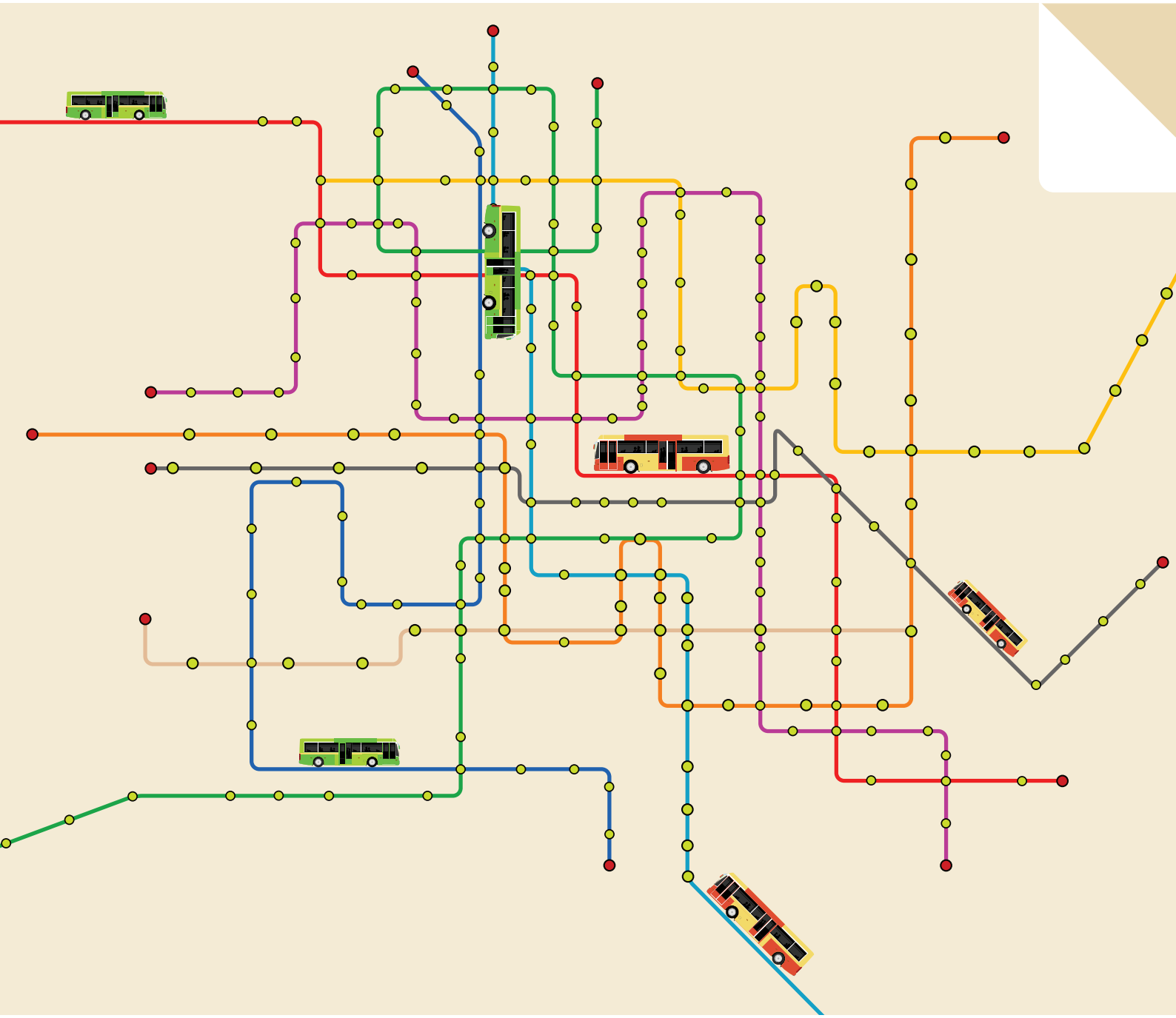
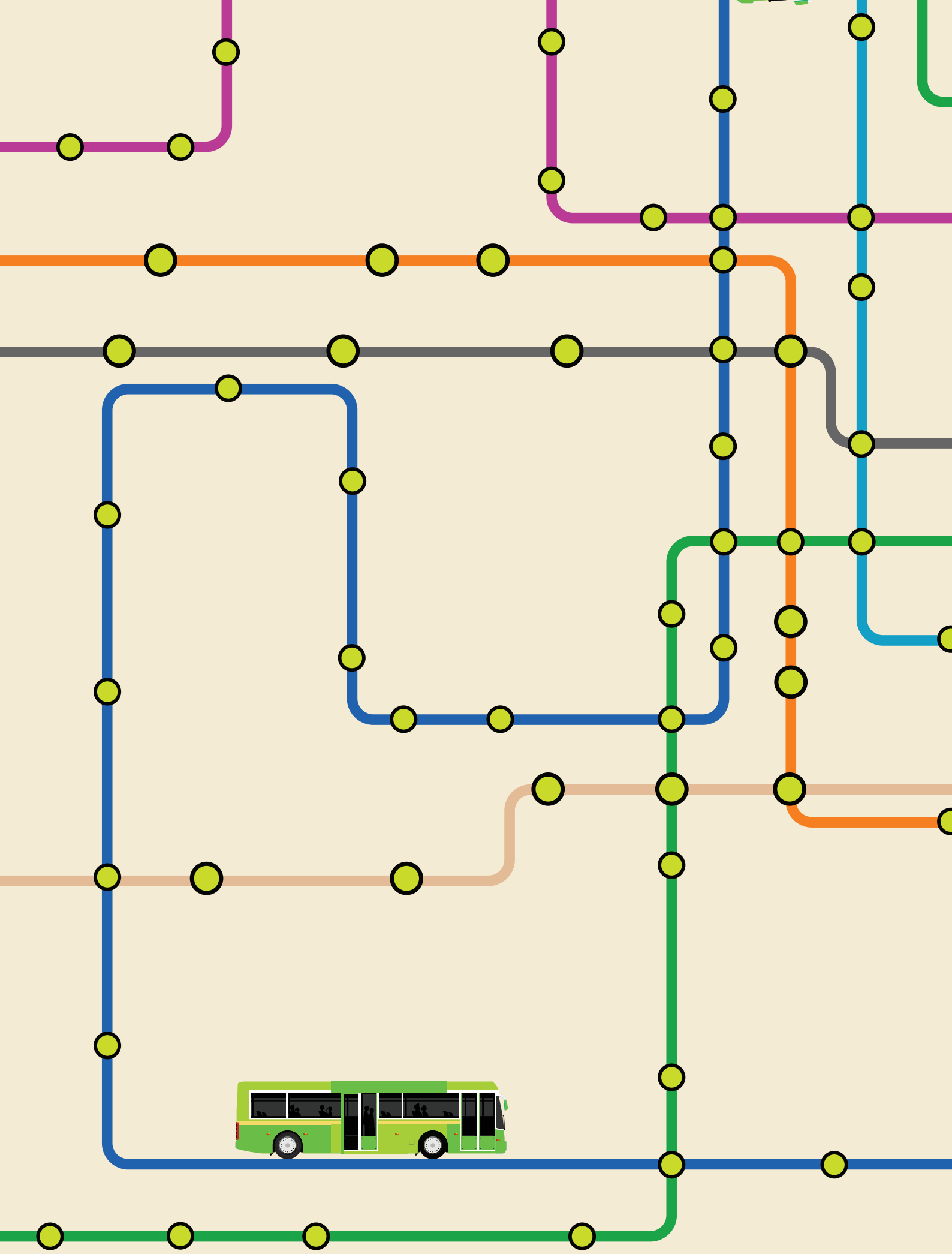
Ministry of Housing and Urban Affairs
Government of India

SOURCE BOOK
PPP ARRANGEMENTS FOR URBAN BUS OPERATIONS IN INDIA

OCTOBER 2021





SOURCE BOOK
PPP ARRANGEMENTS FOR URBAN BUS OPERATIONS IN INDIA

OCTOBER 2021

FOREWORD

हरदीप एस पुरी
HARDEEP S PURI

सत्यमेव जयते

आवासन और शहरी कार्य मंत्री
पेट्रोलियम एवं प्राकृतिक गैस मंत्री
भारत सरकार
Minister of
Housing and Urban Affairs; and
Petroleum and Natural Gas
Government of India

आज़ादी का अमृत महोत्सव

Message

It gives me immense pleasure to know that the Ministry of Housing and Urban Affairs in collaboration with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is bringing out this "Source Book" on 'Arrangements for Public Private Partnership for Urban Bus Operations in Indian cities'. Such partnerships will enable public authorities to enhance the capacity and quality of public transport service delivery from existing levels.

The Source Book includes insights from innovative models and experiments by select cities/states for bus operations and can be emulated when arriving at informed choices for adopting strategies best suited to individual cities. I applaud the effort to compile these initiatives in one document, and hope that this publication will serve as a valuable tool for planners, administrators and researchers in the urban transport sector.

(Hardeep S Puri)

New Delhi
22 October 2021

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Government of India
Ministry of Housing and Urban Affairs
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FOREWORD

The business models in public bus transport sector are witnessing transformational changes across the world owing to the advent of new fuel technologies as well as new trends in urban transport ecosystem. In line with the global phenomenon, India has similarly witnessed innovation in the business models of private sector participation, and it is making a mark in the sector. These transformations will change the way bus services are planned, procured, operated, and monitored.

2. Ministry of Housing and Urban Affairs (MoHUA), Government of India has undertaken numerous initiatives to create a conducive environment for such transformative changes in the public bus transport sector. In continuation to the efforts of this Ministry, I have great pleasure in presenting this '**Source Book on PPP Bus Contracts (India)**'.

3. Sourcebook has been prepared as part of the Indo-German bilateral cooperation, Green Urban Mobility Partnership (GUMP) between Ministry of Housing and Urban Affairs (MOHUA) and German Federal Ministry for Economic Cooperation and Development (BMZ) , under the project 'Integrated Sustainable Urban Transport Systems for Smart Cities (SMART-SUT)', which is being implemented by MoHUA in association with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

4. It captures **innovative models of Public Private Partnership (PPP)** in bus operations adopted by **ten Indian cities**. It will serve as a ready reckoner and help in guiding cities to draw relevant learnings and facilitate decision-making for structuring their public bus operations. It can fundamentally change the role of traditional city agency involved in bus operations through adoption of PPP which can transform the control over financial flows, roles & responsibilities, sharing of various risks, influence on service obligations, scale of operations, etc.

5. The preparation process of the Source Book involved validations from city officials, and their inputs have made a valuable contribution to the study. I take this opportunity to thank all those who have contributed directly or indirectly to this study. I hope this book will enhance the sector efficiency and encourage private sector participation in bus operations.

(Durga Shanker Mishra)

New Delhi
August 4, 2021

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GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN AFFAIRS
NIRMAN BHAWAN, NEW DELHI-110011

FOREWORD

The Ministry of Housing and Urban Affairs (MoHUA), Government of India has undertaken several initiatives to transform the public bus transport sector in India. The focus has always been to build a robust ecosystem for bus operations and leverage the expertise of the private sector. One of the key schemes of MoHUA was launched in 2009 under National Urban Renewal Mission (NURM), which focused on providing financial assistance to cities for fleet augmentation. Besides, MoHUA has undertaken several other initiatives to support the buses such as - development of urban bus specifications for bus procurement, development of modal contract document for Public Private Partnership (PPP) in bus operations, institutionalization of urban transport funds, design & development of training programme for city transport professionals and many more. To complement these initiatives, MoHUA has developed the **'Source Book on PPP Bus Contracts (India)'** with an aim to aid city transport agencies to become self-sustainable in providing safe, reliable and affordable bus services.

Various Indian cities have adopted different PPP models to engage private operators to leverage their expertise in procurement, planning, management, operation and maintenance of bus services. Ten such cities have been studied for the Source Book, and the key aspects of their PPP models are examined in this Source Book. It covers the PPP model adopted by cities for operating city bus services, dedicated services of BRTs, intercity and inter-state services using conventional buses as well as upcoming electric buses. Various PPP models studied includes Net Cost Contract, Gross Cost Contract, Hybrid Gross Cost Contract and Hybrid Net Cost Contract.

The features of contractual arrangements of ten cities are captured in detail in the document. Key features of PPP models studied include:

- Institutional setup, operational detail and rolling stock of the service delivery agency
- Funding sources for fleet and infrastructure
- Revenue sources in bus operations (fare box and other sources)
- Allocation of roles and responsibilities between authority and operator
- Provision for assessment parameters to monitor service quality of bus operations
- Payment mechanism and other terms of payment to operator
- Conditions precedent of both parties for building supporting infrastructure
- Termination clauses to terminate operator's agreement

I am confident that this Source Book will act as ready reckoner for the cities opting for PPP model for their bus operations to enable them to adopt a balanced approach while designing contract agreements. I sincerely thank Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH for supporting MoHUA in drafting the Source Book on PPP in Bus Contracts (India). I extend my gratitude to all stakeholders including officials from various cities for providing valuable inputs for this source book.

(Jaideep)

ABOUT THE SOURCE BOOK

The report has been prepared as part of the Indo-German bilateral cooperation, Green Urban Mobility Partnership (GUMP) under “Integrated Sustainable Urban Transport Systems for Smart Cities (SMART-SUT)” commissioned by the German Federal Ministry for Economic Cooperation and Development (BMZ) and jointly implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH with Ministry of Housing and Urban Affairs (MoHUA), Government of India.

MoHUA has taken several initiatives to support the transformation in city bus operations, and through this source book, it intends to further facilitate the cities in better decision-making related to structuring of their core bus operations. The objective of this book is to capture key features of the contractual arrangements between the public and private agencies involved in city bus operations on PPP.

The book captures procurement models of ten Indian cities/ states for operations of conventional and electric buses on PPP. The aim is to develop a holistic understanding of the contractual framework and their impact on efficiency and sustainability of bus operations. It will be helpful in increasing private sector participation in the city bus operations and may be referred by the cities/states in understanding different contractual models to enhance overall efficiency and ensure better asset utilization.

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1
INTRODUCTION

OVERVIEW OF THE BUS TRANSPORT LANDSCAPE

1. BUS TRANSPORT IN INDIA

A BUS TRANSPORT IS ATTRACTIVE TRAVEL OPTION FOR COMMUTERS

- Affordable services across all income groups
- Fast and scalable transport mode
- Promotes last mile connectivity through feeder services
- High potential to leverage private sector expertise
- Competitive cost of travel over other transport modes

B THERE IS A NEED TO ENHANCE BUS SERVICE LEVELS

- ~45,450[1] buses are held & managed by bus agencies in India and about 16% of buses operate on PPP mode in urban areas.
- India has only four buses per 10,000[2] population whereas China has about six buses for 1,000 people.
- 100 of the largest Indian cities require ~USD15.4 billion to procure new buses & upgrade allied infrastructure[3]

2. REFORMS AND INNOVATION ACROSS THE VALUE CHAIN CATALYZES THE BUS OPERATIONS

- Institutional strengthening & capacity augmentation
- Funding & Financial sustainability
- Faster technology adoption
- Monitoring & evaluation of bus operations
- Diversification and bundling of bus service
- Integration with other transport modes
- Citizen centric services framework
- Innovative business models

3. GOVERNMENT IMPETUS TOWARDS BUILDING A CONDUCIVE ENVIRONMENT FOR BUS OPERATIONS

1950 — **RTC Act, 1950** Formation of STUs for bus operations.

