Toolkit for Public Private Partnership in Urban Transport (Bus Transport) for State of Maharashtra

Volume- 1

Local Government Consultation and Sector Assessment for developing possible Public–Private Partnership Models for the state of Maharashtra

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GOI-ADB PPP Initiative

Mainstreaming PPPs in India

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The Asian Development Bank (ADB) engaged CRISIL (a leading consultancy firm), at the request of the Government of Maharashtra, under the Mainstreaming PPPs in India Initiative, to develop possible PPP solutions for the urban water supply sector in the State. The DEA, PPP Cell (Maharashtra) and ADB have worked closely in the development of this report. No part of this document may be replicated, quoted or printed without written confirmation from DEA & ADB PPP focal points.

FOREWORD

Sustained growth of the Indian economy is essential for all-round development of the country. Within this requirement, *sustainable infrastructure development* is critical for providing the backbone for economic activities as well as for ensuring that resources are conserved and used most efficiently, given the limited and the fast depleting nature of these resources.

Public private partnerships (PPPs) are seen as a key ingredient in this, for bringing in much needed investments as well as efficiencies in utilization and management of resources - whether water, power, or indeed money. Various estimates indicate that if the economy has to grow at 8% per annum, over $ 500 billion of investment is needed for the infrastructure sectors from 2007 – 2012; around 30% of this requirement is needed to come from private sector.

The Government of India has therefore been following a considered approach to create the enabling environment for catalyzing such private investment and operations in all infrastructure sectors. Supported by the Asian Development Bank, a PPP Initiative has been targeted on capacity building and institutionalization of PPPs across the country

Under the above initiatives, the Asian Development Bank (ADB) is supporting the Public Private Partnership (PPP) Cell, the Urban Development Department of the Government of Maharashtra in Mainstreaming Public Private Partnerships (PPPs) through a Technical Assistance (TA) Project. The project aims to identify and develop PPP structures which can be implemented in the urban transport (bus transport) sector drawn from actual city examples in the state of Maharashtra. As a part of this TA, various possible PPP structures in the urban bus transport sector were studied, and the applicability of these structures assessed in the context of the sample cities. The project aimed to develop term sheets for those PPP structures, which are identified as most suitable and feasible for implementation.

The toolkits so developed are expected to assist the relevant public entities in the state of Maharashtra for developing PPP-based projects in the transport sector. The toolkit is also designed to help the decision makers in deciding whether a particular

project might be suitable for the PPP route or not. The toolkit can therefore be the basis for approving a project implementation structure as part of the overall project approval methodology.

We are confident that these toolkits will be used by the Municipal Commissioners and the Chief Executive Officers of the urban local bodies, the Managing Directors and the functional directors of the bus transport undertakings and the state governments and other decision makers while considering PPP-based implementation of urban transport (bus transport) projects.

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ABBREVIATIONS AND ACRONYMS

ADB:	Asian Development Bank
BRTS:	Bus Rapid Transit System
BPLR:	Benchmark Prime Lending Rate
BSE:	Bombay Stock Exchange
CMP:	Comprehensive Mobility Plan
DEA:	Department of Economic Affairs
DPR:	Detailed Project Report
EOI:	Expression of Interest
GOI:	Government of India
ICTSL:	Indore City Transport Services Limited
JnNURM:	Jawaharlal Nehru Urban Renewal Mission
MoUD:	Ministry of Urban Development
MOF:	Ministry of Finance
NSE:	National Stock Exchange
PPP:	Public Private Partnership
PMPML:	Pune Mahanagar Parivahan Mahamandal Limited
RFP:	Request for Proposal
RFQ:	Request for Qualification
SPV:	Special Purpose Vehicle
UIDSSMT:	Urban Infrastructure Development Scheme for Small and Medium Towns
ULB:	Urban Local Body
UMTA:	Urban Mass Transport Authority
WACC:	Weighted Average Cost of Capital

ACKNOWLEDGEMENT

Under the ADB support for "Mainstreaming PPPs in India", the PPP team (under the joint guidance of ADB and GOI PPP focal points have developed a number of sector initiatives leading to knowledge building and dissemination. This report is an outcome of this activity and constitutes a part of the PPP knowledge series emanating from the PPP Initiative in India.

