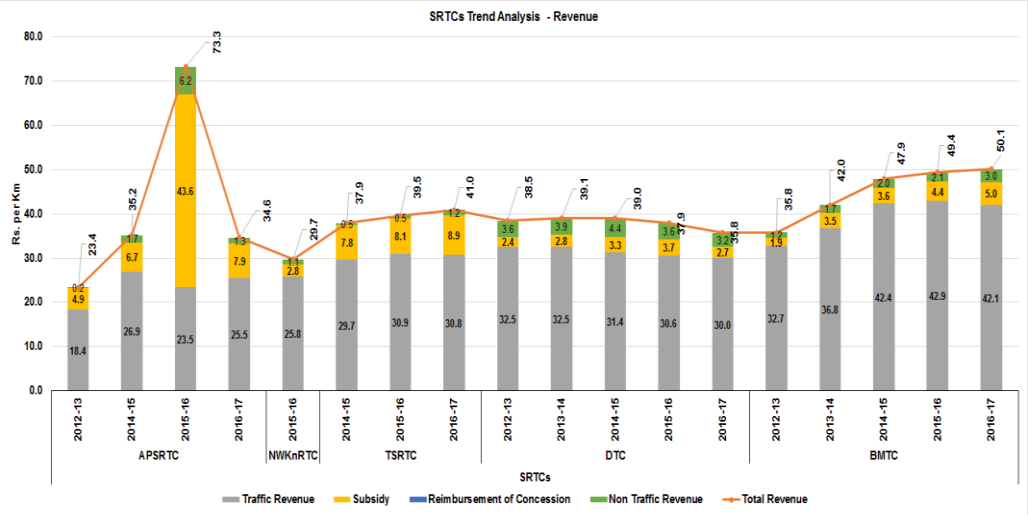


Figure 2-56: SRTCs Total Revenue per km Trend

Amongst SPVs, the total Revenue per km of Rs. 67.8 per km was observed with PMPML which was the highest among SPVs and lowest total revenue per km was witnessed at Rs. 20.2 per km for LCTSL in 2015-16. Break-up of total revenue per km is not available for some PTAs. Graph below (Figure 2-57) exhibits SPVs Revenue per km trend during the assessment period.

[50] Urban PTAs Average, CIRT, State Transport Undertakings Profile & Performance, 2012-13 to 2016-17

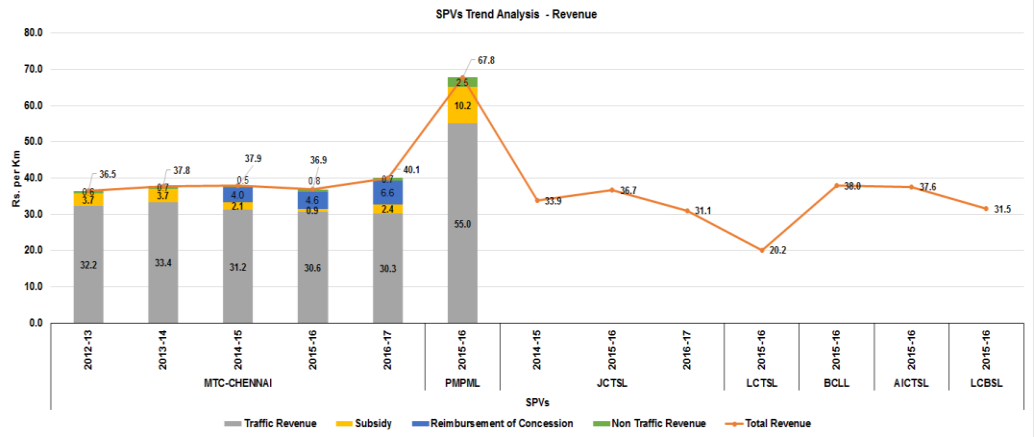


Figure 2-57: SPVs Revenue per Km Trend

Amongst MTUs, KADMTU realised the total revenue per km of Rs. 66.9 in 2014-15 to Rs. 85.8 in 2016-17 and it was highest among such PTAs and it received the highest subsidy of Rs. 44.5 per km in 2016-17 which accounts for about 52% of the total revenue per km for the corresponding period.

Government Department PTA i.e. CTU shows a declining trend of total revenue per km between 2014-15 and 2016-17.

Graph below (Figure 2-58) exhibits MTUs and Government Department PTAs Revenue per km trend during the assessment period.

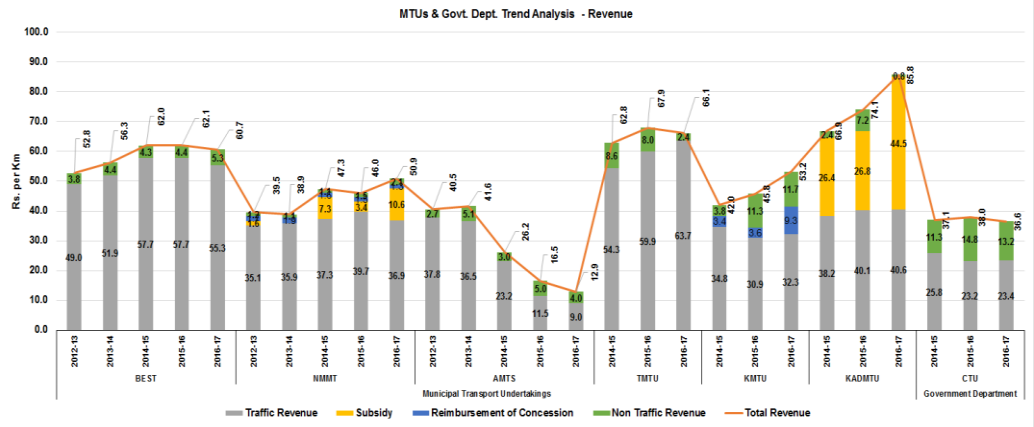


Figure 2-58: MTUs and Government Department PTAs Revenue per km Trend

B. Revenue per Bus per Day

It indicates the average revenue earning per bus per day, and is dependent on the number of high demand/revenue earning routes and low-revenue earning routes serviced by the operator in the city. Besides the aforesaid, other influencing factors such as number of buses deployed in the city on the high revenue earning routes and low revenue earning routes in the city are also

important. The estimated average revenue per bus per day for the operating entities considered for this analysis is ranging from Rs. 8,941 in 2012-13 to Rs. 10,941 in 2014-15 per bus per day.

SRTCs show a mixed performance for Revenue per bus per day during the assessment period (Figure 2-59).

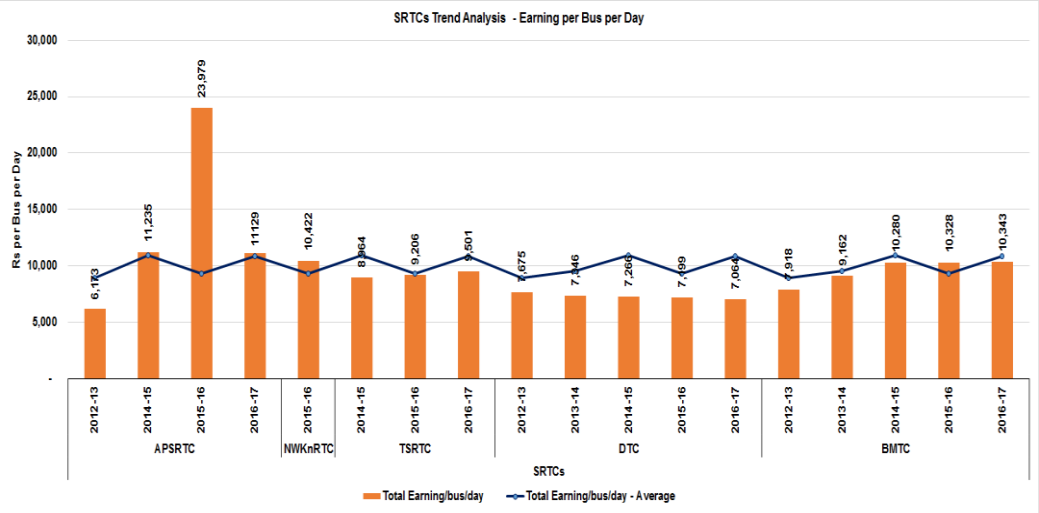


Figure 2-59: SRTCs Revenue per Bus per Day Trend

Amongst SPVs, both MTC-Chennai and PMPML registered higher than average revenue per bus per day during the assessment period (Figure 2-60). While, LCTSL, LCBSL and JCTSL show revenue per bus per day far lesser than the average.

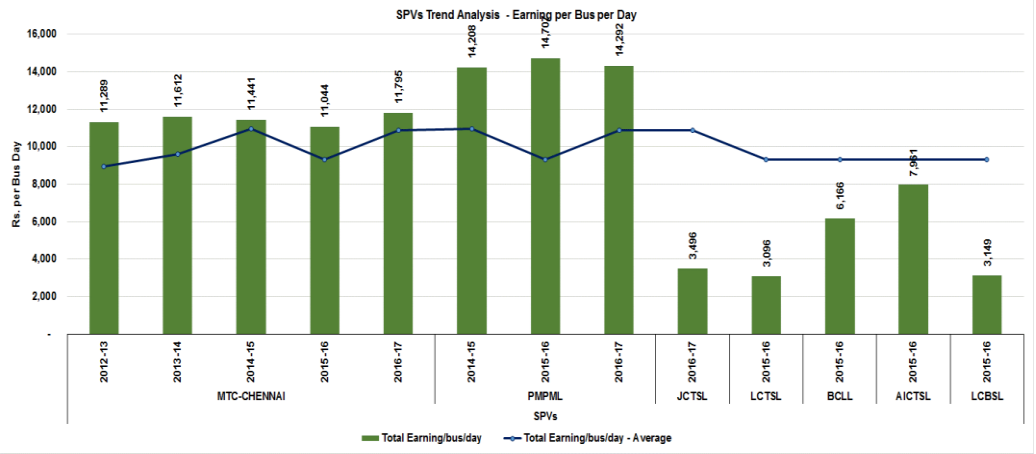


Figure 2-60: SPVs Revenue per Bus per Day Trend

From the graph (Figure 2-61), it may be seen that except AMTS, all other MTUs' performance is closer to the average revenue per bus per day. Similarly, CTUs' performance is less than the average revenue per bus per day.

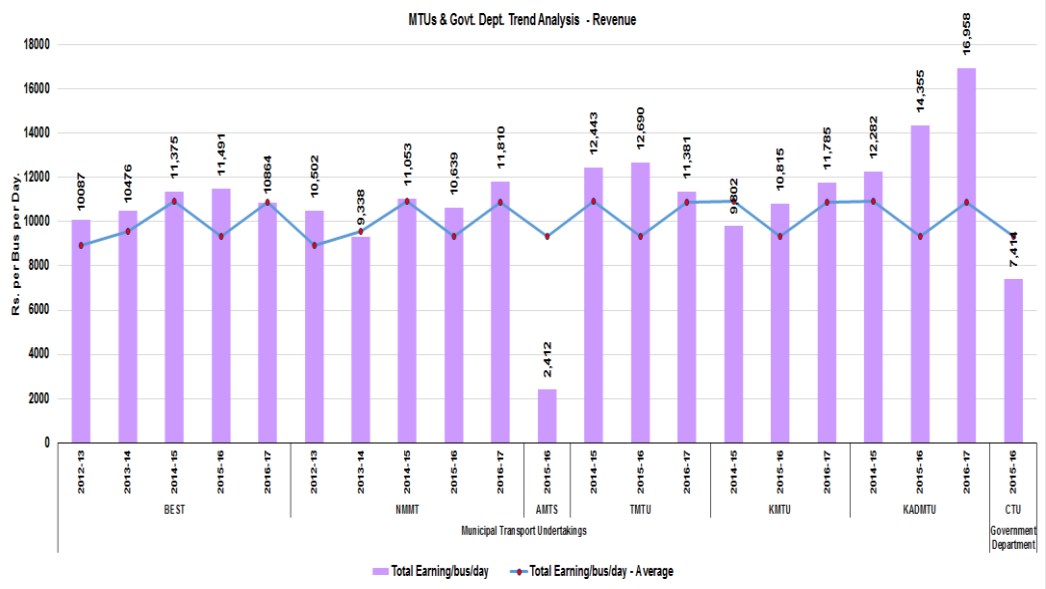


Figure 2-61: MTUs and Government Department PTAs Revenue per Bus per Day Trend

C. Cost per Km

It is the ratio of average operating cost per bus including salaries, fuel consumption, other consumptions etc. and effective kilometres or revenue kilometres operated per day per bus. Average cost of operation (Industry average[51]) for Urban PTAs is ranging from Rs. 65.3 per km to Rs. 99.2 per km during the assessment period. Such a high average cost per km is due to DTCs cost per km as it has increased from Rs. 120.7 to 245.3 per km between 2012-13 and 2016-17.

It can be seen from the graph (Figure 2-62) that the Cost per Km for all the SRTCs is below industry average except for DTC.

[51] Urban STUs Average, CIRT, State Transport Undertakings Profile & Performance, 2012-13, 2013-14, 2015-16 and 2016-17

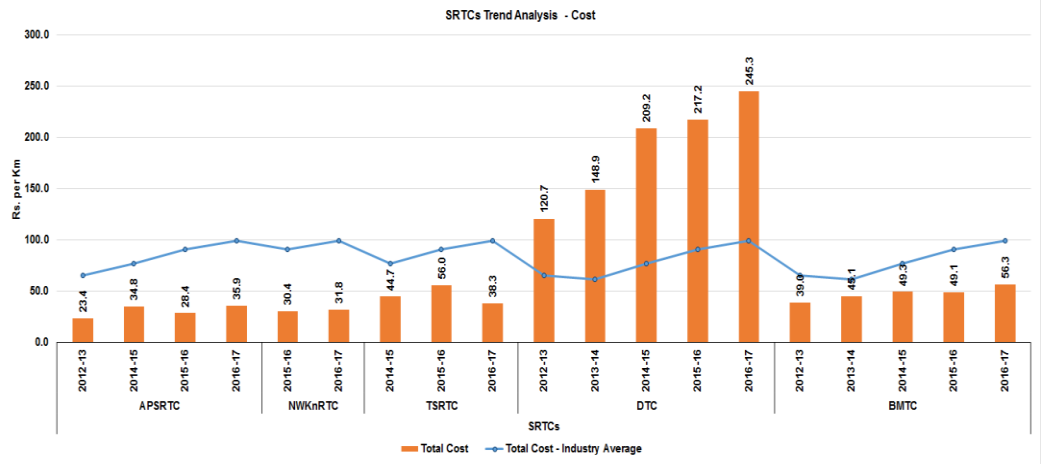


Figure 2-62: SRTCs Cost per km Trend

Similarly, the cost per km of all the SPVs is less than the industry average during the assessment period (Figure 2-63).

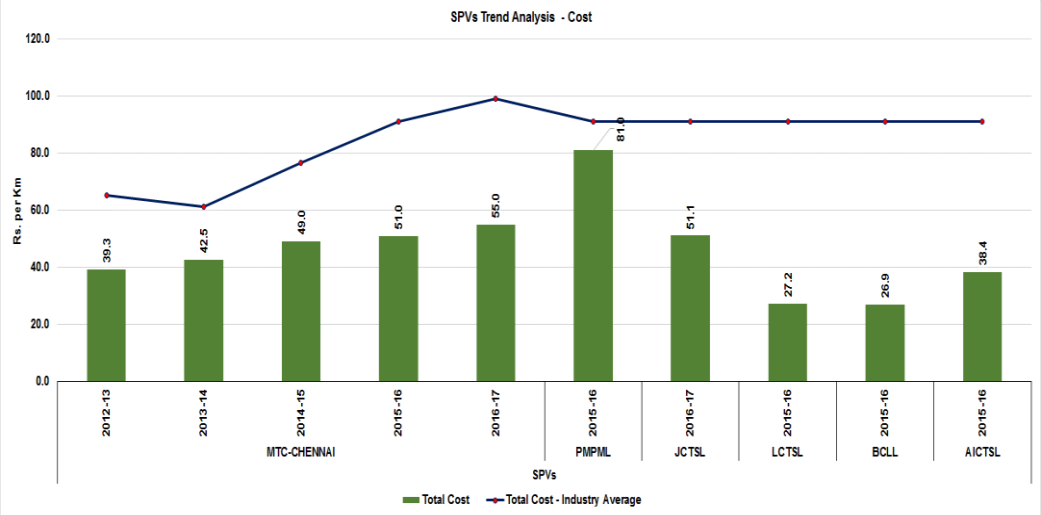


Figure 2-63: SPVs Cost per km Trend

MTUs & Government Department show a mixed performance for Cost per Km with BEST, TMTU and KADMTU having figures above industry average during the assessment period.

Government Department PTA, i.e. CTU has registered a declining trend from Rs. 67.4 cost per km to Rs. 61.9 cost per km between 2014-15 and 2016-17.

Graph below (Figure 2-64) exhibits MTUs and Government Department PTAs cost per km trend during assessment period.

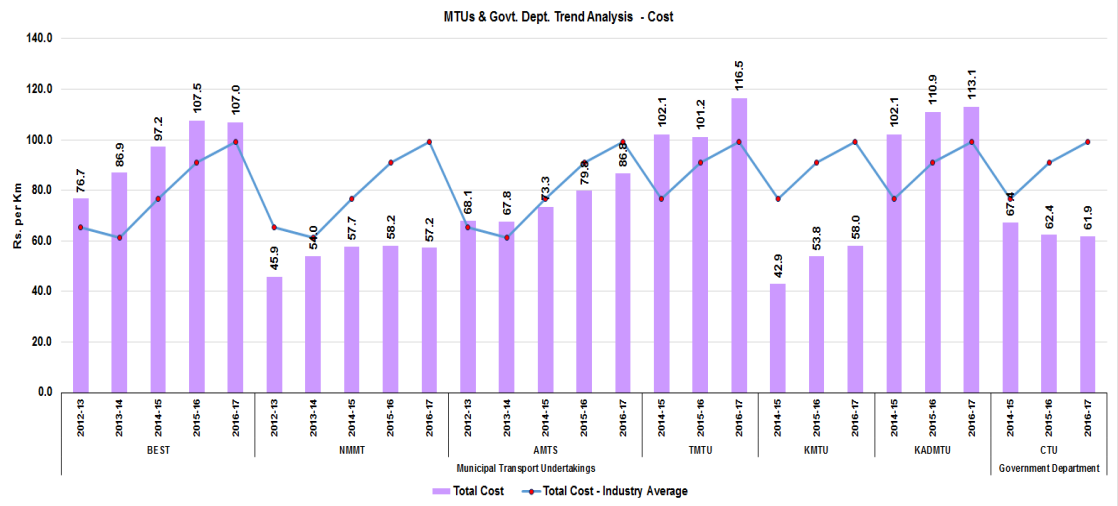


Figure 2-64: MTUs and Government Department PTAs Cost per km Trend

D. Cost per Bus per Day

Average cost incurred per bus per day helps to assess the cost of deployment of overall fleet. The average cost per bus per day for the operating entities considered for this analysis is ranging from Rs. 12,962 in 2015-16 to Rs. 17,421 in 2016-17 per bus per day.

Except DTC, all other SRTCs' Cost per bus per day is less than the average cost per bus per day and in case of DTC, the cost per bus per day has increased two fold between 2012-13 and 2016-17 (Figure 2-65).

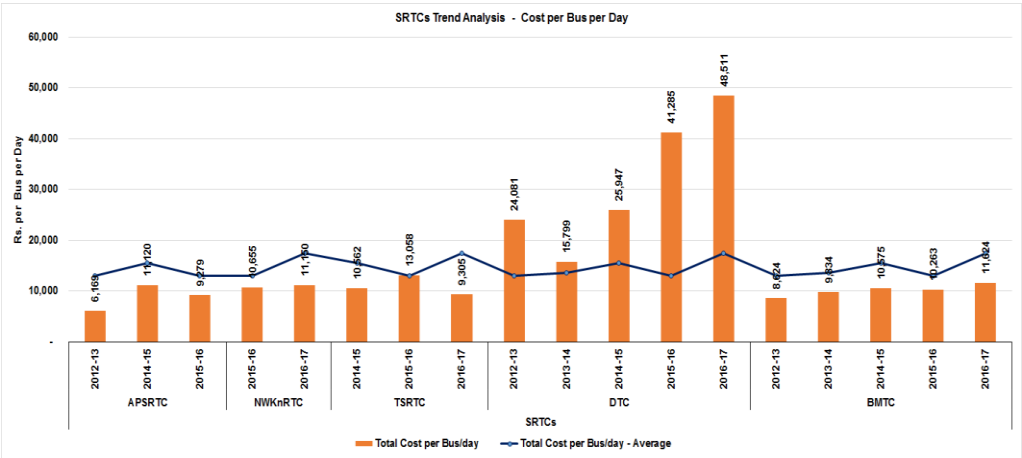


Figure 2-65: SRTCs Cost per Bus per Day Trend

SPVs cost per bus per km is less than the average cost per bus per day except in case of PMPML (Figure 2-66).

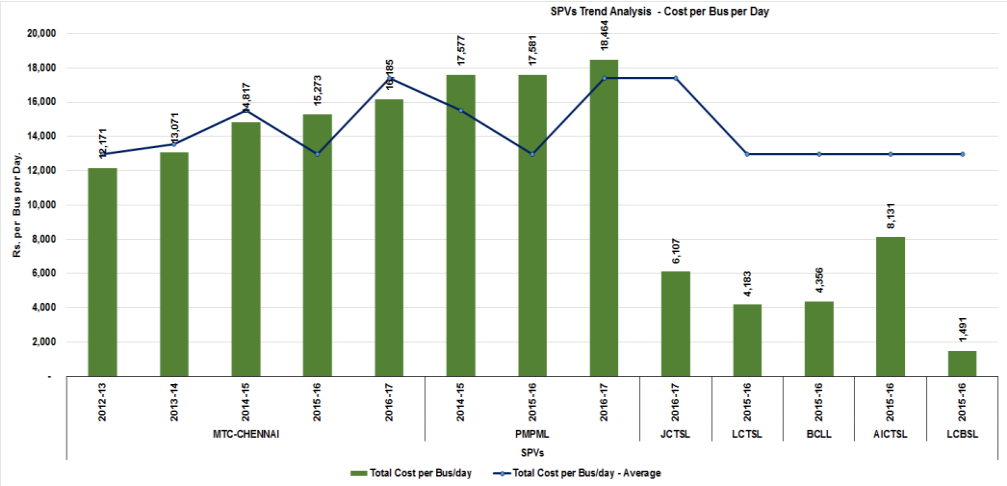


Figure 2-66: SPVs Cost per Bus per Day Trend

MTUs show a mixed performance for cost per bus per day during the assessment period. Government Department PTA CTU's Cost per bus per day is less than the average figure (Figure 2-67).

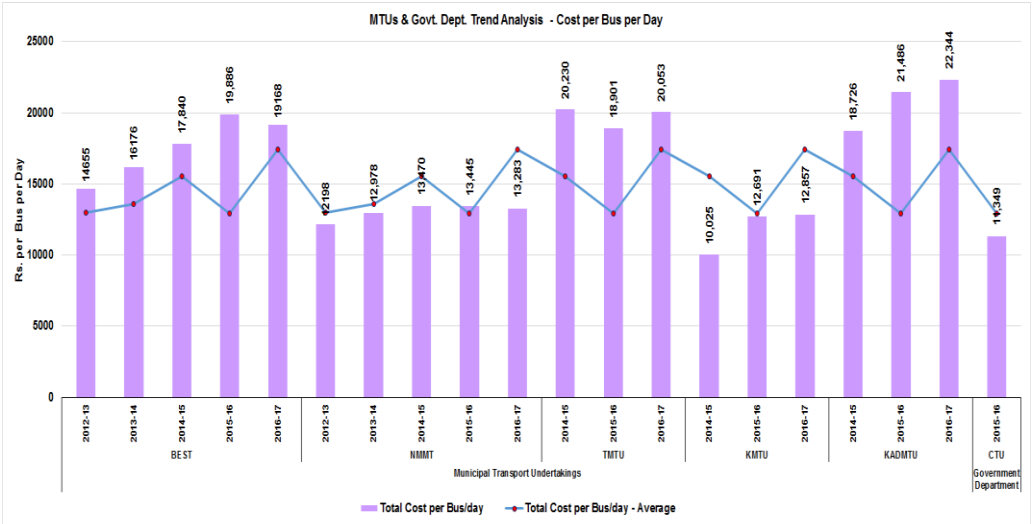


Figure 2-67: MTUs and Government Department PTAs Cost per Bus per day Trend

E. Surplus or Deficit per Km

It is a measure of net effect of revenue per km and cost per km. If the revenue per km is more than the cost per km, the operator is making an overall profit or surplus from the operation. However, in this case, the revenue per km includes

all revenues earned by the operator. As per the CIRT reports[52], the average loss is ranging between Rs. 26 per km in 2012-13 to Rs. 52 per km in 2016-17 for Urban PTAs.

SRTCs have been incurring losses during the assessment period with some exceptions like APSRTC, TSRTC and BTMC for certain specific periods. Highest loss making SRTC is DTC during the assessment period (Figure 2-68).

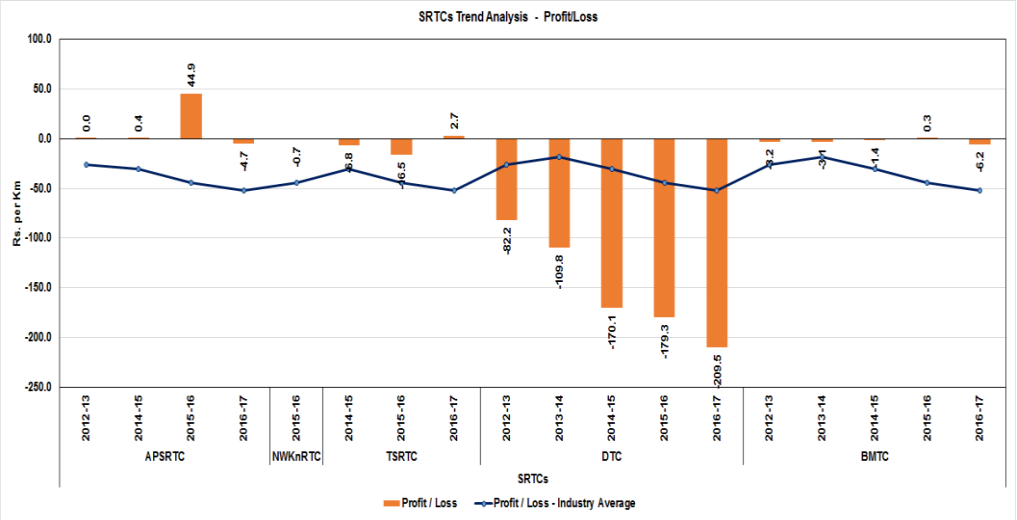
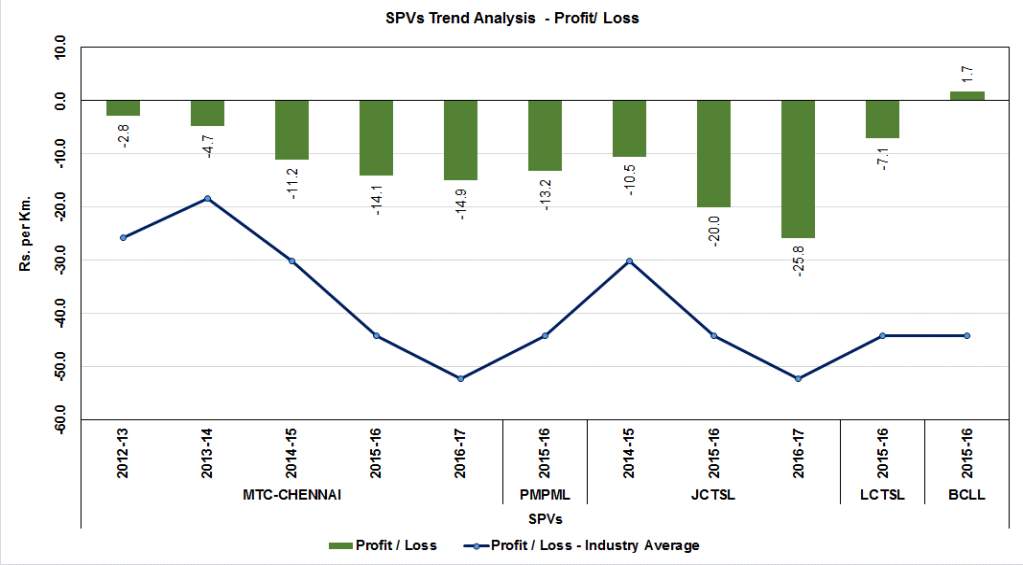


Figure 2-68: SRTCs Profit or Loss per Km Trend

All the SPVs are making losses during the assessment period except BCLL which made a marginal profit of Rs. 1.7 per km in the year 2015-16 (Figure 2-69).



[52] Urban PTAs Average, CIRT, State Transport Undertakings Profile & Performance, 2012-13 to 2016-17

Figure 2-69: MTUs and Govt. Dept. PTAs Profit/ Loss Trend

Both MTUs and Government Department PTAs are incurring losses during the periods under consideration (Figure 2-70).

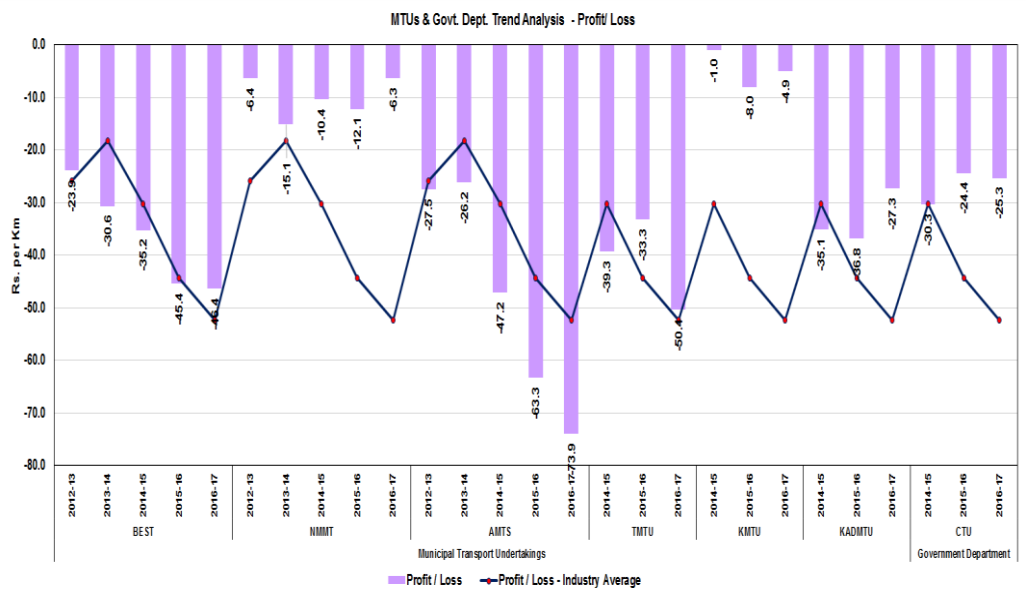


Figure 2-70: MTUs and Govt. Dept. PTAs Profit /Loss Trend

F. Staff Cost as percentage of Total Cost of Operation

Staff cost is an important and one of the critical component of the overall cost structure of the urban bus operations. Higher proportion of the cost of staff on the total cost of operation indicates that either the entity is heavily staffed or wages are comparatively higher than its peers / other operators. Newly established entities will have a lower share of staff cost than the well-established entities as the terminal benefits and contribution share will be relatively lesser. In-house operation by PTAs will have higher share of staff cost than in case of outsourced operations.