1981 — *Increase in private sector participation due to rising demand by commuters for mobility*

2006 — **National Urban Transport Policy** emphasized financial sustainability & promoted private sector participation.

2008 — **NURM (Phase I, 2008-09):** 14,405 buses procured by 65 mission cities with central assistance of Rs. 1,547Cr.[4]

2012 — **National Electric Mobility Mission Plan 2020** with targets set to electrify public transport

2013 — **Service Level Benchmarks** for Public Transport.

2013 — **Urban Bus Specifications** focused to make bus transport more responsive by developing minimum standards.

2013 — **NURM (Phase II, 2012-13) :** 7,509 buses procured with the central assistance of Rs. 1,236.95 Cr. to 114 cities/cluster of cities.[5]

2015 — **FAME-I Scheme** with provision of availing demand incentives for e-bus operations

2015 — **Smart Cities Mission/ AMRUT Scheme** focused on improving operational efficiency by ICT interventions.

2016 — **Model Contracts for city bus private operations** to improve PPP.

2017 — **National Transit Oriented Development Policy** supported BRTS projects to ensure service reliability.

2018 — **Model Concession Agreement** for introducing e-bus fleet in India

2019 — **FAME II Scheme** focused to provide funding support for e-bus procurement.

Note: The key documents and toolkits published by MoHUA have been detailed in the Annexure – I.

Continuous Capacity Enhancement and Training Measures have been adopted by Government of India for bus transport stakeholders across India

SNAPSHOT OF PPP MODELS IN INDIA

1. UNDERSTANDING THE CONTRACTUAL MODELS FOR PPP BUS OPERATIONS

Gross Cost Contract (GCC)

- Authority pays the operator fixed O&M fee based on the operated schedule kilometres
- Operator quoting lowest fee gets selected

Hybrid Gross Cost Contract (Hybrid GCC)

- Authority pays the operator fixed O&M fee for kilometres plied and variable fee is paid based on increase in ridership
- Operator quoting the lowest fee gets selected

Net Cost Contract (NCC)

- Operator retains fare box revenue and pays a system management fee or receives grant from the Authority
- Operator quoting the highest fee or lowest grant gets selected

Hybrid Net Cost Contract (Hybrid NCC)

- Operator retains the fare box revenue and receives fixed O&M fee for operations on non-commercial routes
- Combination of system management fee payable to the authority or grant payable to the operator
- Operator quoting highest fee/lowest grant gets selected

2. UNDERSTANDING THE ROLES AND RESPONSIBILITIES ACROSS VARIOUS PPP MODELS

PARAMETER/ PPP MODEL	GCC	NCC	HYBRID GCC	HYBRID NCC
Operational plan (route frequency, timing)				
Bus operations & maintenance				
Revenue Risk			*+ Performance based incentives to operator on increasing patronage.*	*+ Subsidy to operator on un-viable routes*
Degree of operator's incentive to increase ridership	*Fixed payment irrespective of ridership*	*Revenue directly linked to ridership*	*Bonus on increase in ridership*	*Revenue directly linked to ridership + fixed fee for unviable routes*
Degree of operator's interest in branding & communication	*Operator has low interest in branding & advertisement as no impact on his revenue*	*Operator has high interest on branding as it directly impacts his revenue.*	*Operator has low interest in branding & advertisement as limited impact on his revenue*	*Operator has high interest on branding as it directly impacts his revenue.*
Degree of monitoring & penalty regime by Authority	*Requires strong & consistent monitoring with penalty for service below benchmark performance.*	*Less monitoring, only service quality parameters monitored.*	*Higher level of monitoring than GCC because of greater economic incentive for performance.*	*Less monitoring, only service quality parameters monitored.*

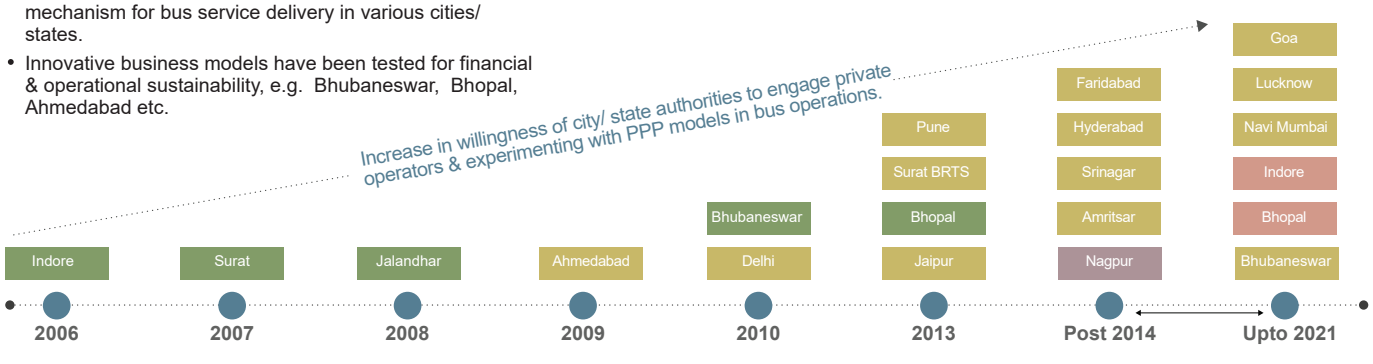
Source: Deloitte Analysis

Legend: Authority | Operator

Low ⟶ High

3. EVOLUTION OF PPP MODELS IN INDIA

- Cities/ States have been eager to elicit stronger private sector participation for improving the bus transport services.
- Dedicated SPVs have been created for better institutional mechanism for bus service delivery in various cities/ states.
- Innovative business models have been tested for financial & operational sustainability, e.g. Bhubaneswar, Bhopal, Ahmedabad etc.



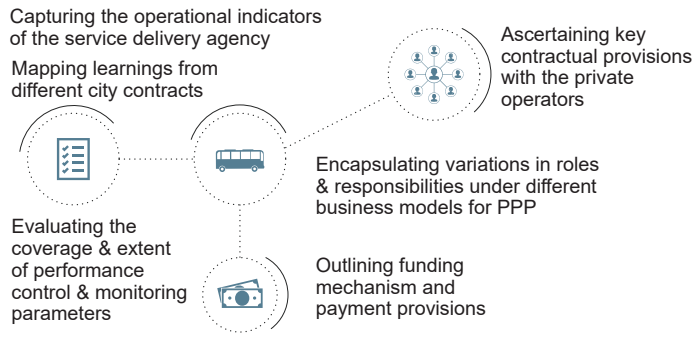
Source: Deloitte Analysis

Legend: GCC | Hybrid GCC | NCC | Hybrid NCC

PPP BUS OPERATIONS IN INDIA

1. CHOOSING THE MIX OF CITIES/ STATES AND PPP MODELS IN BUS OPERATIONS FOR THE SOURCE BOOK

A KEY ASSESSMENT AREAS OF THE PPP CONTRACTS IN SOURCE BOOK



B CITY SELECTION PARAMETERS

1. Adequate representation of conventional & electric bus
2. Coverage of different types of PPP model
3. Operation of services as per contract terms
4. Distinctiveness of contract features

2. PREVIEW OF SELECTED CITY/ STATE CONTRACTS

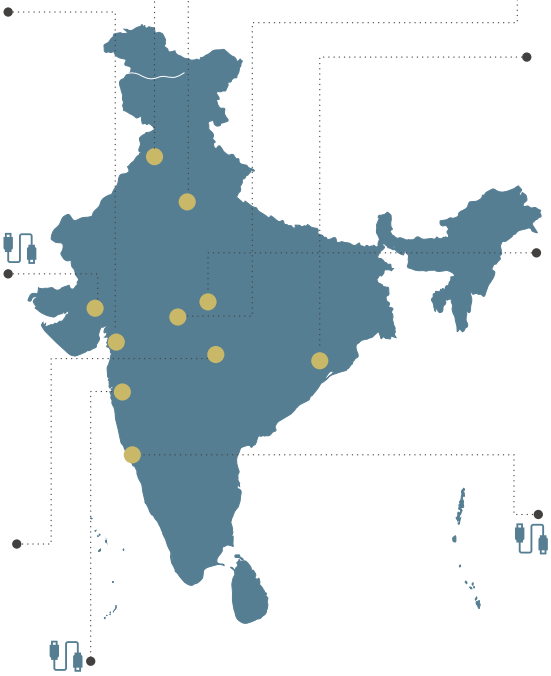
DEPARTMENT OF TRANSPORT [DELHI]
- Contract Type: GCC
- Contracted number of buses: 1000
- Tender Date: 2018

PUNJAB BUS METRO SOCIETY (PBMS), [AMRITSAR BRTS]
- Contract Type: GCC
- Contracted number of buses: 100
- Tender Date: 2016

ATAL INDORE CITY TRANSPORT SERVICES LIMITED (AICTSL) [INDORE]
- Contract Type: Hybrid NCC
- Contracted number of buses: 40
- Tender Date: 2018

SURAT SITILINK LTD. (SSL) [SURAT BRTS]
- Contract Type: GCC
- Contracted number of buses: 40
- Tender Date: 2012

CAPITAL REGION URBAN TRANSPORT (CRUT) [ODISHA]
- Contract Type: GCC
- Contracted number of buses: 100
- Tender Date: 2018



AHMEDABAD JANMARG LIMITED (AJL) [AHMEDABAD BRTS]
- Contract Type: GCC
- Contracted number of buses: 300
- Tender Date: 2019

BHOPAL CITY LINK LIMITED (BCLL) [BHOPAL]
- Contract Type: Hybrid NCC
- Contracted number of buses: 200
- Tender Date: 2016

NAGPUR MUNICIPAL CORPORATION (NMC) [NAGPUR]
- Contract Type: Hybrid GCC
- Contracted number of buses: 387
- Tender Date: 2015

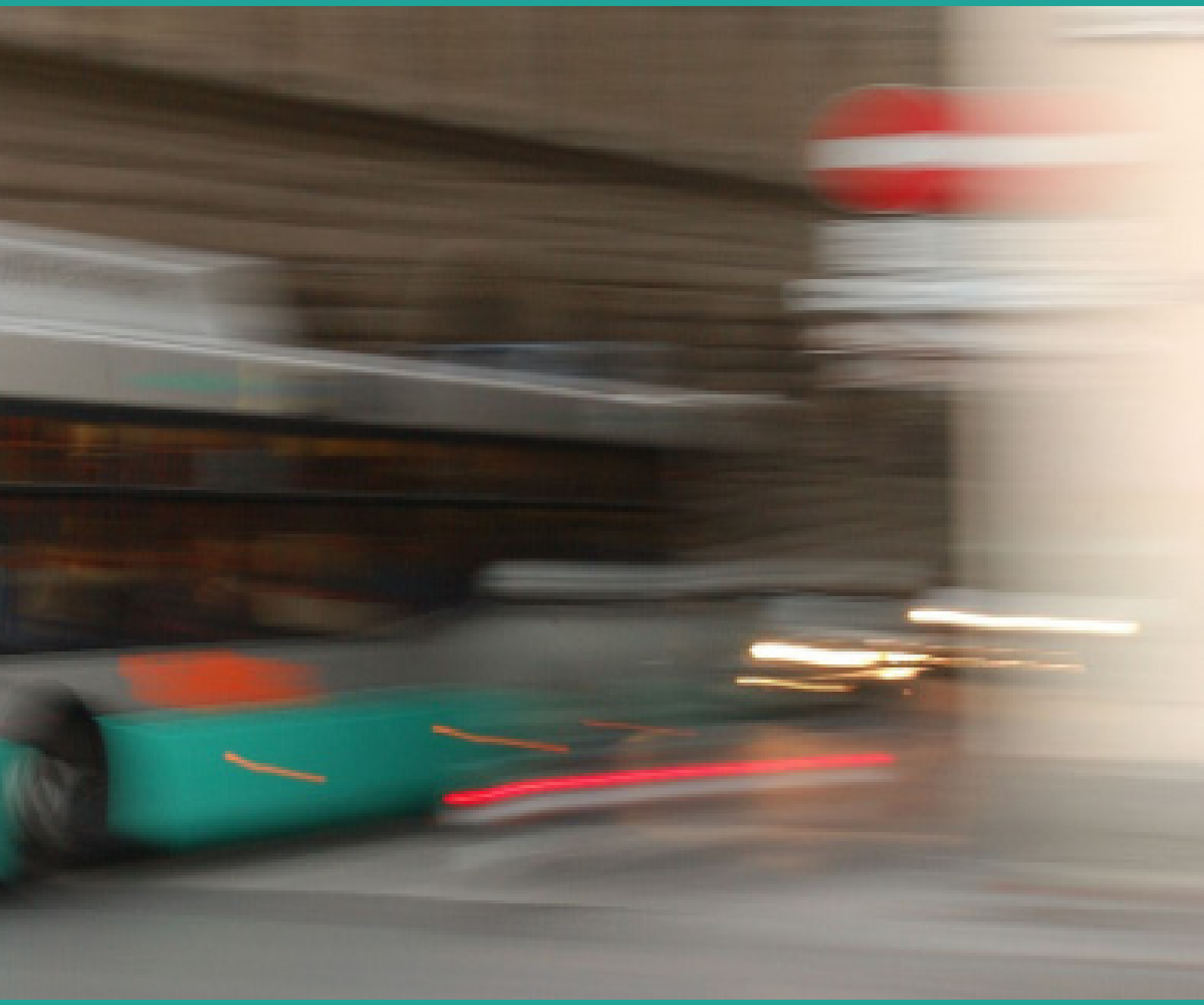
KADAMBA TRANSPORT CORPORATION LIMITED (KTCL) [GOA]
- Contract Type: GCC (Lease Model)*
- Contracted number of buses: 500
- Tender Date: 2021

NAVI MUMBAI MUNICIPAL TRANSPORT (NMMT) [NAVI MUMBAI]
- Contract Type: GCC
- Contracted number of buses: 100
- Tender Date: 2019

This indicates RfP/ contract under study pertains to e-buses.