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LIST OF ABBREVIATIONS

ADB:	Asian Development Bank
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RFP:	Request for Proposal
RFQ:	Request for Qualification
SPV:	Special Purpose Vehicle
UIDSSMT:	Urban Infrastructure Development Scheme for Small and Medium Towns
ULB:	Urban Local Body
UMTA:	Urban Mass Transport Authority
WACC:	Weighted Average Cost of Capital

INTRODUCTION

1.1 Background and Scope of Work

The Government of Maharashtra proposes to upgrade the civic infrastructure in the State significantly through Private Public Partnerships (PPP). In this context, the PPP cell of the Government of Maharashtra approached ADB through the DEA, MoF and GOI to study the four sectors i.e. Water supply and sanitation, urban transport, education and health and explore the possibilities of PPP in these sectors. Further, ADB has appointed CRISIL Risk and Infrastructure Solutions Limited (CRIS) to:

1. Explore opportunities for PPP in water supply, sanitation and the urban transport sector.

2. Prepare term sheets for the implementation of the same.

The overall assignment has been structured into the following phases:

Phase I: Review of PPP structures implemented in India, preliminary assessment of existing urban transportation services in the sample cities of Maharashtra, identification of issues, identification of probable PPP structure, and preparation of term sheets

Phase II: Detailed financial analysis, feasibility studies and project structuring for select cities

Phase III: Bid process management

This report/toolkit is an output of the Phase I of the assignment.

ADB in discussion with the PPP Nodal Officer-cum-Secretary (Urban Development Department), Government of Maharashtra has identified a sample of 4 cities in Maharashtra for the identification/study of PPP structures. In order to ensure that a representative category of sample cities is represented in the study, cities with varying population sizes and geographical settings were selected. Two of the cities were selected for study as they already had existing implemented PPP contracts while the other two had yet to implement PPP. Three of the selected cities were covered under the Jawaharlal Nehru Urban Renewal Mission (JnNURM). Therefore, some of these sample cities have already identified some investments which need to be undertaken for the improvement of the urban transportation situation. The sampled cities include Navi Mumbai, Nashik[1], Aurangabad and Nanded. Aurangabad and Nanded already have implemented PPP Structures and hence learning's have been drawn from the existing PPP structure.

[1] The data available for Nashik was inadequate and hence the analysis of Nashik has been excluded from the final analysis

CRIS has undertaken the following activities towards the selection of an appropriate PPP structure for the above selected cities.

- Detailed study of PPP structures possible in urban bus transportation sector including bus depots
- Comprehensive review of the urban bus transportation situation in sample cities and identification of areas for PPP-based intervention
- Study of the existing PPP contracts where applicable with suggestions of measures for improvement
- Preparation of detailed term sheets for the PPP structures which have been identified as most suitable for the sample cities

In addition, CRIS also studied the monorail contract to derive the key terms and conditions for an operations and maintenance contract for a monorail system.

1.2 Process followed for toolkit

The urban transportation toolkit was initially conceived by the Asian Development Bank in conjunction with the Government of Maharashtra. The initial approach followed to prepare the toolkit included a review of documentation available on PPPs in urban transportation. The documents included case studies, reports, articles and presentations on the implementation of PPP in the urban transportation sector in India. The team drew important lessons from these case studies including .key learnings related to the main hurdles in the way of private participation in the urban transportation sector.

Subsequently, using these key learnings, the team identified various project structuring options which could be used to implement PPP in urban transport. These options were drawn up on the basis of the current implementations of PPP in the sector and taking into consideration future developments in the sector (for example, disbursal of grant to an urban bus transport authority for the procurement of rolling stock). Project structuring options for the development of bus depots was also considered. The team also undertook a study of concession agreements for bus transport (Pune, Indore and Jaipur) and for development of inter-state bus terminals on a PPP basis.

Based on the learnings from the documentation review and study of concession contracts, the team prepared term sheets for each PPP structure. Each term sheet contains the key clauses applicable under the specific PPP structure. The clauses presented in the term sheet would help the bus transport authority to draft a PPP contract.