Industry average is ranging between 46.2% and 56.8% of the total cost of operation during the assessment period.

SRTCs show a mixed trend for Staff Cost as percentage of Total Cost of operation during the aforesaid period (Figure 2-71).

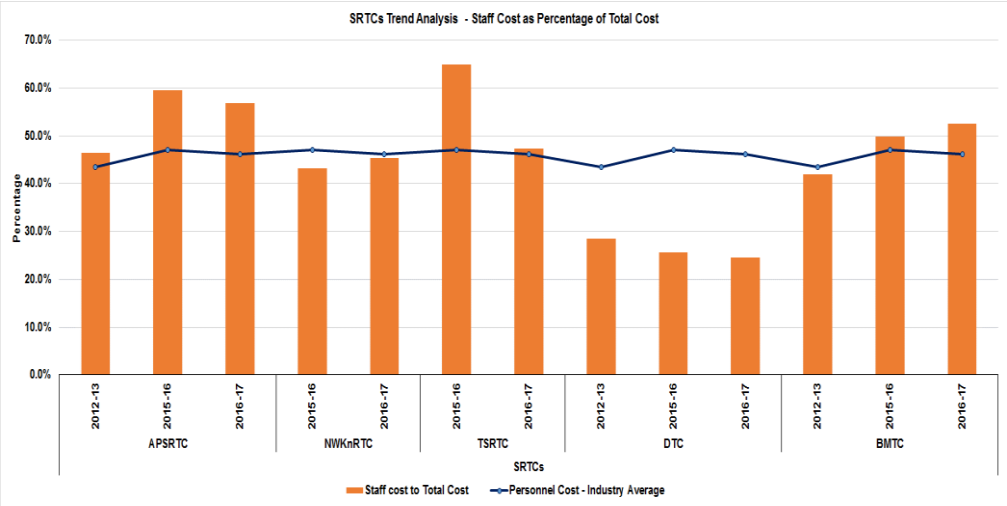


Figure 2-71: SRTC Staff Cost as Percentage of Total Cost

All SPVs exhibits higher staff cost to total cost of operation as compared to the industry average during the assessment period (Figure 2-75).

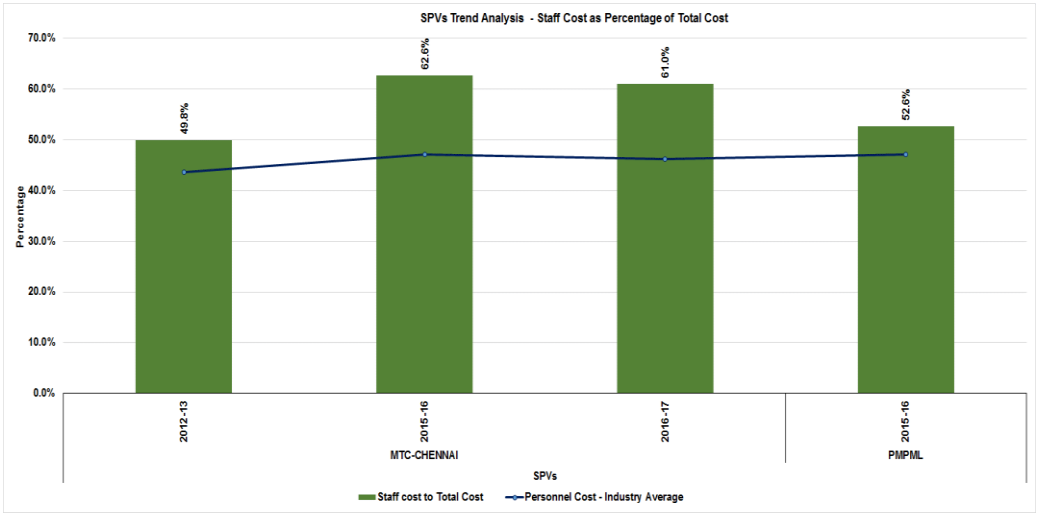


Figure 2-72: SPVs Staff Cost to Total Cost of Operation Trend

MTUs show a mixed performance of staff cost to total cost of operation during the assessment period. While staff cost to total cost of operation for Government Department PTA has been lower than industry average (Figure 2-73).

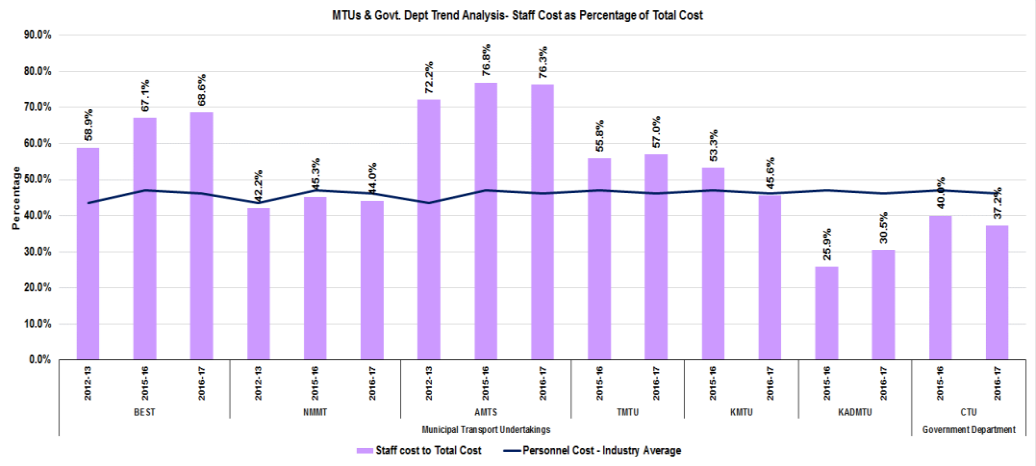


Figure 2-73: MTUs and Govt. Dept. PTAs Staff Cost to Total Cost of Operation Trend

G. Staff Cost per Km

Staff cost per km for Urban PTAs (Industry average) is varying between Rs. 28.4 to Rs. 45.8 per km during the assessment period.

It is observed that some of the large organizations such as BEST, DTC, AMTS and TMTU have staff cost per km more than the industry average. It is attributable to the fact that staff to bus ratio is more than the industry average in those operating entities; further, the retirement benefits are also expected to be higher in case of well-established organizations.

SRTCs' staff cost per km is lower the industry average of Urban PTAs during the assessment period (Figure 2-74) except in case of DTC which has the highest staff cost per km amongst SRTCs. High staff cost per km may be due to disproportionate deployment of staff.

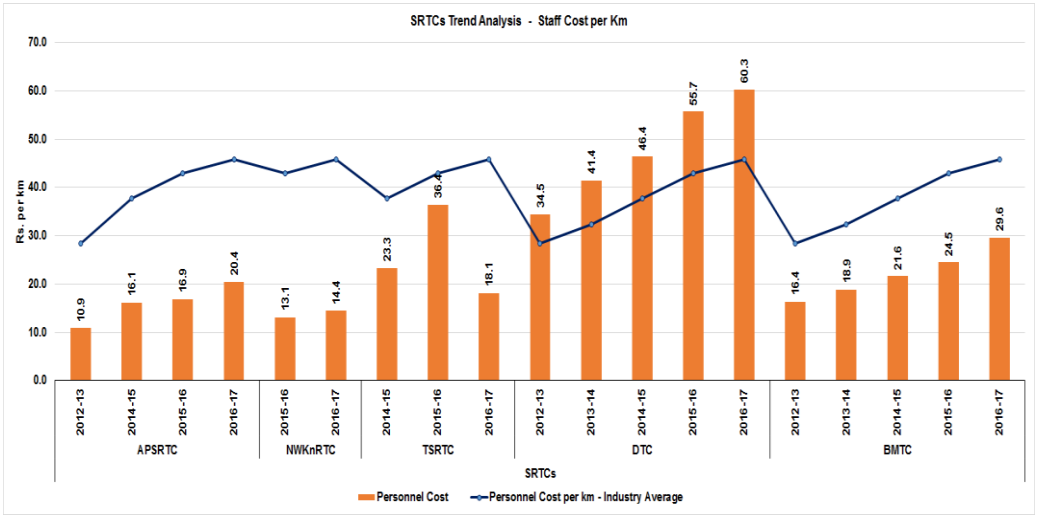


Figure 2-74: SRTCs Staff Cost per km

SPVs' staff cost per km is lower than the industry average of Urban PTAs during the assessment period (Figure 2-75).

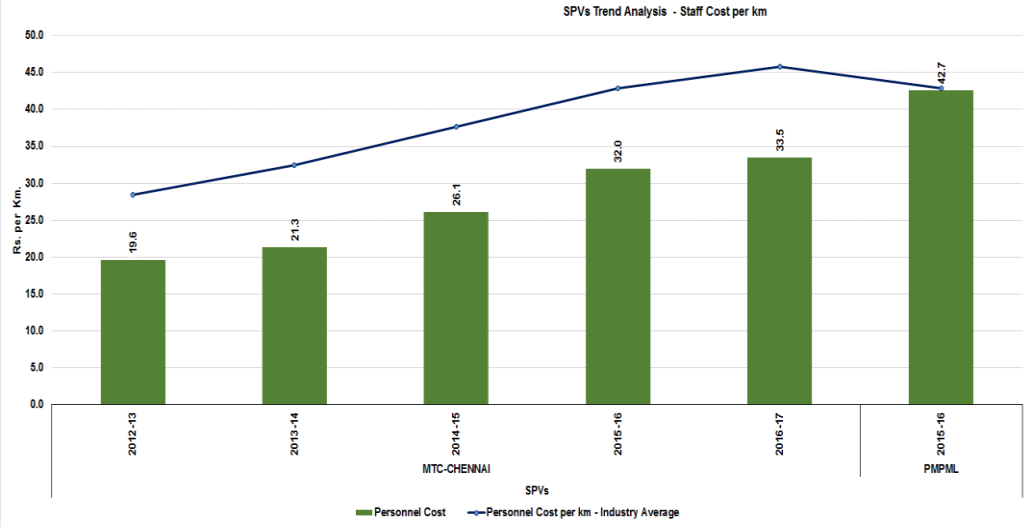


Figure 2-75: SPVs Staff Cost per km Trend

MTUs show a mixed trend for staff cost per km during the assessment period. The staff cost per km for Government Department PTA i.e. CTU is less than the industry average for Urban PTAs during the same period (Figure 2-76).

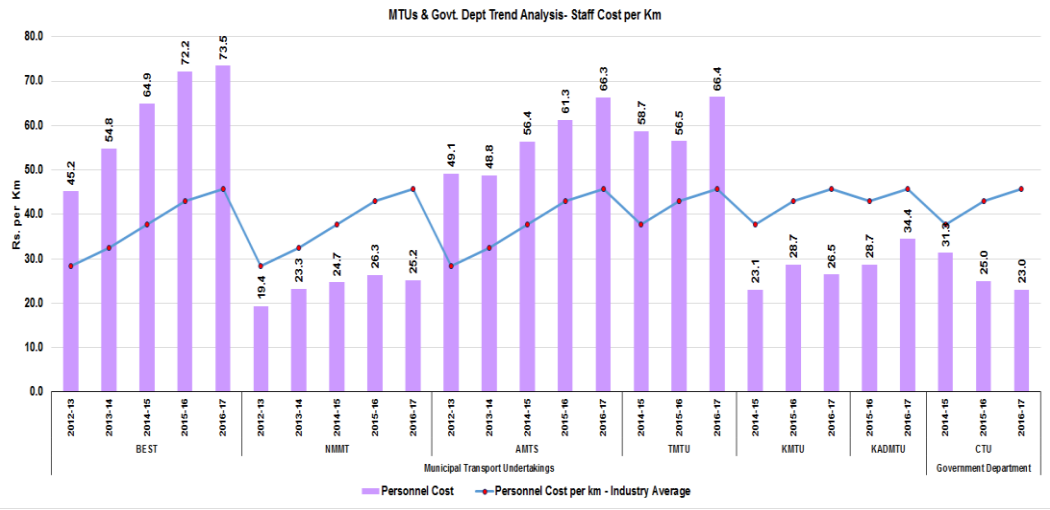


Figure 2-76: MTUs and Govt. Dept. PTAs Staff Cost per km Trend

H. Fuel Cost as percentage of Total Cost of Operation

The higher the fuel efficiency, the lower the average cost of fuel; therefore, selection of suitable bus technology, type of engine, speed, driver training, quality

of maintenance and road conditions will influence the cost incurred towards consumption of fuel.

The proportion of fuel cost to the total cost of operation is an important parameter as it is directly proportion to the number of kilometres operated per bus per day.

SRTCs fuel cost as percentage of total cost is more than the industry average for Urban PTAs during the assessment period except DTC (Figure 2-77).

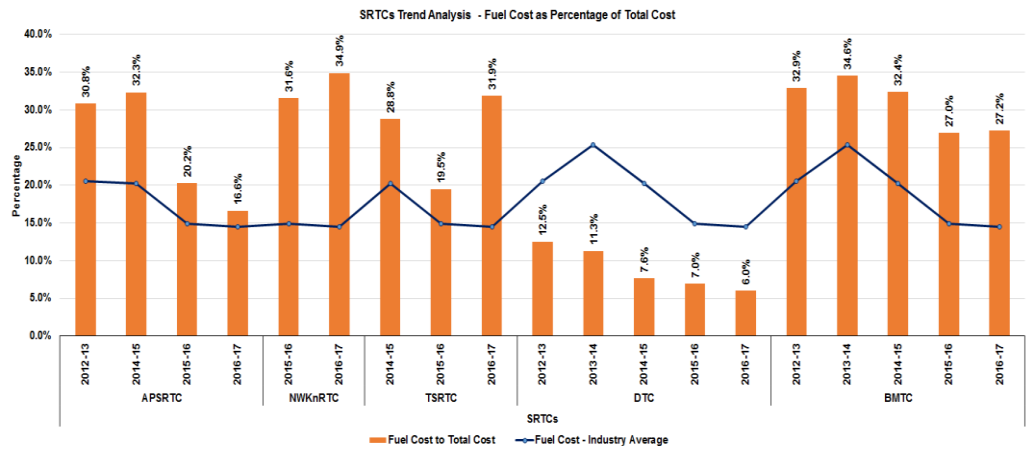


Figure 2-77: SRTCs Fuel Cost as Percentage of Total Cost Trend

Amongst SPVs considered for this analysis, fuel cost as percentage of total cost in case of PMPML is less than the industry average. The fuel cost as percentage of total cost has been higher than the industry average for MTC- Chennai. Graph (Figure 2-78) below exhibits fuel cost as percentage of total cost trend of SPVs.

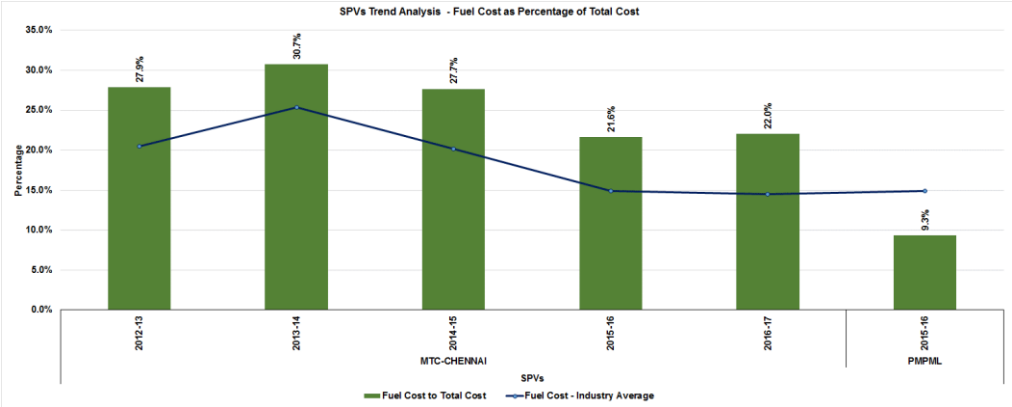


Figure 2-78: SPVs Fuel Cost as Percentage of Total Cost Trend

MTUs show a mixed trend of fuel cost as percentage of total cost during the assessment period. While Government Department PTA i.e. CTU maintains higher than the industry average fuel cost as percentage of total cost. Graph

below (Figure 2-79) exhibits MTUs and Government Department PTAs fuel cost as percentage of total cost trend during the periods under consideration.

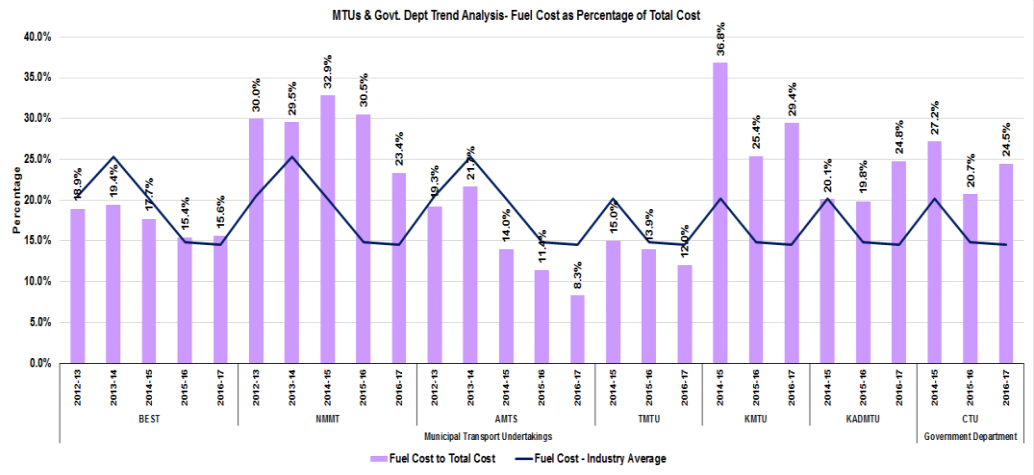


Figure 2-79: MTUs and Govt. Dept. PTAs Fuel Cost as Percentage of Total Cost Trend

I. Fuel Cost per km

Fuel Cost per km industry average for Urban operations is varying between Rs. 13.4 per km and Rs. 15.5 per km. Reasons for variation in fuel cost per km is due to cost of fuel, fuel efficiency and taxes (central and state government).

SRTCs show a mixed performance of fuel cost per km during the assessment period (Figure 2-80).

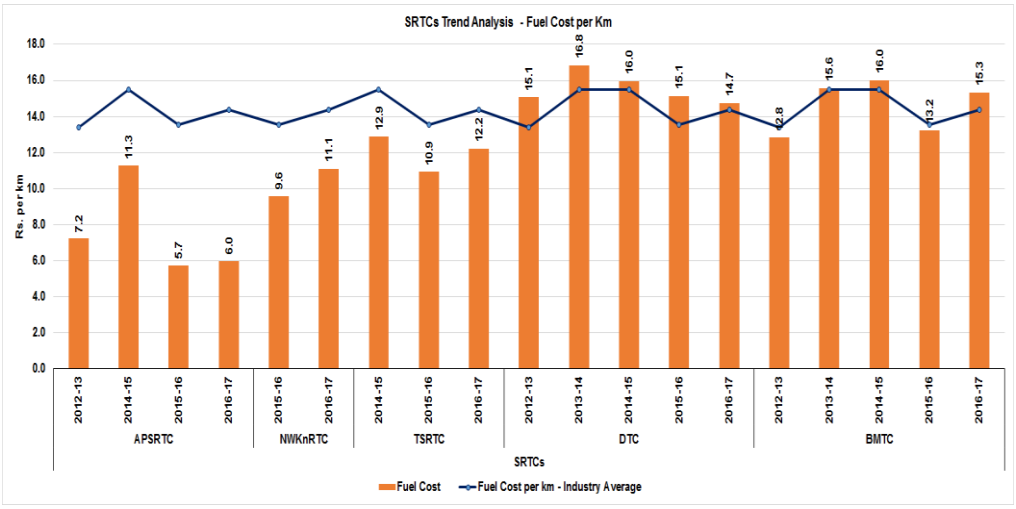


Figure 2-80: SRTCs Fuel cost per km Trend

SPVs fuel cost per km is less than the industry average during the assessment period (Figure 2-81).

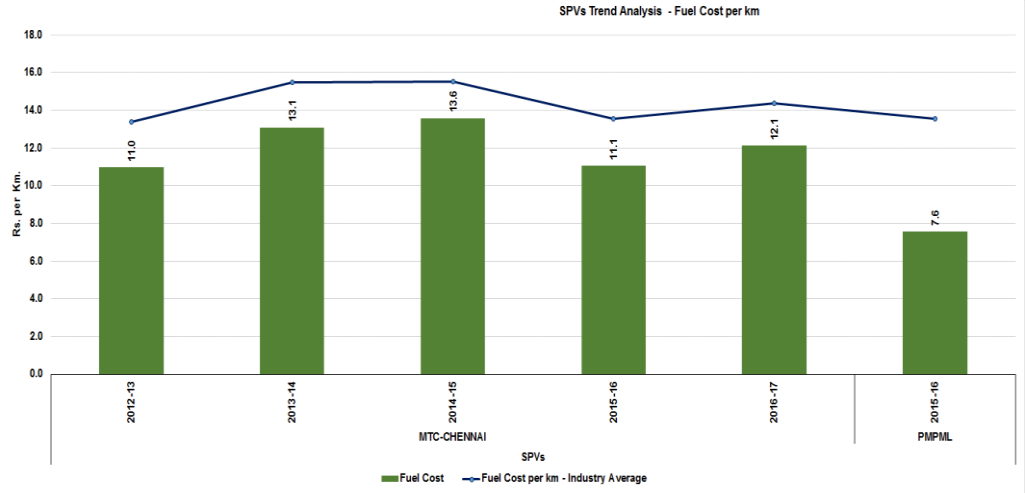


Figure 2-81: SPVs Fuel Cost per km Trend

MTUs and Government Department entities show a mixed performance for fuel cost per km during assessment period (Figure 2-82).

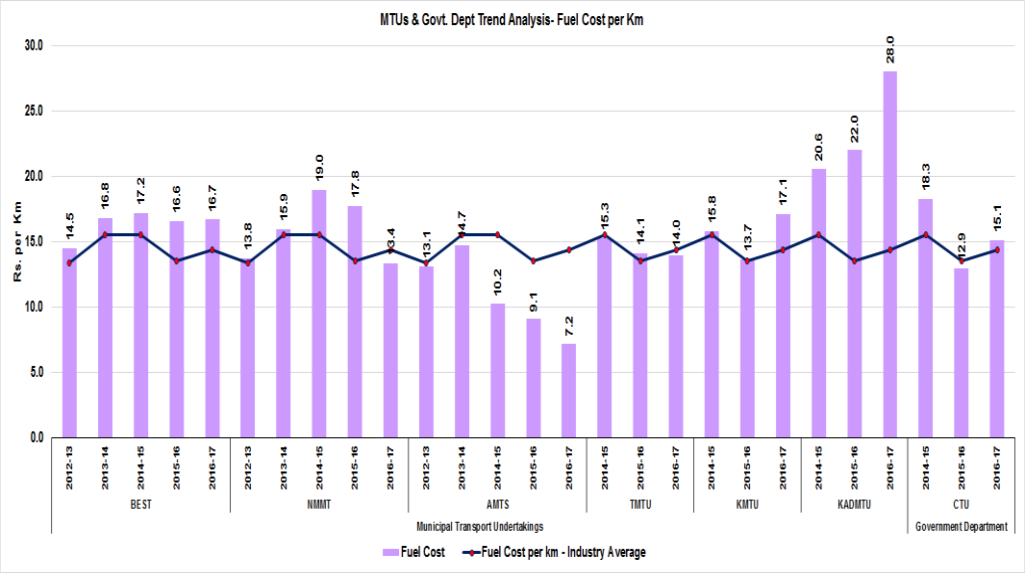


Figure 2-82: MTUs and Govt. Dept. PTAs Fuel Cost per km Trend

2.7.3.3 Cost Comparison of In-house and Outsourced Bus Operations

Industry average operating cost for urban bus services was Rs. 64.37 per km as per CIRT Report for 2016-17. This includes only manpower cost, fuel cost, material cost and taxes. While, average operations cost for some of the selected PTAs is estimated to be Rs. 59.60 per km and for the calculation purposes DTC's cost of operation is excluded.

In-house operations cost of some of the PTAs is much higher than the industry average (Figure 2-83) for example, DTC, BEST, AMTS, KADMTU, NMTU and Mira Bhayander.

The operations cost of DTC, NMMT, BEST and AMTS is higher than the industry average cost of operation of urban PTAs (excluding DTC); the amount by which it is higher is estimated at Rs. 39.70 per km, Rs. 39.60 per km, Rs. 36.90 per km and Rs. 22.30 per km respectively.

Outsourced operation cost of PTAs is much lower than the cost of in-house operation, for example, Rs, 47.16 per km (AMTS), Rs. 49.73 per km (BCLL) and Rs. 53.90 per km (Delhi Cluster). For example, the outsourced cost of operation of Delhi Cluster is cheaper than cost of in-house operation of DTC by up to Rs. 45.40 per km and this is largely due to private sector efficiency gains realised.

Similarly, in Ahmedabad, cost of outsourced operation of AMTS is cheaper than the cost of in-house operation by up to Rs. 34.50 per km.

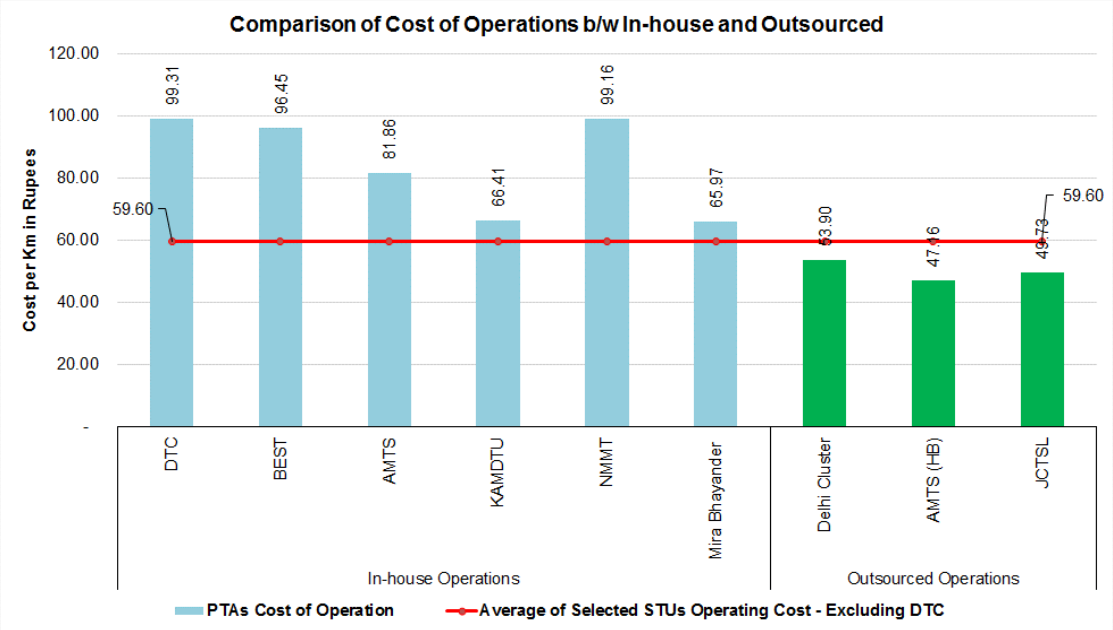


Figure 2-83: Operations Cost of In-house Operations and Outsourced Operations

2.7.3.4 Summary of Performance Analysis

Following table summarizes the performance analysis of different operating entities on various parameters and provides corresponding industry averages.

Table 2-26: Summary of Performance Analysis – Operating Entity Level

PTAs		Key Physical Parameters					Key Financial Parameters		
		Fleet Utilization	Vehicle Productivity	Fuel (Diesel) Efficiency	Ridership per Day per Bus	Total Staff to Bus Ratio	Revenue per km	Cost per km	Profit / Loss
		%	Km	Kmpl	No. of Persons	No. of Staff	Rs.	Rs.	Rs.
Industry Average		84 to 86.5	186 to 207	3.5 to 3.9	793 to 1,018	6.6 to 7.7	39.4 to 46.8	65.3 to 99.2	(-) 26 to (-) 52
SRTCs	APSRTC	91.5 to 99.7	243 to 318	4.62 to 5.25	887 to 1,150	5 to 5.8	23.4 to 73.3	23.4 to 35.9	(-) 4.7 to 44.9
	NWKnRTC	94.2 to 95.5	220 to 227	NA	926 to 1,439	8.2 to 8.8	29.7	30.4 to 31.8	(-) 0.7
	TSRTC	92.7 to 99.8	215 to 236	4.4 to 4.5	819 to 1,247	5.6 to 5.8	37.9 to 41	38.3 to 44.7	(-) 16.5 to 2.7
	DTC	82.9 to 85.3	155 to 170	NA	549 to 941	7.2 to 8.7	35.8 to 39.1	120.7 to 245.3	(-) 209.5 to (-) 82.2
	BMTC	89 to 91.2	184 to 201	3.76 to 3.84	834 to 866	5.6 to 6	35.8 to 50.1	39 to 56.3	(-) 6.2 to 0.3
SPCs/ SPVs	MTC-Chennai	81 to 87.9	239 to 269	4.3 to 4.5	1,454 to 1,576	6.1 to 6.6	36.5 to 40.1	39.3 to 55	(-) 14.9 to (-) 2.8
	PMPML	65.4 to 70.3	143 to 151	3.1 to 3.4	779 to 1,006	8.5 to 10.2	67.8	81	(-) 13.2
	JCTSL	53.6 to 60.4	201 to 212	2.9 to 3	276	6.6	22.7 to 33.9	60.1	(-) 10.5 to (-) 25.8
	LCTSL	88	154	4.6	173	4.1	20.2	27.2	(-) 7.1
	BCLL	54	95	3.1	334	3	36.1	34.4	1.77
	AJL	90	NA	3.7	600	NA	NA	NA	NA
	AICTSL	73.6	212	4.5	1,031	4.7	37.6	38.4	NA
	LCBSL	66	100	3.5	1,364	3.6	31.5	NA	NA
MTUs	BEST	84.7 to 89.2	151 to 171	2.8 to 2.9	839 to 1,017	9.4 to 10	52.8 to 62.1	76.7 to 107.5	(-) 46.4 to (-) 23.1
	NMMT	74.2 to 80.1	178 to 187	2.9 to 3.2	642 to 774	4.2 to 6.8	38.9 to 50.9	45.9 to 58.2	(-) 15.1 to (-) 6.3
	AMTS	61.8 to 80.9	116 to169	3.3	724 to 870	2.7 to 3.1	12.9 to 41.6	67.8 to 86.8	(-) 73.9 to (-) 26.2
	TMTU	49.6 to 61.3	85 to 131	2.4 to 2.6	660 to 1,253	10.7 to 12.1	62.8 to 67.9	101.2 to 116.5	(-) 50.4 to (-)33.3
	KMTU	67.6 to 94	158 to 217	3.8 to 4	549 to 601	8 to 17.6	42 to 53.2	42.9 to 58	(-) 1 to (-) 4.9
	KADMTU	42.9 to 48.8	81 to 95	2.9 to 3.3	542 to 556	6.7 to 7.7	66.9 to 85.8	102.1 to 113.1	(-) 36.8 to (-) 27.3
Govt. Dept.	CTU	84 to 89	170 to 185	3 to 3.4	509 to 634	NA	36.6 to 38	61.9 to 67.4	(-) 30.3 to (-) 24.4

Legend:

	Above Industry Average		Within the Industry Average Range
	Below Industry Average		NA : Not Available

2.8 Key Takeaways / Conclusions

2.8.1 Delegated Responsibility for Provision of Urban Bus Services

Organized urban bus sector market is largely driven by government entities in India. All the three tiers (Central Government, State Government and Municipal Government) of government are involved in provision of urban bus services in India. However, at the city level, the responsibility for organizing urban bus services is typically delegated to one government entity. In some cities, more than one entity is providing urban bus services (e.g. Delhi and Ahmedabad).