** Lease Model is a variation of GCC model, where fixed lease rentals are paid by the authority to the Lessor (OEM).*

2
COMPARATIVE ANALYSIS



CASE SUMMARY

1. CITY CHARACTERISTICS AND INSTITUTIONAL SET-UP

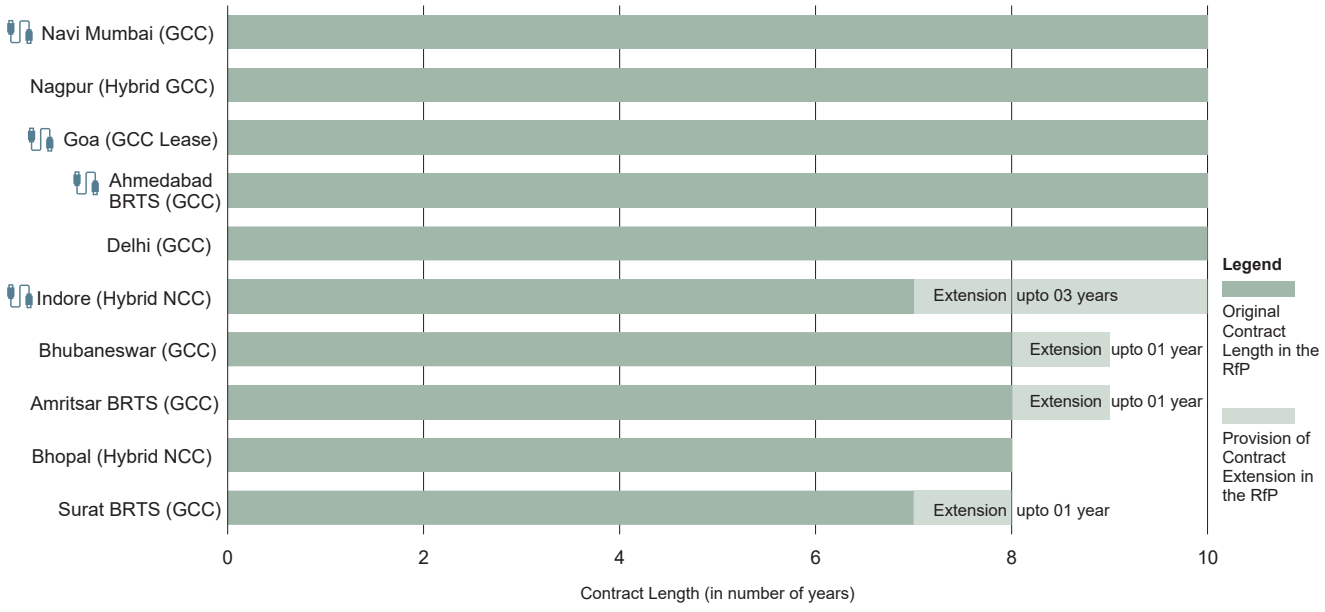
A CITY ASSESSMENT → B INSTITUTIONAL SETUP → C OPERATIONAL DETAILS

CITY/ STATE	POPULATION (IN MILLION)	BUSES/ MILLION POPULATION	AVG. PAX TRIP LENGTH BY PT (BUSES)	DELIVERY AGENCY#	LEGAL STATUS OF DELIVERY AGENCY	INCORPORATED BY	FLEET SIZE OF AGENCY	AVG. DAILY RIDERSHIP
Ahmedabad BRTS	5.50	1.8	9.50 km	AJL	SPV formed under the Companies Act	Ahmedabad Municipal Corporation	281	0.16 million
Amritsar BRTS	1.10	0.8	7.50 km	PBMS	Society under Societies Registration Act	Government of Punjab	93	0.04 million
Bhopal	1.80	1.6	5.81 km	BCLL	SPV formed under the Companies Act	Bhopal Municipal Corporation	304	0.16 million
Bhubaneswar	0.84	2.5	10.30 km	CRUT	SPV formed under the Companies Act	Housing & Urban Development Department, Odisha	225	0.10 million
Delhi	11.00	6.1	10.70 km	Transport Department	Department under GNCTD	Transport Department, GNCTD	6693*	2.98 million
Goa	1.45	0.8	8.00 km	KTCL	STU established under the Companies Act	Government of Goa	565	--
Indore	2.29	1.7	5.00 km	AICTSL	SPV formed under the Companies Act	Indore Municipal Corporation, Indore Development Authority	553	0.28 million
Nagpur	3.00	1.5	19.30 km	Transport Committee	Transport Committee under MH Municipal Corporation Act	Nagpur Municipal Corporation	437	0.13 million
Navi Mumbai	1.10	1.3	8.00 km	NMMT	MTU under Maharashtra Municipal Corporation Act	Navi Mumbai Municipal Corporation	600	0.30 million
Surat BRTS	5.20	1.5	6.70 km	SSL	SPV formed under the Companies Act	Surat Municipal Corporation	192	0.14 million

SPV – Special Purpose Vehicle, MH- Maharashtra, STU – State Transport Undertaking, MTU- Municipal Transport Undertaking, GNCTD - Government of National Capital Territory, Delhi, BRT – Bus Rapid Transport

**Fleet managed by Integrated Mechanism Agency on PPP, is 2933 out of 6693.*
 # The names of agencies are detailed in specific city assessment chapter.

2. CONTRACT LENGTH



3. ROLES AND RESPONSIBILITY ALLOCATION

City	Model Adopted	Planning of operations	Marketing & Branding	Fare Collection	Bus operations	Fleet Procurement	Depot Infrastructure	ITS* Procurement	Monitoring operations	Crew Management
Ahmedabad BRTS	GCC									
Amritsar BRTS	GCC									
Bhopal	Hybrid NCC					New Fleet				
Bhubaneswar	GCC									
Delhi	GCC									
Goa	GCC (Lease)									
Indore	Hybrid NCC									
Nagpur	Hybrid GCC					New Fleet				
Navi Mumbai	GCC									
Surat BRTS	GCC									

** ITS procurement comprises On-board ITS components such as PIS, BDC, GPS device and ETMs etc. along with related software systems.*

Legend: Authority | Operator | Lessor

4. FUNDING AND PAYMENT MECHANISM

KEY HIGHLIGHTS

VGF Model

Bhopal adopts Hybrid NCC model by paying VGF to operator as fixed annual install-ments for seven years to purchase and operate new buses.

Indore also works on VGF model and pays operator nominal charges for bus operation.

Fleet Funding

The cities are adopting joint fleet funding wherein operator is allowed to operate authority owned fleet and purchase additional fleet for bus operations.

In case of CRUT, authority has facilitated operator with soft loan of 75% of the fleet cost and loan is repaid by deducting installments from the monthly bills paid to the operator.

Innovations in PPP

Goa has adopted a lease model wherein authority is obtaining e-buses and charging infrastructure from OEMs on lease by paying the fixed lease rentals. This reduces the significant capital risk of authority.

City authorities have started bearing energy cost and crew cost which has reduced payment paid to the operator.

Revenue risk

In Indore and Bhopal, combination of city and intercity routes (i.e. low performing and high performing routes) are outsourced to the same operator, to encourage participation in NCC model and reduce revenue risk of the operator.

Bhubaneswar has established a revenue assurance team to reduce revenue leakages which may arise in GCC model.

Performance incentive

Nagpur adopts hybrid GCC model by sharing 10% of additional revenue earned from increased ridership owing to additional fleet availability above baseline standards.

Bhubaneswar, Delhi Nagpur, Ahmedabad, Navi Mumbai, Indore has an incentive provision for meeting KPI's.

City / State	Fleet funding	Payment type and rate paid by		Energy cost paid by	Provision of incentives
Ahmedabad BRTS	100%	Fixed Fee	Midi: 54.9 Rs/km	100%	✓
Amritsar BRTS	100%	Fixed Fee	Std AC: 21.4 Rs/km	100%	⊘
Bhopal	100% (New Fleet)	VGF + RP	1.4 million Rs/ bus |100 Rs/Bus/month*	100%	⊘
Bhubaneswar	100%	Fixed Fee	Std NAC: 48Rs/km |Std AC: 60Rs/km	100%	✓
Delhi	100%	Fixed Fee (CYP)	Confidential	100%	✓
Goa	100%	Fixed Fee	Confidential	100%	⊘
Indore	80% / 20%	VGF	.35 million Rs /month for 40 E-Midi buses	100%	✓
Nagpur	100% (New Fleet)	Fixed Fee & RS	Confidential	100%	✓
Navi Mumbai	55% / 45%	Fixed Fee	Std 69.9 Rs/km | Midi 52.2 Rs/km	100%	✓
Surat BRTS	100%	Fixed Fee	Std Ac Euro 3: 53.4 Rs/km | Std AC Euro 4: 54.9 Rs/km	100%	⊘

** Rehabilitation cost of refurbished buses is paid by authority to operator*

VGF – Viability Gap Funding,
CYF - Consolidated Year Fare,
RS – Revenue Sharing,
Std– Standard Bus,
NAC – Non-AC bus,
RP – Royalty Premium

Legend: Authority | Operator | Lessor | Payment Rate | ✓ Yes | ⊘ No

5. PERFORMANCE MONITORING

City / State	Degree of Service Assessment Parameters*	Extent of ITS based monitoring	Provision of Customer feedback in Performance Assessment*
Ahmedabad BRTS	●●●○○	●●●●○	⊘
Amritsar BRTS	●○○○○	●●●●●	✓
Bhopal	●●●●○	●●●●○	✓
Bhubaneswar	●●●●●	●●●●●	✓
Delhi	●●●●○	●●●●●	⊘
Goa	●●○○○	●●●○○	⊘
Indore	●●○○○	●●●○○	✓
Nagpur	●●●●●	●●●●●	✓
Navi Mumbai	●●○○○	●●●●●	⊘
Surat BRTS	●●○○○	●●●●○	✓

**The assessment is a relative assessment made for 10 selected cities based on the provisions of referred tender document.*

Legend

●●●●● Low ⟶ High

✓ Yes

⊘ No

6. KEY LEARNINGS FROM CASE STUDIES

RFP STRUCTURE

- **RfP Design:** RFP must provide fair and equitable accountability distribution between the parties involved in bus operations. It should clearly delineate roles & responsibilities of public and private agencies in a balanced manner specially with respect to contractual provisions on condition precedent, payment terms, events of default, funding, performance assessment parameters, etc.
- **Metrics Coverage:** RFPs need to provide clarity on various metrics which could help in differentiating high versus low performance of the operator. This will impact the efficiency of bus operations by the private operator.

FUNDING

- **Fleet Procurement:** The financing constrains of the authority can be resolved by sharing the responsibility with the operator based on their investment and risk appetite. Increasing the financial risk of any individual party by overloading funding responsibility should be avoided. Further, it has been observed that some of the cities are taking funding responsibility jointly for fleet procurement in GCC as well as NCC model. Some unique arrangements are observed where existing fleet of authority is outsourced as well as new fleet is purchased by operator under same contract agreement.
- **E-Bus Technology:** Since charging infrastructure and e-buses is an upcoming technology and city authorities have limited precedence & expertise, the responsibility of charging infrastructure and e-bus operations should be transferred to the operator or OEMs initially.
- **Asset Transfer:** Transfer or resale of asset with huge investment costs such as fleet/ infrastructure, at the end of tenure or midterm (termination) is an important parameter for sharing risk between parties. However, it is found missing in most RFPs. Depot asset ownership at the end of contract tenure rests with the authority in most cases. Given the rapidly evolving e-bus technology and the likely availability of improved e-bus models at the end of the contract tenure of ~10 years, leaving asset ownership with the operator can potentially reduce the rate quoted by the operator. Moreover, after end of tenure, practice should be to distribute assets (parking space, equipment's, machineries and civil infrastructure) equally or authority should purchase the same at depreciated value as this will help in further reducing per km cost of operator. Adequate focus must also be given on asset transfer in case of contract termination due to default of the operator or authority. Absence of focus on this clause will be perceived as high risk and will drive the cost up and may also discourage lenders.

REVENUE GENERATION

- **Quality-based Incentive:** Sharing revenue with operator in addition to payment of fixed fee in the form of incentive acts as a motivation for operator to increase ridership by improving service quality.
- **Innovative Revenue Sources:** Provision for generating revenue from non-fare sources such as, advertisement, monetization of asset, should be adopted by cities which are necessary to ensure financial sustainability of bus operations. For instance, transforming charging infrastructure for e-buses to allow charging of other electric vehicles, commercial development at passenger terminals or stations etc. Sharing of revenue generated from advertisement on buses or passes between parties, also adds to the additional source of income for the operator. There should be a clear provision for exploring innovative source of revenue in the RFP.
- **Safeguarding Operator from Revenue Risk:** Provision of empowering operators with decision making w.r.t. regulatory and financial decisions, especially in NCC when revenue risk is borne by operator, should be practiced by cities and should provide a clear provision in the tender document. For instance, empowering operator to impose penalty on ticketless travelers, can safeguard operator from revenue risk; issue passes and concessions for specific categories etc.; periodic fare revision (annually) based on variations in wholesale price index and fuel price.
- Further, all RFPs must have safeguards against perpetualization of inefficiencies, covered by VGF or fare revisions under the cloak of "Public Transport is a loss-making business."

OPERATIONS COST AND PAYMENT STRUCTURE

- **Fuel and Crew Cost:** Cities that have borne the fuel and crew costs have received lower bids on per km basis and with tax savings as added advantage.
- **Payment to the Operator:** Provision for adequate annual escalation in fees to the operator, should be allowed to cope up with increased prices. The higher annual escalation of per km fee, will reduce the per km cost quoted by bidder. In most cities, the escalation has been found to be linked with CPI and/ or WPI, fluctuations in fuel cost which together integrates the cost of manpower and material relevant for bus operations.
- **Honouring Contractual Provisions:** The contractual parameters are required to be followed by both parties to ensure a symbiotic and professional client supplier relationship. The authority should aim to pay the operator in time. A delay in payment may result in deterioration of interest and innovation.
- **Subsidy Provision:** Funding subsidy (CAPEX, OPEX) maybe provided for performance of buses against predefined operational targets (EPKM, CPKM, KMPL etc.), which will also ensure buses are operating and are not sitting idle after procurement.

ROLES AND RESPONSIBILITIES

- **Roles and responsibilities of parties:** The majority of the tender documents studied clearly specifies the operators' obligations. In addition to the that, authority's responsibilities should also be captured in detail to avoid any future conflict of interest between authority and operator.
- **Upcoming responsibility matrix:** In upcoming lease model, unique kind of responsibility distribution is observed. It engages OEMs as lessors to provide and maintain buses, manage resources (labor as well as civil infrastructure) and authority plan, operate and monitor bus operations. This helps in significantly minimizing the requirement of upfront investment while managing in-house operations.