The project also included an assessment of the sample cities chosen by ADB. A study of the sample cities was undertaken using documents like city development plans, comprehensive mobility plans and existing PPP contracts (in the case of Aurangabad and Nanded). The team also held discussions with urban transportation officials of the sample cities to get an update of the current situation of the urban transportation sector. The agenda of the discussions included the current state of the urban transportation sector, problems besetting the urban transport authorities, and future plans and scope for PPP in the city. The team obtained views

and suggestions on the various PPP structures devised. These suggestions were then duly incorporated in the term sheets. The team met the private operator, Akola Pravasee and Mal Vahatuk Sahakari Sanstha, who run urban transportation services in Aurangabad and Nanded. This helped them the team to gauge problems faced by private operators in providing transportation services.

All the lessons obtained from the study of PPP in urban transportation were used to develop a step-by-step process for implementation of a PPP life cycle. Suggestions were taken from PPP and urban transportation experts from CRIS. The entire toolkit was subsequently reviewed and finalised in consultation with the Government of Maharashtra, ADB and DEA.

1.3 Structure of the toolkit

The entire toolkit comprises three volumes:

- Volume 1: PPP toolkit
- Volume 2: Details of PPP Structures
- Volume 3: Case studies of sample cities in Maharashtra
- Volume 4: Term sheets for PPP structures

Volume 1 is the comprehensive toolkit while the rest of the volumes detail out specific sections of Volume 1. The seven chapters of Volume1 proceed as follows:

- Chapter 1 outlines the background to the toolkit, its structure, the users of the toolkit and guidelines to the toolkit.
- Chapter 2 provides an overview of PPP in the urban bus transportation sector and also contains a listing of the various case studies used to derive learning for preparation of the toolkit
- Chapter 3 outlines the toolkit and the broad approaches followed towards appropriation of the most suitable PPP structure.
- Chapter 4 presents the preparatory work to be done by a bus transport authority or ULB for the identification of a PPP structure including problem definition, project identification and assessment and prioritisation of the key problem areas.
- Chapter 5&6 outline how a bus transport authority or ULB should decide whether it should opt for public funding or PPP. It presents how a bus transport authority or ULB should scope the work for PPP, assess if the project is financially viable and decide whether to implement through PPP or not.
- Chapter 7 provides advice on the identification and allocation of risks amongst the public entity and the private operator/developer, selection of a suitable contract structure and a listing of the PPP Structures implemented in India.

- Chapter 8 presents the procurement process to be followed if the bus transport authority or ULB decides to implement the PPP structure.

1.4 Users of the toolkit

As explained above, this toolkit covers a part of the project development process. Therefore, the toolkit may be used by any entity which is developing urban bus transportation projects and wishes to explore the possibility of implementing the project through the PPP route. In India, the likely organisations involved in the project development process are:

1. Transport authorities or ULBs

2. Municipal undertakings

Therefore individuals most likely to use this toolkit would be the transport department staff of such entities.

Additionally the toolkit will help in deciding whether a particular project might be suitable for the PPP route or not. The toolkit can therefore be the basis of approving a project implementation structure as part of the overall project approval. Usually the responsibility for project approval is vested with the top decision making authority of the entity, which has the primary responsibility for implementing and/ or financing the project. Thus it can be useful for the Municipal Commissioner, Chief Officer, Transport Committee, Transport Authority or ULB and bus transport undertakings

The toolkit would be utilised for:

1. Making a decision whether PPP would be suitable for implementation of the project

2. Which PPP structure would be appropriate if PPP is a suitable choice

1.5 Disclaimers to the toolkit

1. This toolkit is based on taking a decision to implement PPP and identifying the PPP structures for the procurement, operation and management of rolling stock (i.e. buses) only as projects in the urban bus transportation sector mostly involve procurement of rolling stock.

2. This toolkit is a general toolkit for decision making of PPP and its application may be modified depending upon the city urban transport characteristics.

PPP IN THE URBAN BUS TRANSPORTATION SECTOR

This section of the toolkit gives a brief on the concept and rationale for PPP-based project development in the urban bus transportation sector. It additionally familiarizes users with PPP projects developed in the Urban bus Transportation Sector. A brief on the key PPP projects that have been implemented in India is also captured as part of this section, in Volume 1.

1.6 General Definition and overview of PPP

A Public Private Partnership (PPP) project implies a project based on a contract or concession agreement, between a government entity and a private sector company on the other side for delivering an essential service on the payment of user charges.