2.8.2 Types of PTAs / Dispensation Arrangements

For delivery of services, appropriate government has established different delivery structure /arrangements such as SRTCs, SPCs, Transport Department, MTUs, ULB directly, Societies and UT administration.

There are about 92 PTAs in India with both State Government (45 PTAs) and Municipal Corporations/ULBs (44 PTAs) promoted entities almost equal in number. Besides this, there are three entities promoted by Central Government through UT Administration (1 PTA) and jointly between Central Government and State Governments (2 PTAs). The responsibility for provision of urban bus services is retained by State Governments in most cities in India. However, in some states the responsibility has been delegated to the third tier of government.

Among different delivery structure, SPCs are more prominent (22 State Government promoted SPCs and 19 by Municipal Corporations). This is followed by SRTCs (15) which are promoted by State Governments.

2.8.3 Larger State Government Role

There are about 45,450 buses in organized urban bus services in India of which 72% is with State Government promoted PTAs, and 27% is with the ULB promoted PTAs. Remaining buses are managed by the PTAs established as JV of the Central and State Governments, and through UT administration. It may be noted that ULB promoted entities and State Government promoted entities are almost equal in number; however, majority of the fleet (72%) is held/managed by State Government entities.

Amongst, different dispensation structure, SRTCs have largest share of overall fleet (45%) followed by SPCs, MTUs and other PTAs.

2.8.4 Largely In-house Operations

Typically two types of operation arrangements: in-house operation and outsourced operations. Operation arrangements is largely in-house (84% of the total fleet) and the balance (16% of the total fleet) is outsourced to private sector. Amongst, different

entities, most of the State Government entities (SRTCs, SPCs and Transport Department) have in-house operations.

2.8.5 Increasing Private Sector Role in Operations

Only few (6 PTAs) State Government entities have outsourced their operations. Most of the ULB promoted entities (SPCs, MTUs and Societies) have outsourced their operations. Recently, private sector involvement in providing bus services in urban areas has been gradually expanding in small and midsize cities in India.

2.8.6 Inadequate Supply of Buses

In all there are approximately 46,000 buses which are operated under the organized bus service by different PTAs. The fleet strength of fragmented/unorganized operations by private individuals and companies is estimated to be around 20,000 buses in India. Therefore, the total supply of buses is estimated to be around 66,000, while the demand based on MoHUA norms is about 188,500 buses (based on 2011 population). The estimated gap in fleet is around 1,22,500 buses, which is about 1.9 times the total present supply of fleet. Further, if buses operated under unorganized services are excluded, then the total shortfall will be around 142,500 (based on 2011 population) i.e. more than 3 times the present supply of buses under organized bus services.

2.8.7 Lack of Adequate Depot Land

Due to rapidly growing urban population in India, some of the recently established city specific entities like SPCs find it difficult to secure land parcels for depot facilities to support their existing and new buses within the transport demand zone/vicinity. The city master planning/development planning excise is a long- term plan and such exercise happens once in a decade or longer. Even though MoHUA has emphasised that each million plus city needs to prepare CMP for accessing any Central Government funding in Urban Transport Sector, it is not a statutory document unlike the Master Plans/Development Plans. Further, land allocation for depot infrastructure falls outside the purview of most of the PTAs.

It is estimated that a bus depot of 5 acres can house 120 buses (including workshop)[53]. Accordingly, land required for development of bus depot is estimated to be in the range of 5,000 acres to 6,000 acres to house additional buses.

2.8.8 No Service Level Agreements for PTAs

PTAs have no service level agreements (SLAs) or contract with government, whether such services are provided by PTAs as in-house operations or as outsourced

[53]Land requirement for depots for augmentation of bus fleet in NCT, Environment Pollution (Prevention & Control) Authority for Delhi and NCR, May 17, 2016

operation. There is thus no benchmark to monitor and assess their operational and financial performance. There is no pressure or incentive on PTAs to improve their performance. Inability of public sector to deploy the required number of buses in keeping with the demand often leads to emergence of illegal/fragmented para-transit service providers to fill the demand-supply gap.

2.8.9 City Bus Services is a Loss Making Proposition

Most of the PTAs are incurring losses and deficit per km has doubled from Rs. 26 per km to Rs. 52 per km for Urban PTAs between 2012-13 and 2016-17. Total deficit/loss for the reported Urban PTAs in 2016-17 was Rs. 78,630 million according to the CIRT report.

Among the PTAs evaluated, the highest loss making PTA is DTC (Rs. 209.5 per km), followed by AMTS (Rs.73.9 per km).

2.8.10 Inefficiency in Service Delivery

Performance of some of the recently established SPVs/ SPCs and MTUs on physical performance is less than the industry average for Urban PTAs during the assessment period i.e. 2012-13 to 2016-17. For example, fleet utilization (JCTSL, BCLL, AICTSL, LCBSL, KMTU, KADMTU, TMTU, AMTS and NMMT), vehicle productivity (PMPML, LCTSL, BCLL, LCBSL, BEST, KMTU, KADMTU,TMTU, AMTS and NMMT), fuel efficiency (PMPML, JCTSL, BCLL, BEST, KADMTU,TMTU, AMTS and NMMT), staff to bus ratio (PMPML, BEST, KMTU and TMTU), and ridership per day per bus (JCTSL, LCTSL, BCLL, AJL, KMTU,NMMT, AMTS and KADMTU).

Performance of a few well-established SRTCs on physical parameters is less than the industry average for urban PTAs during the assessment period. For example, fleet utilization (DTC), vehicle productivity (DTC), and staff to bus ratio (DTC and NWKnRTC).

Performance of CTU (Government Department entity) on physical performance such as vehicle productivity, fuel efficiency and ridership per day per bus is less than the industry average for urban PTAs during the assessment period.

In-house operation cost of some of the PTAs is much higher than the industry average; for example, DTC (Rs. 39.70 per km), NMMT (Rs. 39.60 per km), BEST (Rs. 36.60 per km), AMTS (Rs. 22.30 per km), KADMTU (Rs. 6.81 per km) and Mira Bhayander (Rs. 6.37 per km). The figures in bracket represent the quantum by which the operation cost is higher than the industry average.

Form the aforesaid, some of the PTAs are inefficient in service delivery when compared to the industry average figures on physical and financial performance.

2.8.11 Outsourced Operations are Typically Cheaper

The in-house operation cost of some the PTAs are higher than the industry average cost of operation of urban PTAs (excluding DTC) for example, DTC (39.70 per km), NMMT (Rs. 39.60 per km), BEST (Rs. 36.90 per km) and AMTS (Rs. 22.30 per km). The figures represent the quantum by which the operation cost is higher than the industry average.

Outsourced operation cost of PTAs is much lower than the cost of in-house operation; for example, Rs, 47.16 per km (AMTS), Rs. 49.73 per km (BCLL) and Rs. 53.90 per km (Delhi Cluster). For example, the outsourced cost of operation of Delhi Cluster is cheaper than cost of in-house operation of DTC by up to Rs. 45.40 per km and this is due to private sector efficiency realised by the GNCTD by outsourcing part of bus operation in Delhi under the gross cost model.

Similarly in Ahmedabad, cost of outsourced operation of AMTS is cheaper than the cost of in-house operation by up to Rs. 34.50 per km.

2.8.12 Competition from IPT Operators

Urban commuters are increasingly using IPT as the primary mode for their daily commutes in cities/towns and the mode share of IPT is significantly higher in cities like Agra (42%), Amritsar (37%), Ranchi (35%), Kanpur (35%) and Meerut (34%). IPTs routes and schedules overlap with those of the buses and the IPTs often compete with organized bus services instead of performing its intended role as feeder services, as envisaged in NUTP, 2006.

2.8.13 Competition from unorganized /fragmented Bus Operators

There are more than 20,000[54] buses under unorganised/fragmented operation in India, of which about 60% is being operated in cities with 8 million plus population. Moreover, numerous private operators make their regulatory monitoring very difficult / unwieldy.

2.8.14 Absence of use of scientific tools and ITS for Planning and Operations

In most PTAs, it is observed that ITS and scientific tools are not used for planning and operations management. For example:

(a) Absence of scientific route planning and lack of standard procedure for introducing new routes;

(b) Timetables are prepared manually without using any network optimization tools, and while preparing schedules, average speed on the network is used, irrespective of time of day and passenger demand;

[54] Refer Annexure 1

(c) Duty roster and crew scheduling is done manually, last moment changes are high, which results in delay in out-shedding;

(d) Maintenance records are maintained manually and it is difficult to check vehicle history in case of large organisations.

2.8.15 Fare Revision

In most cities, there is no fixed time-frame for revision of fare; for example, in case of MTC and TNSTCs, fare was revised only once in 10 years (between 2006-07 and 2015-16), while BEST, AMTS and KMTU took 7 years to revise fare, and the city bus fare was last revised in 2009-10, in case of DTC and CSTC.

Further, there is no scientific formula for revising the fare and fare is not adjusted to reflect the input cost increase during the revision period.

2.8.16 Issue Related to Data Availability

Of the total 92 PTAs in urban operations, only 14 PTAs are furnishing data regularly to CIRT for publication. Many PTAs do not submit annual operations performance report to MoRTH or MoHUA or CIRT for publication.

3 LEGISLATIVE AND REGULATORY FRAMEWORK

3.1 Introduction

This chapter covers, with respect to urban bus operations, the roles of three tiers of governments in India; types and hierarchy of existing laws; legal and regulatory provisions; impact of legal and regulatory provisions; and rigidity/flexibility in legal and regulatory provisions.

As the scope of this report is primarily to address the issues related to urban bus operations, the review and analysis of legislative and regulatory aspects have been limited to the laws and regulations related to urban bus operations in India.

3.2 Roles of Three Tiers of Governments in Urban Bus Operations

The three tiers of governments (Central, State, and Municipalities) play their respective assigned roles in the urban bus operations in India. The framework governing the responsibilities of the three tiers of governments has been outlined in the Constitution of India (COI)[55].

3.2.1 Constitutional Provisions

The division of roles between various tiers of government in India is governed and guided by the Constitution of India (COI). Article 246 of the COI deals with this matter and contains references to Seventh Schedule containing List I (Union List), List II (State List) and List III (Concurrent List). Article 243 (W) deals with provisions regarding power, functions and other incidental matters related to municipalities. The subject of urban transport specifically has not been dealt with in the COI. Table 3-1 provides the details of entries in Seventh Schedule of the Constitution that are related to urban bus service.

[55] This section is adapted from Operations Document for National Urban Transport Helpline (NUTH), Ministry of Urban Development, Government of India (November 2016)

Table 3-1: Urban Bus Related Entries in Seventh Schedule of the Constitution

Constitutional List	Description
Union List	• Delimitation of cantonment areas, local self-government in such areas, the constitution and powers within such areas of cantonment authorities and the regulation of house accommodation (including the control of rents) in such areas (Entry 3). • Highways declared by or under law made by Parliament to be national highways (Entry 23). • Incorporation, regulation and winding up of trading corporations, including banking, insurance and financial corporations, but not including co-operative societies (Entry 43). Note: The Road Transport Corporations Act, 1950 has been enacted by the central government under this Entry 43.
State List	• Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, districts boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration (Entry 5). • Communications, that is to say, roads, bridges, ferries, and other means of communication not specified in List I; municipal tramways; ropeways; inland waterways and traffic thereon subject to the provisions of List I and List III with regard to such waterways; vehicles other than mechanically propelled vehicles (Entry 13). • Taxes on goods and passengers carried by road or on inland waterways (Entry 56). • Taxes on vehicles, whether mechanically propelled or not, suitable for use on roads, including tramcars subject to the provisions of entry 35 of List III (Entry 57). Note: The BPMC/GPMC Acts have been enacted by the state governments under Entry 5.
Concurrent List	• Mechanically propelled vehicles including the principles on which taxes on such vehicles are to be levied (Entry 35). Note: The Motor Vehicles Act, 1988 has been enacted by the central government under Entry 35.

As can be seen that the subject of road transport is covered under List III (Concurrent List) of the Constitution as "*Mechanically propelled vehicles including the principles*

on which taxes on such vehicles are to be levied." Accordingly, institutions of both central as well as states have concurrent responsibilities in these matters.

The subject of local governance is covered under List II (State List) of the Constitution as "*Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, districts boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration*"

The above implies that territorially, the States are responsible for urban development whereas the subject matter of "Mechanically propelled vehicles" is a concurrent responsibility of the central government as well as the state

The aforesaid provisions deal with division of power between Central and State governments only. Provisions relating to Municipalities dealing with their formation, power, functions and other matters have been incorporated in the Seventy-fourth Amendment of the COI which came into force on 1st June, 1993. In accordance with Article 243 (W) of the COI, the Legislature of a State may, by law, endow the Municipalities with such powers and authority as may be necessary to enable them to function as institutions of self-government and such law may contain provisions for the devolution of powers and responsibilities upon Municipalities, subject to such conditions as may be specified therein with respect to, inter alia, the performance of functions and the implementation of schemes as may be entrusted to them including those in relation to the matters listed in the Twelfth Schedule. The matters related to the urban bus operation listed in the said Schedule are:

- Urban planning including town planning.
- Planning for economic and social development.
- Roads and bridges.
- Protection of the environment and promotion of ecological aspects.
- Public amenities including street lighting, parking lots, bus stops and public conveniences.

It may be noted that Article 243 (W) is an enabling provision and confers only a discretionary power on the State legislatures to endow power and responsibilities on the Municipalities and that it does not impose any constitutional duty on the State Legislature to confer power & responsibilities on the Municipalities.

3.2.2 Roles of Three Tiers of Governments

In line with the constitutional mandate, various tiers of governments or agencies controlled by them participate in activities related to provision of urban bus operation. Table 3-2 below provides a brief overview of the role currently being played by various tiers of governments or agencies controlled by them in urban bus operation.

Table 3-2: Key Roles of Various Tiers of Governments in Urban Bus Operation

Government Tier	Entity	Roles in Urban Bus Operation
National	Ministry of Road Transport and Highways	Developing and Managing National Highways in India, Motor Vehicle legislation, administration of Motor Vehicles Act, 1988; Central Motor Vehicles Rules, 1989; The Road Transport Corporations Act, 1950
	Ministry of Housing and Urban Affairs	Planning and coordination of urban transport systems, National Urban Transport Policy formulation, supporting its implementation by various states and local governments through various funding programs such as Bus funding scheme, JnNURM, Smart Cities Mission, etc.
State	State Transport Corporations	Urban bus services
	City Bus Companies (direct shareholding or through development authorities, infrastructure board, and other parastatals)	Urban bus services
	Public Works Department	Developing and Managing State Highways in the State
	Transport Department	Vehicle registration, licensing, permits, stage carriage permits, city bus routes, river ferry services (where applicable)
	State / Development Authorities	Setting up of and ownership in City Bus Companies
	Police including Traffic Police	Management of traffic signals, regulation of traffic, traffic rules enforcement, accident management and law & order issues connected with traffic/transport.
Local	Transport undertakings of the Municipal Corporations	Urban bus services
	City Bus Companies (shareholding by Municipal Corporations)	Urban bus services

Government Tier	Entity	Roles in Urban Bus Operation
	Municipal Corporations	Setting up of and ownership in City Bus Companies; city roads, bus stops, signal installation and maintenance

3.3 Types and Hierarchy of Existing Laws

3.3.1 Major Laws Governing Urban Bus Operations

The Motor Vehicles Act, 1988 - along with the Central Motor Vehicles Rules, 1989 and State Motor Vehicles Rules - deals with the urban bus service related areas through multiple means: regulating the entry of participants through mechanism of permits, safety, vehicle construction, environment measures, driving licensing of drivers and conductors, registration of motor vehicles, insurance, etc.

There are other laws dealing with workers covering aspects such as wages, bonus, working hours, rest, etc. Then there is Rights of Persons with Disabilities Act, 2016 that specifically covers accessibility related aspects.

The Road Transport Corporations Act, 1950 covers provisions related to formation and management of the corporations established by states providing road transport service in designated areas.

Some of the major laws applicable to urban bus services are as under:

(a) Constitution of India, 1950
(b) Motor Vehicles Act, 1988
(c) Central Motor Vehicles Rules, 1989
(d) State Motor Vehicles Rules
(e) Road Transport Corporations Act, 1950
(f) Motor Transport Workers Act, 1961

Some of the other general laws that apply to but are not specific to the urban bus services are as under:

(g) Payment of Minimum Wages Act, 1948
(h) Payment of Bonus Act, 1965
(i) Payment of Gratuity Act, 1972
(j) Industrial Disputes Act, 1947
(k) Employees Provident Fund and Miscellaneous Provisions Act, 1952

(l) Employees State Insurance Act, 1948

(m) Workmen Compensation Act, 1923

(n) Rights of Persons with Disabilities Act, 2016

3.3.2 Hierarchy of Laws

A. Legislative Competence

As regards territorial jurisdiction, Parliament may make laws for the whole or any part of the territory of India, and the Legislature of a State may make laws for the whole or any part of the State (Article 45 of the Constitution).

As has been stated earlier, Article 246 of the COI provides references to Seventh Schedule containing List I (Union List), List II (State List) and List III (Concurrent List). Indian Parliament has exclusive power to make laws with respect to any of the matters enumerated in Union List. The Legislature of any State has exclusive power to make laws for such State or any part thereof with respect to any of the matters enumerated in State List. Indian Parliament and the Legislature of any State also have power to make laws with respect to any of the matters enumerated in Concurrent List. In accordance with Article 248 of COI, Indian Parliament has exclusive power to make any law with respect to any matter not enumerated in the Concurrent List or State List.

In accordance with Article 243 (W) of the COI, the Legislature of a State may, by law, endow the Municipalities with such powers and authority as may be necessary to enable them to function as institutions of self-government and such law may contain provisions for the devolution of powers and responsibilities upon Municipalities, subject to such conditions as may be specified therein with respect to, *inter alia*, the performance of functions and the implementation of schemes as may be entrusted to them including those in relation to the matters listed in the Twelfth Schedule.

B. Inconsistency between Laws made by Parliament and the States[56]

As per the Article 254 of the COI, if any provision of a law made by the Legislature of a State is repugnant to any provision of a law made by Parliament which Parliament is competent to enact, or to any provision of an existing law with respect to one of the matters enumerated in the Concurrent List, then, the law made by Parliament, whether passed before or after the law made by the Legislature of such State, or, as the case may be, the existing law, shall prevail and the law made by the Legislature of the State shall, to the extent of the repugnancy, be void.

[56] Article 254 of the Constitution of India

Where a law made by the Legislature of a State with respect to one of the matters enumerated in the Concurrent List contains any provision repugnant to the provisions of an earlier law made by Parliament or an existing law with respect to that matter, then, the law so made by the Legislature of such State shall, if it has been reserved for the consideration of the President and has received his assent, prevail in that State:

Provided that nothing in the above provision shall prevent Parliament from enacting at any time any law with respect to the same matter including a law adding to, amending, varying or repealing the law so made by the Legislature of the State.

C. Supremacy of Laws/Regulations

The origin of all laws in India is the Constitution which is the founding document based on which various statutes are enacted by Parliament, State Legislatures and Union Territory Legislatures.

In addition, there are subordinate legislations in the form of rules, regulations as well as by-laws made by Central and State Governments and local authorities. The subordinate legislations are made under the authority conferred or delegated either by Parliament or State / Union Territory Legislature concerned.[57]

For example, as the Motor Vehicles Act, 1988 is an act of Parliament, the Central Motor Vehicles Rules, 1989, framed under the authority of the Act will be sub-ordinate to the Act. The State Motor Vehicle Rules framed by various States would, in turn, be sub-ordinate to both the preceding, and the same need to be formulated by the States in conformity with the Motor Vehicles Act, 1988, and the Central Motor Vehicles Rules, 1989.

3.4 Legal and Regulatory Provisions – PT Operations

Legal and regulatory provisions related to some of the important statutes are provided in the subsections that follow.

3.4.1 The Motor Vehicles Act, 1988

The Motor Vehicles Act, 1988 has been enacted by the Parliament of India under Entry 35 of the Concurrent List of the Constitution of India to regulate the operation of motor vehicles in India. This Act deals with various aspects related to road transport sector such as driving licensing of drivers and conductors, permits, registration of motor vehicles.

[57] https://www.sci.gov.in/constitution (Supreme Court of India)

Key provisions of the Motor Vehicles Act, 1988 that are applicable to urban bus operation are provided in the Table 3-3.

Table 3-3: Important Provisions of the Motor Vehicles Act, 1988

Key Provisions (Sections)	Brief Description
Necessity for driving licence (Section 3)	No person shall drive a motor vehicle in any public place unless he holds an effective driving licence issued to him authorizing him to drive the vehicle.
Necessity for conductor's licence (Section 29)	No person shall act as a conductor of a stage carriage unless he holds an effective conductor's licence issued to him authorizing him to act as such conductor; and no person shall employ or permit any person who is not so licensed to act as a conductor of a stage carriage
Necessity for registration of a motor vehicle (Section 39)	No person shall drive any motor vehicle and no owner of a motor vehicle shall cause or permit the vehicle to be driven in any public place or in any other place unless the vehicle is registered as prescribed and the certificate of registration of the vehicle has not been suspended or cancelled and the vehicle carries a registration mark displayed in the prescribed manner.
Certificate of fitness of transport vehicles (Section 56)	A transport vehicle shall not be deemed to be validly registered for the purposes of section 39 unless it carries a certificate of fitness as may be prescribed by the Central Government, issued by the prescribed authority, or by an authorized testing station, to the effect that the Vehicle complies for the time being with all the requirements of this Act and the rules made there under.
Necessity for permits (Section 66)	No owner of a motor vehicle shall use or permit the use of the vehicle as a transport vehicle in any public place save in accordance with the conditions of a permit granted or countersigned by a Regional or State Transport Authority or any prescribed authority authorizing him the use of the vehicle in that place in the manner in which the vehicle is being used.
Powers to State Government to control road transport (Section 67)	Authorizes the State Government, among others, to issue direction to the Transport Authorities regarding the fixing of fares and freight for transport vehicles.
Limits on the number of stage carriage permits in towns with a population of not less than five lakhs (Section 71(3)(a))	The State Government shall, if so directed by the Central Government having regard to the number of vehicles, road conditions and other relevant matters, by notification in the Official Gazette, direct a State Transport Authority and a Regional Transport Authority to limit the number of stage carriages generally or of any

Key Provisions (Sections)	Brief Description
	specified type, as may be fixed and specified in the notification, operating on city routes in towns with a population of not less than five lakhs.
Preparation and publication of proposal regarding road transport service of a State transport undertaking (Section 99)	This provision deals with the preparation of the proposal by the State Government to nationalize road transport services to be operated by State Transport Undertakings.
Issue of permits to State transport undertakings (Section 103)	This provision lays down the procedure in the matter of giving effect to the approved scheme and grant of permit to the State Transport Undertaking in pursuance of the approved scheme.
Restriction on grant of permits in respect of a notified area or notified route. (Section 104)	This provision provides that the Transport authorities shall not grant any permit to private sector on notified routes or notified areas except in accordance with the provisions of the scheme. It also provides that where STU has not come forward to operate services on such routes or areas private sector may be given temporary permit until such time STU comes forward to operate services.
Necessity for insurance against third party risk (Section 146)	No person shall use, except as a passenger, or cause or allow any other person to use, a motor vehicle in a public place, unless there is in force in relation to the use of the vehicle by that person or that other person, as the case may be, a policy of insurance complying with the prescribed requirements.
Using vehicle in unsafe condition (Section 190)	Provides for penalty for persons driving and person permitting to drive a motor vehicle which is in an unsafe condition. It also provides for penalty for driving a motor vehicle which violates the standards prescribed for safety, control of noise and air pollution.

3.4.2 The Motor Vehicles (Amendment) Bill, 2017 (Proposed Amendments)

The Motor Vehicles (Amendment) Bill, 2017 was passed in the Lower House of the Parliament of India during April 2017 and is yet to be passed by the Upper House and will lapse with the expiry of the 16th Lok Sabha. The bill seeks to amend several provisions of the Motor Vehicles Act, 1988 including the following significant provisions.

- Section 67 amended to empower the State Government to issue directions to the State Transport Authority and the Regional Transport Authorities to safeguard

the convenience of passengers, prevent overcrowding, promote road safety and provide economically competitive fares. It also empowers the State Government to relax any of the provisions made under Chapter V and modify permits and make schemes for the transportation of goods and passengers to enhance last mile connectivity and rural transport, reduce traffic congestion, improve urban transport, promote safety of road users, better utilization of transport assets, enhance regional economic vitality, increase accessibility and mobility, protect the environment, promote energy conservation, improve the quality of life and enhance multimodal integration among other purposes.

- New Section 88A added to empower the Central Government to modify permits and make schemes for inter-state transport of goods and passengers.
- New Section 66A added to empower the Central Government to develop and implement a National Transportation Policy. Such a policy is to be developed in consultation with State Governments and other agencies.

Key provisions of the Motor Vehicles (Amendment) Bill, 2017 that are applicable to urban bus operation are provided in the Table 3-4.

Table 3-4: Important Provisions of the Motor Vehicles (Amendment) Bill, 2017

Key Provisions (Sections)	Brief Description
Power to State Government to control road transport [Section 67(1)]	(1) A State Government, having regard to — (a) the advantages offered to the public, trade and industry by the development of motor transport; (b) the desirability of coordinating road and rail transport; (c) the desirability of preventing the deterioration of the road system; and **(d) promoting effective competition among the transport service providers**, may, from time to time, by notification in the Official Gazette issue directions both to the State Transport Authority and Regional Transport Authority **regarding the passengers' convenience, economically competitive fares, prevention of overcrowding and road safety.** *Notes:* *1. The highlighted portions have been added.* *2. Sub-clause (d) earlier was "the desirability of preventing uneconomic competition among holders of permit"*
Power to State Government to control road transport [Section 67(3) & (4)]	(3) Notwithstanding anything contained in this Act, the State Government may, by notification in the Official Gazette modify any permit issued under this Act or make schemes for the transportation of goods and passengers and issue

Key Provisions (Sections)	Brief Description
	licenses under such scheme for the promotion of development and efficiency in transportation— (a) last mile connectivity; (b) rural transport; (c) reducing traffic congestion; (d) improving urban transport; (e) safety of road users; (f) better utilization of transportation assets; (g) the enhancement of economic vitality of the area, though competitiveness, productivity, and efficiency; (h) the increase in the accessibility and mobility of people; (i) the protection and enhancement of the environment; (j) the promotion of energy conservation; (k) improvement of the quality of life; (l) enhance integration and connectivity of the transportation system, across and between modes of transport; and (m) such other matters as the Central Government may be deemed fit. (4) The scheme framed under sub-section (3), shall specify the fees to be charged, form of application and grant of a licence including the renewal, suspension cancellation or modification of such licence. *Note: The above sub-clauses have been added.*
Scheme by Central Government [Section 88A]	(1) Notwithstanding anything contained in this Act, the Central Government may, by notification in the Official Gazette, modify any permit issued under this Act or make schemes for national, multimodal and inter-State transportation of goods or passengers, and issue or modify licences under, such scheme for the following purposes namely:— (a) last mile connectivity; (b) rural transport; (c) improving the movement of freight, and logistics; (d) better utilization of transportation assets; (e) the enhancement to the economic vitality of the area, especially by enabling competitiveness, productivity and efficiency; (f) the increase in the accessibility and mobility of people; (g) the protection and enhancement of the environment; (h) the promotion of energy conservation;

Key Provisions (Sections)	Brief Description
	(i) improvement of the quality of life; (j) enhancement of the integration and connectivity of the transportation system, across and between modes of transport; (k) such other matters as the Central Government may deem fit: Provided that the Central Government may, before taking any action under this sub-section consult the State Governments. (2) Notwithstanding anything contained in sub-section (1), two or more States may make schemes for the operation within such States for the inter-State transportation of goods or passengers: Provided that in the event of any repugnancy between the schemes made by the Central Government under sub-section (1) and schemes made by two or more States under this sub-section, the schemes made under sub-section (1) shall prevail. *Note: The above clauses have been added.*
National Transportation Policy [Section 66A]	(1) The Central Government may develop a National Transportation Policy consistent with the objects of this Act in consultation with State Governments and other agencies with a view to— (i) establish a planning framework for passengers and goods transportation within which transport bodies are to operate; (ii) establish a medium and long-term planning framework for all forms of road transport, identify areas for the development of transport improvement infrastructure across India in consultation with the authorities and agencies related to ports, railways and aviation as well as with local and State level planning, land holding and regulatory authorities for the delivery of an integrated multimodal transport system; (iii) establish the framework of grant of permits and schemes; (iv) establish strategic policy for transport by road and its role as a link to other means of transport; (v) identify strategic policies and specify priorities for the transport system that address current and future challenges; (vi) provide medium to long term strategic directions, priorities and actions; (vii) promote competition, innovation, increase in capacity, seamless mobility and greater efficiency in transport of goods or livestock or passengers, and economical use of resources;

Key Provisions (Sections)	Brief Description
	(viii) safeguard the interest of the public and promote equity, while seeking to enhance private participation and public-private partnership in the transport sector; (ix) demonstrate an integrated approach to transport and land use planning; (x) identify the challenges that the National Transportation Policy seeks to address; (xi) address any other matter deemed relevant by the Central Government. *Note: The above clauses have been added.*

3.4.3 The Road Transport Corporations Act, 1950

The Road Transport Corporations Act, 1950 was enacted by the Parliament of India primarily to provide for the incorporation and regulation of Road Transport Corporations. It extends to the whole of India. Key provisions of the Road Transport Corporations Act, 1950 that are applicable to urban bus operation are provided in the Table 3-5.