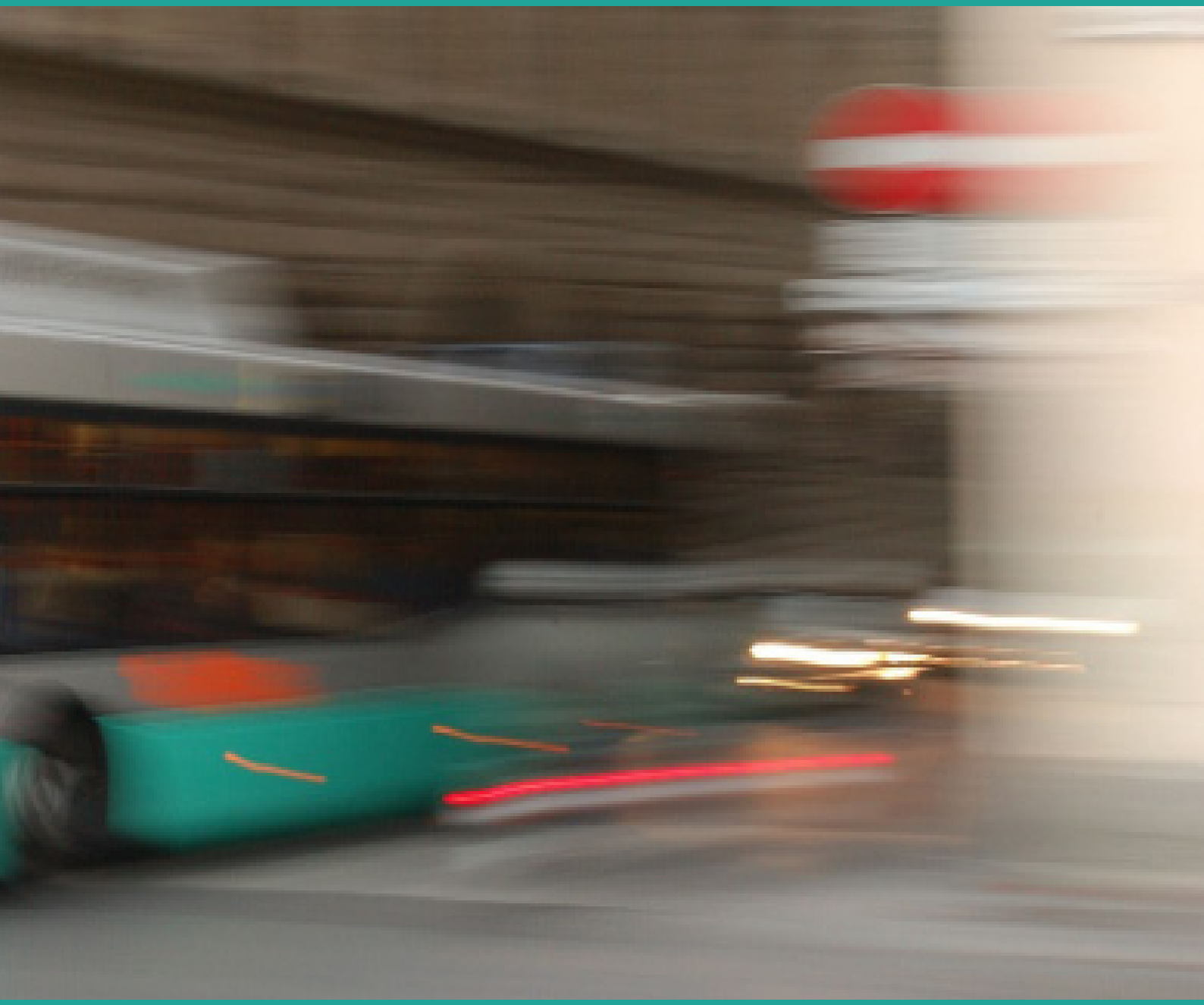
PERFORMANCE MONITORING

- **Performance Parameters:** Establish a set of performance metrics in the contract that align directly with the authority's strategic goals which will be used to evaluate operator's performance. Performance assessment parameters should be quantitative measurement and shall be objective to avoid misinterpretation between authority and operator during inspection of operations.
  - The manageable list of parameters should be chosen, that create clear incentives for performance improvements, and which are specific, achievable, and consistent.
  - Performance standards should include metrics for service quality improvement, reasonable targets and bonuses available for exceeding targets.
  - Performance metrics should include minimum thresholds/service standards and penalties for failing to meet desired service standards. e.g. Occupancy Ratio of 70%, Delayed trips (delayed beyond 10 mins) shall be less 2% trips.
- **Reward Mechanisms:** All the cities should include provision of the incentive parameter for the operator to improve bus services. Very few cities have incentive criteria's that are well defined and has no subjectivity in assessing parameters.
- **Penalty Mechanism:**
  - Penalty clause needs to be designed objectively. In most of the cities, penalty criteria are relatively subjective and are open for interpretation of the checking inspector or individual judgement, which may lead to different understanding between the operator and authority and may result in erroneously imposing penalty.
  - Some cities are following the practice of consultation with operator for levy of fines/penalties. Some cities also give a fair chance (by provision of cure period) to operator to rectify repair and deficiencies before imposing penalties. Such consultations with operator should be practiced by all bus agencies.
  - Provision for equitable penalties to be imposed on account of failure of both the parties at fault and not only on operator to maintain the operator's interest in provision of services. The operators should not be penalized for events that are out of their control.
  - Customer feedback is collected in maximum cities but does not form a part of assessment criteria for evaluating operator's performance. This should be practiced by city authorities to provide better customer experience and ensure customer delight.
- **Polite Consultation Norms:** Establish communication norms within the contract that allow for productive conversations between the authority and the operator on a regular interval to discuss the progress and review recent performance and its implications for bonuses and penalties as well as any other issues as they arise, as suggested in Modal Contract document of city bus private operations 2016. A regular meeting to share information would foster the mutual relationship and allow both sides to suggest ways to improve the relationship. Such provisions are missing in most of the contract agreements.

OTHER CONTRACTUAL CONDITIONS

- **Conditions Precedent:**
  - Absence/ limited clarity of the clauses for conditions precedent can lead to delay in Commercial Operations Date (COD). Thus, adequate provisions should be made by cities for these clauses. The responsibilities of both the parties shall be clearly mentioned.
  - Provision for penalties on account of non-fulfillment of conditions precedent to be levied on both the parties and not only on operator as observed in RFPs.
- **Termination:**
  - Termination clauses in RFP have exhaustive coverage on operators default and very minimal coverage on authorities' default. This clause should cover necessary conditions on event of default by both parties. Relaxed payment obligation and liability of the authority even in case of default may affect and add to the bankability risk for the operator.
  - Contractual parameter on dispute resolution is required so that disagreements can be aired and resolved amicably between authority and operator. A clear methodology outlining how disagreements shall be resolved enable maintaining a good client-supplier relationship is missing in most of the agreements. The person identified for resolving conflicts should not be related to either party.
  - Penalty settlement mechanism incase of termination should be fair in any PPP bus operations. The payment settlement mechanism should be equitable to minimize significant financial losses for operator.
  - Transition period after termination is missing in all the cities and can put authority in difficult situation incase of termination of operators' contract. This will affect services and can even lead to loss of ridership. A transition plan is required to be in place to deal with a situation when the contract's term is completed, or it is terminated prematurely and should be provisioned for while contracting.
- **Contract Flexibility:** While some contract agreements under review have provided flexibility in the benefit of city mobility, some contracts need to contain certain conditions that enable actions to address changes in operating environment such as varying demand. Some examples:
  - Adjusting fleet size assigned to operator to meet travel demand
  - Route modifications or Network expansion (with considerations of operator's earnings) especially in case of NCC model
  - Fare adjustment in case of increased competition in the market affecting contract viability

3
CITY-WISE ASSESSMENT



3.1 AHMEDABAD (GUJARAT)

CASE CONTEXT: Bus Type: Electric Buses | PPP Type: GCC | Contracted Buses: 300 | Contract Tenure: 10 years | Tender Dated: 2019

1. CITY BUS ORGANISATION

AJL aims to provide last point connectivity to BRTS users through trunk & feeder operations.

A SERVICE DELIVERY AGENCY | Ahmedabad Janmarg Limited (AJL)

TYPE OF OPERATOR

Special Purpose Vehicle (SPV) under Ahmedabad Municipal Corporation

Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
2007	Janmarg Bus	34	BRTS

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.16 million
- Headway: 6 to 10 mins (avg.)
- Route nos.: 15
- Avg. Pax Trip length: 9.5 kms

C ROLLING STOCK & CIVIL INFRA

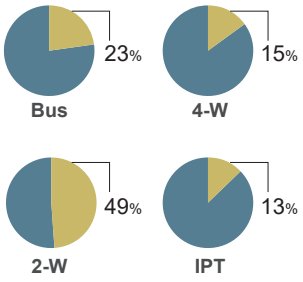
- Fleet Size of the agency: 281
- BQS: 163 BRT stations
- Depots: 5
- Terminals: 14

Study Area

5.5 million residents

1.8 buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators 2
Electric Buses	Ahmedabad City Area	60% fleet to lowest bidder 40% fleet to second lowest bidders

NA - Not Applicable
NM – Not Mentioned

B CONTRACT FEATURES

- Business Model: Gross Cost Contract
- Fleet owned by: **Authority**
- Operations area: **Intra city**
- Contract Tenure: **10 years**
- Fleet Composition: **Midi- 300 e-buses**

C TECHNICAL SPECIFICATIONS

Charger specifications	• Battery Charger: CCS and GB/T • Battery warranty: NM
Charging technique	• Technique: Overnight & Opportunity Charging • Opportunity charging time: < 75 mins
Bus specification	• Driving range: 200km/bus • Standard bus: NA • Midi bus: 9m, floor height- 900mm, seats-25

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Fame II
Funding ratio	100% —

Total fleet is funded under Fame II

INFRASTRUCTURE

Depot space	100%	No rental paid
Depot infrastructure	*	#
Charging Infrastructure	*	#

** Basic civil infrastructure*
 # Electrical Infrastructure & Maintenance

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	NM	NM

NA - Not Applicable,
NM – Not Mentioned

NON-FARE BOX

Advertisement	100%	—

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	NM	NM

C OPEX

Authority pays **fixed fee charges** on operated km basis to the operator for bus operations and electricity cost for charging of buses is borne by the operator.

Paid by	Authority	
Payment type	Fixed Fee	Per bus km
Fleet type & Rate	Midi AC Bus	*54.9 Rs/km
	NA	NA
Subsidy/ Revenue sharing	None	
Fee revision	Fixed fee- Annually	Variable fee- Annually
Electricity cost	—	100%
Payment for excess/ under utilized kms	Excess kms- 0.5 * base rate	Under kms- 0.5 * base rate

**Rate is inclusive of electricity charges*

Under 'Chief Minister Urban Bus Scheme' of Gujarat, AJL receives VGF of 12.5 Rs/km from state and 12.5 Rs/km from Ahmedabad Municipal Corporation to run new buses.

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment **in operational plan*	⊘	✓

Legend: Yes ✓ No ⊘

Legend: Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	■	■

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses	■	■
Depot Space and Infrastructure	■	■
Installation of Charging Infrastructure	■	■
Control Center	■	■
ITS hardware	■	■
ITS software	■	■

Operations & Maintenance	Authority	Operator
Bus Operations	■	■
Bus & Crew Scheduling	■	■
Maintenance of buses	■	■
Maintenance of Charging infrastructure	■	■
Fare Collection	■	■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	■
Fare Verification	■	■
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	■	■

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standard (Baseline Performance) for identified parameters.

Service Parameters

Extent of coverage	●●●○○
Extent of detailing in evaluation	●●○○○

Monitoring methods

Provision of physical inspection	●●●○○
Provision of ITS based monitoring	●●●●○

Legend ●●●●● Low → High Yes No

Penalty

Fleet & infrastructure	●○○○○
Service quality	●●●○○
Regulatory	●●○○○
Extent of objectivity	●○○○○

Reward

Extent of coverage	●○○○○
Extent of objectivity	●●○○○

Customer feedback in Performance Assessment	
Consultation with operator for fines revision	
Penalty/incentive benchmark *Penalty- 1%, Incentive - 0.05% of performance security*	
Fleet sample size for performance assessment	100%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	●●●○○	●●●●●
Penalties on non-fulfilment	●●●○○	●●●○○

B TERMINATION

	Authority	Operator
Coverage of event of defaults	●●○○○	●●●●●
Degree of fair payment settlement	●●●○○	●●●○○

7. DISTINGUISHING FEATURES

1

Considering the limited understanding of new technology, authority has allocated most of the responsibilities related to technology, operation and maintenance to OEMs/ Operator so that risk is allocated to the party best suited to handle it.

2

The Operator is vested with the responsibility to provide charging infrastructure at the Depot, and they are also responsible to provide opportunity charging during operational hours for minimum 75 minutes per bus. AJL has installed solar panels at the depots to reduce external electricity demand and costs for charging of e-bus.

3

In Gujarat, the city bus operations on PPP are supported with a Viability Gap Funding (VGF) under the 'Chief Minister Urban Bus Scheme'. As part of this scheme, VGF is provided to part fund the PPP operations for a period of 7 years. A VGF of 50% or Rs. 12.50 per km is given to the ULBs and remaining 50% or Rs. 12.50 per km must be contributed by the ULBs for new buses.

3.2 AMRITSAR (PUNJAB)

CASE CONTEXT: Bus Type: ICE Buses | PPP Type: GCC | Contracted Buses: 93 | Contract Tenure: 08 years + 1 Extendable | Tender Dated: 2016

1. CITY BUS ORGANISATION

Punjab Bus Metro Society (PBMS) is a state level registered society, established by Government of Punjab to implement Bus Rapid Transit System for Amritsar city.

A SERVICE DELIVERY AGENCY | Punjab Bus Metro Society (PBMS)

TYPE OF OPERATOR

Society, Punjab Bus Metro Society (PBMS) under Government of Punjab

Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
2013	Amritsar Metro Bus	45	BRTS Services

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.04 million
- Headway: 4 mins (avg.)
- Route nos.: 3
- Avg. Pax Trip length: 7.5 kms

C ROLLING STOCK & CIVIL INFRA

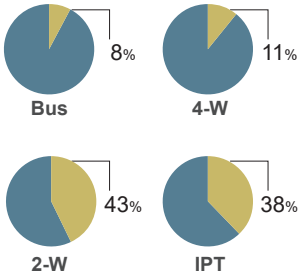
- Fleet Size of the agency: 93
- Bus Stations 47
- Depots: 1
- Terminals: 3

Study Area

1.1 million residents

0.8 buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
ICE Buses	BRTS corridors in Amritsar	01

B CONTRACT FEATURES

- Business Model: Gross Cost Contract
- Fleet owned by: Authority
- Operations area: Intra city
- Contract Tenure: 08 years + 1 extendable
- Fleet Composition: Standard AC- 93

C TECHNICAL SPECIFICATIONS

Bus specification

- Standard bus: 12m, floor height- 900 mm, seats - 30
- Midi bus: NA

NA - Not Applicable

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Government funding	
Funding ratio	100%	—

GoI : GoP 50:50

INFRASTRUCTURE

Depot space	100%	No rental paid
Depot infrastructure	*	#
Charging Infrastructure	NA	NA

**Basic civil infrastructure*
 # Maintenance Equipment's
NA - Not Applicable

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	100%	—

NON-FARE BOX

Advertisement	—	—

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	UTF	NM

NA - Not Applicable, NM – Not Mentioned

C OPEX

Authority pays **fixed fee** to the operator for managing bus operations and fuel cost is borne by authority.