While the service delivery through a PPP changes the means of delivering services, it does not change the authority which is accountable for the provision of the services. It is still a government entity's obligation to provide the service. The only change in the mechanism is the change in the role of the government entity. It assumes a managerial role instead of engaging in actual operations. In other words the government entity is now entrusted with the responsibility of being an overseer of operations rather than a resource manager.

Example: A concession contract is given to the private sector to design, construct, finance, operate and maintain a plot of land and convert it into a SEZ for a period of time. The plot of land at the end of the concession period will be handed over to the government entity. During the concession period in lieu of developing the land, the private operator is allowed to collect lease premiums from sub-tenants of the land so as to ensure its recovery of costs.

1.7 Rationale of PPP

PPP offers advantages to all stakeholders involved in the project. This has been elaborated from both the public and private sector perspective in the sub-sections below.

1.7.1 For the Public Sector

PPP allows the public sector to derive benefits from the efficiencies and effectiveness of operational procedures. This is possible because of the following reasons:

1. **Innovation** - Public Private Partnerships make it possible for the government to bring in the efficiencies and private know-how into operations of government services. The government is able to make use of the private sectors ability to innovate. The government entity provides the specifications of the service to be provided and the private sector applies the innovations in the design and building of the system. Thus, the government has to only specify its needs and desired output while the private sector uses its expertise to achieve this in the most optimal way.

2. **Sharing of Responsibilities & Risks -** The responsibilities and risks in the running of the services are ultimately transferred to the entity most suited and equipped to deal with them. Thus there is value is added in the service delivery process.

3. **Expenditure -** The private operator invests in the service using his own funds and thereby frees up government funds to be used to address more important and critical issues of public policy.

1.7.2 For the Private Sector

PPP allows the private sector, opportunities for profit. The private operator is able to bring in his innovative approach and know-how to ensure savings and thereby ensuring more profit.

1.7.3 For the Public Consumers

The public gets access to better quality services as the expertise of both the private sector and government entities is combined. While ensuring better services, the government will also protect the interests of the customer so that public policy goals are not compromised.

1.8 Indian Urban Transport Sector

The demand for urban transport in India is determined by trends such as substantial increase in urban population, household incomes and industrial and commercial activities. With the economy growing today at a rapid pace this demand has only increased and public transportation systems have not been able to keep pace with the rapid and substantial increase in demand. Public transport is the primary mode of transport in the bigger cities and metros. This includes anywhere between 22-46% of the total trips for travel in cities with population > 80 lakhs[2]. City bus transport is the most common and predominant form of public transport in cities with population greater than 1 million. Cities with a poor public transportation system have a higher availability of para-transit and private modes. Intermediate public transport systems like tempos, autos and cycle rickshaws assume importance to meet the travel demand in mid-level cities.

- The Institutional set-up for the urban transport is largely managed at the level of the state governments and local governments. The Central government intervenes through some centrally funded programmes like JnNURM (Jawaharlal Nehru Urban Renewal Scheme). The state and local governments operate and maintain the public transportation systems especially bus transport system.

1.9 Trend of PPP in the Urban Transportation Sector

As mentioned the provision of urban transport is handled mainly at the state level. However, the provision of urban transportation services in India has proven to be inadequate and of a poor service quality level. Most municipal transport undertakings have been running at a loss

[2] Source: Study on Traffic and Transportation Policies and Strategies in Urban Areas in India, MoUD

and are not even able to recover their operational costs incurred. The average age of fleets providing bus services is very high leading to the loss of operational efficiency and lower mileage. Since the beginning of 2000, there has been a good rise in the implementation of the concept of PPPs among urban transport undertakings. A few landmark contracts in the urban transportation sector are as follows.

- Development of bus terminals at Dehradun and Amritsar
- Metro rail systems for Mumbai (Versova-Andheri-Ghatkopar) and Hyderabad
- Procurement, operations and maintenance of semi-low floor buses in Indore
- Cost Plus Contract, Pune
- PPP for intra-city bus operations in Aurangabad and Nanded

1.10 Case Studies in India (Bus Transport)

A brief on the PPP structures implemented in the cities of Pune, Indore and Jaipur for bus transport have been presented here.