Table 3-5: Important Provisions of the Road Transport Corporations Act, 1950

Key Provisions (Sections)	Brief Description
Establishment of Road Transport Corporations in the States (Section 3)	The State Government, having regard to the advantages offered to the public, trade and industry by the development of road transport; the desirability of coordinating any form of road transport with any other form of transport; the desirability of extending and improving the facilities for road transport in any area and of providing an efficient and economical system of road transport service therein; may, by notification in the Official Gazette, establish a Road Transport Corporation for the whole or any part of the State under such name as may be specified in the notification.
Management of Corporation and Board of Directors (Section 5)	The general superintendence, direction and management of the affairs and business of a Corporation shall vest in a Board of Directors which, with the assistance of its committees and Managing Director, may exercise all such powers and. do all such acts and things as may be exercised or done by the Corporation.
Managing Directors, Chief Accounts Officer and Financial Adviser (Section 15)	The Managing Director shall be the executive head of the Corporation and all other officers and employees of the Corporation shall be subordinate to him.

Key Provisions (Sections)	Brief Description
	The Managing Director shall obtain the views of the Chief Accounts Officer and the Financial Adviser or as the case may be, the Chief Accounts Officer - cum - Financial Adviser, on every proposal involving revenues, or expenditure from the fund, of the Corporation and shall cause such views to be placed before the Board prior to the consideration of such proposal by the Board.
Establishment of subsidiary corporations (Section 17A)	Where a Corporation (hereinafter referred to as the parent Corporation) is satisfied that it is expedient or necessary so to do for the more efficient discharge of its functions under this Act, it may, with the concurrence of the State Government and the Central Government, frame by notification in the Official Gazette a scheme or schemes providing for the establishment of one or more subsidiary corporations.
Powers of Corporation (Section 19)	Subject to the provisions of this Act, a Corporation shall have power- (a) to operate road transport services in the State and in any extended area; (b) to provide for any ancillary service (c) to provide for its employees suitable conditions of service including fair wages, establishment of provident fund, living accommodation, Places for rest and recreation and other amenities; (d) to authorize the issue of passes to its employees and other persons either free of cost or at concessional rate and on such conditions as it may deem fit to impose; (e) to authorize the grant of refund in respect of unused tickets and concessional passes.
General principle of Corporations finance (Section 22)	It shall be the general principle of a Corporation that in carrying on its undertaking it shall act on business principles.
Capital to the Corporation (Section 23)	The Central Government and the State Government, may provide to a corporation established by the State Government, in such proportion as may be agreed to by both the Governments, any capital that may be required by the Corporation for the purpose of carrying on the undertaking or for purposes connected therewith.
Borrowing powers (Section 26)	A Corporation may, with the previous approval of the State Government, borrow money for the purpose of raising its working capital or meeting any expenditure of a capital nature in the open market or from any prescribed financial institutions.

Key Provisions (Sections)	Brief Description
Budget (Section 32)	Every Corporation shall, by such date in each year as may be prescribed, prepare and submit to the State Government for approval a budget for the next financial year showing the estimated receipts and expenditure during that financial year in such form as may be prescribed.
Directions by the State Government (Section 34)	The State Government may, after consultation with a Corporation established by such Government, give to the Corporation general instructions to be followed by the Corporation, and such instructions may include directions relating to the recruitment, conditions of service and, training of its employees, wages to be paid to the employees, reserves to be maintained by it and disposal of its profits or stocks.
Power to make rules by State Government (Section 44)	The State Government may, by notification in the Official Gazette, make rules to give effect to the provisions of this Act. Such rules may include the conditions of appointment and service and the scales of pay of the Managing Director, the Chief Accounts Officer and the Financial Adviser.
Power to make regulations by Corporation (Section 45)	A Corporation may with the previous sanction of the State Government and by notification in the Official Gazette, make regulations, not inconsistent with this Act and the rules made thereunder for the administration of the affairs of the Corporation. Such regulations may include conditions of appointment and service and the scales of pay of officers and other employees of the Corporation other than the Managing Director, the Chief Accounts Officer and the Financial Adviser.

3.4.4 The Maharashtra Municipal Corporations Act, 1949

The Maharashtra Municipal Corporations Act, 1949 (earlier, The Bombay Provincial Municipal Corporations Act, 1949) was enacted to provide for the establishment of Municipal Corporation for certain larger urban areas in the State of Maharashtra with a view to ensure a better municipal government of the said larger urban areas.

Key provisions of the Act that are applicable to urban bus operation are provided in the Table 3-6.

Table 3-6: Important Provisions of the Maharashtra Municipal Corporations Act, 1949

Key Provisions (Sections)	Brief Description
Definitions (Section 2)	"Transport Undertaking" means all undertakings acquired, organized, constructed, maintained, extended, managed or conducted by the Corporation for the purpose of providing mechanically propelled transport facilities for the conveyance of the public and includes all movable and immovable property and rights vested or vesting in the Corporation for the purposes of every such undertaking.
Transport Undertaking (Chapter XX) (Section 341)	The chapter deals with the Operation of the Undertaking and the Construction and Maintenance of Works The provisions of this Chapter shall apply in the event of Corporation acquiring or establishing a Transport Undertaking
Appointment of Transport Committee (Section 25)	In the event of the Corporation acquiring or establishing a Transport Undertaking there shall be a Transport Committee consisting of thirteen members for the purpose of conducting the said undertaking in accordance with the provisions of this Act.
Appointment of Transport Manager (Section 40)	In the event of the Corporation acquiring or establishing a Transport Undertaking the Corporation shall, subject to the approval of the State Government, appoint a fit person to be the Transport Manager of the Transport Undertaking.
Contracts relating to Transport Undertaking (Section 75)	For the purpose of contracts relating exclusively to the Transport Undertaking the specified provisions shall apply as if for the word "Commissioner" wherever it occurs the words "Transport Manager" and for the words "Standing Committee" wherever they occur the words "Transport Committee" had been substituted.
Estimates of expenditure and income of the Transport Undertaking to be prepared annually by Transport Manager (Section 97)	The Transport, Manager shall each year, have prepared and lay before the Transport Committee, - (a) an estimate of the expenditure which must or should, in his/her opinion, be incurred by the Corporation in the next year on account of the Transport Undertaking; (b) an estimate of all balances, if any, which will be available for re-appropriation or expenditure at the commencement of the next year, and an estimate of the amounts to be transferred to the Municipal Fund during the next year. (c) an estimate of the Corporation's receipts and income from the Transport Undertaking in the next year.

Key Provisions (Sections)	Brief Description
Management of Undertaking by Transport Manager (Section 342)	Subject to the superintendence of the Transport Committee and of the Corporation, the Transport Manager shall manage the Transport Undertaking and perform all acts necessary for the economical and efficient maintenance, operation, administration and development of the Undertaking.
Levy of fares and charges for transport services (Section 343)	Fares and charges shall be leviable for the conveyance of passengers or for the carriage of goods by any means of transport provided by the Transport Undertaking at such rates as may from time to time be fixed, subject to the provisions of any enactment; for the time being in force and any license granted to the Corporation thereunder, by the Transport Committee with the approval of the Corporation.
Officers and Servants (Sections 346 & 348)	The Transport Manager shall, from time to time, prepare and bring before the Transport Committee a statement setting forth the designations and grades of the officers and servants, who should, in his opinion, be permanently maintained for the purpose of the Transport Undertaking, and the amount and nature of the salaries, fees and allowances which he proposes should be paid to each. The Transport Committee shall sanction such statement either as it stands or subject to such modifications as it deems expedient. Provided that no permanent office of which the minimum monthly salary exclusive of allowances exceeds specified amounts shall be created without the sanction of the Corporation or the State Government, as the case may be. The Transport Manager/Transport Committee may create temporary posts carrying a monthly salary, exclusive of allowances, not exceeding specified amount for a period of not more than six months and no such posts shall be continued beyond such period without the previous sanction of the Transport Committee.
Constitution of Transport Fund (Section 351)	Subject to the provisions of the Act, all moneys received by or on behalf of the Corporation in respect of the operations of the Transport Undertaking shall be credited to a fund which shall be called "the City of __ Transport Fund" and which shall be held by the Corporation in trust for the purposes of the said undertaking.
Purposes for which Transport Fund is to be applied (Section 357)	The moneys from time to time credited to the Transport Fund shall be applied in payment of all sums, charges and costs necessary for the purposes of acquiring, maintaining,

Key Provisions (Sections)	Brief Description
	operating and improving the Transport Undertaking and other prescribed purposes.

Similar act has been adopted by Gujarat titled, Gujarat Provincial Municipal Corporation Act, 1949 based on the earlier, Bombay Provincial Municipal Corporations Act, 1949.

3.4.5 The Rights of Persons with Disabilities Act, 2016

The Rights of Persons with Disabilities Act, 2016 has been enacted by the Parliament of India to give effect to the United Nations Convention on the Rights of Persons with Disabilities. This Act works for the empowerment of the persons with disabilities and deals with various aspects inherent to their dignity, individual autonomy and independence. There are certain provisions in the Act that are specific to transportation by disabled persons. “The “transportation systems” under the Act includes road transport, rail transport, air transport, water transport, para transit systems for the last mile connectivity, road and street infrastructure, etc.

Key provisions of the Rights of Persons with Disabilities Act, 2016 that are applicable to urban bus operation are provided in the Table 3-7.

Table 3-7: Important Provisions of the Rights of Persons with Disabilities Act, 2016

Key Provisions (Sections)	Brief Description
Equality and Non-discrimination (Section 3)	The appropriate Government shall ensure that the persons with disabilities enjoy the right to equality, life with dignity and respect for his or her integrity equally with others.
Duty of Educational institutions [Section 16 (viii)]	The appropriate Government and the local authorities shall endeavour that all educational institutions funded or recognized by them provide inclusive education to the children with disabilities and towards that end shall provide transportation facilities to the children with disabilities and also the attendant of the children with disabilities having high support needs.
Accessibility (Section 40)	The Central Government shall, in consultation with the Chief Commissioner, formulate rules for persons with disabilities laying down the standards of accessibility for the physical environment, transportation, information and communications, including appropriate technologies and systems, and other facilities and services provided to the public in urban and rural areas.

Key Provisions (Sections)	Brief Description
Access to transport (Section 41)	The appropriate Government shall take suitable measures to provide,— (a) facilities for persons with disabilities at bus stops, railway stations and airports conforming to the accessibility standards; (b) access to all modes of transport; (c) accessible roads to address mobility necessary for persons with disabilities. The appropriate Government shall also develop schemes programmes to promote the personal mobility of persons with disabilities at affordable cost to provide for personal mobility assistance.
Power of Central Government to make rules (Section 100)	The Central Government may, subject to the condition of previous publication, by notification, make rules for carrying out the provisions of this Act.

Central Government has framed the Persons with Disabilities Rules, 2017 providing for standard for Bus Body Code for transportation system as specified in the notification of the Government of India in the Ministry of Road Transport and Highways [Section 15(1)(b)]. The Bus Body Code contains provisions for design of bus body to support the needs of disabled passengers (Section 2.2.19).

3.4.6 The Motor Transport Workers Act, 1961

The Motor Transport Workers Act, 1961 is a central legislation to provide for the welfare of motor transport workers and to regulate the conditions of their work. The Act covers matters like medical facilities, welfare facilities, hours of work, rest periods, overtime, annual leave with pay, etc.

Key provisions of the Motor Transport Workers Act, 1961 are provided in the Table 3-8.

Table 3-8: Important Provisions of the Motor Transport Workers Act, 1961

Key Provisions (Sections)	Brief Description
Registration of Motor Transport Undertakings (Section 3)	Every employer[58] of a motor transport undertaking shall have the undertaking registered.
Welfare and Health of Employees (Chapter IV)	The State Government through rules can provide for the establishment of canteens, rest rooms, uniforms,

[58] "Employer" means, in relation to any motor transport undertaking, the person who, or the authority which, has the ultimate control over the affairs of the motor transport undertaking, and where the said affairs are entrusted to any other person whether called a manager, managing director, managing agent or by any other name, such other person.

Key Provisions (Sections)	Brief Description
	medical facilities and first aid facilities for the welfare and health of its employees.
Provisions with respect to Hours of Work (Chapter V)	No adult motor transport worker shall be required or allowed to work for more than eight hours in any day and forty-eight hours in any week. The hours of work in relation to adult motor transport workers on each day shall be so fixed that no period of work shall exceed five hours and that no such motor transport worker shall work for more than five hours before he has had on interval for rest for at least half-an-hour.
Wages and Leave (Chapter VII)	The Act contains provisions with respect to wages, overtime to motor transport workers, annual leave with wages and wages during the leave period.

3.5 Impact of Legal and Regulatory Provisions

This section makes an assessment as to how the existing legislative and regulatory provisions have impacted the urban bus operations in India.

3.5.1 Different Approaches in Dealing with Urban Transport

Urban Transport as a subject is not specifically listed in any of the Lists of the Seventh Schedule of the Constitution containing distribution of powers between union and states. It is also not listed as a specific item in the Twelfth Schedule containing matters that may be entrusted by States to Municipalities.

List II, Entry 5 does contain a provision allocating the role related to "*Local government, that is to say, the constitution and powers of municipal corporations, improvement trusts, districts boards, mining settlement authorities and other local authorities for the purpose of local self-government or village administration*" to the state government implying that urban transport is under the jurisdiction of the states considering that urban transport is an integral part of urban development.

In accordance with Article 243 (W) of the COI, the State may, by law, endow the Municipalities with powers and authority including for implementation of various schemes including those in relation to the matters listed in the Twelfth Schedule. This schedule also does not list Urban Transport as a separate matter though item 1 of the list in the schedule is "*Urban planning including town planning*."

In view of the above, subject matter of urban transport is being interpreted and dealt with by states differently.

3.5.2 Provision of Public Transport Not a Core or Mandatory Function of ULBs

The subject of Urban Transport is being interpreted and dealt with by states in a different manner as the same has not been specifically dealt with and addressed in the Constitution of India. Most states (Gujarat, Goa, Jharkhand, Madhya Pradesh, Maharashtra, West Bengal and Union Territories) have classified this as a discretionary function, and rest have not allocated this function to municipalities at all.

Urban local bodies have a set of core functions that receive priority in terms of resource allocation including based on the mandate of Finance Commission (FC) recommendations. The core services include drinking water, education, health, sewerage, sanitation, drainage, street lighting, and solid waste management. Even under the BPMC/GPMC Acts, establishment of transport undertaking by municipal corporations to provide urban bus operation is a discretionary function.

The Fourteenth FC in its report states that the Chairpersons of State Finance Commissions (SFCs) mentioned to FC that the basic services that can be considered by FC for support could include water supply, sanitation, solid waste management, drainage, public toilets, street lighting and maintenance of roads. It is evident that SFCs do not see provision of urban transport services as one of ULBs core functions.

The Fourteenth FC in its report states that the Ministry of Urban Development pointed out that basic services such as drinking water, sewerage, solid waste management, roads and street lights must be provided for all, with services related to water and sanitation meeting the Ministry's service delivery benchmarks.

Looking at the consensus as above, the Fourteenth FC in its report notes the following:

"*We are of the view that the measures that we recommend, including the grants to the local bodies, should go towards supporting and strengthening the delivery of basic services - water supply, sanitation including septage management, sewerage, storm water drainage and solid waste management, street lighting, local body roads and footpaths, parks, playgrounds, burial and cremation grounds. We recognise that the relevant statutes governing the local bodies would normally include these basic services.* ***Therefore, we recommend that the local bodies should be required to spend the grants only on the basic services within the functions assigned to them under relevant legislations***."

The provision of urban transport services is by consensus not considered as one of ULBs' core functions and the ULBs have been advised to spend grants only on the basic services. In view of this, funding for urban transport in general and urban bus operations in particular is constrained.

3.5.3 Difficulty in Making/Amending Laws on Concurrent Subjects

The sharing of power between the union government and the states is basic to the structure of the Constitution of India. It is not easy to make changes to the power

sharing arrangement. The Parliament cannot on its own change this arrangement. Any change to it has to be first passed by both the houses of Parliament with a majority of the total membership of that House and by a majority of not less than two-thirds of the members of that House present and voting (Article 368 of the Constitution of India). Subsequently, it has to be ratified by the legislature of at least half of the total States in the country.

A case in example is the Motor Vehicles (Amendment) Bill, 2017 the subject matter of which comes under the concurrent list of the Constitution. The bill seeks to amend the Motor Vehicles Act, 1988. Under the bill, Section 67 (1) (d) is proposed to be changed such that state government having regard to, among other areas, "*promoting effective competition among the transport service providers*" can issue directions regarding economically competitive fares, prevention of overcrowding and road safety. Currently, this provision is that state government having regard to, among other areas, "*the desirability of preventing uneconomic competition among holders of permit,*" can issue directions, *inter alia,* regarding the fixing of fares for stage carriages and contract carriages.

Another amendment proposed empowers the State Governments to make schemes and issue licences thereunder for the transportation of goods and passengers to enhance last mile connectivity and rural transport, reduce traffic congestion, improve urban transport, promote safety of road users, better utilization of transport assets, enhance regional economic vitality, increase accessibility and mobility, protect the environment, promote energy conservation, improve the quality of life and enhance multimodal integration among other purposes.

New Section 88A seeks to empower the Central Government to modify permits and make schemes for inter-state transport of goods and passengers. New Section 66A seeks to empower the Central Government to develop and implement a National Transportation Policy. Such a policy is to be developed in consultation with State Governments and other agencies.

Many of the states including Kerala, Karnataka, Tamil Nadu and Maharashtra have conveyed their reservations to the above stating that the provisions will adversely affect the STUs who have been performing their assigned roles. Moreover, the power conferred upon the Central Government to modify permits and make schemes for inter-state transport of goods and passengers will adversely affect the state actions on the matter, in case of any repugnancy. On the amendments proposed, the States have expressed their reservations as under:[59]

- The State Government of Tamilnadu was of the view that the new section 66 A(1) provides powers to the Central Govt. to develop a national Transportation Policy to "establish a planning frame work for passenger and goods transportation within

[59] Report of The Select Committee on The Motor Vehicles (Amendment) Bill, 2017 (Presented To the Rajya Sabha On 22nd December, 2017)

which transport bodies re to operate". Tamil Nadu has a long legacy of progressive nationalization of public passenger transportation which has been functioning effectively and providing affordable and quality service s to the people in the State. This enables the State Transport undertakings to operate even on uneconomic routes in remote rural areas and hilly areas. The concern is that in the name of introducing competition, the provision of such services to people in remote rural areas by State Transport Undertakings should not get jeopardized. Hence, the proposed insertion of new Section 66A and 66B should be omitted.

The State conveyed that the proposed amendments will render the permits issued by the Regional Transport Authority (RTA) null and void and obtaining permits from the RTA will no longer be mandatory by virtue of the introduction of licence' under a scheme in Section 88A. This will take away the power of State Government in controlling the transport vehicles by way of issuing permits. Hence, this provision may be omitted.

- The State Government of West Bengal was of the view that National Transport Policy can be developed in consultation with the States and modified from time to time when necessary, instead of giving it additional legislative legitimacy.

  The State expressed that these provisions empower Central Government to make schemes and issue licences for inter-state operations even by modifying the permits issued by States. The Central Government enjoys the power to override the States in case of any dispute between the states in making any scheme. There is every possibility that only schemes of Central Government for inter-state transport will prevail without guarding the interests of the States. The entire section should be dropped.

- The State Government of Kerala stated that section 88A interferes with the power of State Government and that this may be modified by including a provision for concurrence of the State Governments concerned.

- The State Government of Karnataka stated that the proposed legislation will have the effect of nullifying any scheme of the State Government repugnant to the schemes made by the Central Government. So the present scheme of STUs and Inter-State agreements will be nullified and "transport bodies" will be operating these schemes with new licensing scheme. The gates might be opened for the private sector for operating passenger transport services under the guise of schemes at the cost of STUs. This proposed Amendment is against STU interest.

- The State Government of Maharashtra suggested that the proposed amendments empower the Central Government to develop a national Transportation Policy. At present, such a policy is to be developed in consultation with State Governments and other agencies. Since there are a number of pre-existing powers with the State Government specifically under the Act, it is suggested that the words "the Central Government may develop a National Transportation Policy consistent with the objects of this Act *in consultation with* State Governments and other

agencies" should be replaced with the words "the Central Government may develop a National Transportation Policy consistent with the objects of this Act *with the concurrence* of the State Government and in consultation with other agencies".

The State conveyed that it has a long legacy of progressive Nationalization of public passenger transportation which has been functioning effectively and providing affordable and quality service to the people in the state. This enables the State Transport Undertaking to operate even on uneconomic routes in remote rural areas and hilly areas. Thus the concern is that in the name of introducing competition, the provision of such services to people in remote rural areas by State Transport undertaking should not get jeopardized.

The State further expressed that inclusion of the new section 88(A) which gives widespread powers to the Central Government to make schemes for national Multi Modal and Inter State Transport of passengers and goods. Some of the proposals for such schemes include last mile connectivity, rural transport and increase in the accessibility and mobility of people, enhancement of the integration and connectivity to the transportation system across and between the modes of transport, etc. This implies that the powers under this section can be exercised by the Central Government not just in the context of Inter-State transportation, but also in the context of transportation within a State. Hence, this should be omitted.

In response to the aforesaid reservations of the states, the Ministry of Road Transport and Highways (MoRTH) conveyed that the proposed section 66A aims to create a National Transportation Policy, in consultation with the States, for which a consultative mechanism would be put in place. In the Chapter VI (Section 97 to Section 108) of the Motor Vehicles Act, 1988, dealing with the special provisions relating to the State Road Transportation Undertakings, no amendment had been proposed. MoRTH further assured the states that any policy for National Transportation shall be framed only after thorough consultations with the States to help facilitate Inter State Transport and that the Ministry would constitute a Committee of Transport Ministers of the State to recommend such a Policy to Central Government.

MoRTH conveyed that any scheme schemes for inter-state transport of goods and passengers shall be made only after extensive consultations with the States. The scheme can be made only for facilitating Inter-State Transport; therefore, the intra-state transport is not at all affected. Under the proposed provision, two or more states can also frame a similar scheme. MoRTH further conveyed that the Ministry would in the first instance constitute a Committee of Transport Ministers of the States to recommend such a scheme to the Central Government.

The Bill has been passed in the Lower House of Parliament during April 2017 but remains to be passed by the Upper House of the Parliament of India and will lapse

with the expiry of the 16th Lok Sabha. It is evident that passing or amending legislation for a subject on Concurrent List of the Constitution is politically fraught and a long drawn process.

3.5.4 Schemes for Exclusivity of Bus Operation by STUs

State transport undertaking (STU) has been defined in the Motor Vehicles Act, 1988 [Section 2 (42)] to mean any undertaking providing road transport service, where such undertaking is carried on by (i) the Central Government or a State Government; (ii) any Road Transport Corporation established under Section 3 of the Road Transport Corporations Act, 1950; (iii) any municipality or any corporation or company owned or controlled by the Central Government or one or more State Governments, or by the Central Government and one or more State Government; (iv) Zilla Parishad or any other similar local authority.

In order to provide public transport through government owned organisations, the Motor Vehicles Act, 1939 had special provisions for STUs, and later the RTC Act, 1950 was enacted to establish state owned corporations to provide passenger road transport. The Motor Vehicles Act, 1988 liberalised grant of stage carriage permits on non-nationalised routes providing that authority shall not ordinarily refuse to grant an application for permit of any kind made at any time under this Act under Chapter V of the said Act. The special provisions for STUs in Chapter VI (that override provisions of Chapter V of the Act) have, however, been continued from the Motor Vehicles Act, 1939 to the Motor Vehicles Act, 1988. States, however, now have flexibility under the Act to organise bus operations through an appropriate mix chosen by them with regard to the role of STUs and the private sector. They can now opt for complete private sector based bus operation or by way of full or partial nationalisation of bus operation on various areas/ routes. Many states (Tamil Nadu, Maharashtra, etc.) have notified schemes for full or partial nationalisation on various areas/ routes reserving them for operation by the STUs.

STUs have been incurring losses and have not been able mobilise resources in order to keep pace with the requirements of the market both in terms of volume and quality of services. This, coupled with other socio-economic factors, has resulted in more and people relying on personalised modes of transport to meet their mobility requirements with their attendant adverse effects in the form of congestion and pollution.

3.5.5 Fixing of Fares

Section 67 of the Motor Vehicles Act, 1988 empowers the state government to issue directives to the State Transport Authority regarding the fixing of fares and freights (including maximum and minimum) for stage carriages, contract carriages and goods carriages.

It is observed that, in order to address socio-political objectives, fares are typically set low without taking into account the cost of inputs, fuel, personnel, etc., which often leaves the operators with inadequate revenue to fund expenditure on vehicular maintenance and replacement. This in turn results in inadequate and poor quality of service being offered by the operator to public leading to reduced patronage and lesser revenue, perpetuating the vicious cycle. It is just not enough to set the fare at reasonable level but the same needs to be revised from time to time commensurate with changes in cost of inputs. Most states do not have any institutional mechanism to periodically revise the fares based on set principles. In case of Delhi, for instance, city bus fares have been maintained at the same level for over a decade and have not been revised since 2009.

3.5.6 Need for a Dedicated Funding

There is no dedicated regulation backed funding mechanism available to support provision of urban bus operation. The funding of the bus operation in most cases is secured through annual budget cycle which has attendant risks regarding its availability as well as the quantum. In the absence of dedicated long-term funding, it has become difficult for public transport agencies to expand their bus operations or to upgrade their services. Some states (Rajasthan) in the last few years have set up funds to support transport sector initiatives.

3.5.7 Power to Control Number of Stage Carriages

According to Section 71 of the Motor Vehicles Act, 1988, the State Government shall, if so directed by the Central Government having regard to the number of vehicles, road conditions and other relevant matters, by notification in the Official Gazette, direct a State Transport Authority and a Regional Transport Authority to limit the number of stage carriages generally or of any specified type, as may be fixed and specified in the notification, operating on city routes in towns with a population of not less than five lakhs.

Accordingly, the Central Government has directed State Governments to limit the number of stage carriage operating as city service in the cities listed in the Table 3-9 below.

Table 3-9: Cities with Stage Carriage Permit Limits

State	Cities
Kerala	Calicut & Cochin
Uttar Pradesh	Lucknow, Kanpur, Varanasi, Agra, Allahabad and Meerut
Madhya Pradesh	Indore, Jabalpur, Bhopal and Gwalior
Jammu & Kashmir	Srinagar

3.6 Rigidity/Flexibility in Legal and Regulatory Provisions – PT Operations

3.6.1 Rigidity in Legal and Regulatory Provisions

A. Difficult to Amend Constitution: Sharing of Powers between the Union Government and the States

The sharing of power between the union government and the states is basic to the structure of the Constitution of India. It is not easy to make changes to the power sharing arrangement. The Parliament cannot on its own change this arrangement. Any change to it has to be first passed by both the houses of Parliament with a majority of the total membership of that House and by a majority of not less than two-thirds of the members of that House present and voting (Article 368 of the Constitution of India). Subsequently, it has to be ratified by the legislature of at least half of the total States in the country.

B. Central Government Power for Limiting the Number of Stage Carriage Permits

Central Government has retained the power to limit the number of stage carriages operating on city routes in towns with a population of five lakhs or more (section 71 of the Motor Vehicles Act, 1988). As the urban development subject is allocated to states under the Constitution and urban transport being an integral part of the same, continuation of this provision needs to be reviewed in the present situation.

3.6.2 Flexibility in Legal and Regulatory Provisions

Under the Constitution and the Motor Vehicles Act, 1988, and the Road Transport Corporations Act, 1950 States have been given flexibility to exercise their discretion in respect of certain areas as detailed below:

A. Delegation of Power by the States to Municipalities

Article 243 (W) of the Constitution of India provides no mandatory direction to the State legislatures for endowing the power & responsibilities on the Municipalities with respect to the matters listed in Twelfth Schedule. It has thus been created as an enabling provision to confer discretionary power on the State legislatures to endow power and responsibilities on the Municipalities.

B. Power to State Government to Control Road Transport (Fare Fixation)

The Motor Vehicles Act, 1988 (Section 67) provides that a State Government may issue directions to the State Transport Authority and Regional Transport Authority regarding the fixing of fares and freights (including the maximum and minimum in respect thereof) for stage carriages, contract carriages and goods carriages.

C. Flexibility to Structure the Bus Operations Market

Chapter VI of the Motor Vehicles Act, 1988 contains special provisions relating to State Transport Undertakings. It provides for preparation and publication of proposal by the State Government to nationalise road transport services to be operated by State Transport Undertakings (Section 99). It also provides that the Transport authorities shall not grant any new permits to private sector on notified routes or notified areas except in accordance with the provisions of the scheme (Section 104).

The aforesaid is permissible under Article 19(6)(ii) of the Constitution, which provides that, in the interests of the general public, the State can make a law relating to the carrying on by the State or by a corporation, owned or controlled by the State of any particular business, industry or service whether to the exclusion, complete or partial, of citizens or otherwise. The State here includes, unless the context otherwise requires, the Government and Parliament of India and the Government and the Legislature of each of the States and all local or other authorities within the territory of India or under the control of the Government of India.

Under Article 19(1)(g) of the Constitution, all citizens shall have the right to practise any profession, or to carry on any occupation, trade or business. Notwithstanding this, the Constitution provides flexibility to the State (as defined in the para above) by way of an enabling provision permitting State to carry on by the State or by a corporation, owned or controlled by the State any particular business, industry or service whether to the exclusion, complete or partial, of citizens or otherwise in public interest.

D. Power of State Government to Make Rules

The Motor Vehicles Act, 1988, and the Central Motor Vehicles Rules, 1989 provide certain flexibility to State Governments and confer upon them powers to frame rules, subject to provisions of the aforesaid Act/Rules, with respect to the following:

(a) Driving Licence related matters including the appointment, jurisdiction, control and functions of licensing authorities and other prescribed authorities (Section 28)

(b) Conductor's Licence related matters including the appointment, jurisdiction, control and functions of licensing authorities (Section 38)

(c) Rules to regulate, in respect of stage carriages and contract carriages and the conduct of passengers in such vehicles (Section 95)

(d) Rules relating to the period of appointment and the terms of appointment of and the conduct of business by Regional and State Transport Authorities and the reports to be furnished by them (Section 96)

(e) Rules relating to preparation and publication of proposal/scheme regarding road transport service of a State transport undertaking under section 99 (Section 107)

(f) To make rules in respect of matters other than those conferred on the Central Government regulating the construction, equipment and maintenance of motor vehicles. (Section 111)

(g) To make rules in respect of matters related to control of traffic (Section 138)

(h) To make rules in respect of matters related to claims for compensation including the procedure to be followed by a Claims Tribunal in holding an inquiry (Section 176)

E. Power to Supersede a Corporation

The Road Transport Corporations Act, 1950 (Section 38) provides that if the State Government is of opinion that a Corporation established by that Government is unable to perform, or has persistently made default in the performance of the duties imposed on it by or under the provisions of this Act or has exceeded or abused its powers, the State Government may, with the previous approval of the Central Government, by notification in the Official Gazette, supersede the Corporation for such period as may be specified in the notification.