Paid by	Authority	
Payment type	Fixed Fee	Per bus km
Fleet type & Rate	Std AC	*21.4 Rs/km
	NA	NA
Subsidy/ Revenue sharing	None	
Fee revision	Fixed fee- Annually	Variable fee- Monthly
Fuel cost	100%	—
Payment for excess/ under utilized kms	Excess kms- 0.6 times rate	Under kms- 0.4 times rate

**Rate quoted without fuel cost*

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment **in operational plan*	✓	⊘

Legend: Yes ✓ | No ⊘

Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	NA	NA

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses	■	■
Depot Space and Infrastructure	*	■
Installation of Charging Infrastructure	NA	NA
Control Center	■	■
ITS hardware	■	■
ITS software	■	■

Operations & Maintenance	Authority	Operator
Bus Operations	■	■
Bus & Crew Scheduling	■	■
Maintenance of buses	■	■
Maintenance of Charging infrastructure	NA	NA
Fare Collection	■	■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	■
Fare Verification	■	■
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	NM	NM

**Providing parking spaces and civil infra for contracted buses*
NA – Not applicable, NM – Not mentioned

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

- Extent of coverage ●○○○○
- Extent of detailing in evaluation ●●○○○

Monitoring methods

- Provision of physical inspection ●●●○○
- Provision of ITS based monitoring ●●●●●

Legend ●●●●● *Low → High* Yes No

Penalty

- Fleet & infrastructure ●●●●●
- Service quality ●●●●●
- Regulatory ●○○○○
- Extent of objectivity ●●●○○

Reward

- Extent of coverage NM ●●●●●
- Extent of objectivity NM ●●●●●

NM – Not mentioned in RFP

- Customer feedback in Performance Assessment
- Consultation with operator for fines revision
- Penalty/incentive benchmark *10% of average of last 3 payments*
- Fleet sample size for performance assessment 100%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	●●●○○	●●●○○
Penalties on non-fulfilment	○○○○○	○○○○○

B TERMINATION

	Authority	Operator
Coverage of event of defaults	●○○○○	●●●●○
Degree of fair payment settlement	●●●○○	●●●○○

7. DISTINGUISHING FEATURES

1

An Urban Transport Fund is managed by Punjab Municipal Infrastructure Development Company which collects Cess of 10 paise per liter on sale of diesel and petrol across the state. The receipts of this fund are used to support various urban transport projects across the state, and Amritsar BRTS project is one of the beneficiary to receive the subsidy.

2

Amritsar BRTS has provided several freebies and incentives such as free ride for 3 months, free ride for students, discount for special categories, etc. to encourage modal shift to public transport and it has yielded good results.

3

The authority takes the responsibility related to fuel, and as they are able to procure bulk fuel at a discounted rate, they are able to reduce the overall operations cost. The responsibility related to conducting periodic trainings for crew is transferred to the operator.

4

Authority has retained the right to collect up to 10% of revenue lost from fleet availability being lower than the stipulated assured fleet standard. All fines are specified as "deduction" in terms of payable kilometers for each type of non-performance.

3.3 BHOPAL (MADHYA PRADESH)

CASE CONTEXT: Bus Type: ICE Buses | PPP Type: Hybrid NCC | Contracted Buses: 200 | Contract Tenure: 09 years | Tender Dated: 2016

1. CITY BUS ORGANISATION

Bhopal city bus was awarded "Best practices in PPP initiatives" in 2011 and "Best urban mass transit project" in 2014 at UMI and "Best practices to improve the living environment" by HUDCO in 2014

A SERVICE DELIVERY AGENCY | Bhopal City Link Limited (BCLL)

TYPE OF OPERATOR	Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
Special Purpose Vehicle under Bhopal Municipal Corporation	2006	My Bus	163	City bus, BRTS, Intercity bus

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.16 million
- Headway: 10 mins
- Route nos.: City – 17 Intercity - 35
- Avg. Pax Trip length: 5.8 kms

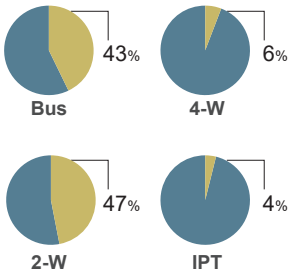
C ROLLING STOCK & CIVIL INFRA

- Fleet Size of the agency: 304
- Bus Stations 350
- Depots: 4
- Terminals: 4

Study Area

1.8 million residents | **1.6** buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
ICE buses Refurbished, New Midi & Standard/Luxury buses	3 cluster of 7 city routes and 7 Inter city routes (long and short)	03

B CONTRACT FEATURES

- Business Model: Hybrid Net Cost Contract
- Fleet owned by: Operator (New Fleet)
- Operations area: Intra city
- Contract Tenure: 09 years
- Fleet Composition: Refurbished – 150; Midi – 30; Standard - 20

C TECHNICAL SPECIFICATIONS

Bus specification

- Standard Bus: NA
- Midi Bus: 9m, floor height- 900mm, seats- NM

NA - Not Applicable

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Operator (for new buses)
Funding ratio	— : 100%

INFRASTRUCTURE

Depot space	100%	No rental paid
Depot infrastructure	*	#
Charging Infrastructure	NA	NA

**Basic civil infrastructure*
 # Maintenance Equipment's

B REVENUE SOURCES

FARE BOX

Ticket Revenue	—	100%
Pass	20%	80%

NON-FARE BOX

Advertisement (Refurbished buses)	50%	50%
(New buses)	20%	80%

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	UTF, Parking Fees (collected by MC)	

NA - Not Applicable
NM – Not Mentioned

C OPEX

For the first two years, Authority collects **monthly premium** to operate authority's refurbished fleet and later operator receives **Viability Gap Funding** in advance i.e. **10-20% of quoted amount/year** on newly purchased buses by operator.

1st & 2nd year	Paid by	Operator	*Refurbished buses*
	Payment type	Royalty Premium	Monthly / bus
	Fleet type & Rate	Refurbished Bus*	100 Rs / bus
3rd to 9th Year	Paid by	Authority	*New buses*
	Payment type	VGF	Annually/ bus
	Fleet type & Rate	Newly purchased buses	0.14 to 0.28 million Rs/bus/annum
	Subsidy/ Revenue sharing	Annual Viability Gap Funding	
	Fee revision	Fixed fee- NA	Variable fee- NA
	Fuel cost	—	100%
	Payment for excess/ under utilized kms	Excess kms- NA	Under kms- NA

** Rehabilitation cost of refurbished buses is paid by authority to operator*

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	✓
Dead kms payment **in operational plan*	⊘	✓

Legend: Yes ✓ | No ⊘ — Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	NA	NA

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses		■
Depot Space and Infrastructure	*	■
Installation of Charging Infrastructure	NA	NA
Control Center	■	
ITS hardware	■	■
ITS software	■	

Operations & Maintenance	Authority	Operator
Bus Operations		■
Bus & Crew Scheduling		■
Maintenance of buses		■
Maintenance of Charging infrastructure	NA	NA
Fare Collection		■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	
Fare Verification		■
Crew Recruitment & payment		■
Crew Training	■	■
Training of Authority staff (O&M)	NM	NM

**Providing parking spaces for contracted buses*
NA – Not applicable, NM – Not mentioned

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

Extent of coverage	●●●●○
Extent of detailing in evaluation	●●●○○

Monitoring methods

Provision of physical inspection	●●●○○
Provision of ITS based monitoring	●●●●○

Legend: ●●●●● (Low ⟶ High); Yes 👍; No 👎

Penalty

Fleet & infrastructure	●●●●○
Service quality	●●●●○
Regulatory	●●●○○
Extent of objectivity	●●●○○

Reward

Extent of coverage	NM
Extent of objectivity	NM

NM – Not mentioned in RFP

Customer feedback in Performance Assessment	👍
Consultation with operator for fines revision	👎
Penalty/incentive benchmark *10% increase in penalty from each day of default*	👎
Fleet sample size for performance assessment	100%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	NM	NM
Penalties on non-fulfilment	NM	NM

B TERMINATION

	Authority	Operator
Coverage of event of defaults	NM	●●○○○
Degree of fair payment settlement	NM	●●●○○

NM – Not mentioned in RFP

7. DISTINGUISHING FEATURES

1

BCLL develops the public transport infrastructure like depots and bus terminus to support the operator and make the NCC model sustainable. BCLL also receives 25% of share from parking fees collected by development authority which is utilized for developing the said infrastructure.

2

BCLL carried out a service plan assessment and revision in routes, which helped them gain ridership. Further, user satisfaction surveys were conducted to understand the expectations and were suitably addressed in route planning and contract formulation. BCLL also gained from fuel efficiency programme and depot modernization.

3

BCLL adopted a different contracting model whereby they contracted refurbished buses to the operator at a nominal monthly premium for two years to ensure complete asset utilization as well as meet its public service obligation; and later the operator replaced the existing fleet with new buses and received VGF per bus.

4

A cure period of two weeks is given to the operator as remedial measure to improve on the defects and undertake repairs identified by authority, before imposing penalty. Further, there is a provision to change routes or introduce new routes and change the frequency or number of buses on some routes in consultation with operator.

3.4 BHUBANESWAR (ODISHA)

CASE CONTEXT: Bus Type: ICE Buses | PPP Type: GCC | Contracted Buses: 100 | Contract Tenure: 08 years + 1 Extendable | Tender Dated: 2018

1. CITY BUS ORGANISATION

The CRUT is an SPV evolved from earlier 'Bhubaneswar Urban transport services ltd' and 'Cuttack Urban transport services ltd' in November 2018.

A SERVICE DELIVERY AGENCY | Capital Region Urban Transport (CRUT)

TYPE OF OPERATOR

Special Purpose Vehicle under Housing and Urban Development Department, Odisha

Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
2018	Mo Bus	35	City bus, Special Services, Intercity bus

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.1 million
- Headway: 20-30 min
- Route nos.: 25
- Avg. Pax Trip length: 10.3 kms

C ROLLING STOCK & CIVIL INFRA

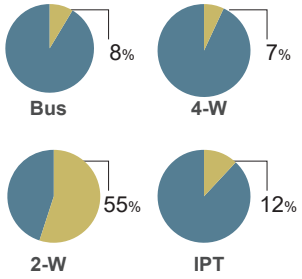
- Fleet Size of the agency: 225
- BQS: 200
- Depots: 3
- Terminals: 2

Study Area

0.84 million residents

2.5 buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
ICE buses Standard AC and Non-AC	Bhubaneswar-Cuttack-Puri	01

B CONTRACT FEATURES

Business Model: Gross Cost Contract	Fleet owned by: Operator	Operations area: Intra and Inter city
Contract Tenure: 8 years + 1 Extendable	Fleet Composition: Standard AC: 50 and NAC: 50	

C TECHNICAL SPECIFICATIONS

Bus specification

- Standard bus: 12m, floor height-900 mm, seats - 44
- Midi bus: NA

NA - Not Applicable

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Operator
Funding ratio	— : *Provided 75% soft loan to operated* / 100% : *Paid 25% initial down payment*

INFRASTRUCTURE

Depot space	100%	No rental paid
Depot infrastructure	*	#
Charging Infrastructure	NA	NA

**Basic civil infrastructure*
 # Maintenance Equipment's
NA - Not Applicable,

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	100%	—

NON-FARE BOX

Advertisement	100%	—

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	NM	NM

NA - Not Applicable
NM – Not Mentioned

C OPEX

Authority pays **fixed fee** to the operator for operating and managing bus operations.

Paid by	Authority	
Payment type	Fixed Fee	Per bus km
Fleet type & Rate	Std AC	60 Rs/km
	Std NAC	48 Rs/km
Subsidy/ Revenue sharing	None	
Fee revision	Fixed fee-Annually	Variable fee-Monthly
Fuel cost	—	100%
Payment for excess/ under utilized kms	Excess kms-1 times rate	Under kms-0.65 times rate

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment **in operational plan*	✓	⊘

Legend: Yes ✓ No ⊘

Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	NA	NA

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses		■
Depot Space and Infrastructure	*	■
Installation of Charging Infrastructure	NA	NA
Control Center	■	
ITS hardware	■	■
ITS software	■	

Operations & Maintenance	Authority	Operator
Bus Operations		■
Bus & Crew Scheduling	■	■
Maintenance of buses		■
Maintenance of Charging infrastructure	NA	NA
Fare Collection	■	

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	
Fare Verification	■	
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	■	

**Providing parking spaces and basic civil infra for contracted buses*
NA – Not applicable, NM – Not mentioned

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

Extent of coverage	●●●●●
Extent of detailing in evaluation	●●●●●

Monitoring methods

Provision of physical inspection	●●●●●
Provision of ITS based monitoring	●●●●●

Legend: ●●●●● *Low → High*; Yes; No

Penalty

Fleet & infrastructure	●●●○○
Service quality	●○○○○
Regulatory	●●○○○
Extent of objectivity	●●●○○

Reward

Extent of coverage	●●●●●
Extent of objectivity	●●●●○

Customer feedback in Performance Assessment	Yes
Consultation with operator for fines revision	Yes
Penalty/incentive benchmark	Yes

Total incentive or damages payable are upto 5% of monthly invoice on performance parameters and there is no cap on 6 exceptional penalty parameters.

Fleet sample size for performance assessment: 10%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	NM	NM
Penalties on non-fulfilment	NM	NM

B TERMINATION

	Authority	Operator
Coverage of event of defaults	●○○○○	●●●●●
Degree of fair payment settlement	●●●●●	●●○○○

NM – Not mentioned in RFP

7. DISTINGUISHING FEATURES

1

Owing to well a defined organization structure, strong leadership, communication and marketing activities CRUT is able to provide high quality bus services to the citizens for which it has received various accolades during the first 2 years of establishment. CRUT is the first agency to introduce gender-based ticketing.

2

Authority supported the operator by providing soft loan (75% of total cost) for bus procurement, which has to be repaid over the contract period; for which equal installments are deducted from monthly bills paid to the operator. Moreover, depot infrastructure is also funded by the authority, but the construction, and maintenance is undertaken by operator as per specifications given by CRUT.

3

Exhaustive performance parameters have been laid down, and there are incentives and penalties linked with them. The fulfilment of performance parameters yields rewards to the operator and penalty is levied for non-fulfillment. CRUT has established dedicated Revenue Assurance team to verify revenue collection in the field.