1.10.1 Cost Plus Contract, Pune

Pune Municipal Corporation and Pimpri Chinchwad Municipal Corporation have merged their respective bus transport authorities into a special purpose vehicle known as Pune Mahanagar Parivahan Mahamandal Limited (PMPML). PMPML currently operates 1,250 buses and on an average carries 10 lakh passengers everyday over 282 routes. The buses are being operated by PMPML on a PPP basis. Private operators procure the buses and lease it to PMPML. PMPML defines the physical specifications of the buses and the number of buses it requires. These buses are then operated and maintained by the private operator on routes as routes as identified by PMPML. PMPML also provides administrative support to the operations of the buses including supply of tickets, passes, etc

The driver of the bus is appointed by the private operator and the conductor by PMPML. The driver is responsible for operating the bus service as per the defined routes and schedules. Whereas the conductor collects the fare box revenues and deposits it with PMPML. The buses use shared infrastructure like bus stops, bus terminuses and parking depots owned by PMPML.

The responsibility for the operation and maintenance of the buses lies with the private operators, unlike PMPML-owned buses that are serviced in its own depots. PMPML pays a lease charge on a per-kilometre basis to the private operator. Such charge is a function of the operational costs incurred by the private operator. The lease charge is subject to change if there is an increase in the prices of fuels or other consumables like tyres, engine oil etc. PMPML sells advertising rights on these buses and generates additional revenues. It is responsible for the development and implementation of systems for improving efficiency of operations of the buses. The bidding parameter is the number of buses the private operator shall lease to PMPML.

1.10.2 Net Cost Contract, Indore

The Indore Municipal Corporation has formed a Special Purpose Vehicle (SPV) i.e. Indore City Transport Services Limited (ICTSL) for the purposes of providing city bus transport services in the city. The main objective of ICTSL is to act as an agency to monitor and provide an intra-city bus transport system in the city. The strength of the fleet currently operated under the aegis of the ICTSL consists of 84 buses, which transport an average of 75,000 passengers on 24 routes per day. ICTSL provides the bus services on a PPP basis (i.e. Net Cost Contract).

Under the contract, the activity of operations and maintenance of the bus transport system are contracted out to a private authority. The buses are procured, owned and run by private operators and the private operator collects fare revenues. The private operator retains the revenues and receives additional sums from the authority in the form share of income from passes and advertisements on the buses. The operator in return makes a fixed monthly payment to ICTSL. The bidding parameter is such payment quoted by the private operator.