F. Establishment of Subsidiary Corporations

The Road Transport Corporations Act, 1950 (Section 17A) provides that where a Corporation (hereinafter referred to as the parent Corporation) is satisfied that it is expedient or necessary so to do for the more efficient discharge of its functions under this Act, it may, with the concurrence of the State Government and the Central Government, frame by notification in the Official Gazette a scheme or schemes providing for the establishment of one or more subsidiary corporations.

4 INSTITUTIONAL ARRANGEMENTS

4.1 Introduction

This chapter provides a review of the current institutional arrangements that are directly or indirectly applicable to city bus services in India. The organisational structures, functional areas, responsibilities and powers of different types of public transport agencies (PTAs) involved in providing city bus services are also evaluated in sections that follow. The staffing levels and availability of trained human resources in PTAs have also been reviewed. The functionality, strengths and weaknesses, and financial sustenance of PTAs have also been assessed in the sections that follow.

4.2 Institutional Arrangements for Urban Bus Operation

A number of institutions at the Central, State and ULB Levels are involved in urban bus services (Figure 4-1).

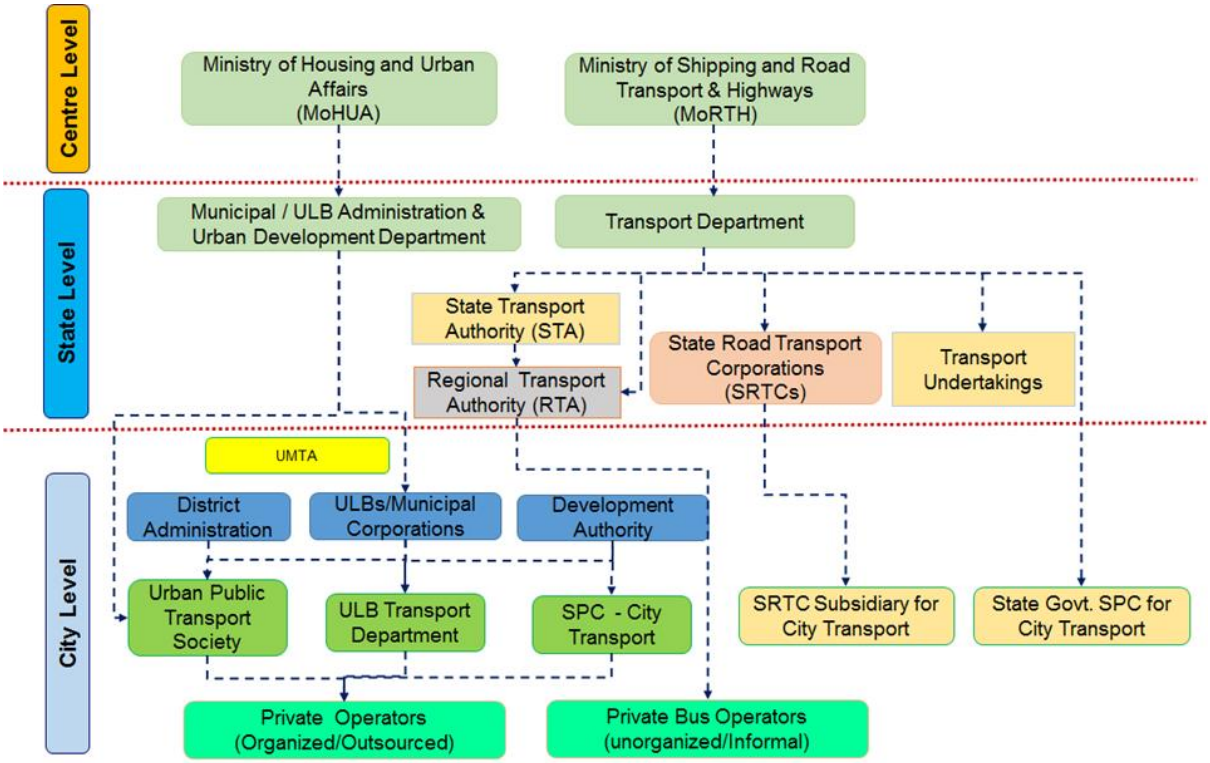


Figure 4-1: Institutional Arrangements for Urban Bus Operation

At the central government level, the subject of transport is divided between the two ministries: Ministry of Road Transport and Highways (MoRTH), and Ministry of Housing and Urban Affairs (MoHUA).

MoHUA is responsible for "*Planning and coordination of urban transport systems with technical planning of rail based systems being subject to the items of work allocated to the Ministry of Railways, Railway Board.*"[60]

MoRTH is responsible for Motor vehicles legislation; and Administration of the Road Transport Corporations Act, 1950, and The Motor Vehicles Act, 1988.

At the state government level, the urban transport matter is divided between the two departments: Transport Department, and Urban Development Department.

State transport departments work with MoRTH for implementation of the provisions of the Motor Vehicles Act, 1988 and the Road Transport Corporations Act, 1950. The State Road Transport Corporations established by the states work under the guidance of the respective state transport departments. Most such corporations provide city bus services as well in addition to the inter-city/inter-state/rural operations (KSRTC, TSRTC) while a few corporations provide exclusively city bus services (DTC and BMTC).

State urban development departments work with MoHUA in matters connected with the urban development including those related to city bus service. The city bus special purpose companies (SPCs) generally have shareholding of urban local bodies/parastatals/states and these SPCs work under the guidance of the respective shareholders and the state urban development departments. In some cities, the urban local bodies are directly involved in providing city bus services. Shareholding, board and organisation structures of representative PTAs is set out as Annexure 6:

4.2.1 Central Government Ministries

A list of central government ministries involved in city bus services and their roles and responsibilities are provided in Table 4-1 below.

Table 4-1: Central Government Ministries Involved in City Bus Services

Ministries at Central Level	Roles & Responsibilities in City Bus Services
Ministry of Housing and Urban Affairs (MoHUA)	• It is the apex authority of Government of India which deals with matters related to urban affairs including for planning and coordination of urban transport systems. • It is responsible for formulation of policies (such as National Urban Transport Policy) related to urban transport. • It also sponsors, supports and monitors implementation of various programmes related to urban transport by states and local governments such as JnNURM, Smart Cities Mission, Bus Funding Scheme, SUTP, ESCBS, etc.

[60] Government of India (Allocation of Business) Rules, 1961

Ministries at Central Level	Roles & Responsibilities in City Bus Services
Ministry of Road Transport and Highways (MoRTH)	• It is the apex authority of Government of India which deals with matters related to road transport and motor vehicles in the country. • It is responsible for formulation and administration of Motor Vehicle legislation such as Motor Vehicles Act, 1988; Central Motor Vehicles Rules, 1989; and The Road Transport Corporations Act, 1950. • It is also responsible for: o Formulating policies related to vehicle inspection mechanism to ensure safety of the vehicles and emission norms/ requirements. o Notification of various standards related to vehicles and road transport such as code of practice for bus body design. o Implementation of State and National Registers of driving licenses and vehicles' registration certificates. o Formulating road safety policy and its implementation. o Development of schemes to provide financial assistance to States/ UTs for improvement of public transport such as grants to SRTCs for implementation of Information Technology initiatives.

4.2.2 State Government Departments/ Agencies

A list of state departments/agencies involved in city bus services and their roles and responsibilities are provided in Table 4-2 below.

Table 4-2: State Departments/Agencies Involved in City Bus Services

State Departments/Agencies	Roles & Responsibilities in City Bus Services
State Transport Corporations	• Managing and operating bus services including city bus services in certain cities.
City Bus Companies (shareholding through development authorities, infrastructure board and other parastatals)	• Managing and operating city bus services.
Transport Department	• Formulating and administering Motor Vehicles Regulations (State Motor Vehicle Rules), vehicle

State Departments/Agencies	Roles & Responsibilities in City Bus Services
	registration, licensing, permits, stage carriage permits, city bus routes, fixing up of fares for public transport including stage carriage. • Managing and operating city bus services through departmental undertakings.
State / Development Authorities	• Setting up of and ownership in City Bus Companies.

4.2.3 Municipal Government / City Agencies

The municipal level agencies involved in city bus services and their roles and responsibilities are provided in Table 4-3 below.

Table 4-3: Municipal Level Agencies Involved in City Bus Services

Municipal Agencies	Roles & Responsibilities in City Bus Services
Municipal Corporations / their transport undertakings	Managing and operating city bus services (in Maharashtra and Gujarat)
City Bus Companies (shareholding by Municipal Corporations)	Managing and operating bus services
Municipal Corporations	Setting up of and ownership in City Bus Companies; city roads, bus stops, signal installation and maintenance
UMTAs	Preparation and update of Comprehensive Mobility Plan, Transport Investment Programme, coordination among agencies, promote seamless access in its area, framing standards and guidelines, performance indicators, policy formulation on Urban Transport, publication & display of information, collection of information for urban transport and administration of funds.

4.3 Organizational Structures of Public Transport Agencies

The organization structures of public transport agencies (PTA) providing city bus services follow the governing laws/regulations which cover details regarding their constitution, functions and other matters related with their activities. The subsections that follow cover the details of the organizational structure and their evaluation for the following types of PTAs providing city bus services:

(a) Road transport corporations formed by the State/ UT Government under the Road Transport Corporations Act, 1950

(b) Departments of Transport of State/ UT Government

(c) Special purpose companies incorporated under the Indian Companies Act, 1956/2013 by urban local bodies, states, and state agencies

(d) Transport undertakings established by municipal corporations under the Maharashtra Municipal Corporations Act, 1949 (earlier BPMC Act, 1949)/ GPMC Act, 1949.

The Figure 4-2 provides the organization structure for different types of PTAs.

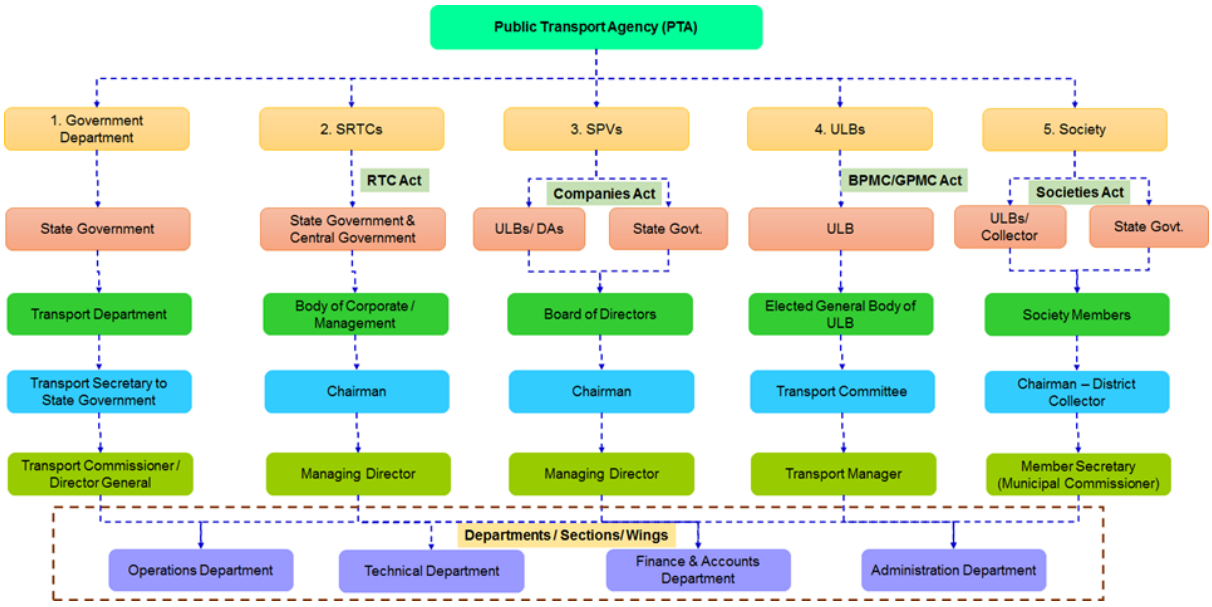


Figure 4-2: Organisation Structures of Public Transport Agencies

The sub-sections that follow cover the details of the organization structure and their review for different types of PTAs.

4.3.1 PTAs under RTC Act

In many of the states/UTs, the PTAs providing city bus services have been established under the Road Transport Corporations Act, 1950 such as Andhra Pradesh (APSRTC), Karnataka (KSRTC, BMTC), Delhi (DTC), West Bengal (CSTC), etc. The details of the organization structure, powers, functional areas and responsibilities of the PTAs established under the RTC Act, 1950 are provided in Table 4-4 below.

Table 4-4: Organization Structure of PTAs under RTC Act

Aspect	Description
Governing Legislation	• The Road Transport Corporations Act, 1950
Organization Structure	• The organization structure of these PTAs is governed by the RTC Act. • Section 5 provides the following regarding the organization structure of such PTAs: o The general superintendence, direction and management of the affairs and business of a Corporation shall vest in a Board of Directors. o The Board shall consist of a Chairman and between five to seventeen Directors. o The State Government may appoint one of the other Directors as the Vice-Chairman of the Board. o The Directors can be appointed by the Central Government, State Government concerned and other shareholders (in case shares have been allotted to other parties). • Every Corporation shall have a Managing Director, a Chief Accounts Officer and a Financial Adviser, appointed by the State Government (*Section 14(1)*). • A Corporation may appoint a Secretary and other officers and employees for the efficient performance of its functions (*Section 14(2)*). • The Managing Director is the executive head of the Corporation and all other officers and employees of the Corporation are subordinate to him (*Section 15(1)*).
Powers	• The powers of the PTAs are also derived from the RTC Act. The Section 19 of the RTC Act lists the powers of the PTAs as under: o To operate road transport services in the state and in any extended area. o To provide for any ancillary service. o To provide for its employees suitable conditions of service including fair wages, establishment of provident fund, living accommodation, places for rest and recreation and other amenities. o To authorize the issue of passes to its employees and other persons either free of cost or at concessional rates. o To authorize the grant of refund in respect of unused tickets and concessional passes.

Aspect	Description
	The RTC Act also authorises Corporations to undertake all incidental activities to discharge the above responsibilities such as purchase of vehicles of suitable types, entering into agreements/ contracts, acquiring and holding of property, etc. • **Borrowing Money**: The RTC Act empowers the Corporations such that, with the previous approval of the State Government, they can borrow money for the purpose of raising its working capital or meeting any expenditure of a capital nature in the open market, from banks and other financial institutions providing credit which is subject to the control of the Reserve Bank of India. (Section 28) • **Incurring Expenses**: The RTC Act authorises the Corporation to spend such sums as it thinks fit on objects authorised under the Act and such sums shall be treated as expenditure payable out of the fund of the Corporation (Section 31). • **Making Regulations**: The Corporations have power to make regulations, with the previous sanction of the State Government, not inconsistent with the Act and the rules made thereunder for the administration of the affairs of the Corporation. Such regulations may cover the conditions of appointment and service and the scales of pay of officers and other employees of the Corporation other than the Managing Director, the Chief Accounts Officer and the Financial Adviser (Section 45) • The State Government has the power to issue general instructions to be followed by the Corporation which may include directions relating to the recruitment, conditions of service and training of its employees, wages to be paid to the employees, reserves to be maintained by it and disposal of its profits or stocks (*Section 34(1)*).
Functional Areas and responsibilities	• The general function of a Corporation is to provide or secure or promote the provision of, an efficient, adequate, economical and properly coordinated system of road transport services in the state for which it is established and in any extended area (*Section 18*). • General principle of Corporation's finance: It shall be the general principle of a Corporation that in carrying on its undertaking it shall act on business principles (*Section 22*). • The Corporation is required to maintain proper accounts and other records and prepare an annual statement of accounts including the profit and loss account and the balance sheet

Aspect	Description
	in such form as may be prescribed by the State Government. The accounts of the Corporation shall be audited annually by the Comptroller and Auditor-General of India or his nominee. The accounts of the Corporation are forwarded annually to the State Government and placed before the State legislature (Section 33).

4.3.2 PTAs under the State / UT Government

In certain states/UTs, the city bus services are being provided by their departments of transport/ departmental undertakings directly, under the Allocation of Business Rules framed by respective states/UTs. Some such examples of city bus services being provided by the state/UT departments of transport are Haryana (Haryana Roadways), Chandigarh (CTU), Sikkim (Sikkim Nationalized Transport), Mizoram (Mizoram State Transport), etc. The details of the organization structure, powers, functional areas and responsibilities of the PTAs directly under state/UTs are provided in the Table 4-5 below.

Table 4-5: Organization Structure of PTAs Directly under States/UTs

Aspect	Description
Governing Legislation	• Allocation of Business Rules of the respective states/UTs.

Organization Structure	• Such PTAs report to the Transport Minister of the state through the Secretary (Transport) of the state.
	• The organization structures of such PTAs vary from state to state, as it is not defined by any common legislation.
	• A government officer is designated as the executive head of the PTA who is responsible for managing the operations of the PTA. Some examples are:
	  ○ Chandigarh - Director (Transport) heads the CTU
	  ○ Sikkim – Chief Engineer-cum-General Manager heads the Sikkim Nationalized Transport
	  ○ Haryana – Director (State Transport) heads the Haryana Roadways
	• The executive head of the PTA is assisted by other officers for different functions such as operations, technical, finance, depot operations, etc.

Powers	• These PTAs derive their powers through the orders issued by respective state/UT governments.

Aspect	Description
	• These PTAs are entirely financed by the State Governments and their budget accounting and audit of the same are carried out as per Government rules and regulations. The employees are recruited and selected like other public servants. They work under the service rules of the State Government.
Functional Areas and responsibilities	• The main function and responsibility of such PTAs are to provide bus services in the respective state/UT and in any extended area, as may be decided by the state/UT. • They can further detail out their functions, as decided by the state/UT. For example, Haryana Roadways has defined its functions as below (*sic*): o To provide efficient bus services to the public by replacing old ones and adding new. o To design and introduce eco-friendly buses. o Providing city bus services in big cities in order to discourage the use of personal vehicles. o Construction of modern bus terminals, bus queue shelters and modernization of workshops. o To provide IT based monitoring and control systems. o To impart training to the drivers and conductors and other staff. o To add luxury buses to the Fleet.

4.3.3 Special Purpose Companies

In a number of cities, the bus services are being provided by special purpose companies (SPCs) set up by state governments and/or municipal corporations under the Companies Act, 1956/2013. Some such examples of city bus services being provided through SPCs are Jaipur (JCTSL), Indore (AICTSL), Jabalpur (JCTSL), Chennai (MTC), Gurugram (GMCBL), etc. The details of organization structure, powers, functional areas and responsibilities of the SPCs providing city bus services are provided in the Table 4-6 below.

Table 4-6: Organization Structure of SPCs Providing City Bus Services

Aspect	Description
Governing Legislation	• The Companies Act, 1956/2013
Organization Structure	• The organization structures of the SPCs is governed by the Companies Act.

Aspect	Description

	• The SPCs have a Board of Directors to manage the company affairs, consisting of three to fifteen Directors, including at least one woman Director.
	• As per section 203(1) of the Companies Act, 2013, a SPC needs to have the following whole-time key managerial personnel:
	  ○ Managing Director, or Chief Executive Officer or Manager and in their absence, a whole-time Director;
	  ○ Company Secretary; and
	  ○ Chief Financial Officer
	• The SPCs are governed by their Memorandum and Articles of Association which comprise the objectives and rules of internal management.
	• The SPCs are more flexible in terms of defining their organization structure as the same is decided by the Board/ Managing Director, as per the delegation of powers.
	• The SPCs may have a lean organization structure in case the bus operation is outsourced to private players.

Powers	• The Board of Directors of the SPC is entitled to exercise all such powers, and to do all such acts and things, as the company is authorized to exercise and do subject to the provisions contained in that behalf in the Companies Act, or in the Memorandum or Articles, including regulations made by the company in general meeting.
Functional Areas and responsibilities	• The primary function and responsibility of SPC are to provide bus services in the city, for which it has been set up. • The SPCs may have other functions and responsibilities, as per its Memorandum and Articles of association, and as decided by the Board of Directors such as AICTSL is responsible for operation of BRTS besides providing city bus services.

4.3.4 PTAs under MMC/GPMC Act

In some of the cities in states of Maharashtra and Gujarat, municipal undertakings have seen set up for providing city bus services under the respective municipal corporations acts i.e. Maharashtra Municipal Corporations (MMC) Act, 1949 (earlier Bombay Provincial Municipal Corporations (BPMC) Act, 1949) and Gujarat Provincial Municipal Corporations Act, 1949 (GPMC Act). Some examples of such cities where municipal undertakings are providing city bus services are Ahmedabad (AMTS),

Mumbai (BEST), Thane (TMTU), Kolhapur (KMTU), Mira Bhayandar (MBMT), Navi Mumbai (NMMT) and Nagpur (NMC). The details of the organization structure, powers, functional areas and responsibilities of the municipal undertakings providing city bus services are provided in Table 4-7 below.

Table 4-7: Organization Structure of Municipal Transport Undertakings

Aspect	Description
Governing Legislation	• Maharashtra Municipal Corporations Act, 1949 (earlier BPMC Act, 1949) • The Gujarat Provincial Municipal Corporations Act, 1949
Organization Structure	• The organization structures of the municipal undertakings providing bus services are governed by the BPMC/ GPMC Acts. • As per section 25 of the BPMC/ GPMC Acts, a Transport Committee consisting of 13 members is constituted to oversee the bus services. 12 members are appointed by the corporation, whereas the Chairman of the Standing Committee is ex-officio member of the Transport committee. One of the members of the committee is appointed as Chairman of the Transport Committee. • A Transport Manager is appointed by the corporation, with the approval of the state government to manage the municipal undertaking (*Section 40(1) of the BPMC/GPMC Act*). • The Transport Manager heads the municipal undertaking and may have a number of subordinate officers to manage different functions of the undertaking. • The municipal undertaking may have a lean organization structure in case the bus operations is outsourced to private players.
Powers	The municipal undertakings derive their powers from the BPMC/ GPMC Acts. As per the section 342(2) of the BPMC/ GPMC Acts, the Transport Manager may, with the sanction of the Transport Committee: • construct or acquire transport undertakings, including mechanically propelled transport facilities for the conveyance of the public, subject to the provisions of the MV Act or of any other enactment for the time being in force and the conditions of any licence, permit or sanction in favour of the Corporation granted thereunder;

Aspect	Description
	• construct buildings and works of every description necessary or desirable for the operation or development of the Transport Undertaking; • purchase or take on lease or hire or otherwise acquire any moveable or immovable property or rights; • exercise any of the powers of a licensee holding a stage permit under the Motor Vehicles Act, 1939, (IV of 1939) which the Corporation is for the time being authorized to exercise and any other powers exercisable by the Corporation under the said Act in relation to the provision of mechanically propelled transport facilities for the conveyance of the public. • **Fares and charges:** Fares and charges shall be leviable for the conveyance of passengers or for the carriage of goods by any means of transport provided by the Transport Undertaking at such rates as may from time to time be fixed, subject to the provisions of any enactment for the time being in force and any licence granted to the Corporation thereunder, by the Transport Committee with the approval of the Corporation. If any person travelling or having travelled in any vehicle of the Transport Undertaking avoids or attempts to avoid payment of his fare, Transport Manager/ Transport Committee is empowered to levy and recover specified fines/excess charge from such person (Section 343). • **Acquisition and Disposal of Property**: Whenever it is necessary or expedient for the purposes of the Transport Undertaking that the Transport Manager shall acquire any immovable property, such property may be acquired by the Transport Manager on behalf of the Corporation on such terms as shall be approved by the Transport Committee (Sections 344). • **Other Staff:** The Transport Manager shall, from time to time, prepare and bring before the Transport Committee a statement setting forth the designations and grades of the officers and servants, who should, in his opinion, be permanently maintained for the purpose of the Transport Undertaking, and the amount and nature of the salaries, fees and allowances which he proposes should be paid to each. The Transport Committee shall sanction such statement either as it stands or subject to such modifications as it deems expedient. Provided that no permanent office of which the minimum monthly salary exclusive of allowances exceeds specified amounts shall be created without the

Aspect	Description
	sanction of the Corporation or the State Government, as the case may be (Section 346). • **Temporary posts:** The Transport Manager/ Transport Committee may create temporary posts carrying a monthly salary, exclusive of allowances, not exceeding specified amount for a period of not more than six months and no such posts shall be continued beyond such period without the previous sanction of the Transport Committee (Section 348). • **Borrowing Powers:** The Corporation may, with the previous sanction of the State Government, from time to time, borrow or re-borrow and take up at interest by the issue of debentures or otherwise on the security of any immovable property vested in the Corporation or proposed to be acquired by it under this Act or of all the taxes or of any tax which it is authorised to levy for the purposes of the Act or the Transport Undertaking (Section 109). • **Transport Fund:** Section 351 outlines establishment of a Transport Fund, all moneys received by or on behalf of the Corporation in respect of the operations of the Transport Undertaking shall be credited in the Transport Fund. The moneys from time to time credited to the Transport Fund shall be applied in payment of all sums, charges and costs necessary for the purposes of acquiring, maintaining, operating and improving the Transport Undertaking (Section 357).
Functional Areas and responsibilities	• The primary function and responsibility of the municipal transport undertaking are to provide bus services in the city, for which it has been set up.

4.4 Assessment of Staffing in Public Transport Agencies

4.4.1 Staffing Details

Staffing requirements in a PTA vary depending upon the approach followed by the PTA in delivering the urban bus services with respect to the following aspects:

(a) Bus operation: In-house or outsourced or a combination thereof
(b) Bus operation outsourcing model: net cost or gross cost
(c) Fleet maintenance: In-house or outsourced

PTA typically follow any of the operating models shown in the Table 4-8:

Table 4-8: PTA Operating Model vs. Staffing Structure

Operation	Maintenance	Outsourcing Model	PTA Staff			
			Driver*	Conductor*	Maintenance Staff*	Other Staff*
Own	In-house		Y	Y	Y	Y
Own	Outsourced		Y	Y	N	Y
Outsourced		Net cost	N	N	N	Y
Outsourced		Gross cost	N	Y	N	Y

* PTA staff could be on their rolls or on contract or a combination thereof

The staffing in PTAs is broadly divided in the following categories:

- Managerial Staff – managing director/ chief executive, transport manager, general managers, works manager, chief mechanical engineer, chief of stores and purchase, depot managers, other top, middle and junior management
- Administration Staff – clerks, superintendents, section officers, ticket checkers, store keepers, cashiers, etc.
- Repair and Maintenance Staff – supervisors, technicians, mechanics, fitters, helpers, etc.
- Crew – drivers and conductors

The staffing levels in a PTA will be a function of the operating model adopted by the PTA. A PTA that has adopted an operating model with completely in-house operation and maintenance will have to hire drivers, conductors, maintenance and other staff to support its bus operation resulting in higher number of staff. Conversely, a PTA that adopts an operating model with completely outsourced operation of buses under net cost model (the selected operator will deploy drivers, conductors, maintenance and other support staff) will have to hire only the monitoring staff to support its bus operation resulting in fewer overall staff.

The staffing levels in PTAs also vary depending upon factors such as type of organisation, size of bus fleet, type and volume of services provided, extent of outsourcing, etc.

The total staff strength for some PTAs as on FY 2015-16 is provided in Figure 4-3 below. BMTC leads with highest number of total staff (35,554 employees) working under the corporation. Next to BMTC is BEST with about 34,174 employees. The third largest organization in terms of the number of employees is DTC with 30,527 employees.

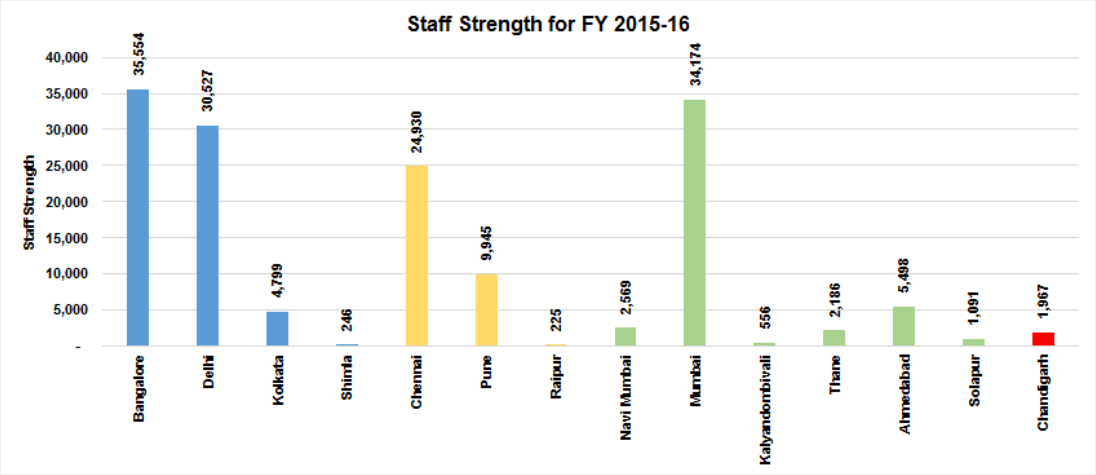


Figure 4-3: Staff Strength of PTAs for FY 2015-16

Since, one of the major factors influencing staffing levels in the PTAs is its fleet size, the ratio of staff to bus is a measure used to assess the staffing level. Figure 4-4 below presents total staff to fleet ratios for some of the city PTAs.

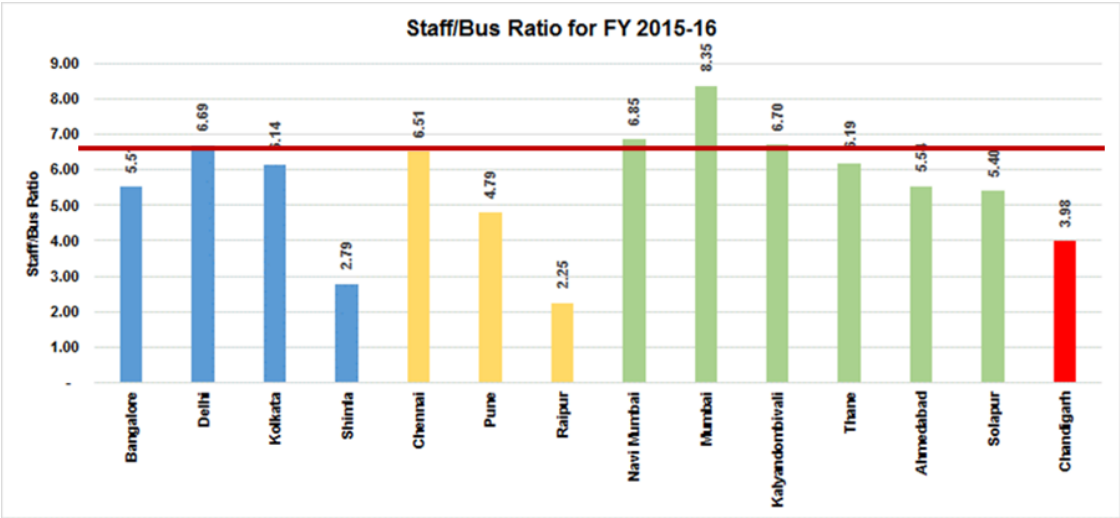


Figure 4-4: Staff/Bus Ratio for FY 2015-16

Highest staff to bus ratio is observed in BEST, Mumbai at 8.35 and lowest in Raipur city at 2.25.