4

There is a provision in contract which offers flexibility for adding new buses upto 25% of the total fleet size required under the contract without issuance of a new tender.

3.5 DELHI

CASE CONTEXT: Bus Type: ICE Buses | PPP Type: GCC | Contracted Buses: 1000 | Contract Tenure: 10 years | Tender Dated: 2018

1. CITY BUS ORGANISATION

Delhi is constantly making efforts to make bus travel more women-friendly by ensuring CCTV-surveillance. Apart from reservation of seats for women, there are 'Ladies Special' trips on key routes in the city.

A SERVICE DELIVERY AGENCY | Transport Department, GNCTD

TYPE OF OPERATOR	Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
Government of National Capital Territory, Delhi, with support of an Integrated Mechanism (IM) Agency	2007 (IM)	Delhi Transit	--	Intracity, Intercity, Inter-state

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 2.98 million
- Headway: 15 mins (avg.)
- Route nos.: 483
- Avg. Pax Trip length: 14.2 kms

C ROLLING STOCK & CIVIL INFRA

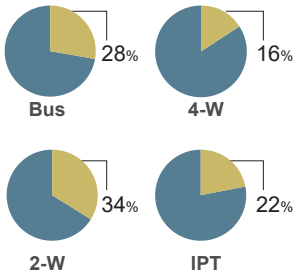
- Fleet Size of the agency: 6693
- BQS: 431
- Depots: 46
- Terminals: 05

Study Area

11 million residents

6.1 buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
ICE buses	Cluster Scheme 4 Clusters with 17 projects	04

B CONTRACT FEATURES

Business Model: Gross Cost Contract	Fleet owned by: Operator	Operations area: Inter-city, Inter-state
Contract Tenure: 10 years	Fleet Composition: Standard AC - 1000	

C TECHNICAL SPECIFICATIONS

Bus specification

- Standard bus: 12 m, floor height: 900mm, seats- 40
- Midi bus: NA

NA - Not Applicable

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Private Entity	
Funding ratio	—	100%

New fleet in cluster is procured by operator

INFRASTRUCTURE

Depot space	100%	Rental paid
Depot infrastructure	*	#
Charging Infrastructure	NA	NA

**Basic civil infrastructure*
 # Maintenance Equipment's
NA - Not Applicable

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	100%	—

NON-FARE BOX

Advertisement	100%	—

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	NM	NM

NA - Not Applicable
NM – Not Mentioned

C OPEX

Authority pays **Consolidated Year One Fare (CYOF)/ Consolidated Yearly Fare (CYF)**. CYOF is the annual cost charged by the Concessionaire for first year of operations. CYF is the annual cost charged by the Concessionaire for a period of one year from second year onwards.

Paid by	Authority	
Payment type	CYOF/ CYF	Per Month
Fleet type & Rate	Std	Confidential
	Midi	Confidential
Subsidy/ Revenue sharing	None	
Fee revision	Fixed fee- biannually based on CPI	Variable fee- NA
Fuel cost	—	100%
Payment for excess/ under utilized kms	Excess kms- NA	Under kms- NA

**Rate quoted is inclusive of fuel cost*

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment **in operational plan*	✓	⊘

Legend: Yes ✓ No ⊘ (Authority / Operator)

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	^	^
Operational Planning		
Fare Fixation		
Marketing & Branding	*	
Obtaining Operations Permits		
Clearances & Permits for installing charging Infrastructure	NA	NA

*Buses are operated under Unified Time-Table on each route with DTC under operating ratio of 50:50.

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses		
Depot Space and Infrastructure		
Installation of Charging Infrastructure	NA	NA
Control Center		
ITS hardware		
ITS software		

Operations & Maintenance	Authority	Operator
Bus Operations	#	
Bus & Crew Scheduling		
Maintenance of buses	#	
Maintenance of Charging infrastructure	NA	NA
Fare Collection		

50% bus operations are undertaken in-house by DTC

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	*	
Fare Verification	*	
Crew Recruitment & payment		
Crew Training		
Training of Authority staff (O&M)	*	

*Activity facilitated by Integrated Mechanism (IM) Agency.
NA – Not applicable

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

- Extent of coverage
- Extent of detailing in evaluation

Monitoring methods

- Provision of physical inspection
- Provision of ITS based monitoring

Legend: Low → High; Yes; No

Penalty

- Fleet & infrastructure
- Service quality
- Regulatory
- Extent of objectivity

Reward

- Extent of coverage
- Extent of objectivity

- Customer feedback in Performance Assessment
- Consultation with operator for fines revision
- Penalty/incentive benchmark
  Above the benchmark of 92% Rs. 200/-for each checkpoint
- Fleet sample size for performance assessment: 100%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	NM	NM
Penalties on non-fulfilment	NM	NM

B TERMINATION

	Authority	Operator
Coverage of event of defaults		
Degree of fair payment settlement		

NM – Not mentioned in RFP

7. DISTINGUISHING FEATURES

1

The contract monitoring framework has classified defaults / infractions into six categories. Each class of infraction has a penalty level and time to resolve that infraction. Such detailed classification of indicators based on the impact is found to help operators identify the infractions with greater penalties and avoid them.

2

The 'Common Mobility Card' is introduced in Delhi to help passenger use single card for making payments in different modes i.e. metro as well as buses. While contactless smart cards are issued to commuters for payment of fare, there is also a provision for non-smart card holders to make cash payments. Adoption of digital ticketing modes helps to reduce revenue leakages.

3

In order to ensure woman safety on board, CCTV cameras and Panic button have been made as standard fitments.

4

The cluster contract of Delhi, permits operator to operate buses on any routes awarded to operate inside the cluster. This ensures the efficiency of the cluster bus performance with respect to key aspects such as fuel efficiency, breakdown rates and operating ratio etc.

3.6 GOA

CASE CONTEXT: Bus Type: Electric Buses | PPP Type: GCC (Lease model) | Contracted Buses: 500 | Contract Tenure: 10 years | Tender Dated: 2021

1. CITY BUS ORGANISATION

The Corporation since its inception has been operating in competition with the Private Operators and is currently, operating around 91162 kms. per day.

A SERVICE DELIVERY AGENCY | Kadamba Transport Corporation Ltd. (KTCL)

TYPE OF OPERATOR

State Transport Undertaking of A Government of Goa Road Transport Undertaking (GRTU).

Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
1980	Kadamba Bus	2142	City bus, Services for Rural Areas

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: -- million
- Headway: 20 mins (avg.)
- Route nos.: 278
- Avg. Pax Trip length: 8 kms

** It includes inter-state routes*

C ROLLING STOCK & CIVIL INFRA

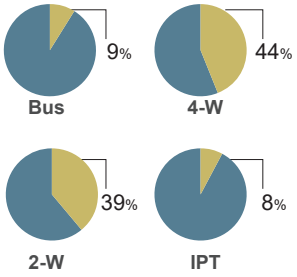
- Fleet Size of the agency: 565
- BQS: 15
- Depots: 4
- Terminals: 12

Study Area

1.45 million residents

0.8 buses per million population

Modal Share (Motorized Trips)



** Modal share based on the capital city of Goa.*

2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
500 e-buses, sleeper coach & luxury buses	Intercity operations in 20+ cities, sub-urban/ rural areas of Goa State	NA

B CONTRACT FEATURES

Business Model: GCC (Lease Model)	Fleet owned by: Lessor	Operations area: Intra-city, Inter-city, Inter-state
Contract Tenure: 10 years	Fleet Composition: Midi: 280, Standard: 180, Luxury: 30, Sleeper coach: 10	

NA - Not Applicable
NM – Not Mentioned

C TECHNICAL SPECIFICATIONS

Charger specifications	• Battery Charger: NM • Battery warranty: NM • Battery Life- 07 years
Charging technique	• Technique: Depot Charging and Opportunity Charging • Opportunity Charging Time: NM
Bus specification	Bus type & Driving range • Midi: 9m, 32-34 seat; 200Km/day, • Std: 12m, 52-54 seat; 250km/day, • Luxury: 40 seat;500 Km/day, • Sleeper 30 berth; 500 Km/day.

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Not covered under FAME II	
Funding ratio	—	100%

INFRASTRUCTURE

Depot space	100%	—
Depot infrastructure	—	100%
Charging Infrastructure	—	100%

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	NM	NM

NON-FARE BOX

Advertisement	100%	—

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	NM	NM

NA - Not Applicable,
NM – Not Mentioned

C OPEX

Authority intends to use Electric Buses for its operations on a '**Fixed Lease Rate per bus per day**' basis through appointment of Electric Bus Fleet Lessor.

Paid by	Authority	
Payment type	Fixed Lease Rate Basis	Per bus per day
Fleet type & Rate	Std AC	Tender under evaluation
	NA	NA
Subsidy/ Revenue sharing	None	
Fee revision	None for 1st five years	05% revision after 5th year
Fuel cost	—	100%
Payment for excess/ under utilized kms	Excess kms- NA	Under kms- NA

	Authority	Lessor
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment **in operational plan*	✓	⊘

Legend: Yes ✓ No ⊘

Authority | Lessor

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	NA	NA

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses	■	■
Depot Space and Infrastructure	■	■
Installation of Charging Infrastructure	■	■
Control Center	■	■
ITS hardware	■	■
ITS software	■	■

Operations & Maintenance	Authority	Operator
Bus Operations	■	■
Bus & Crew Scheduling	■	■
Maintenance of buses	■	■
Maintenance of Charging infrastructure	■	■
Fare Collection	■	■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	■
Fare Verification	■	■
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	NM	NM

NM – Not mentioned in RFP

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

Extent of coverage	●●○○○
Extent of detailing in evaluation	●○○○○

Monitoring methods

Provision of physical inspection	●●●○○
Provision of ITS based monitoring	●●●○○

Legend: ●●●●● Low → High; Yes; No

Penalty

Fleet & infrastructure	●○○○○
Service quality	●●●○○
Regulatory	●○○○○
Extent of objectivity	●○○○○

Reward

Extent of coverage	NM
Extent of objectivity	NM

NM – Not mentioned in RFP

Customer feedback in Performance Assessment	👎
Consultation with operator for fines revision	👎
Penalty/incentive benchmark *5% of invoice*	👍
Fleet sample size for performance assessment	100%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Lessor
Extent of coverage of responsibilities	●○○○○	●○○○○
Penalties on non-fulfilment	●○○○○	●●○○○

B TERMINATION

	Authority	Lessor
Coverage of event of defaults	●●○○○	●●●●●
Degree of fair payment settlement	●●○○○	●●○○○

7. DISTINGUISHING FEATURES

1

Goa has followed a unique model for e-bus operations under which buses are not purchased but are leased by the Authority (lessee) from lessor for a defined contract period on per bus per day rate. The risk of procurement, design, construction, and maintenance of depots, and maintenance of rolling stock, has been allocated to the lessor.

2

Lease model reduces the significant CAPEX cost for the authority because the responsibility and capital investment risk is transferred to the lessor. At the end of contract all the assets are transferred to authority.

3

The contract has provision which allows the authority to operate the leased buses for any contract other than schedules defined.

3.7 INDORE (MADHYA PRADESH

CASE CONTEXT: Bus Type: Electric Buses | PPP Type: Hybrid NCC | Contracted Buses: 40 | Contract Tenure: 7 years + 3 Extendable | Tender Dated: 2018

1. CITY BUS ORGANISATION

AICTSL is first SPV to be formed in India and first SPV to implement ITS for monitoring of bus operations.

A SERVICE DELIVERY AGENCY | Atal Indore City Transport Services Limited (AICTSL)

TYPE OF OPERATOR

Special Purpose Vehicle (SPV) under Indore Municipal Corporation, Indore Development Authority

Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
2005	BRTS- IBUS, Intercity buses- SKYBUS	110	City bus, BRTS, Inter city, Inter state

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.28 million
- Headway: 8 to 10 mins
- Route nos.: 101
- Avg. Pax Trip length: 5 kms

C ROLLING STOCK & CIVIL INFRA

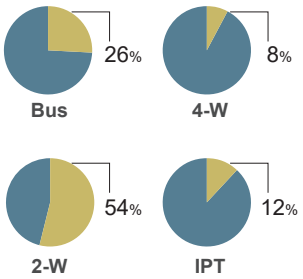
- Fleet Size of the agency: 553
- BQS: 450
- Depots: 10
- Terminals: 5

Study Area

2.29 million residents

1.7 buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
E-buses midi & Multi axle buses. E-buses are captured in detail.	Cluster of 5 Indore city routes (E-buses) and 1 Indore-Bhopal route (Multi-Axle)	01

B CONTRACT FEATURES

Business Model: Hybrid Net Cost Contract	Fleet owned by: Authority	Operations area: Intra and Inter city
Contract Tenure: 7 years + 3 extendable	Fleet Composition: Midi E-buses- 40; Multi-Axle - 20	

NA - Not Applicable
NM – Not Mentioned

C TECHNICAL SPECIFICATIONS

Charger specifications	• Battery Charger: 1 per depot • Battery warranty: 5 years • Flash charging for 30 mins
Charging technique	• Technique: NM • Opportunity Charging time: NM
Bus specification	• Driving range: >150km/bus • Standard bus: NA • Midi E-bus: 9m, floor height, seats - 32

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Under FAME I	
Funding ratio	80% (Remaining to be paid by authority)	20% (Rs 2 million per bus by the operator)

INFRASTRUCTURE

Depot space	100%	No rental paid
Depot infrastructure	*	#
Charging Infrastructure	100%	—

** Basic civil infrastructure*
 # Maintenance equipment's

B REVENUE SOURCES

FARE BOX

Ticket Revenue	—	100%
Pass	10%	90%

NON-FARE BOX

Advertisement	—	100%

OTHER REVENUE SOURCES

Resale of buses	60%	40%
Alternate sources	NM	NM

NA - Not Applicable
NM – Not Mentioned

C OPEX

Viability gap funding (VGF) is provided to Operator for daily operations and electricity charges are borne by the municipal corporation.

Paid by	Authority	
Payment type	VGF	Per bus
Fleet type & rate	E-bus Midi	Rs. 0.35 million per month for 40 e-buses
Subsidy/ Revenue sharing	VGF for operations	
Fee revision	Fixed fee-NA	Variable fee- NA
Electricity cost	100%	—
Payment for excess/ under utilized kms	Excess kms- NA	Under kms- NA

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment	✓	⊘

**in operational plan*

Legend: Yes ✓ No ⊘ — Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	■	■

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses	■	■
Depot Space and Infrastructure	*	■
Installation of Charging Infrastructure	■	■
Control Center	■	■
ITS hardware	■	■
ITS software	■	■

**Providing parking spaces and basic civil infrastructure or contracted buses*

Operations & Maintenance	Authority	Operator
Bus Operations	■	■
Bus & Crew Scheduling	■	■
Maintenance of buses	■	■
Maintenance of Charging infrastructure	■	■
Fare Collection	■	■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	■
Fare Verification	■	■
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	■	■

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standard for identified parameters.