The operating model followed by BEST (Mumbai), DTC (Delhi), BMTC (Bengaluru), Chennai, Kolkata is in-house operation and maintenance of the fleet. The staff / bus ratio therefore is high for these cities. As Raipur follows a different operating model wherein it has outsourced its bus operation under the net cost model, its staff to bus ratio is much less compared to the other cities. Raipur PTA needs staff only to manage and monitor the performance of the selected operator in accordance with its contract. The drivers, conductors, maintenance and other staff are deployed by the

selected operator. As against this, the PTAs in other cities with in-house operations and maintenance need to deploy drivers, conductors, maintenance and other staff to run their operations.

The key characteristics of staffing levels and availability of trained human resource for different types of PTAs are provided in the Table 4-9 below.

Table 4-9: Key Characteristics of Staffing Levels in Different Types of PTAs

Type of PTA	Key Characteristics
PTAs under RTC Act	Staffing Levels • These PTAs are quite old as most of them were set up by or before 1960s under the RTC Act, 1950. • They have quite well-established organization structure with well-defined positions, sanctioned strengths, roles & responsibilities, salary structures, etc. and have adequate staffing levels. Managing Director typically is a union/ state civil service officer. • Generally, these PTAs manage the operations of the buses on their own. Though, some PTAs may take some staff (mostly drivers and conductors) on contract. • Some of the PTAs take buses on hire in which case, provisioning of drivers and repair & maintenance of the buses is the responsibility of the bus owners. • Some of the PTAs have started to purchase buses with built-in long term repair & maintenance contracts. In such cases, the repair & maintenance of buses is the responsibility of the bus manufacturers. Availability of Trained Human Resources • The PTAs constituted under RTC Acts have adequately trained staff, as they have well-defined recruitment and training systems in place. Some of these PTAs have well established training facilities where they train their drivers, conductors and maintenance staff. • These PTAs are also supported by ASRTU and CIRT in providing training and capacity building programmes for different levels of staff including senior management. • These PTAs, however, face challenge in availability of trained human resources in the new areas such as information technology, ITS, electric buses, etc. as these PTAs have longer and time-consuming process for creation, approvals and recruitment for new positions.
PTAs under the State / UT Government	Staffing Levels

Type of PTA	Key Characteristics
	• The PTAs under the State/UT governments are also quite old and have well established organization structure with well-defined positions, sanctioned strengths, roles & responsibilities, salary structures, etc. and have adequate staffing levels. • Generally, these PTAs also manage the operations of the buses on their own. Though, some PTAs may take some staff (mostly drivers and conductors) on contract. • Some of the PTAs take buses on hire in which case, provisioning of drivers and repair & maintenance of buses is the responsibility of the bus owners. <u>Availability of Trained Human Resources</u> • The PTAs under the State/UT governments have adequately trained staff, as they have well-defined recruitment and training systems in place. • These PTAs are also members of ASRTU and get the benefits of training/ capacity development programmes of ASRTU/CIRT. • These PTAs also face challenges in availability of trained human resources in the new areas such as information technology, ITS, electric buses, etc. as they too have longer and time-consuming process for creation, approvals and recruitment for new positions.
Special Purpose Companies	<u>Staffing Levels</u> • The PTAs set up as special purpose companies (SPCs) are comparatively newer organizations. Most of such PTAs have been established after the launch of MoHUA's NURM scheme in the year 2005. • Most of these PTAs have outsourced operation of buses to private operators, as such they have lower staffing levels. • Most of them do not have well established organization structure as required for managing city bus services. <u>Availability of Trained Human Resources</u> • Senior officers hold dual/multiple charges and therefore are not able to devote full time and attention to the SPC business • Most of the SPCs do not have adequately trained staff required for managing bus services, as they operate with thin staffing levels most of which are on contract. • Though, these PTAs, being companies, have certain level of flexibility in creating and filling up of positions, however, they still are lacking in availability of adequate and trained staff.

Type of PTA	Key Characteristics
PTAs under BPMC/ GPMC Acts	Staffing Levels • The PTAs set up under BPMC/GPMC Acts are also quite old. Some of these PTAs (like BEST, AMTS, etc.) have well-defined organization structure with well-defined positions, sanctioned strengths, roles & responsibilities, salary structures, etc. and have adequate staffing levels. Some of such PTAs (like Nagpur, MBMT, etc.), however, do not have adequate organization and staffing levels. • Some such PTAs (like BEST, AMTS, etc.) manage the operations of the buses on their own so have higher staffing levels. Some other PTAs (like Nagpur, MBMT, etc.) have outsourced the operation of buses to private operators, so have lean organization and lower staffing levels. Availability of Trained Human Resources • Some such PTAs (like BEST, AMTS, etc.) have adequately trained staff required for managing bus services. Some other PTAs (like Nagpur, MBMT, etc.) do not have adequately trained staff required for managing bus services. • These PTAs also have longer and time-consuming process for creation, approvals and filling up of new positions. • These PTAs are also members of ASRTU and get the benefits of training/ capacity development programmes of ASRTU/CIRT.

4.4.2 Capacity Assessment

Working Group on Urban Transport set up by the National Transport Development Policy Committee (NTDPC), chaired by Secretary, Ministry of Urban Development, Government of India in its report[61] identified capacity and skill building of cities/ states - both at institutional as well as at the individual level - as one of the important requirements in meeting the urban transport challenge (Table 4-10).

[61] Final Report of the Working Group on Urban Transport set up by the National Transport Development Policy Committee (NTDPC) (2012)

Table 4-10: Key Capacity Building Issues Identified by NTDPC Working Group

Working Group on Urban Transport set up by the National Transport Development Policy Committee (NTDPC)[62]
Several issues facing the urban transport sector were identified by the Working Group as below: • Lack of availability of a pool of skilled personnel in the country available for hiring by public transport agencies. • Capacity of and resources available with the four centers of excellence (at IIT Delhi, IIT Chennai, CEPT Ahmedabad and NIT Warangal) set up by the Ministry of Urban Development, GOI. • Lack of availability of faculty dealing with the subject. • Curriculum not available in the universities to impart necessary skillsets to the professionals to support the emerging needs of the urban transport sector. • Difficulty in identifying the personnel to be trained as the cities/states typically had not identified dedicated agencies and deployed staff to deal with urban transport. • Difficulty in hiring and retaining professional staff due to lack of career growth and prospects in public transport agencies. • Lack of availability of database in urban transport to enable informed policy making and reliably assessing their impacts. • Lack of applied research and industry-academia coordination to enable research matching the needs of the sector.

In most cases, officers deployed to head PTAs in India are seen to be holding this position as an extra charge, in addition to their other portfolio(s). In addition, such organisations have been experiencing a frequent changes at the top management level resulting in lack of continuity and direction.

PTAs in big cities such as Delhi, Mumbai, Bengaluru, and Chennai in general have their senior management typically from Indian/State civil services. These cities have PTAs which are mostly government owned organisations having several decades of experience with positions, job description, qualification, selection procedure, service rules and the scales of pay of their officers and employees well established and formalised including as required under their applicable regulations. Most other PTAs - considering the relatively recent introduction of formal city bus services, smaller scale of operations, poor reward and compensation packages, and lack of visibility for career growth - find it difficult to attract and retain staff even at the senior management level.

Skill gaps still exist in all PTAs – big or small – in specific areas such as information technology-based systems that have been introduced only recently. In addition, as

[62] Ibid.

the modern bus fleet with electronics/IT components are being introduced gradually in various cities, challenges are being faced by the maintenance team in maintaining these buses.

Urban PTAs do not report their operational and financial statistics in any standardize form except for some which are members of the ASRTU. In addition, where PTAs are providing both urban and long distance services, the data is often not segregated for these types of operations.

4.4.3 Drivers, Conductors and Other Support Personnel

Drivers and conductors are the most visible interface of public transport agencies with public. The users experience the bus service based on the activities performed by the drivers and conductors. In addition, other support personnel such as mechanics and technicians are required to maintain and ensure upkeep of the vehicle.

The Motor Vehicles Act, 1988 regulates the licensing of drivers and conductors for passenger transport vehicles and prescribes the requirement regarding minimum age, minimum qualifications, licence validity, etc. Vehicle manufacturers such as Tata Motors[63] and Ashok Leyland[64,65] provide training to transport vehicle drivers, mechanics and other technicians through their training centres. In addition, the private and government Industrial Training Institutes (ITIs) are imparting skills in various vocational trades to support the skilled manpower requirements. As of May 2017, there were 13,353 ITIs in the country, out of which 11,201 were private and the rest were government owned.[66]

Depending on the model adopted by a PTA, drivers and conductors are either hired by the PTA or by the selected operators (Table 4-8). Hiring of drivers and conductors by PTAs to support their in-house operations or a gross cost based bus operation (where conductors are deployed by PTAs) has been gradually shifting to one through third party staffing agencies rather than on the payrolls of the PTAs. Most such hiring is carried out by tender process, requiring payment of minimum wages as a pre-condition, and lowest cost as the criterion for selection. Accordingly, most of the drivers and conductors in the urban bus sector are being paid statutory minimum wages. This coupled with the demanding work environment in the sector is leading to difficulty in hiring and retaining quality personnel for such activities. The Motor Vehicles (Amendment) Bill, 2017 presented to Rajya Sabha (Upper House of Parliament) on 22nd December 2017, the Select Committee took note of the

[63] http://www.customercare-cv.tatamotors.com/campaigns-and-trainings/driver-training-institute.aspx
[64] https://www.ashokleyland.com/en/training
[65] https://www.autocarpro.in/feature/ashok-leyland-trains-million-drivers-counting-29727
[66] Thirty Third Report of the Standing Committee on Labour to Lok Sabha: Industrial Training Institutes (ITIs) and Skill Development Initiative Scheme (January 2018)

submissions by Ministry of Road Transport and Highways, GOI stating that there is a severe shortage of drivers (close to 2.2 Mn) in the country which is hindering the growth of the transport and logistics sector.

The Working Group on Urban Transport set up by the NTDPC, in its report[67] identified driver training, testing and licensing, as one of the reasons for declining safety. In its report on National Road Transport Policy[68], the Thangaraj Committee noted that the quality of drivers has a vital bearing on quality and productivity of transport service specially, with respect to road safety, fuel economy, and efficiency of the sector.

As part of the roadmap for improving the city bus service in India, Shakti Foundation in its report on a roadmap for improving city bus systems in India[69] had identified driver and conductor training as one of the key issues and recommended for institutionalising the training for drivers and conductors and to provide driver skill training using driving simulators.

4.5 Assessment of Different Institutional Arrangements

As we have seen earlier in the chapter that the urban bus operations have been organized in India broadly following the five approaches: a corporation established under the RTC Act, as an undertaking under the Transport Department, through a special purpose company, societies registered under society registration act or a transport undertaking under the BPMC/GPMC Act.

These five approaches have been reviewed as regards their important features, key strengths and weaknesses, and the details are provided in the subsections that follow.

4.5.1 PTAs under RTC Act – State Road Transport Corporations

The Table 4-11 highlights some of the important features of the urban bus operations organized though a corporation established under the RTC Act.

Table 4-11: Corporations Established Under RTC Act: Important Features

Parameter	Assessment
Focus Area	• Dedicated corporation to undertake bus operation
Ownership	• State government • The State Government has the power to supersede the Corporation

[67] Final Report of the Working Group on Urban Transport set up by the National Transport Development Policy Committee (NTDPC) (2012)
[68] http://122.160.22.108/morthweb/printcont.asp?lid=56&linkid=4
[69] A Roadmap for Improving City Bus Systems in India, Shakti Foundation (July 2016)

Parameter	Assessment
Statutory backing	• Yes. Set up under the provisions of the Road Transport Corporations Act, 1950
Decision making	• The statute provides for taking of all operational decisions within the corporation itself • All rules and regulation are to be made in consultation with the State Government and the same are required to be placed before legislative assembly of the state for its consent. • Likelihood of political interference remains high
Manpower hiring	• Manpower can be hired by the management based on the requirements of the corporation • State Government may direct the corporation on certain matters like recruitment, conditions of service and training of its employees, wages to be paid to the employees, reserves to be maintained by it and disposal of its profits or stocks • All the employees of the corporation are deemed to be public servants while discharging their official duties
Manpower skillsets	• Being a dedicated bus service organization, corporations generally have been able to attract and train manpower to meet their requirements
Financial strength	• It has the support of the state government
Borrowing Power	• Yes, but prior state government approval required • As the corporation is a statutory body duly set up by the state government, it can get loan and financial assistance from various sources
Fare determination	• Corporations follow the fare decided by the RTA/ STA (State Transport Department)
Concessions	• Offered based on the state government decisions
Profitability	• Generally not profitable

4.5.2 PTAs under the State/UT Government

The Table 4-12 highlights some of the important features of the urban bus operations organized as a departmental undertaking.

Table 4-12: Departmental Transport Undertakings: Important Features

Parameter	Assessment
Focus area	• These are set up as a wing or unit of the Transport Department of the state

Parameter	Assessment
	• The focus of the department is not to run just the bus services
Ownership	• These are part of state government department
Statutory backing	• No separate statutory backing
Decision making	• All decisions are taken following the department level decision making process • Likelihood of political interference remains high
Manpower hiring	• Manpower can be hired by following the department level hiring process • All the rules and regulations of the State Government are applicable to the transport undertaking employees
Manpower skillsets	• May suffer from lack of technical expertise to manage the transport undertakings on account of lack of training and focus
Financial strength	• It is part of the state administration and financial strength of the state/ department is available to the undertaking
Borrowing Power	• Not with the undertaking but the state government has the borrowing power
Fare determination	• Undertaking follows the fare decided by the RTA/ STA (State Transport Department)
Concessions	• Offers based on the state government decisions
Profitability	• Generally not profitable • Any losses under this model directly affect the State Budget

4.5.3 PTAs as Special Purpose Companies

The Table 4-13 highlights some of the important features of the urban bus operations organized through a special purpose company.

Table 4-13: Special Purpose Company for Urban Bus Operations: Important Features

Parameter	Assessment
Focus area	• Dedicated companies to undertake bus operation and allied activities
Ownership	• These are typically owned by one of more of the municipal corporation/ development authorities/ state government/ state agencies • Typically set up as state owned companies or under joint venture between state/parastatal and municipal corporations

Parameter	Assessment
	• In some cases (Noida), it is set up as a joint venture of central government and state/parastatal agencies
Statutory backing	• No separate statutory backing as regards core operating activities • These are, however, governed by the provisions of the Companies Act which are applicable to all companies set up under the said Act
Decision making	• The memorandum/ articles of association of the company provide for taking of all decisions by the company Board/ management • Board has the power to delegate authority to the management • Relatively faster decision making process
Manpower hiring	• Manpower can be hired following the company level hiring process based on the need of the company
Manpower skillsets	• May find it difficult to attract talent considering the smaller scale of their operations and poor career prospects • May suffer from lack of technical expertise to manage the bus operations
Financial strength	• It is part of the state administration and financial strength of the state/ department is available to the SPC • The companies have the backing of their shareholders/ owners
Borrowing Power	• Yes but typically subject to the shareholders' approval
Fare determination	• Companies follow the fare decided by the RTA/ STA (State Transport Department)
Concessions	• Offers based on the state/municipal government decisions
Profitability	• Generally not profitable • Any losses under this model indirectly affect the shareholders budget

4.5.4 PTAs under BPMC/GPMC Acts – Municipal Transport Undertakings

The Table 4-14 highlights some of the important features of the urban bus operations organized through a transport undertaking under the BPMC/GPMC Acts.

Table 4-14: Transport Undertakings under BPMC/GPMC Acts: Important Features

Parameter	Assessment
Focus area	• Dedicated unit under municipal corporations to undertake bus operation and allied activities

Parameter	Assessment
Ownership	• These are typically owned by the respective municipal corporations
Statutory backing	• Yes. Set up under the provisions of the BPMC/ GPMC Acts • Such undertakings have accordingly been formed in Maharashtra and Gujarat only
Decision making	• The statute provides for taking of all operational decisions within the transport undertaking itself • Likelihood of political interference remains high • It is easier to coordinate with other departments within the municipal corporation as the undertakings are established as an integral part of the corporation • Depending upon the nature of decision, approvals may be required from transport committee, municipal corporation and state government
Manpower hiring	• Progressive powers have been given to the Transport Manager / Transport Committee for hiring the required manpower. Approval of the municipal corporation is required to hire senior staff. • All the rules and regulations of the corporation shall be applicable to all the transport undertaking employees
Manpower skillsets	• Being a dedicated bus service municipal undertaking, they are able to attract and train manpower to meet their requirements over a period of time
Financial strength	• It is part of the municipal corporation administration and financial strength of the municipal corporation is available to the undertaking • Transport fund deficits are met through the municipal fund
Borrowing Power	• Yes but subject to the corporation/ state approval
Fare determination	• Municipal undertakings follow the fare decided by the RTA/ STA (State Transport Department)
Concessions	• Offers based on the state/municipal government decisions
Profitability	• Generally not profitable • Any losses under this model directly affect the municipal corporation budget

4.5.5 PTAs under Societies Act (Chhattisgarh)

The Table 4-15 highlights some of the important features of the urban bus operations organized though a society established under the Chhattisgarh Societies Registration Act, 1973.

Table 4-15: Transport Undertakings under Societies Acts: Important Features

Parameter	Assessment
Focus area	• Promotion and implementation of different schemes sponsored by the State Government or the Central Government • Dedicated bodies to undertake bus operation and allied activities in a cluster of cities (Chhattisgarh)
Membership	• Its members are all the ULBs concerned, Transport Department (RTO), Home Department (Supt. Of Police), District Administration
Statutory backing	• Yes. Set up under the provisions of the Chhattisgarh Societies Registration Act, 1973 • Such urban public societies have been formed in Chhattisgarh and Himachal Pradesh
Decision making	• The memorandum of association of the society together with its regulations provide for taking of all decisions by the society
Manpower hiring	• Manpower can be hired following the society based on requirements
Manpower skillsets	• May find it difficult to attract talent considering the smaller scale of their operations and poor career prospects • May suffer from lack of technical expertise to manage the bus operations
Financial strength	• It is supported by the state administration/municipal corporation and financial strength of the state/ municipal is available to it
Borrowing Power	• Yes but subject to the members approval
Fare determination	• Companies follow the fare decided by the RTA/ STA (State Transport Department)
Concessions	• Offers based on the state/municipal government decisions
Profitability	• Generally not profitable • Any losses under this model indirectly affect the members budget

4.5.6 Comparative Assessment of Different Types of PTAs

Details regarding owners/shareholders, their shareholding, composition of the board of directors, and organisation structure of various types of PTAs are provided in Annexure 5. The Table 4-16 highlights the similarities and differences among the various types of PTAs responsible for urban bus operations.

Table 4-16: Various Types of PTAs - Similarities and Differences

Parameter	Description
Focus area	• Centre-state JVs: Metro rail project implementation and operation; feeder bus service to support metro network • State/ union territory transport department: Operation of bus service in the state/UT – both inter-city as well as urban (where applicable) • SRTCs: Operation of bus service in the state/union territory – both inter-city as well as urban (where applicable) • State SPCs: Operation of bus service in the state – both inter-city as well as urban (where applicable) • State-municipal JVs: Operation of urban bus service • Municipal transport undertakings: Operation of urban bus service • Urban public transport society: Operation of bus service in the members area - both inter-city as well as urban (as applicable)
Fare determination	• All PTAs are required to charge fares as notified by the State governments/ UTs concerned
Social obligation and Concessions	• As part of their social obligations, all PTAs provide urban bus services on unviable fare structure, on socially desirable but financially unviable routes, and by offering concessions to specified category of passengers.
Statutory backing	• Centre-state JVs: In case of Delhi, it's a statutory corporation; in Noida, it's a company established under the general legislation (Companies Act) • State/UT transport department: Part of state/UT administration with no specific legislation • SRTCs: Established under the Road Transport Corporations Act, 1950 • State-municipal JVs: Companies/societies established under the general legislation (Companies Act, Society Registration Act) • Municipal transport undertakings: established under the state municipal legislations (BPMC/GPMC Act) • Urban public transport society: established under the state society registration legislations
Ownership/ Shareholding	• Centre-state JVs: Central government and state/parastatals • State/UT transport department: State government/UT • SRTCs: State government/UT

Parameter	Description
	• State SPCs: State government/ parastatals • State-municipal JVs: State/parastatal/ SRTC, and municipal corporation • Municipal transport undertakings: Municipal corporations • Urban public transport society: members such as state, municipal corporations, etc.
Financial strength of the PTA owners	• Centre-state JVs: Central government and state/parastatals are generally financially strong • State/UT transport department: State governments/UTs are generally financially strong • SRTCs: State governments/UTs are generally financially strong • State SPCs: State governments/parastatals are generally financially strong • State-municipal JV SPCs: State/parastatal are generally financially strong whereas SRTCs and the municipal corporations are not financially strong and depend on state/ central government for funding support. • Municipal transport undertakings: Its owners, municipal corporations, are not generally financially strong and depend on state/ central government for funding support. • Urban public transport society: State governments are generally financially strong while the municipal corporations are not generally financially strong.
Financial strength of the PTAs	• All PTAs are generally not profitable and do not have financially sustainable urban bus operation • All PTAs are not adequately supported and compensated for providing urban bus services on unviable fare structure and towards meeting other social obligations resulting in PTAs not being able to invest in upgrading their urban bus services and infrastructure
Organization structure	• Centre-state JVs: Board with Central and State government representatives • State/UT transport department: Part of state/UT administrative organization • State SPCs: Board with State government representatives • State-municipal JV SPCs: Board with State government and municipal representatives Political representation in the board is also there in certain cases (e.g. AICTSL, Indore; BCLL, Bhopal)

Parameter	Description
	• Municipal transport undertakings: Transport committee with elected members supported by Transport Manager • Urban public transport society: Chairman, member secretary and members
Senior Management	• Centre-state JVs: Board with Central and State government representatives • State/UT transport department: Part of state/UT administrative organization • SRTCs: Board with State government/UT administration representatives • State SPCs: Board with State government representatives • State-municipal JV SPCs: Typically someone from the state/municipal administration is deputed as CEO of such SPCs often holding this as an additional charge. Transfers and frequent changes are typically seen resulting in lack of continuity and direction. • Municipal transport undertakings: Typically someone from the state SRTCs is deputed as Transport Manager. Transport Committee members frequently get changed and often completely replaced based on the outcome of municipal election. • Urban public transport society: Typically District Collector is its chairman and Municipal Commissioner is the Member Secretary (Chhattisgarh)
Other Employees	• Centre-state JVs: Generally are able to attract and retain employees considering their better career and promotion prospects • State/UT transport department: Generally able to attract and retain employees considering their better career and promotion prospects as state government employees • SRTCs: Generally able to attract and retain employees considering their better career and promotion prospects • State SPCs: Generally able to attract and retain employees considering their better career and promotion prospects • State-municipal JV SPCs: Retaining employees is difficult considering the career and promotion prospects with relatively modest scale of operation. • Municipal transport undertakings: Generally able to attract and retain employees considering their better career and promotion prospects as municipal employees

Parameter	Description
	• Urban public transport society: Retaining employees is difficult considering the career and promotion prospects with relatively modest scale of operation
Member Associations	• Most of the SRTCs, municipal undertakings, SPCs (Tamil Nadu, PMPML, etc.) are members of the ASRTU • Many SPCs and societies are not yet member of the ASRTU

4.6 Unified Metropolitan Transport Authorities

Considering that the existing structure of governance for the transport sector is not equipped to deal with the problems facing urban transport, the National Transport Policy, 2006 had recommended setting up of Unified Metropolitan Transport Authorities (UMTA's) in all million plus cities. The objective of the same was to facilitate a more co-ordinated planning and implementation of urban transport programs and projects and an integrated management of urban transport systems. Further, the policy advised for UMTAs to have statutory backing in order to effectively discharge the responsibilities entrusted to it.

The Table 4-17 presents city wise year of establishment, legislative backing and other details regarding UMTAs constituted in India.

Table 4-17: Details of UMTAs Constituted

City	State	Year of notification	Legislative backing	Headed by
Hyderabad	Telangana	2008	Hyderabad Metropolitan Development Authority Act	Chief Secretary
Mumbai	Maharashtra	2008	Executive Order	Chief Secretary
Delhi (UTTIPEC)	Delhi	2009	Delhi Development Act	Lieutenant Governor
Chennai	Tamil Nadu	2010	Special Enactment	Transport Minister
Bangalore	Karnataka	2007	Executive Order	Chief Secretary
Jaipur	Rajasthan	2007	Executive Order	Chief Secretary
Lucknow	Uttar Pradesh	2009	Executive Order	Chief Secretary
Bhopal	Madhya Pradesh	2012	Executive Order	N/A

City	State	Year of notification	Legislative backing	Headed by
Vijaywada, Guntur, Tenali and Manglagiri (AP-CRUTA)	Andhra Pradesh	2015	Executive Order	Chief Secretary
Kochi	Kerala	2018	Draft Bill	TBA

A comparison has been made between functions and powers, as envisaged in the MoHUA draft bill, versus the same assigned to the UMTAs already constituted.

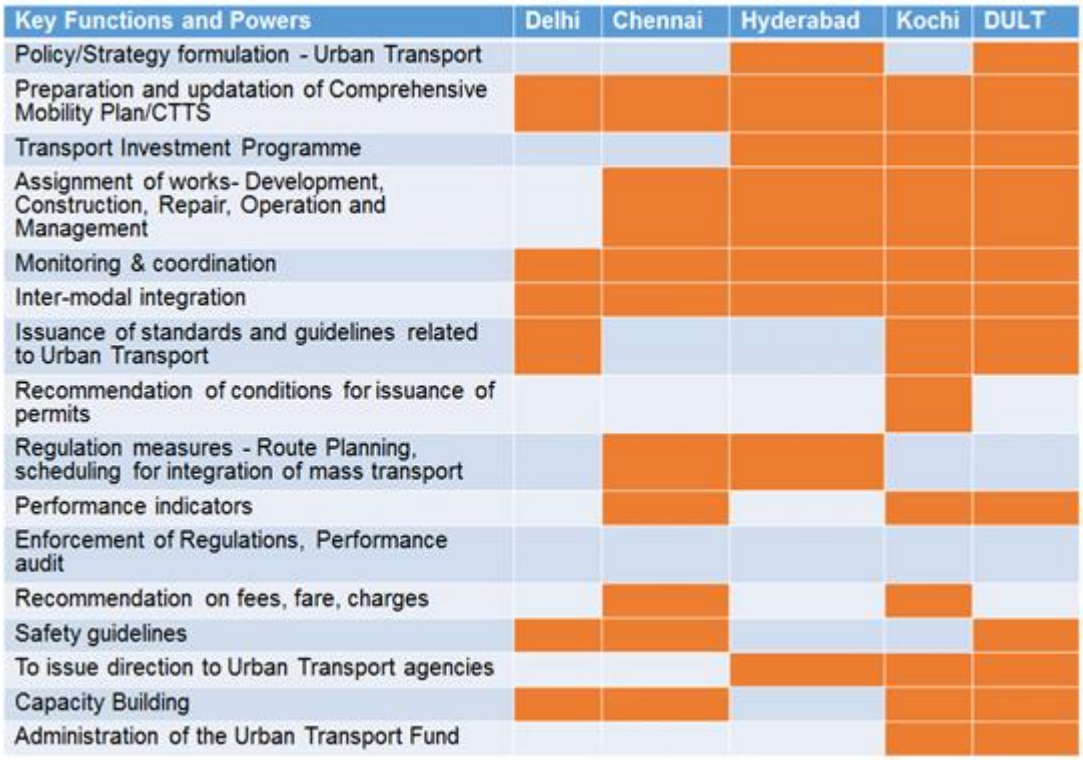


Figure 4-5: UMTA Functions' Comparison

It can be seen from the Figure 4-5 above, some of the key functions and powers such as recommendation for issuance of permits, develop & monitor performance indicators, and recommend fees, fare, charges, have not been entrusted to the existing UMTAs (Delhi, Chennai and Hyderabad).

4.7 Financial Sustenance of Public Transport Agencies

Urban bus services require sustained and assured financial support as their pricing is typically kept at lower levels to support the socio-political objectives of the state. Whether such services are provided by the state road transport corporations,

municipal undertakings, special purpose companies, or as part of state transport department, until and unless there is an assurance of long term and adequate funding to support the cost of operations, their viability and continuation cannot be secured. Some of the cities (e.g. Nagpur) which initiated urban bus services on gross cost model are struggling to continue due to lack of financial resources. In Ludhiana, the private operator withdrew from the gross cost model-based contract to run bus service in 2014 citing payment issues.

Almost all the PTAs are in deficit/loss based on the financial year 2016-17 data. DTC registered a highest amount of loss during the aforesaid financial year. TSRTC have shown marginal surplus during the period Table 2-26.

Considering the precarious financials of the ULBs and uncertainty around availability of funding to support for urban bus operations, unless the States extend financial support for the same, it may be difficult to organize urban bus services, regardless of the model adopted for the same.

5 FISCAL ARRANGEMENTS

5.1 Introduction

This chapter reviews the fiscal arrangements for the Public Transport Agencies (PTAs) engaged in providing city bus services including capital and revenue expenditure, funds requirements for rolling stock and supporting infrastructure and gaps in fare box revenues and operational expenditures. The taxing policy and its impact on the PTAs have also been analysed. The impact of various concessions, socially relevant but financially unviable operations and other such activities and the subsidies provided to the PTAs have also been provided in this chapter.

5.2 Overview of Existing Fiscal Arrangements

The existing fiscal arrangements for PTAs has been divided in the following four areas:

- Need for Funding by PTAs – Capital Expenditure
- Need for Funding by PTAs – Revenue Expenditure
- Sources of Funding for PTAs – Capital Receipts
- Sources of Funding for PTAs – Revenue Receipts

5.2.1 Need for Funding by PTAs – Capital Expenditure

The PTAs need funding for capital expenditure, which includes expenditure incurred towards the following:

(i) Procurement of buses
(ii) Construction of depots and workshops
(iii) Procurement of plant and machinery for maintenance of buses
(iv) Development of passenger facilities including bus terminals and bus stops
(v) Modernization of bus operation including implementation of ITS and ICT initiatives, construction of control rooms and other associated infrastructure facilities
(vi) Creation of other ancillary facilities – construction of head office, stores, training school, purchase of staff cars, stores vans, recovery vehicles, etc.

5.2.2 Need for Funding by PTAs – Revenue Expenditure

The PTAs need funding to meet their revenue expenditure, which includes expenses towards the following:

(i) Manpower cost including salary and staff benefits

(ii) General and administration expenses – buildings upkeep, housekeeping, stationery, electricity, water, phones, internet connectivity, etc.

(iii) Fuel and lubricants

(iv) Spare parts, tyres, batteries and other consumables

(v) Payments to bus owners, in case of hired buses

(vi) Taxes and statutory fees

(vii) Interest on loans and depreciation

5.2.3 Sources of Funding – Capital Receipts

The PTAs get funding to meet their capital expenditure needs from various sources, as listed below:

- Capital Equity Funding by Various Entities
- Central Finance Assistance
- Grants
- Loans and Advances

5.2.3.1 Capital Equity Funding by Various Entities

The PTAs get equity funding from various entities in the form of capital, to meet their capital expenditure. The entities which provide capital to the PTAs are as follows:

(i) State Governments

The state governments provide capital to the PTAs working in the state towards initial capital contribution and equity capital towards procurement of fleet and development of infrastructure. The PTAs established under RTC Act, such as DTC, BMTC, MTC, etc., have got capital from the respective state governments. Some of the PTAs set up as special purpose companies have also got capital contribution from respective state governments such as AJL (Ahmedabad), MTC (Chennai), etc.

(ii) Central Government

The central government provides capital to the PTAs towards initial capital contribution and equity capital towards procurement of fleet and development of infrastructure. Some of the PTAs established under RTC Act have got capital from central government such as DTC, KSRTC and APSRTC.

(iii) Other Government Entities

The PTAs may also get capital from other government entities such as urban local bodies and parastatal bodies such as urban development authorities, state transport undertakings, industrial corporations, etc. Some of the PTAs set up as special purpose companies have got capital from respective state

government entities and parastatal bodies such as AICTSL (Indore), BCLL (Bhopal), JCTSL (Jaipur), etc.

5.2.3.2 Central Finance Assistance

Central government provides financial assistance through various schemes to PTAs for specified purposes such as procurement of buses, creation of infrastructure, implementation of modern initiatives, etc. Some of the major schemes sponsored by Central Government for providing capital assistance to various PTAs are as follows:

- MoHUA's JnNURM Scheme – Under this scheme, MoHUA has provided financial assistance to various PTAs for procurement of buses and creation of ancillary infrastructure (depots, workshops, control rooms, driver facilities at terminals, bus priority measures, ITS, etc.) for city bus services.
- MoRTH Scheme for IT Projects – MoRTH, through its scheme titled 'Central Assistance for Strengthening Public Transport System in the Country' provides financial assistance to PTAs for implementation of IT projects aimed at improving the functioning of the PTAs. Under this scheme, one-time assistance to the extent of 50% of the cost of the IT projects is provided by MoRTH.
- MoHUA's Smart City Mission – Under this scheme, MoHUA has provided funds for improvement of infrastructure in various cities, including city bus services. Total 100 cities have been selected for providing funds under the scheme.
- MoWCD's Nirbhaya Fund – Under this scheme, funds are provided to various agencies including PTAs for implementation of projects aimed at enhancing security of women passengers such as CCTV based surveillance in buses, etc.

5.2.3.3 Grants

State Governments provide grants to PTAs for specific purpose such as procurement, development and improvement of passenger facilities, terminals, depots and shelters. The State Governments also provide grant-in-aid to PTAs in their states for meeting the gaps in PTAs income and expenditure.

5.2.3.4 Loans & Advances

PTAs obtain loans and advances from various entities to meet their capital and working capital needs as well as to bridge the gap between their income and expenditure. Some of the sources through which the PTAs get loans and advances are as below:

(i) State Governments

The state governments provide loans and advances to the PTAs from time to time. The loans and advances are provided to the PTAs for their capital and

working capital needs and to meet the gap between their income and expenditure.

(ii) Banks and Financial Institutions

The PTAs may also obtain loans from banks and financial institutions to meet their capital funding requirements, with the approval of state governments/ respective board/ general body/ competent authority. Some of the PTAs that have obtained loans from banks/financial institutions are BEST, BMTC, MTC (Chennai), PMPML, NMMT, etc.

(iii) Public Deposits

The PTAs may also obtain deposits from general public to meet their capital funding requirements, with the approval of state governments/ competent authority. Only a few of the PTAs have obtained public deposits such as TMTU, KMTU, etc.

5.2.4 Sources of Funding - Revenue Receipts

Sources of funding from the revenue receipts for the PTAs has been divided into the following categories:

- Traffic Revenue
- Non-Traffic Revenue
- Subsidies against Concessions

5.2.4.1 Traffic Revenue

Traffic revenue (also called Passenger Bus Service Revenue or Fare-box Revenue) is the major source of revenue for the PTAs. It is the income realized by the PTAs through sale of tickets and passes, revenue from school bus operation, and buses provided on special hire to third parties.

5.2.4.2 Non-Traffic Revenue

The non-traffic revenue for the PTAs includes income from other sources such as fines and penalties, advertisements, rent, sale of scrapped vehicles/ materials, sale of time tables/ forms/ tender documents, lost property, user charges, terminal fees and other receipts.

5.2.4.3 Subsidies against Concessions

The PTAs are required to extend various concessions to different sections of the society based on the directions from the state government/ urban local bodies. These concessions can be in the form of free or discounted passes, free travel allowed to passengers in buses, or discount in fares. The common concessions include free/

discounted passes for senior citizens, differently-abled persons, press staff, ex-servicemen, war-widows, economically backward people, etc.

Some of the state governments/ municipal bodies provide subsidies to PTAs or reimburse their lost revenue on account of different types of concessions.

5.2.5 Assessment of Funding Arrangements of PTAs

5.2.5.1 Capital Funding

Table 5-1 presents sources of capital funding for PTAs in urban operation during 2012-13 to 2016-17. In order to observe the trend at national level, DTC's capital funding amount was excluded, as the central and state government contribution was much higher than in other PTAs. Share of State Governments contribution to the total capital funding was between 7% and 33% during the aforementioned period. However, during 2013-14, the State Governments contribution constitute about 33% of the total capital funding. For example, during this period, MTC (Rs. 4,300 Million) and BMTC (1,577 Million) both have received State Governments contribution towards procurement of fleet and other infrastructure facilities. Share of loan from financial institutions to the total capital funding was ranging between 7% and 24% during the assessment period. General and other reserves constitute 7% to 60% of the total capital funding during the period considered for analysis. Share of 'Other' sources varying between 24% and 40% of the capital funding during the assessment period. Typically, other sources includes central assistance and grant from state governments. [70] It may be noted that this analysis is limited to the STUs that submit data to CIRT and excludes the vast majority of SPCs.

[70] Adapted from CIRT's report 'State Transport Undertakings Profile & Performance 2012-13 to 2016-17' for the chapter

Table 5-1: Capital Funding Sources for PTAs for Urban Bus Operation

Sr. No.	Capital Funding Source	2012-13		2013-14		2014-15		2015-16		2016-17	
		Rs. (in Million)	Percent	Rs. (in Million)	Percent	Rs. (in Million)	Percent	Rs. (in Million)	Percent	Rs. (in Million)	Percent
1	State Govt. Contribution	6,017	7%	18,838	33%	6,202	8%	7,004	5%	8,089	7%
2	Central Govt. Contribution	1,371	2%	6	-	235	0%	748	1%	243	0%
3	General & other Reserves	50,531	60%	4,228	7%	35,397	44%	44,232	34%	48,519	43%
4	Loan from Financial Institutions	6,265	7%	11,484	20%	12,953	16%	31,383	24%	12,517	11%
5	Others	19,642	24%	22,465	40%	25,979	32%	45,236	35%	44,606	39%
Total		**83,826**	**100%**	**57,021**	**100%**	**80,766**	**100%**	**1,28,603**	**100%**	**1,13,974**	**100%**

The capital funding from various sources differs across PTAs. A summary of the capital funding sources for JSCTSL (Jaipur) for city bus operation (as on March 2017) is provided in the Table 5-2 below.

Table 5-2: Capital Funding Sources for JCTSL for Urban Bus Operation

Sr. No.	Capital Funding Source	Rs. (in Mn)	Percentage (%)
1	State Govt. Contribution, Reserve and Surplus and Long term borrowing from Rajasthan Transport Infrastructural Development Fund (RTIDF)	31.96	3.7
2	Unutilized Grant [71]	656.98	76.7
3	Other Current Liabilities	82.94	9.7
4	Others	84.34	9.9
Total		**856.22**	

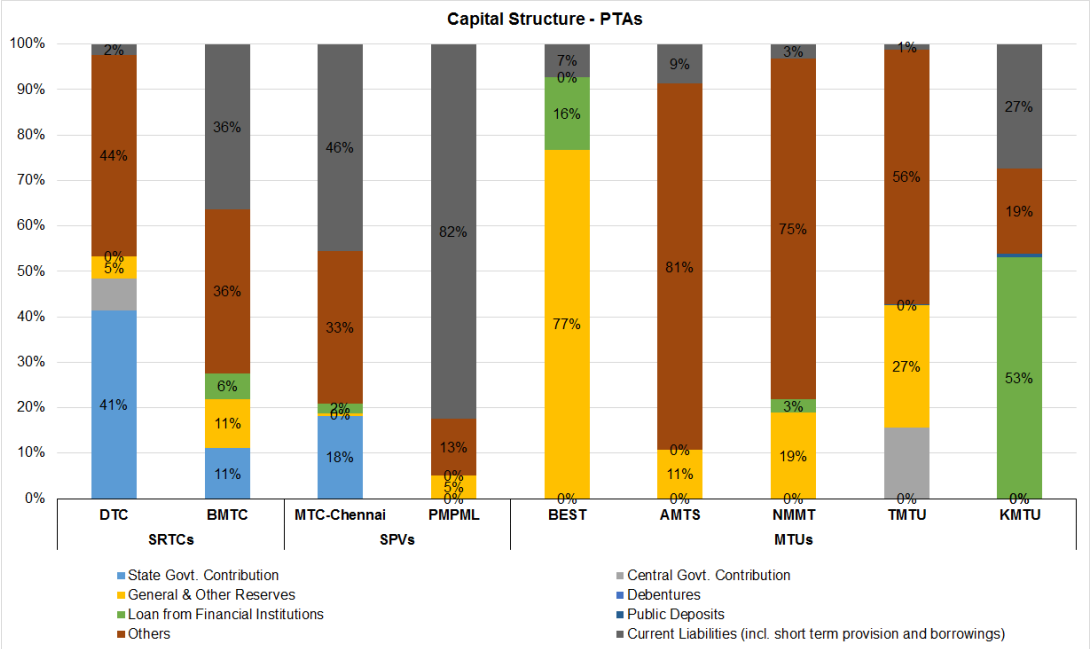


Figure 5-1: Selected PTAs - Capital Funding Sources

As can be seen from the above details (Figure 5-1), the capital funding sources vary for the PTAs. Major sources include contribution from state, internal reserves, loans

[71] State Govt. grant towards operating loss during the financial year was received after closing of accounting modalities for the financial year. Therefore, it was treated as unutilized grant.

and others. The major components of the fixed assets (Figure 5-2) of the PTAs are passenger buses.

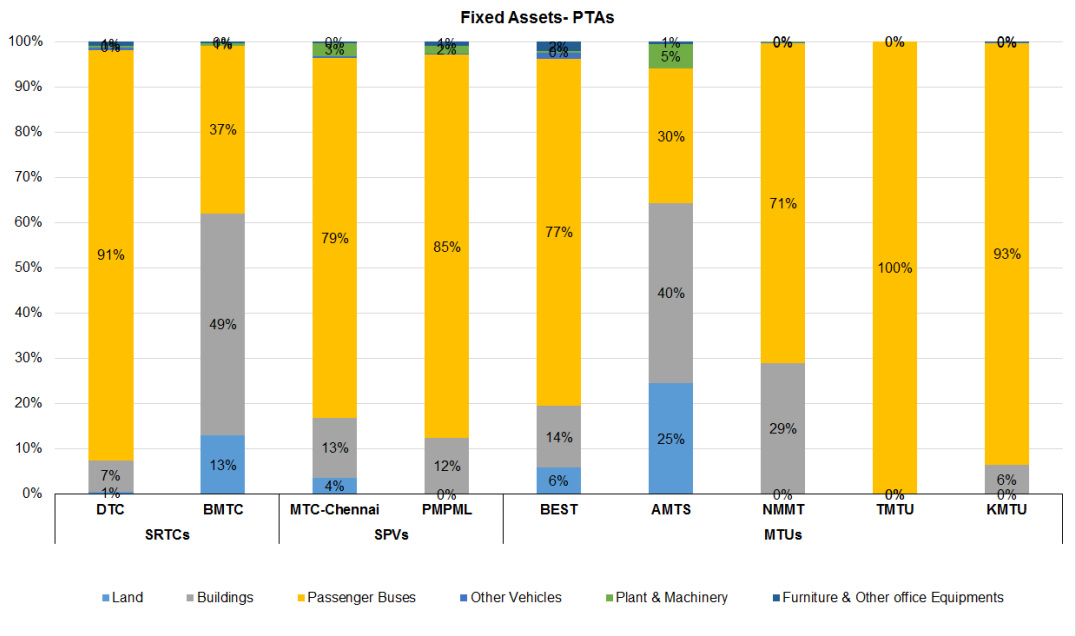


Figure 5-2: Selected PTAs – Fixed Assets

In case of JCTSL (Jaipur), buses (64%), bus shelters (27%), workshop buildings and bus terminal (8%) comprise major fixed assets.[72]

5.2.5.2 Revenue Sources

A summary of the revenue sources for PTAs for urban bus operation is provided in the Table 5-3 below.[73] As can be seen from the above, major part of the revenue for the PTAs come from traffic revenue (ranging between 83% and 89% of total revenue) followed by Non-traffic revenue (5% to 6% of total revenue) during the assessment period. The subsidies and reimbursement of concessions also constitute less than 10% of the total revenue during 2012-13 and 2016-17.

[72] 9th Annual Report, JCTSL, Jaipur (2016-17)

[73] CIRT's report 'State Transport Undertakings Profile & Performance 2012-13 to 2016-17'

Table 5-3: Revenue Sources for PTAs from Urban Bus Operation

Sr. No.	Revenue Source	2012-13		2013-14		2014-15		2015-16		2016-17	
		Rs. (in Million)	Percentage	Rs. (in Million)	Percentage	Rs. (in Million)	Percentage	Rs. (in Million)	Percentage	Rs. (in Million)	Percentage
1	Traffic Revenue	58,898	89%	61,611	88%	61,344	86%	61,509	86%	5,8374	83%
2	Non-traffic Revenue	3,585	5%	4,177	6%	3,706	5%	3,926	5%	4,282	6%
3	Subsidies	3,539	5%	4,042	6%	4,879	7%	4,628	6%	5,103	7%
4	Reimbursement of Concessions	4	0%	53	0%	1,467	2%	1,687	2%	2,424	3%
Total		**66,026**	**100%**	**69,883**	**100%**	**71,396**	**100%**	**71,749**	**100%**	**70,183**	**100%**

The ratio of revenue from various sources differs across PTAs. For example, the total revenue for JCTSL, an SPC organising bus service in Jaipur, during 2016-17 was Rs. 671.0 million, of which revenue from operations contributed 88.3% whereas other income (advertisement, interest income, etc.) was 11.7% of its total revenue.[74]

5.2.5.3 Expenditure

A summary of break-up of various categories of expenditure of the PTAs providing urban bus services (during 2012-13 to 2016-17) is provided in the Table 5-4[75]. The data is provided for PTAs excluding interest costs in case of DTC are exceptionally high.

The staff cost is the major constituent of the total expenditure of the urban PTAs, followed by fuel and lubricants cost during the period considered for analysis. There is an increasing trend in percentage of staff cost to total expenditure (excluding interest cost) in urban PTAs during the assessment period. The staff cost as percentage of total expenditure has gone up from 47% to 61% of the total expenditure. Other costs are in the range of 2% to 17% during the analysis period.

[74] 9th Annual Report, JCTSL, Jaipur (2016-17)

[75] Adapted from CIRT's report 'State Transport Undertakings Profile & Performance 2012-13 to 2016-17'

Table 5-4: Expenditures of PTAs for Urban Bus Operation

Sl. No.	Description	2012-13		2013-14		2014-15		2015-16		2016-17	
		Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage	Cost (Rs. Mn)	Percentage
1	Staff Cost	46,216	54%	51,428	47%	56,393	56%	62,738	60%	65,361	61%
2	Fuel and lubricants	22,308	26%	25,036	23%	23,788	24%	20,337	20%	20,943	19%
3	Spares and material	5,578	6%	5,610	5%	5,621	6%	6,115	6%	6,364	6%
4	Miscellaneous costs	3,487	4%	18,146	17%	5,937	6%	5,132	5%	5,006	5%
5	Payment towards bus hire	1,868	2%	2,092	2%	3,108	3%	3,440	3%	3,796	4%
6	Taxes*	1,643	2%	1,814	2%	1,862	2%	2,280	2%	2,062	2%
7	Depreciation	4,982	6%	4,629	4%	4,502	4%	4,176	4%	4,232	4%
Total (Excl. Interest cost)		**86,082**	**100%**	**108,755**	**100%**	**101,211**	**100%**	**104,218**	**100%**	**107,764**	**100%**

Note:-*Tax component includes Motor Vehicle Tax, Passenger Tax, Special Road Tax, if any and Miscellaneous & other Taxes. However, it excludes incomes taxes.

The ratio of expenditure for various items differs across PTAs. A summary of the break-up of various categories of expenditure of the JCTSL (Jaipur), during 2016-17 is provided in the below in Table 5-5.[76]

Table 5-5: Expenditures of JCTSL for Urban Bus Operation

Sl. No.	Description		Cost (Rs. Mn)	Percentage (%)
			JCTSL-Jaipur (2016-17)	
1	Staff Cost		218.46	19
2	Fuel and lubricants & Spares and material		419.63	37
4	Miscellaneous costs		178.81	16
5	Payment towards bus hire (PPP Model)	Gross Cost	152.83	14
		Net Cost	110.33	10
6	Depreciation		49.85	4
Total			**1129.91**	

For JCTSL, the fuel and lubricants & Spares and material cost (37%) is the major constituent of its total expenditure, followed by Payment towards bus hire for Gross Cost as well as Net Cost model (24%) and Staff cost (19%).

Table 5-6 provides cost break-up of private sector. Cost of fuel and lubricants is the major constituent of total expenditure, followed by staff cost and miscellaneous cost in case of private operators in Delhi.

Table 5-6: Break-up of Cost Structure – Private Sector (Delhi)

Sl. No.	Description	Delhi	
		Operator 1	Operator 2
1	Staff Cost	19%	20%
2	Fuel and lubricants	26%	27%
3	Spares and material	16%	12%
4	Miscellaneous costs	18%	18%
5	Interest	7%	12%
6	Depreciation	15%	10%
Total		**100%**	100%

In case of urban PTAs, staff cost constitute a major share of total expenditure (upto 61%) during 2012-13 and 2016-17, followed by fuel and lubricants cost (upto 24%). however, in case of private sector, for example in Delhi, fuel and lubricants cost is

[76] 9th Annual Report, JCTSL, Jaipur (2016-17)

major item (i.e 27% of total expenditure) and followed by staff cost and miscellaneous cost.

5.2.5.4 Gap in Revenue and Expenditure

The PTAs are not able to meet their expenditure through the revenue, leaving a significant gap. A trend of the revenue and expenditure of the PTAs for urban bus operation for a period of five years from 2012-13 to 2016-17 is provided in the Table below[77].

The PTAs are not able to meet their expenditure through the revenue, leaving a significant gap.

Table 5-7: Gap in Revenue and Expenditure

Sl. No.	Description	2012-13	2013-14	2014-15	2015-16	2016-17
		Rs. Million				
A	Total Revenue	66,025	69,884	72,698	71,749	70,183
B	Total Expenditure	1,09,345	99,755	1,19,971	1,39,511	1,48,809
Profit/Loss		**-43,320**	**-29,871**	**-47,273**	**-67,762**	**-78,626**
Cost Recovery Ratio (%)		**60%**	**70%**	**61%**	**51%**	**47%**

The PTAs incurred total expenditure of Rs. 139.5 billion as against their total revenue of Rs. 71.7 billion, leaving a gap of Rs. 67.7 billion. The PTAs were able to earn revenue to the extent of only 51% of their total expenditure. Such a huge gap in the revenue and expenditure of PTAs severely impacts the capacity of PTAs to provide efficient services to their customers, to procure new fleet or replace their ageing fleet, to create support infrastructure and implement modern technology based interventions.

The gap in revenue and expenditure differs across PTAs. For example, the gap in revenue and expenditure for JCTSL (Jaipur), during 2016-17 was Rs. 458.91 million (Revenue Rs. 671.0 million, cost Rs. 1129.91 million) with cost recovery as 59.4%.[78]

[77] Adapted from CIRT's report 'State Transport Undertakings Profile & Performance 2012-13 to 2016-17'

[78] 9th Annual Report, JCTSL, Jaipur (2016-17)

5.3 Review of Taxing Policy

5.3.1 Taxation on City Bus Services

The public transport agencies (PTAs) providing city bus services are subjected to a number of taxes which include taxes levied by Central Government as well as those by the State Governments/municipalities. There are certain taxes which are directly related to the services provided by the PTAs (Direct Taxes) such as passenger tax, motor vehicle tax, permit fees, vehicle registration fees, etc. In addition, the PTAs also have to bear the burden of various indirect taxes which are part of their costs (Indirect Taxes) such as GST on buses, spares, materials and consumables, custom duties, VAT/excise duty on fuel, etc. A list of various direct and indirect taxes applicable on PTAs is provided in Table 5-8 below.

Table 5-8: Applicable Taxes on Public Transport Agencies

State/ Municipal Tax			Central Tax	
Name of Tax	**Rate of Tax**	**Frequency of Incidence**	**Name of Tax**	**Rate of Tax**
Direct Taxes				
Passenger Tax	Varies from state to state as per seat (except Maharashtra - revenue based) and Road Safety Tax/ Cess	Monthly/ Annually	Income Tax	25-30%, Surcharge 7-12%, and Cess of 4%
Stamp Duty	Varies from state to state	At the time of registration of Property		
Property Tax	Varies from state to state	Monthly/ Annually		
Municipal Levies	Varies from state to state	Monthly/ Annually		
Motor Vehicle Tax	Varies from state to state on the basis of seats/ distance/ price	Annually		
Registration Fee	@ Rs.200 to Rs.7,000	At the time of registration		
Permit Fee (Every five years)	@ Rs.600 to Rs.1,500	Every five year		
Certificate of Fitness Fee	@ Rs.200 to Rs.1,000	Annually		
Indirect Taxes				

State/ Municipal Tax			Central Tax	
Name of Tax	**Rate of Tax**	**Frequency of Incidence**	**Name of Tax**	**Rate of Tax**
State Goods and Services Taxes	Procurement stage @ 6% to 14%	At the time of procurement	Central Goods and Services Taxes	Procurement stage @ 6% to 14%
	Operation stage @ 2.5% to 14%	Based on Consumption/ Purchase basis		Operation stage @ 2.5% to 14%
		At the time of import of fleet	Customs Duty	On import of buses @ 25%
		At the time of import of spares		On import of spares @15%
Value Added Tax on Fuel – varies from state to state	Diesel @12.50% to 29.12%	Based on Consumption	Excise Duty on Fuel	Diesel @ Rs. 15.33 per litre
	CNG @ 4% to 14.5%	Based on Consumption		CNG @14%
		At the time of construction	Labour Cess	1 %

The direct taxes (except income tax) on PTAs are imposed by state governments and their rates vary from state to state. Even, in case of some taxes, the basis on which such taxes are levied also varies from state to state such as Motor Vehicle Tax is levied on the basis of number of seats/standees in bus in some states whereas in some other states, it is levied on the basis of cost of bus or distance.

Out of the taxes listed above, the goods and services tax on buses and registration fees are applicable at the procurement stage of buses. Other taxes are applicable during the operations stage of buses.

5.3.2 Tax Burden on PTAs

5.3.2.1 Methodology and Assumptions for Assessment of Tax Burden

The tax burden on city bus services has been assessed in terms of quantum of total taxes per kilometre of bus operations. The following taxes have been considered for assessing the tax burden on these PTAs:

- Registration fee, as applicable in respective state
- Motor vehicles tax, as applicable in respective state
- Permit fee, as applicable in respective state
- GST on various items
  - Buses @ 28%
  - General items @ 18%
  - Outsourced items (PPP/other) @18%

- Lubricants @18%
- Springs @ 18%
- Auto spare parts @ 28%
- Tyres and tubes @ 28%
- Batteries @18%

- Green tax, as applicable
- Central excise and State VAT on fuel, as applicable in respective state

To understand the impact of various taxes on city bus services, sample PTAs have been selected on the basis on Motor Vehicle Tax structure, since most of the other tax components are more or less similar across India. The four PTA's namely AMTS-Ahmedabad, MTC-Chennai, BMTC-Bangalore and JCTSL-Jaipur have been selected for this analysis considering they have distinct MV Tax structure. The Motor Vehicle Tax structure for these four PTAs are based on different parameters, as provided in the Table 5-9 below.

Table 5-9: Different Methods of Computation of MV Tax

Sl. No.	MV Tax Structure	Operator/City
1	Motor Vehicle tax on the seating capacity of bus	MTC-Chennai
2	Motor Vehicle tax on the seating plus standing capacity of bus	AMTS-Ahmedabad
3	Motor Vehicle tax on the fare box revenue	BMTC-Bangalore
4	Motor Vehicle tax on the vehicle cost	JCTSL-Jaipur

The following assumptions have been taken for calculation of impact of taxes:

- **Bus Category:** Tax has been calculated based upon Standard Bus Category (900 mm).
- **Carrying Capacity:** Since, the Motor Vehicle Tax is based on seating/standing capacity of the buses in some states, so the bus capacity has been taken as 60 (Seating 40 and Standing 20).
- **Mileage**: Since bus category (For example - standard bus (AC/Non-AC), low floor bus (AC/Non-AC) vary across states and CIRT 2015-16 report, mileage for overall buses present with operators, therefore, the same has been taken up.
- For Jaipur, data has been taken from JCTSL. Data for other cities has been taken from CIRT report 'State Transport Undertakings Profile & Performance 2015-16'.

5.3.2.2 Assessment of Total Taxes

The quantum of total taxes per kilometre of city bus operations for the four PTAs is provided in the Table 5-10 and Figure 5-3 below.

Table 5-10: Tax per Km of PTAs

Sl. No.	Particular	Ahmedabad	Chennai	Bengaluru	Jaipur
1	Tax on Fuel	8.13	6.73	7.39	5.82
2	MV Tax	0.71	0.40	2.74	0.57
3	Other Taxes	0.45	0.42	0.54	1.40
	Total Tax per Year	**9.43**	**7.64**	**10.81**	**7.78**

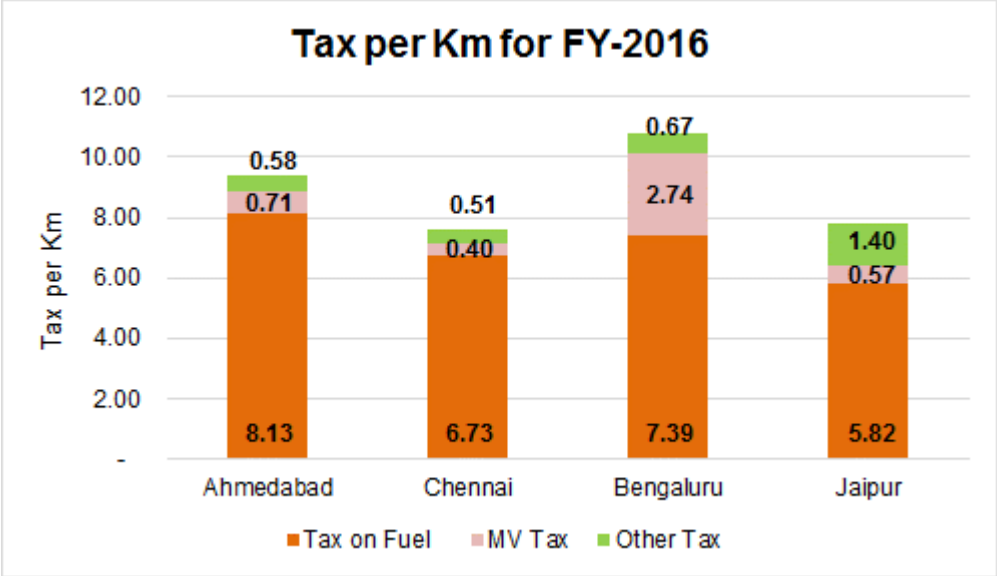


Figure 5-3: Tax per Km of PTAs

The total tax per kilometre of city bus operations varies from Rs. 7.64 per km (Chennai) to Rs. 10.81 per km (BMTC-Bengaluru). The taxes on fuel is the highest component of the total taxes on PTAs, which is in the range of Rs. 5.82 per km (Jaipur) to Rs. 8.13 per km (AMTS-Ahmedabad).

The Motor Vehicle Tax is another significant component of the total taxes on PTAs operations, which varies from Rs. 0.40 per km (Chennai) to Rs. 2.74 per km (Bengaluru). All other taxes combined together range from Rs. 0.51 per km (Chennai) to Rs. 1.40 per km (Jaipur). The other taxes in case of JCTSL is higher as compared to other PTAs, due to outsourcing of bus operations, which attracts an additional GST burden at the rate of 18% on the payments to the private operator.

The total tax burden on MTC (Chennai) is lowest at Rs. 7.64 per km., which is about 15.0% of the cost per km. (Rs. 51.04) and 20.7% of the revenue per km. (Rs. 36.91) of MTC. The quantum of total taxes in case of Bengaluru is highest at Rs. 10.80 per km., which is about 22.0% of the cost per km. (Rs. 49.09) and 21.9% of the revenue per km. (Rs. 49.39) of BMTC.

The gap in the revenue and cost per km, including and excluding the tax burden is provided in the Figure 5-4 below.