Service Parameters

Extent of coverage	●●○○○
Extent of detailing in evaluation	●●●○○

Monitoring methods

Provision of physical inspection	●●●○○
Provision of ITS based monitoring	●●●○○

Legend ●●●●● *Low → High* Yes No

Penalty

Fleet & infrastructure	●○○○○
Service quality	●●●○○
Regulatory	●○○○○
Extent of objectivity	●●●●○

Reward

Extent of coverage	●●●○○
Extent of objectivity	●●●●○

Customer feedback in Performance Assessment	👍
Consultation with operator for fines revision	👎
Penalty/incentive benchmark *10% of monthly payment*	👎
Fleet sample size for performance assessment	100%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	NM	NM
Penalties on non-fulfilment	NM	NM

B TERMINATION

	Authority	Operator
Coverage of event of defaults	NM	●●●○○
Degree of fair payment settlement	NM	●●●○○

NM – Not mentioned in RFP

7. DISTINGUISHING FEATURES

1

Indore has effectively worked out a hybrid NCC model by outsourcing a cluster of high performing inter-city routes and low performing city routes. There is a provision for changing routes given to operator (partially or fully) after award of contract, based on mutual consent.

2

AICTSL has effectively used reward and penalty system in the contract, by collecting penalties from poor performing operators and transferring it to high performing operators and crew (driver and conductor).

3

The tender has provision for selling the bus fleet at the end of contract period and share the sale proceeds in a ratio of 60: 40 between Authority and Operator.

3.8 NAGPUR (MAHARASHTRA)

CASE CONTEXT: Bus Type: ICE Buses | PPP Type: Hybrid GCC | Contracted Buses: 387 | Contract Tenure: 10 years | Tender Dated: 2015

1. CITY BUS ORGANISATION

NMC has been experimenting with innovative services like providing special services to hospital for patients and relatives and special buses for women.

A SERVICE DELIVERY AGENCY | Nagpur Municipal Corporation City Transport Committee

TYPE OF OPERATOR	Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
Transport Committee under Nagpur Municipal Corporation (NMC)	2013	Aapli Bus	--	City bus, Suburban and Special Services

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.13 million
- Headway: 28.5min (avg.)
- Route nos.: 38
- Avg. Pax Trip length: 19.3 kms

C ROLLING STOCK & CIVIL INFRA

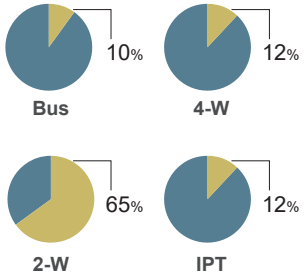
- Fleet Size of the agency: 437
- BQS: 190
- Depots: 3-4
- Terminals: 1

Study Area

03 million residents

1.5 buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
Operate NMC owned fleet. Procure and operate new bus	Nagpur Urban Region	2-3

B CONTRACT FEATURES

Business Model: Hybrid Gross Cost Contract	Fleet owned by: NMC fleet-Authority New fleet-Operator	Operations area: Intra city and Sub-urban
Contract Tenure: NMC fleet- 5 years New fleet- 10 years	Fleet Composition: NMC -237 and New (Midi)- 150 buses	

C TECHNICAL SPECIFICATIONS

Bus specification

- Standard bus: NA
- Midi bus: 9m floor height: 900mm, seats- 23-24

NA - Not Applicable

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Operator
Funding ratio	— : 100% (For New fleet)

INFRASTRUCTURE

Depot space	100%	Rental paid
Depot infrastructure	*	#
Charging Infrastructure	NA	NA

**Basic civil infrastructure*
 # Maintenance equipment's
NA - Not Applicable

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	100%	—

NON-FARE BOX

Advertisement	100%	—

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	NM	NM

NM – Not Mentioned

C OPEX

Authority pays **fixed fee** to operator for operations and **additional revenue is shared** based on performance.

Paid by	Authority (*Refurbished buses*)	
Payment type	Fixed Fee	Per km
Fleet type & Rate	NMC Fleet	Confidential
	Midi Bus	Confidential
Subsidy/ Revenue sharing	10% of revenue earned from additional fleet availability	
Fee revision	Fixed fee- Annually	Variable fee- Monthly
Fuel cost	—	100%
Payment for excess/ under utilized kms	Excess kms- 0.45 times base rate	Under kms- 0.75 times base rate

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment (*in operational plan*)	✓	⊘

Legend: Yes ✓ | No ⊘ | Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	NA	NA

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses	■	■
Depot Space and Infrastructure	*	■
Installation of Charging Infrastructure	NA	NA
Control Center	■	■
ITS hardware	■	■
ITS software	■	■

Operations & Maintenance	Authority	Operator
Bus Operations	■	■
Bus & Crew Scheduling	■	■
Maintenance of buses	■	■
Maintenance of Charging infrastructure	NA	NA
Fare Collection	■	■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	■
Fare Verification	■	■
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	■	■

**Provision Depot space with minimal infrastructure.*
NA – Not applicable

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

- Extent of coverage ●●●●●
- Extent of detailing in evaluation ●●●●●

Monitoring methods

- Provision of physical inspection ●●●●●
- Provision of ITS based monitoring ●●●●●

Legend ●●●●● *Low → High* Yes 👍 No 👎

Penalty

- Fleet & infrastructure ●●○○○
- Service quality ●●○○○
- Regulatory ●●○○○
- Extent of objectivity ●●●○○

Reward

- Extent of coverage ●●●●●
- Extent of objectivity ●●●●○

- Customer feedback in Performance Assessment 👍
- Consultation with operator for fines revision 👎
- Penalty/incentive benchmark *5-10% of billed amount* 👍
- Fleet sample size for performance assessment **10%**

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	●●●○○	●●●○○
Penalties on non-fulfilment	●●●○○	●●●○○

B TERMINATION

	Authority	Operator
Coverage of event of defaults	●●○○○	●●○○○
Degree of fair payment settlement	●●●○○	●●●○○

7. DISTINGUISHING FEATURES

1

NMC has been experimenting with running various types of special services (e.g. special services for hospital, special buses for women) which has helped them attracting additional passengers and building a brand image.

2

KPIs are very clearly defined so there is limited scope for individual bias. There are incentives and penalties linked with performance indicators, and the fulfilment of performance parameters yields rewards to the operator and penalty is levied for non-fulfillment. Further, there is equitable allocation of roles and responsibilities, and payment settlement mechanism between the authority and operator.

3

The tender document has provision for sharing additional revenue with operator on exceeding the desired services standards. 10% of the additional revenue generated from additional fleet availability (i.e. higher than 95% desired standard) is shared with the operator.

3.9 NAVI MUMBAI (MAHARASHTRA)

CASE CONTEXT: Bus Type: Electric Buses | PPP Type: GCC | Contracted Buses: 100 | Contract Tenure: 10 years | Tender Dated: 2019

1. CITY BUS ORGANISATION

NMMT has set up modern Command Control Center through ITMS and facilitates user friendly digital payment options to commuters.

A SERVICE DELIVERY AGENCY | Navi Mumbai Municipal Transport (NMMT)

TYPE OF OPERATOR	Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
Special Purpose Vehicle under Navi Mumbai Municipal Corporation	1996	City Bus	1100	City bus and Intercity Services

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.3 million
- Headway: 15 min (avg.)
- Route nos.: 72
- Avg. Pax Trip length: 15 kms

C ROLLING STOCK & CIVIL INFRA

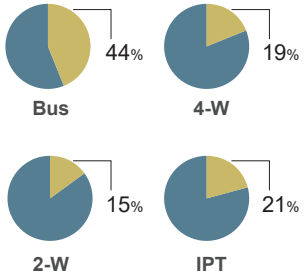
- Fleet Size of the agency: 600
- BQS: 650
- Depots: 3
- Terminals: 16

Study Area

1.1 million residents

1.3 buses per million population

Modal Share (Motorized Trips)



** Data is for Greater Mumbai Region*

2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
Electric buses	NMMC area as well as outside the corporation area	01

B CONTRACT FEATURES

Business Model: Gross Cost Contract	Fleet owned by: Operator	Operations area: Intra city & Inter-city
Contract Tenure: 10 years	Fleet Composition: Standard- 70 & Midi-30	

C TECHNICAL SPECIFICATIONS

Charger specifications	• Battery Charger: 1 per depot • Battery Warranty – 6 years
Charging technique	• Technique: Overnight & Opportunity • Opportunity Charging Time: NA
Bus specification	• Driving range: 120km/bus • Standard bus: 12m, 400 mm, seats - 35 • Midi bus- 9m, 400-900 mm, seats – 27.

NA - Not Applicable

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Joint Funding; FAME II	
Funding ratio	55%	45%
	Midi: 45 to Standard: 5.5 million Rs/bus	*Remaining to be paid by operator*

INFRASTRUCTURE

Depot space	100%	Rental paid
Depot infrastructure	*	#
Charging Infrastructure	—	100%

**Basic civil infrastructure*
 # Maintenance equipment's

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	100%	—

NON-FARE BOX

Advertisement	—	100%

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	Commercial development at depots and terminals	

NA - Not Applicable,

C OPEX

Authority pays **fixed fee** and **fixed electricity charges** to the operator for bus operations.

Paid by	Authority	
Payment type	Fixed Fee	Per bus km
Fleet type & Rate	Std	INR 69.9
	Midi	INR 52.2
Subsidy/ Revenue sharing	None	
Fee revision	Fixed fee- 6 Monthly	Variable fee- 6 Monthly
Fuel cost	—	100%
Payment for excess/ under utilized kms	Excess kms- 0.75 times rate	Under kms- 0.25 times rate

**Rate inclusive of electricity cost*

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment **in operational plan*	⊘	✓

Legend: Yes ✓ | No ⊘ — Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	■	■

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses	■	■
Depot Space and Infrastructure	■	■
Installation of Charging Infrastructure	■	■
Control Center	■	■
ITS hardware	■	■
ITS software	■	■

Operations & Maintenance	Authority	Operator
Bus Operations	■	■
Bus & Crew Scheduling	■	■
Maintenance of buses	■	■
Maintenance of Charging infrastructure	■	■
Fare Collection	■	■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	■
Fare Verification	■	■
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	■	■

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

Extent of coverage	●●○○○
Extent of detailing in evaluation	●●○○○

Monitoring methods

Provision of physical inspection	●●○○○
Provision of ITS based monitoring	●●●●●

Legend ●●●●● Low → High Yes No

Penalty

Fleet & infrastructure	●○○○○
Service quality	●●●●○
Regulatory	●○○○○
Extent of objectivity	●●●○○

Reward

Extent of coverage	●○○○○
Extent of objectivity	●●●●○

Customer feedback in Performance Assessment	
Consultation with operator for fines revision	
Penalty/incentive benchmark *0.05% of performance security*	
Fleet sample size for performance assessment	100%

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	●●○○○	●●●●●
Penalties on non-fulfilment	●○○○○	●●●●○

B TERMINATION

	Authority	Operator
Coverage of event of defaults	●●○○○	●●●●●
Degree of fair payment settlement	●●●●○	●●●●●

7. DISTINGUISHING FEATURES

1

NMMT is generating additional revenue by commercialization of spaces at depots and terminals by leasing the space for ATMs at terminals and CNG stations at depots. Authority is also transferring entire advertisement revenue to operator to safeguard operator from operational risk.

2

Owing to lack of knowledge related to e-buses, NMMT has tried to leverage the technical expertise of private sector by transferring the responsibility for training and capacity development of authority's staff with respect to charging infrastructure and e-bus operations to the operator.

3

NMMT is using ITMS to effectively monitor bus operations (24 X 7), which has reduced manpower requirement.

4

NMMT gives fair chance and cure period to operator to rectify any damages and deficiencies in maintenance and repair before imposing penalty.

3.10 SURAT (GUJARAT)

CASE CONTEXT: Bus Type: ICE Buses | PPP Type: GCC | Contracted Buses: 60 + 6 (Spare) | Contract Tenure: 07 years + 1 Extendable | Tender Dated: 2012

1. CITY BUS ORGANISATION

Surat Sitilink Ltd. (SSL), an SPV wholly owned by Surat Municipal Corporation (SMC), is entrusted with the responsibility of managing both BRT as well as the bus service in the city.

A SERVICE DELIVERY AGENCY | Surat Sitilink Ltd. (SSL)

TYPE OF OPERATOR	Year of Incorporation	Brand Name	Staff Strength (Office)	Services offered
Special Purpose Vehicle (SPV) under Surat Municipal Corporation (SMC)	2014	Surat City Bus	45	City bus, BRTS

B OPERATIONAL INDICATORS

- Avg. Daily Ridership: 0.14 million
  City bus:.0.135 million
- Headway: 4-10 mins
- Route nos.: BRTS-13, City bus - 43
- Avg. Pax Trip length: 6.7 kms

C ROLLING STOCK & CIVIL INFRA

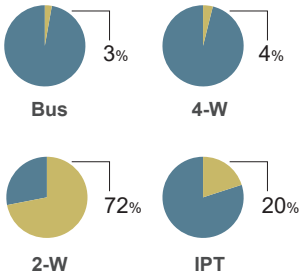
- Fleet Size of the agency: 767 (BRTS- 192, City Bus – 575)
- BQS: 164 BRTS stations
- Depots: 8
- Terminals: 3

Study Area

5.2 million residents

1.5 buses per million population

Modal Share (Motorized Trips)



2. CONTRACTING MECHANISM

A CONTRACT DETAILS

Bus Type	Coverage Area	No. of Operators
ICE buses Standard AC	3 routes on Surat BRTS corridor	01

B CONTRACT FEATURES

Business Model: Gross Cost Contract	Fleet owned by: Operator	Operations area: Intra city
Contract Tenure: 7 years + 1 Extendable	Fleet Composition: Standard AC: 60 + 6 (Spare)	

C TECHNICAL SPECIFICATIONS

Bus specification

- Standard bus: AC, 12m, floor height-900mm, seats - 35
- Midi bus: NA

NA - Not Applicable

3. FUNDING AND PAYMENT

A CAPEX

FLEET

Source	Government Funding	
Funding ratio	100%	—

Fleet was funded under NURM

INFRASTRUCTURE

Depot space	100%	No rental paid
Depot infrastructure	100%	—
Charging Infrastructure	NA	NA

B REVENUE SOURCES

FARE BOX

Ticket Revenue	100%	—
Pass	NM	NM

NON-FARE BOX

Advertisement	90%	10%

OTHER REVENUE SOURCES

Resale of buses	NM	NM
Alternate sources	UTF	

NA - Not Applicable
NM – Not Mentioned

C OPEX

Authority pays **fixed fee** for operated km to the operator.