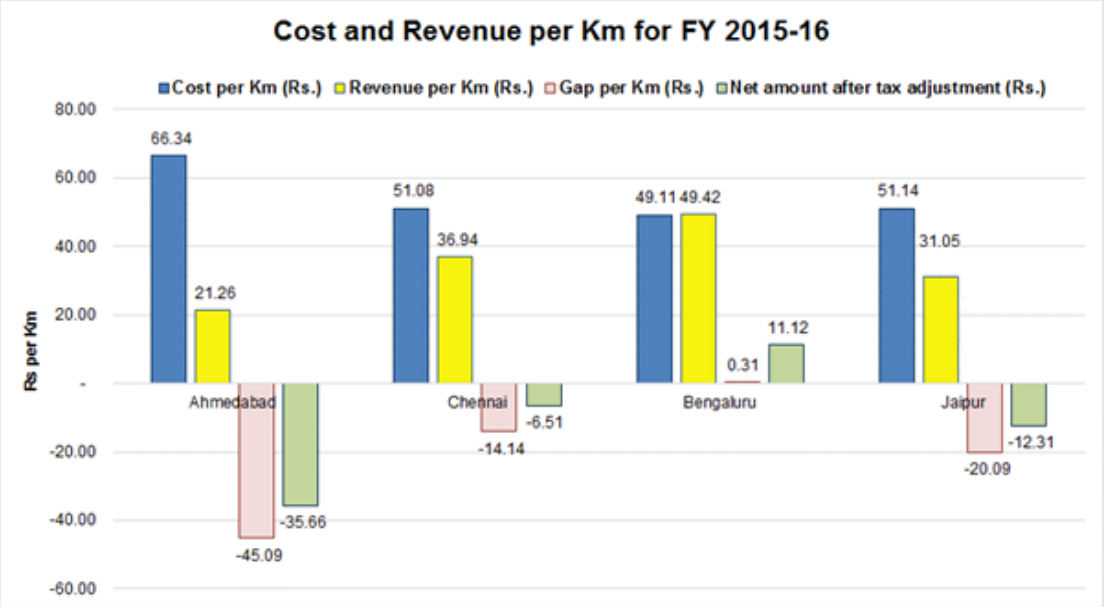


Figure 5-4: Cost and Revenue per Km

As can be seen, after adjusting the tax burden, the gap between the PTAs' revenue and cost is significantly reduced.

5.4 Financially Unviable Operations/Concessions

The PTAs providing city bus services are required to provide various services which may not be financially viable but are desirable from the social perspective. The PTAs are required to provide such services on the directions of the State Government/ municipal bodies for socially desirable reasons. Such services directly result in a loss of PTAs' fare box revenue, which they could have realized in case the same services were to be provided at normal charges.

The services, which PTAs are obliged to provide, and which cause loss of their fare box revenue have been categorized as:

- Socially desirable but financially unviable operations
- Concessions to passengers

5.4.1 Financially Unviable Operations

The PTAs providing city bus services are required to carry out certain financially unviable in accordance with state policies/ directions or to meet the social obligations. Following are the major types of financially unviable operations carried out by the PTAs:

- Commercially unviable but socially desirable routes – The PTAs are required to operate buses on certain routes which are commercially unviable but socially desirable. Such routes include routes serving urban villages or remote parts of the city, routes to resettlement colonies, newly developed colonies, etc. In addition, the PTAs are also required to operate special buses for different sections of the society for example university-special buses, ladies-special buses, etc.
- Commercially unviable but socially desirable schedules – The PTAs are required to operate commercially unviable schedules/ trips such as early morning and late night trips. Such trips are commercially unviable as only a small number of passengers avail services during such trips, however, these trips are important to provide services to public and for safety of passengers especially women and children.
- Fare revision not commensurate with cost of operations – The fares are not revised by the states on regular basis in line with the increased cost of inputs.

5.4.2 Different Types of Concessions

The PTAs providing city bus services are required to provide concessions to various categories of passengers, in accordance with the directions of the state/ municipal bodies. These concessions may be in the form of free/ discounted passes, concessional tickets or allowing free travel to specific sections of the society.

The categories of passengers, which are provided concessions in fares (often ranging from 50-100%), vary from state to state and generally include the following:

(i) Freedom Fighters (with one attendant also, in some cases)
(ii) Cancer Patients
(iii) Blind Persons
(iv) Differently-abled Persons
(v) National Awards Winners
(vi) International Sportsmen/Sportswomen
(vii) MPs/MLAs/ Members of Corporations
(viii) School Students
(ix) Senior Citizens
(x) Press Officials
(xi) Economically Backward People

Besides the aforesaid, different discounted passes are also issued to common public like day passes, monthly passes, etc. Such passes offer a discount even up to 50% of the actual value of the fare to passengers.

5.4.3 Impact of Financially Unviable Operations & Concessions on PTAs

Most of the PTAs do not quantify the monetary impact of financially unviable operations and various concessions on their revenue. The Fourteenth Finance Commission (FC) constituted by Government of India, in its report, has observed that the accounting information system is incomplete and lacks transparency and that annual reports are not released in time. The said FC has recommended that accounting systems in the SRTUs should make explicit all forms of subsidy, the basis for determining the extent of the subsidies and also the extent of reimbursement by State Governments.

The CIRT's report 'State Transport Undertakings Profile & Performance 2015-16' estimates the revenue of STUs and the financial burden on STUs due to various concessional passes as provided in the Table 5-11 below. The data includes that for urban as well as rural operations carried out by the STUs whose figures are reported in the CIRT's report. The financial burden due to concessions for these STUs works out to be Rs. 3.5 per km based on their traffic revenue of Rs. 27 per km. In case of urban bus services, the financial burden due to concessions is expected to be even higher as the number of trips using concessional passes are higher. For example, the number of trips by students in the city is quite high and most of these are made using concessional passes.

Table 5-11: Impact of Concessions on PTAs

Sl. No.	Description	Amount (Rs. in million)	Percentage Impact on Traffic Revenue
A.	Total Traffic Revenue	425,666	
Financial Burden due to Concessional Passes			
1	Concessions to students	38,104	9.0%
2	Free pass to blinds and physically handicapped	6,598	1.6%
3	Freedom fighters and MLAs	285	0.1%
4	Journalists	459	0.1%
5	Senior citizens	7,344	1.7%
6	Others	2,355	0.6%
B.	**Total Financial Burden due to Concessions**	**55,145**	**13.0%**

Following table (Table 5-12) provides STU wise details of fare concessions offered and reimbursement received during 2012-13 and 2016-17.[79]

[79] State Transport Undertakings Profile & Performance 2012-13 to 2016-17

Table 5-12: Urban PTAs/STUs - Fare Concessions and Reimbursement

Year	2012-13			2013-14			2014-15			2015-16			2016-17		
Name of STUs	Fare Concession offered (Rs in Mn)	Reimbursement of fare (Rs in Mn)	Reimbursement (%)	Fare Concession offered (Rs in Mn)	Reimbursement of fare (Rs in Mn)	Reimbursement (%)	Fare Concession offered (Rs in Mn)	Reimbursement of fare (Rs in Mn)	Reimbursement (%)	Fare Concession offered (Rs in Mn)	Reimbursement of fare (Rs in Mn)	Reimbursement (%)	Fare Concession offered (Rs in Mn)	Reimbursement of fare (Rs in Mn)	Reimbursement (%)
DTC	1,625.1	-	-	1,650.3	-	-	1,627.1	-	-	1,259	-	-	1,204.4	-	-
MTC	1,329.2	-	-	1,330.1	-	-	1,419.7	1,419.7	100%	1,616.3	1,616.3	100%	2305	2,305	100%
BEST	258.5	-	-	279.4	-	-	282.9	-	-	264.9	-	-	471.6	-	-
BMTC	385.3	-	-	415.4	-	-	541.8	-	-	597.9	-	-	1,899.8	-	-
PMPML	347.2	-	-	925.2	-	-	551.4	-	-	588.3	-	-	619.8	-	-
AMTS	232.4	-	-	356.3	-	-	356.3	-	-	370.3	-	-	350.2	-	-
NMMT	53.2	-	-	0	-	-	151.1	39	26%	201.7	39	19%	209.5	39	19%
KMTU		-	-	87.5	10	11%	54.7	-	0-	52.8	31.6	60%	80.1	80.1	100%
Total	**4,230.9**	**-**	**-**	**5,044.2**	**10**	**0%**	**4,985**	**1,458.7**	**29%**	**4,951.2**	**1,686.9**	**34%**	**7,140.4**	**2,424.1**	**34%**

Based on the concession reimbursement trends for the urban STUs during the period from 2012-13 to 2016-17, only MTC has received full reimbursement of fare for three consecutive years i.e. 2014-15, 2015-16 and 2016-17.

Table 5-13 below provides estimated revenue and financial burden on some of the urban PTAs due to fare concession for 2016-17[80]. Urban industry average for fare concessions offered is not published therefore average of the some of the selected urban PTAs is considered for analysis. The average concession offered is about Rs. 5.10 per km, while the reimbursement of fare concession is estimated as Rs. 1.73 per km for the same set of PTAs. Which indicates that fare concession is not fully reimbursed and the estimated gap is about Rs. 3.37 per km. However, some cases, subsidy is provided to PTAs which typically subsumes the fare concession. It may be noted that urban industry average for reimbursement of concession is Rs. 1.62 for the same period.

Table 5-13: Urban PTAs –Revenue and Financial Burden due to Fare Concession

Name of STUs	Fare Concession offered (Rs in Mn)	Reimbursement of fare (Rs in Mn)	Reimbursement (%)	Effective km per year in Million	Concession Offered (Rs. Per km)	Reimbursement of fare Concession (Rs. Per km)
DTC	1,204.4	-	-	242.74	4.96	
MTC	2305	2,305	100%	348.39	6.62	6.62
BEST	471.6	-	-	213.56	2.21	
BMTC	1,899.8	-	-	420.52	4.52	
PMPML	619.8	-	-	109.33	5.67	
AMTS	350.2	-	-	26.14	13.40	
NMMT	209.5	39	19%	31.10	6.74	1.25
KMTU	80.1	80.1	100%	8.65	9.26	9.26
Total	**7,140.4**	**2,424.1**	**34%**	**1,400.42**	**5.10**	**1.73**

5.4.4 Extent of Subsidies

While some States reimburse the cost of concessions mentioned in Table 5-11 partly, in most cases such compensation by way of reimbursement is grossly inadequate. The subsidies and reimbursements provided to some of the PTAs are provided in the Figure 5-5 below.

[80] CIRT, State Transport Undertakings Profile & Performance 2016-17

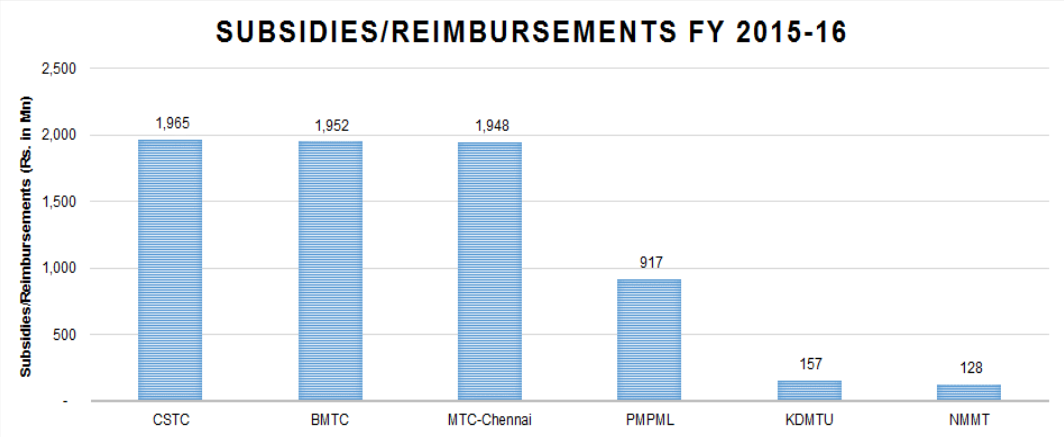


Figure 5-5: Subsides / Reimbursement to PTAs

The subsidies/ reimbursement against various concessions received by some of the PTAs are provided below:

- In the Financial Year 2014-15, BEST received a total grant from the Corporation of Rs. 1,500 million against the total loss of Rs. 8,580 million. As such, BEST had to meet its deficit from the Corporation funding made available to BEST as it is integral part of the Corporation under the BPMC Act.
- In the Financial Year 2014-15, DTC received Rs. 890 million as reimbursement against concessional passes. This was against a working loss of Rs. 10,194 Mn (excl. depreciation and interest) during the year. Till 2010-11, DTC used to get interest-bearing Ways and Means loans to meet its working losses, however, since 2011-12, DTC is receiving grant-in-aid from the Government of NCT of Delhi to cover its working losses. During the year 2014-15, DTC got Rs. 9,600 million as grant-in-aid to meet its working loss.
- PMPML-Pune, KADMTU-Kalyan Dombivali, NMMT-Navi Mumbai and SMT-Solapur have got Rs. 890 million, Rs. 157 million, Rs. 128 million and Rs. 13.6 million respectively from the Maharashtra State Government to cover the concessions provided to the passengers for the Financial Year 2015-16. These subsidies, however, were not enough to meet the gaps of the PTAs.

In the absence of adequate subsidies/reimbursements of concessions, the PTAs are forced to meet their gaps in revenue and costs through Ways and Means loans, non-plan funds, etc. from States/municipal bodies. Also, the PTAs continuously remain in the shadow of severe financial constraints which has adverse impact on the functioning of the PTAs, especially with respect to the following:

- Quality of service provided to the travelling public.
- The PTAs are not able to procure new buses to meet the additional fleet requirements or to replace their ageing fleet. This affects their ability to provide adequate and reliable public transport services in the city.

- The PTAs are not able to make timely payments to their suppliers/contractors. As a result, suppliers/ contractors of repute are not keen to work with PTAs.
- The PTAs are not able to implement technology initiatives and capacity development programmes to improve their functioning.

5.4.5 Estimation of Potential Savings

Table 5-14 presents potential operation cost savings and residual gap for some PTAs namely, BEST, AMTS and DTC based on 2016-17 data. As discussed in section 2.7.3.3 of this report, cost savings by improving the in-house operations, BEST can save about Rs. 36.90 per km and through outsourcing of operations to private sector, DTC and AMTS can save about Rs. 45.40 per km and Rs. 34.50 per km respectively. Besides aforesaid, tax amount is estimated as Rs. 9.43 per km for AMTS (Table 5-10) and for other PTAs, it is taken as Rs. 9 per km for analysis purpose. Fare concession reimbursement is estimated based on CIRT Report (Table 5-13). From the table below, the estimated potential savings is about Rs. 48.11 per km for BEST, Rs. 57.33 per km for AMTS, Rs. 59.36 per km for DTC. However, residual gap after adjusting the potential savings from total operations loss or short fall, in case of AMTS is Rs. 24.53 and other PTAs, Rs.39.95 per km (DTC) and Rs. 48.34 per km (BEST).

Table 5-14: Potential Operation Savings and Residual Gap Assessment

Sl. No.	Particular	BEST (Mumbai)	AMTS (Ahmedabad)	DTC (Delhi)
		Rs. Per km		
1	Cost savings through contracting of operations		34.50	45.40
2	In-house operations cost saving (based on industry average)	36.90		
3	Average Tax amount	9.00	9.43	9.00
4	Concessions Reimbursement	2.21	13.40	4.96
5	Potential Savings	48.11	57.33	59.36
6	Operations cost[81]	96.45	81.86	99.31
7	Residual Gap ((6)-(5))	(-)48.34	(-) 24.53	(-) 39.95
8	Potential Savings ((5)/(6))	50%	70%	60%

[81] Operations cost includes manpower, consumables and taxes and excludes interest cost and other costs.

6 GAPS AND CONSTRAINTS

6.1 Introduction

This chapter discusses the gaps and constraints being faced by the urban bus sector due to the country wide industry and operator structure, the existing legislative, regulatory, institutional, financial and fiscal arrangements based on the analysis carried out in the earlier chapters of this report.

6.2 Country Wide Industry and Operator Structure

The country wide industry and operator structure issues adversely affecting the urban bus sector are listed in Table 6-1.

Table 6-1: Country wide Industry and Operator Structure

Sl. No.	Issue	Description
1	Inadequate supply of buses	Total supply of buses is estimated to be around 66,000 buses while demand based on MoHUA norms is about 188,500 buses (as on 2011). The estimated gap in fleet is around 1,22,500 buses which is about 1.9 times the total present supply of fleet. Further, if buses operated under unorganized services is excluded, then the total shortfall will be around 142,500 (as on 2011) i.e. more than 3 times the present supply of buses under organized bus services.
2	No service level agreements for PTAs	PTAs have no service level agreements (SLAs) or contract with government, whether such services are provided by PTAs as in-house operations or as outsourced operation. There is thus no benchmark to monitor and assess their operational and financial performance. There is no pressure or incentive on PTAs to improve their performance. Inability of public sector to deploy the required number of buses in keeping with the demand often leads to emergence of illegal/fragmented para-transit service providers to fill the demand-supply gap.
3	Inefficiency in service delivery	Many of the Government PTAs work at cost structure above industry averages and private sector benchmarks resulting in undue burden on public exchequer. Further, performance of some of the recently established SPVs/ SPCs and MTUs on physical performance (fleet utilization, vehicle productivity, fuel efficiency, staff to bus

Sl. No.	Issue	Description
		ratio and ridership per day per bus) is below the industry average for Urban PTAs during the assessment period i.e. 2012-13 to 2016-17. Performance of a few well-established SRTCs and Government Department on physical performance (fleet utilization, vehicle productivity, fuel efficiency, staff to bus ratio and ridership per day per bus) is less than the industry average for urban PTAs during the assessment period. In-house operation cost is higher than industry average during the period of assessment (2012-13 to 2016-17) for some of the well-established PTAs like DTC, BEST, TMTU, KADMTU and AMTS.
4	Outsourced Operations are typically cheaper	Outsourced operation cost of PTAs is much lower than the cost of in-house operation. For example, the outsourced cost of operation of Delhi Cluster is cheaper than the cost of in-house operation of DTC by up to Rs. 45.40 per km. Similarly in Ahmedabad, cost of outsourced operation of AMTS is cheaper than the cost of in-house operation by up to Rs. 34.50 per km.
5	Lack of enforcement mechanism	In many of the cities, unorganized transport services such as shared autos, mini-buses, maxi cabs or auto rickshaws are also operating on the routes on which city buses are operating often not complying with their assigned routes or permit conditions. The unorganized sector thus competes with the formal city bus services affecting their economics.
6	Absence of use of advanced IT tools in managing city bus operations	The PTAs are managing their operations with bare minimum ICT systems. Most of them do not have bus operation specific applications and MIS tools to enable them to monitor their activities in an efficient and effective manner. While some of the PTAs are in the process of putting in place the MIS/ICT systems with support from MoHUA and World Bank, all of them need to have such systems.
7	Lack of fare revision mechanism	Section 67 of the Motor Vehicles Act, 1988 empowers the state government towards fixing of fares for urban bus services. It neither prescribes any periodicity for fare revision nor does it outline any mechanism/ principles on which the fares need to be revised. In most cities, there is no fixed time-frame for revision of fare; there is no scientific formula for revising the fare. The fare is not adjusted to reflect the input cost increases during revision period.

Sl. No.	Issue	Description
		Delhi is a case in example where city bus fares have been maintained at the same level for over a decade and have not been revised since 2009.
8	Inadequate support infrastructure for city operations	Availability of land to support transport infrastructure such as land for office, depot, workshop, city bus terminal, bus shelters is often a challenge in most cities providing urban bus services.
9	Modern depot workshops	Effective utilization of buses is a key pre-requisite for providing efficient bus services. This calls for up-keep and maintenance of the buses in workshops equipped with the required tools and trained manpower. PTAs do not have adequate depot/workshops with required equipment/tools.

6.3 Legislative & Regulatory Issues

The legislative and regulatory issues adversely affecting the urban bus sector are listed in Table 6-2.

Table 6-2: Legislative & Regulatory Issues

Sl. No.	Issue	Description
1	Urban transport subject not addressed in the constitution	Urban transport as a specific subject is missing in the Seventh Schedule (containing Union List, State List and Concurrent List) as well as Twelfth Schedule of the Constitution (containing functions that may be allocated to municipalities by the states)
2	Provision of public transport not a core or mandatory function of ULBs	Due to no explicit reference to urban transport in the Constitution, the subject of Urban Transport is being interpreted and dealt with by states in a different manner. Most states (Gujarat, Goa, Jharkhand, Madhya Pradesh, Maharashtra, West Bengal and Union Territories) have classified this as a discretionary function, and rest have not allocated this function to municipalities at all. Accordingly, urban transport is not given priority in allocating financial resources by the municipalities.
3	Difficulty in making/ amending laws on concurrent subjects	The process of passing or amending legislation in Parliament for a subject on Concurrent List of the Constitution is politically fraught and a long-drawn process. A case in example is the Motor Vehicles (Amendment) Bill, 2017 the subject matter of which comes under the concurrent list of the Constitution. The Bill has been

Sl. No.	Issue	Description
		passed in the Lower House of Parliament during April 2017 but remains to be passed by the Upper House of the Parliament of India.
4	Power to control number of stage carriages	Central Government has retained the power to limit the number of stage carriages operating on city routes in towns with a population of five lakhs or more by way of directions to the state in this behalf (section 71 of the Motor Vehicles Act, 1988). As the urban development subject is allocated to states under the Constitution and urban transport being an integral part of the same, continuation of this provision needs to be reviewed in the present situation.
5	Schemes for exclusivity of bus operation by STUs	Chapter VI of the Motor Vehicles Act, 1988 contains provisions dealing with the preparation of the proposal by the State Government to nationalize road transport services to be operated by State Transport Undertakings for the partial and complete exclusion of other entities. The provisions do not prescribe a mechanism for scientific assessment regarding the need for such schemes and their periodic review to ascertain the need for their continuation. Such schemes have also generated huge number of litigations and disputes. STUs have not been able to discharge the role assigned to them by way of exclusivity in bus operations in an efficient and effective manner.
6	No independent urban bus regulator	The urban bus sector does not have any independent regulator dealing scientifically with matters like fare setting, fare revision, compensation for providing concessions/ undertaking operation on socially desirable but financially unviable routes, service coverage, market structure, regulation of service quality, assessment of concessionaire claims, collection and dissemination of sector information, service-level benchmarks, etc.

6.4 Institutional Issues

The institutional issues adversely affecting the growth and development of urban bus sector are listed in Table 6-3.

Table 6-3: Institutional Issues

Sl. No.	Issue	Description
1	Focus of SRTUs is not urban bus operations	SRTUs (set up under the RTC Act, 1950) have a much larger mandate to provide transport services in the state. Their focus has traditionally been to cater to inter-city operations and not providing urban bus services except a few metropolitan cities such as Delhi and Bengaluru.
2	Evolving organization structure of SPCs	The organization structures of the SPCs vary from city to city. While the State Road Transport Undertakings have over the years developed policies/regulations that define specific roles/ positions along with job description, the SPCs have not yet been able to do this as most of their employees are on contract basis, resulting in ad hoc role definition for positions and lack of clarity regarding career path for employees.
3	Dearth of skilled resources to manage city bus operations	SPCs often find it difficult to attract talent due to their reward and compensation packages not meeting market expectation and perceived poor growth prospects in the organization. There is also a lack of availability of trained faculties, relevant curriculum leading to generation of a pool of skilled personnel in the country available for hiring by PTAs. There is lack of applied research and industry-academia interaction to enable undertaking of research meeting the needs of the sector. In many of the cities, city bus operation by PTAs is outsourced to private sector. In view of this, PTAs do not deploy permanent employees and manage their operations often using contract resources with limited experience.
4	Training of SPC staff for specific roles	As many of the SPCs have been given exclusive rights to operate bus service in their cities, there is a need for them to have the capacity and training to be able to organize bus operations either directly or under contract with private operators. In cases, where the SPCs have chosen to maintain their fleet, the capacity augmentation/training of such staff is needed to keep pace with the skills required to maintain the modern fleet being introduced. A scientific approach to planning could make the routes more attractive from the perspective of balancing the passenger service and financial viability perspective of the city bus operation. This will need a capacity building for the SPC staff as well as access to required tools.

Sl. No.	Issue	Description
5	Operation model of SPCs	Some of the SPCs have adopted gross cost model for bus operation, whereas most have chosen to implement the bus service using net cost model. SPCs in both the situations are facing difficulties. Those with gross cost model are struggling to secure dedicated and sustained level of funding, whereas the SPCs with net cost model are facing difficulties in ensuring a good quality reliable bus operation as the operators have been facing financial viability issues due to changing competitive dynamics from time to time.
6	Frequent change of guard at SPCs	It has been observed that there is frequent change of guard at the CEO level of the SPCs which are often shell companies / thinly staffed units where officers hold dual charge, one in the Municipal Body and the other as CEO of SPC. The leads to lack of focus at the management level and affects the continuation of policy initiatives
7	No association of urban SPCs	The SPCs do not have any association such as the Association of State Road Transport Undertakings (ASRTU) that MoRTH helped create way back in 1965 to bring together all State Road Transport Undertakings on a common platform. The aim for setting up of the ASRTU was pooling the resources and knowhow of SRTUs for dealing with various issues being faced by them and helping them to improve their performance. ASRTU, in addition, also works in close liaison with many overseas counterpart associations like APTA, UITP, CODATU, etc. It also provides a common procurement service through ASRTU Rate Contract helping achieve economies of scale in procurement by its members.
8	No dedicated training institute to support SPCs	The SPCs do not have any dedicated training institute to impart necessary technical training for improving efficiency of city bus operations.
9	Absence of benchmarking mechanism for operation city services	It is necessary to fix the benchmark/quality of public transport service. In the absence of any holistic transport planning including non-availability of benchmarks for city bus operations, assessment of passenger travel demand on a regular basis is difficult. To ensure the services, norms on the basis of parameters like Reliability (Low break-down), Passenger Safety (Low accident rate), good vehicle condition and adequate infrastructure, etc., can be fixed. Data published by CIRT is not consistent and accurate to be used for benchmarking. Most of the

Sl. No.	Issue	Description
		urban bus operations are carried out by SPCs whose data is not captured and published by CIRT.
10	Capacity constraints: Accounting by PTAs	The various PTAs do not follow any uniform approach/ format to capture all the relevant financials. Specific details are often missing such as the loss suffered on account of offering various concessions and operating on socially desirable but financially unviable routes based on directions from state/municipalities. The Fourteenth Finance Commission (FC) in its report noted on this matter that *in terms of pricing, the first step would then be to separate the social obligations of providing bus connectivity to all villages as well as concessional fares to socially deserving target groups from the rest of the pricing formula. Both these require government financial support, and it is axiomatic that such fiscal support should be contingent on the reliable and timely supply of relevant information*. The FC goes on to recommend that accounting systems in the SRTUs need to make explicit all forms of subsidy, the basis for determining the extent of the subsidies, and also the extent of reimbursement by State Governments.
11	Non-availability of standardized operational and financial data from urban PTAs	Lack of availability of reliable database in urban transport hinders informed policy making and in reliably assessing the impacts of various interventions. Operational and financial statistics of the urban PTAs is also not available except for some which are members of the ASRTU. The data reporting by PTAs is not standardized. In addition, where PTAs are providing both urban and long distance services, the data is often not segregated for these types of operations.

6.5 Financial and Fiscal Issues

The issues related to financial and fiscal arrangements confronting the urban bus sector are listed in Table 6-4.

Table 6-4: Financial & Fiscal Issues

Sl. No.	Issue	Description
1	City Bus Service is a financially unviable proposition	The nature of urban bus operation has become financially unviable owing the revenue and cost structure

Sl. No.	Issue	Description
		of the industry imposed by the regulations and government's socio-political objectives. Most of the PTAs are incurring losses and deficit per km has doubled from Rs. 26 per km to Rs. 52 per km for Urban PTAs between 2012-13 and 2016-17. Total deficit/loss for the reported Urban PTAs in 2016-17 was Rs. 78,630 million according to the CIRT report for the year 2016-17.
2	Inadequate compensation for various concessions	The concessions granted by State Governments to various categories like Students, Blind persons, Freedom Fighters, Physically Challenged and Senior Citizens, etc. have become a universal service obligation for city PTAs. While some States reimburse the cost of these concessions partly, in most cases such compensation by way of reimbursement is grossly inadequate. These concessions costs heavily in terms of foregone revenue to the undertakings.
3	Inadequate support for socially desirable but financially unviable route operations	PTAs incur financial losses while providing services on financially unviable routes to serve larger social objectives of the state. The PTAs are typically not fully compensated for such losses. In certain cases, support in the form of loan is provided to the PTAs which further deteriorates their finances and they are then burdened with the liability for interest payments. Currently, no mechanism exists by which the financial losses incurred towards operation of services in financially unviable routes within the City are adequately compensated.
4	Lack of financial resources with ULBs	The Fourteenth Finance Commission (FC) in its report states that in their interaction with the FC, the representatives of municipalities in an overwhelming majority of States mentioned that they faced a paucity of funds for carrying out their own mandated functions. Most ULBs do not have adequate resources to fund their mandatory functions. In view this, ULBs are not be able to support city bus operations from their available resources, which in any case is not a mandatory function of most of the ULBs under the current regulatory framework.
5	Financial sustenance of PTAs	Urban bus services require sustained and assured financial support as their pricing is typically being kept at lower levels to support the social objectives of the state.

Sl. No.	Issue	Description
		Whether such services are provided by the state road transport corporations, municipal undertakings, special purpose companies, or as part of state transport department, until and unless there is an assurance of long term and adequate funding to support the cost of operations, their viability and continuation cannot be secured. Many of the cities (including Nagpur) which initiated urban bus services on gross cost model are struggling to continue due to lack of financial resources. In Ludhiana, the private operator withdrew from the gross cost model based contract to run bus service in 2014 citing payment issues. Considering the precarious financials of the ULBs and uncertainty around availability of funding to support for urban bus operations, unless the States extend financial support for the same, difficulties to manage urban bus services, regardless of the model adopted will continue.
6	State Finance Commissions	Constitution requires states to constitute their respective state finance commissions (SFC) to make recommendations, among others, regarding sharing of tax revenues of the state and suggest measures needed to improve the financial position of the Municipalities. Most states have not been constituting the SFCs regularly; municipal finances and their resource requirements are not reviewed based on the sound data resulting in lack of clarity regarding the quantum of financial transfers required to be made to support the municipalities.
7	GST on public passenger transport vehicles	It has come as an added a financial burden on the PTAs who are already incurring losses in undertaking urban bus operations.
8	Central Excise Duty / Sales Tax / VAT on Fuel	As fuel is one of the biggest component of the PTAs' cost, central excise duty / sales tax / VAT on fuel adds to substantial financial burden as fare revisions do not run concurrently.
9	Rationalization of Motor Vehicle Tax	It is an additional financial burden on the PTAs who are incurring losses in undertaking urban bus operations.
10	Income Tax	It is an additional financial burden on the PTAs who end up generating some surplus.
11	Absence of dedicated funding	There is no dedicated regulation backed funding mechanism available to support provision of urban bus operation by the PTAs. The funding of the bus operation in most cases is secured through annual budget cycle

Sl. No.	Issue	Description
		which has attendant risks regarding its availability as well as the quantum. It is impacting service as well as investment in augmenting the operation to support the public transport demand in the city.