Paid by	Authority	
Payment type	Fixed Fee	Per km
Fleet type & Rate	Std AC – Euro 3	53.4 Rs/km
	Std AC – Euro 4	54.9 Rs/km
Subsidy/ Revenue sharing	None	
Fee revision	Fixed fee-Annually	Variable fee-Quarterly
Fuel cost	—	100%
Payment for excess/ under utilized kms	Excess kms-0.85 times rate	Under kms-0.65 times rate

	Authority	Operator
Provision for penalties due to payment default/ delay by each party	⊘	⊘
Dead kms payment *in operational plan*	✓	⊘

Legend: Yes ✓ | No ⊘ | Authority | Operator

4. ROLES AND RESPONSIBILITIES

As per the contracting terms various roles and responsibilities distribution between authority and operator are captured below.

Planning & Implementation	Authority	Operator
Route Planning	■	■
Operational Planning	■	■
Fare Fixation	■	■
Marketing & Branding	■	■
Obtaining Operations Permits	■	■
Clearances & Permits for installing charging Infrastructure	NA	NA

Procurement & Civil Infrastructure	Authority	Operator
Procurement of buses	■	■
Depot Space and Infrastructure	■	■
Installation of Charging Infrastructure	NA	NA
Control Center	■	■
ITS hardware	■	■
ITS software	■	■

Operations & Maintenance	Authority	Operator
Bus Operations	■	■
Bus & Crew Scheduling	■	■
Maintenance of buses	■	■
Maintenance of Charging infrastructure	NA	NA
Fare Collection	■	■

Monitoring & Management	Authority	Operator
Monitoring Bus Operations	■	■
Fare Verification	■	■
Crew Recruitment & payment	■	■
Crew Training	■	■
Training of Authority staff (O&M)	NM	NM

NA – Not applicable,
NM- Not Mentioned in RFP

5. PERFORMANCE CONTROL AND MONITORING

The Operator is expected to meet base minimum performance standards for identified parameters.

Service Parameters

- Extent of coverage ●●○○○
- Extent of detailing in evaluation ●●●○○

Monitoring methods

- Provision of physical inspection ●●●●○
- Provision of ITS based monitoring ●●●●○

Legend ●●●●● Low ⟶ High Yes 👍 No 👎

Penalty

- Fleet & infrastructure ●●●●○
- Service quality ●●●○○
- Regulatory ●●●○○
- Extent of objectivity ●●●○○

Reward

- Extent of coverage NM ○○○○○
- Extent of objectivity NM ○○○○○

NM – Not mentioned in RFP

- Customer feedback in Performance Assessment 👍
- Consultation with operator for fines revision 👎
- Penalty/incentive benchmark *None* 👎
- Fleet sample size for performance assessment **100%**

6. OTHER CONTRACTING TERMS

A CONDITIONS PRECEDENT

	Authority	Operator
Extent of coverage of responsibilities	NM	NM
Penalties on non-fulfilment	NM	NM

NM – Not mentioned in RFP

B TERMINATION

	Authority	Operator
Coverage of event of defaults	●○○○○	●●●○○
Degree of fair payment settlement	●●○○○	●●○○○

7. DISTINGUISHING FEATURES

1

Sitilink being the agency managing both BRTS and bus services enabled better coordination and integration of routes and fare structures of both the modes.

2

An Urban Transport Fund has been instituted which receives funds from land value capture, parking charges, etc. which has enabled them provide the BRTS services at affordable price.

3

The Authority shares risks and liabilities with operator by compensating for damages to bus wherever possible like damage to interior or exterior of bus due to advertisements. The authority has robust ITMS, and they follow transparent practice of bus monitoring with the operators which is vital for success of GCC model.

4

There is a provision in tender which offers flexibility for adding new buses upto 25% of the total fleet size required under the contract without issuance of a new tender.

4
ANNEXURES

ANNEXURE I: KEY INITIATIVE BY GOVT. OF INDIA (GOI) TO PROMOTE BUS TRANSPORT

1. URBAN TRANSPORT FUNDING OF BUSES UNDER NURM (2008-09)

- **Objective:** In 2009, GoI provided cities and states financial support for bus augmentation to plan and manage organized public transport in urban areas. The scheme was also accompanied by additional reforms of urban bus specifications and detail project report for financial assistance of buses to ensure the public transport service quality.
- **Coverage:** Financing pattern for bus procurement

City Population	Central Assistance	State Assistance	ULBs/ Loans from FI
More than 4 million	35 per cent	15 per cent	50 per cent
1-4 million	50 per cent	20 per cent	30 per cent
Less than1 million	80 per cent	10 per cent	10 per cent

- **Link:** *https://mohua.gov.in/cms/JNNURM.php*

2. SETTING UP OF UMTA & UTF (2016)

- **Objective:** UMTA envisioned to establish an agency to undertake unified planning of urban transport with the objective of providing sustainable and seamless mobility to people., UTF is set up to finance the transport initiatives.
- **Coverage:** The UMTA acts as an umbrella body that regulates overall performance of the transport system and ensures establishment of comprehensive transport system. The various provisions of bus services are managed by sperate agencies in city and UMTA focus on providing integrated services through multimodal integration. To support establishment and management of dedicated Urban Transport Funds for urban transport projects, it also captures innovative funding sources that can be tapped to make agencies self sustainable.
- **Link:** *https://mohua.gov.in/cms/UrbanAuthority.php*

3. FAME SCHEME (2015)

- **Objective:** With an aim to support the electrification of passenger kilometers, India announced the FAME Scheme starting 2015, with a significant focus on public transport. FAME-I gave the incentives on outright purchase of the e-buses and FAME II provided incentives to city authorities on e-bus procurement under OPEX model.
- **Coverage:** DHI received sanctioned 5,595 e-buses to 64 cities in 2019. The scheme provided financial support to the cities in boosting the adoption of e-buses in the existing fleet. It aided the transition process which was restrained by the high capital expenditure involved in case of e-buses. City authorities have been able to leverage private sector expertise by sharing responsibilities with them. The deployment of buses under the scheme helped operators and city agencies to better understand the challenges involved in the new technology and accordingly share the risk based on their investment appetite.
- **Link:** *https://dhi.nic.in/UserView/index?mid=2418*

4. GUIDELINES AND MODAL CONTRACT FOR CITY BUS PRIVATE OPERATIONS (2016)

- **Objective:** A guidelines document aimed to developed strategies to choose the appropriate business model and contract type for city bus private operations, to increase participation of private sector in O&M of bus services based on transparent contracts with clearly defined service standards, payment terms and sharing of risk.
- **Coverage:** The document covers the key features and contractual terms (Payment terms and fee revision, Damages and penalties estimation mechanism, Option for transfer of buses at the end of tenure, Monitoring of the Operator performance using ITS, Provision of Escrow account to ensure timely payment etc.) to engage private sector in bus operations to improve service performance and wider public objectives. The model contract agreements developed by the Ministry for City Bus Private Operation covers Net cost, Net cost hybrid, Gross cost and Gross cost hybrid.
- **Link:** *https://mohua.gov.in/cms/guidelines-citybus.php*

5. STANDARD OPERATING PROCEDURES (SOPS) FOR SPVS OPERATING CITY BUSES PREPARED FOR CRUT, BHUBANESWAR, UNDER SMART-SUT PROJECT (2019)

- **Objective:** A guidebook document for CRUT, Bhubaneswar, under SMART-SUT initiative aimed at developing standard operating procedures for comprehensive functions performed at bus transport agencies.
- **Coverage:** The document cover the key features and functions in bus ecosystem and briefs on the daily tasks a public transport organization in overseeing the planning and provision of bus services to ensure efficient operations. The tools and guidelines for city bus operations is developed in three parts as below:
  - Part 1: Organizational Structure and Processes
  - Part 2: Planning, Scheduling and Monitoring
  - Part 3: Training and Capacity Building
- **Link:** *https://www.transformative-mobility.org/assets/publications/CRUT-Tools-and-Guidelines-for-city-bus-operations-part-1.pdf*
- *https://www.transformative-mobility.org/assets/publications/CRUT-Tools-and-Guidelines-for-city-bus-operations-part-2.pdf*
- *https://www.transformative-mobility.org/assets/publications/CRUT-Tools-and-Guidelines-for-city-bus-operations-part-3.pdf*

6. REVIEW OF REGULATORY, INSTITUTIONAL & FISCAL POLICIES (2019)

- **Objective:** MoHUA, under this project, desires preparation of options and recommendations on regulatory, institutional and fiscal constraints in providing Efficient and Sustainable City Bus Services. It will aim to promote bus based public transportation in the country.
- **Coverage:** The focus is to review the urban bus sector in India and provide an outline 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.
- **Link:** *https://mohua.gov.in/upload/uploadfiles/files/PC1_ESCBS_Domestic_Review_Report_(09_Jun_19).pdf*

7. DESIGN AND DEVELOPMENT OF TRAINING PROGRAMME FOR CITY TRANSPORT PROFESSIONALS (2020)

- **Objective:** One of the key activities essential for improving the public bus transport system in Indian cities is capacity building of the professionals involved in the system. MoHUA through "Design and development of training programme for City Transport Professionals" intended to address the capacity needs of cities.
- **Coverage:** This includes development of a comprehensive capacity building programme for the nascent urban bus sector including training programs, knowledge and exchange events for sharing of best practices and experience among public and private stakeholders. It also envisaged creating awareness and sensitization among city transport professionals about the need to establish public bus transport as a preferred mode of public transport.
- **Link:** *https://mohua.gov.in/cms/pc2.php*

8. MANUAL FOR PLANNING, DESIGN AND IMPLEMENTATION OF CITY BUS DEPOTS (2020)

- Objective: MoHUA has developed manual to support SPVs and other bus fleet operators to plan, design and create depot infrastructure. The in existing scenario, there is lack of appropriate infrastructure in the shape of depots which are essential for efficiently coordinated deployment of well-maintained and reliable rolling stock.
- Coverage: The document covers overall ecosystem of bus depots mentioned below:
  - Planning process, Site selection and Workflow in a bus depot
  - Design considerations for bus movement areas, Staff movement areas and inventory and material movement area.
  - Safety and security, utilities and environment.
- **Link:***http://mohua.gov.in/upload/uploadfiles/files/PC4_Manual%20for%20Planning%2C%20Design%20and%20Implementation%20of%20City%20Bus%20Depots_compressed.pdf*

9. MANUAL FOR PLANNING, DESIGNING, IMPLEMENTING AND EVALUATING ITS AND MIS PROJECTS (2020)

- **Objective:** The objective of the Manual is to provide a basic understanding of all aspects of ITS and MIS for Urban Bus Service related to improving both the internal efficiency of PT Agencies and the commuter services.
- **Coverage:** The support to public transport agencies for better understanding of
  - The basic characteristics of ITS and MIS
  - Evaluation and need assessment of public transport planning, management and operations functions for implementation of ITS and MIS
  - ITS and MIS systems requirements like data, information processing, Networks, communications, system architecture and reporting requirements
  - Analysis of possible business models for implementation of ITS/MIS Project. Estimation of overall cost including implementation and O&M costs.
- **Link:** *http://mohua.gov.in/upload/uploadfiles/files/PC3-How%20to%20use%20the%20Manual_Training%20Session%201%20-%204.pdf*

10. OPERATIONS DOCUMENT FOR TRAFFIC MANAGEMENT AND INFORMATION CONTROL CENTRE (TMICC), (2016)

- **Objective:** The main objectives of the TMICC
  - Traffic Enforcement
  - Monitoring and Management of Traffic
  - Dissemination of Traffic Information to Public
  - Data Repository and Data Mining
- **Coverage:** The document captures the details of the various TMICC applications/activities. It covers TMICC project management aspects such as Project Planning, TMICC Implementation Process, Project Monitoring and Control, Risk Management, TMICC maintenance procedures etc. It also covers performance monitoring aspects of TMICC.
- **Link:** *http://mohua.gov.in/upload/uploadfiles/files/OPERATIONS_TMICC.pdf*

ANNEXURE II: SOURCES

A. OVERVIEW OF THE BUS TRANSPORT LANDSCAPE

1. Report on Review of Regulatory, Institutional & Fiscal Policies (Indian), Efficient and Sustainable City Bus Services (ESCBS) project by Mohua/World Bank, 2019.
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Case study: Amritsar

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Case study: Bhopal

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Case study: Bhubaneswar

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Case study: Delhi

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Case study: Indore

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Case study: Nagpur

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Case study: Navi Mumbai

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PERSONS CONTACTED FOR SOURCE BOOK

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2	Amritsar	Manager Projects at PBMS
3	Bhopal	Manager Administration, BCLL
4	Bhubaneswar	General Manager, Personnel, CRUT
5	Delhi	Senior Manager, Road Transport, DMITS
6	Goa	-
7	Indore	Manager Technical and Operations, AICTSL
8	Nagpur	-
9	Navi Mumbai	Transport Manager, NMMT
10	Surat	Assistant Manger Operations, SSL

ANNEXURE III: ABBREVIATIONS

AICTSL- Atal Indore City Transport Services Limited

AJL- Ahmedabad Janmarg Limited

AMC- Ahmedabad Municipal Corporation

BCLL- Bhopal City Link Limited

BDA- Bhubaneswar Development Authority

BMC- Bhopal Municipal Corporation

CRUT- Capital Region Urban Transport

GNCTD - Government of National Capital Territory, Delhi

DIMMTS - Delhi Integrated Multi-Modal Transit System Ltd.

GoI- Government of India

GoP- Government of Punjab

GRTU- Goa Road Transport Undertaking

ICE- Internal Combustion Engine

IDA- Indore Development Authority

IMC- Indore Municipal Corporation

KTCL- Kadamba Transport Corporation Limited

MC – Municipal Corporation

MTU- Municipal Transport Undertaking

NMC- Nagpur Municipal Corporation City

NMC- Navi Mumbai Municipal Corporation

NMMT- Navi Mumbai Municipal Transport

PBMS- Punjab Bus Metro Society

RP- Royalty Premium

RS – Revenue Sharing

SL- Standard Luxury bus

SSL - Surat Sitilink Limited

SMC - Surat Municipal Corporation

SPV- Special Purpose Vehicle

TC- Transport Committee

UTF- Urban Transport Fund

VGF- Viability Gap Funding

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Green Urban Mobility Partnership

As part of the Indo-German bilateral cooperation, both countries have agreed upon a strategic partnership – Green Urban Mobility Partnership (GUMP) between Ministry of Housing and Urban Affairs (MoHUA) and Federal Ministry for Economic Cooperation and Development (BMZ). Within the framework of the partnership of technical and financial cooperation, the German government will support improvements of green urban mobility infrastructure and services, strengthen capacities of national, state, and local institutions to design and implement sustainable, inclusive, and smart mobility solutions in Indian cities. As part of the GUMP partnership, Germany will also be supporting in expanding the public transport infrastructure, multimodal integration, using low-emission or zero-emission technologies, and promoting non-motorised transport in India. Through this strategic partnership, India and Germany intend to jointly achieve effective international contributions to fight climate change.

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