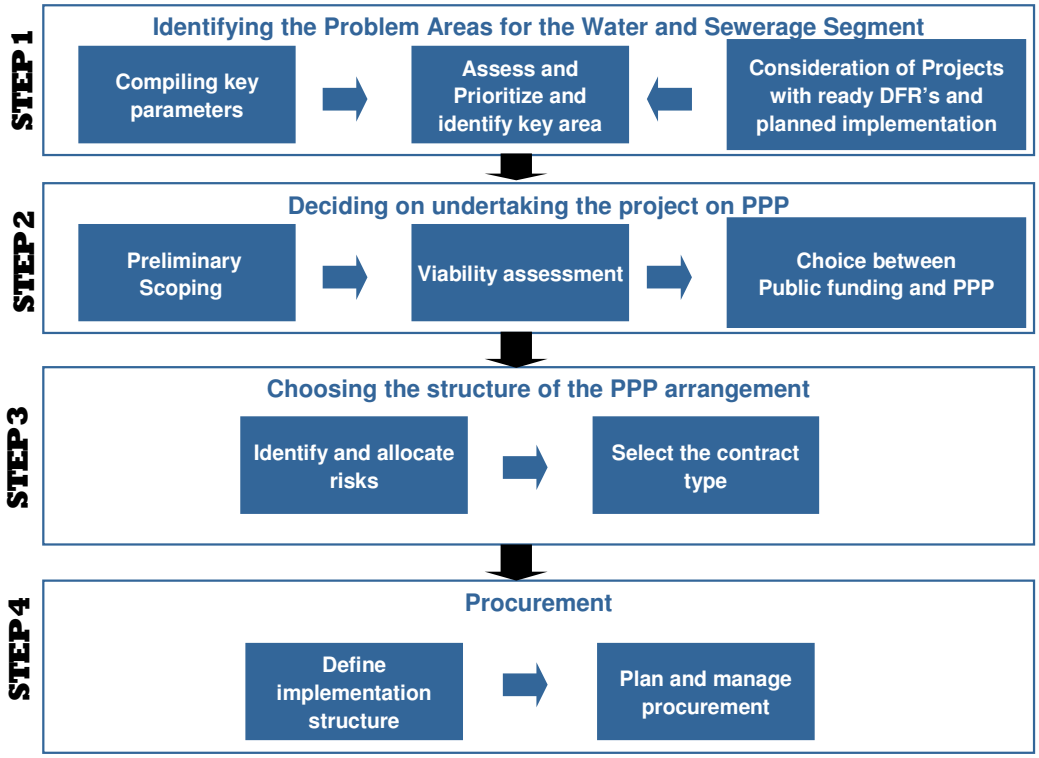
1.10.3 Cost Plus Contract, Jaipur

Jaipur City Transport Services Limited (JCTSL) plans to operate a Bus Rapid Transit System on a buy-own-operate and maintain (BOOM) basis. The company had initially invited bids for 60 buses from a private operator. The bus operator was required to procure, own and maintain the buses and operate them at his cost on routes and as per schedules directed by JCTSL from time to time for a period of seven years. The private operator is also expected to deploy properly trained and duly authorized staff for the operation of the buses. The bus conductor is responsible for collection of fare from the revenues and for depositing it with JCTSL. The private operator is paid back on a per-km basis, which is determined by the operational costs decided in the agreement.

OVERVIEW OF TOOLKIT

In this section, an overview of all the steps which are to be followed for determining the suitable PPP structure for an identified project in the urban transport sector is indicated along with a snapshot of the remaining activities which need to be undertaken to facilitate the implementation of the select PPP structure. A step-by-step indication of the stages involved in the determination of the PPP structure and its implementation are represented in the schematic below.

Figure 1: Overview of PPP toolkit



Source: CRIS

This section provides an overview of the toolkit which would be used for choosing a private operator for a project to be undertaken on a PPP basis. The whole toolkit is divided into four steps, each represented by its corresponding section in this report. Therefore

1. Step 1: Problem Definition – Section 0
2. Step 2: Choosing between Public Funding and PPP – Section 0 & 1.21
3. Step 3: Choosing the PPP Structure – Section 0
4. Step 4: PPP Procurement – Section 0

Step 1 is the process of identification of the problems of the bus transport undertaking and the subsequent identification of projects to mitigate or eliminate these problems. Step 2 is the process of examining the viability of the implementation of these projects. Step 2 would thus identify whether the selected projects are feasible to be implemented under public funding or if they are viable enough to be implemented by PPP. Step 3 is the process of making an optimal choice for choosing the most suitable PPP option amongst those available for implementation of a project. Step 4 is the process followed for the procurement of the PPP operator, using a transparent and robust bid process

1.11 Step 1: Problem Definition

The first step in implementation of this toolkit is an identification of the key problems that beset an urban bus transport undertaking through a current assessment of the system. This is to be done by conducting an actual physical survey of the urban bus transportation system; current financial assessment and a review and benchmarking of the services offered by it. In instances where the bus transport undertaking has already prepared a DPR it is important to undertake a thorough review of the components of the DPR. This is also applicable to DPR' which have already been approved for a central government funding even if it means additions/changes in the scope of work. Simultaneously, the bus transport authority or ULB will also need to prepare a comprehensive mobility plan for the city to identify new routes and need for augmentation of current routes. These studies would serve as a precursor to the compilation of the key parameters of the bus transport undertaking and their comparison against norms to obtain a list of the key issues afflicting the undertaking. Consequently, key projects addressing these key issues would have to be identified.

1.12 Step 2: Choosing between Public Funding and PPP

A financial feasibility of these key projects would be undertaken after the identification of project revenues, and operational and capital costs in total. Using these costs and plausible assumptions a financial model of the project would be built. The estimated returns of the project would be obtained from the financial model. These returns would be compared against the market rate of return and their viability for PPP assessed. Typically, projects earning more than the market rate of return are deemed attractive for PPP implementation. If the project is not viable on a standalone basis then a viability gap should also be considered. A qualitative assessment of the project will be undertaken to gauge the rationale for PPP and a decision for implementing the PPP structure would be undertaken based on whether the private operator would really be able to bring about a significant improvement in the status quo of the project. PPP structures deemed acceptable under this framework of analysis would be considered for PPP.

1.13 Step 3: Choosing the PPP Structure

The chosen projects from Step 2 would be first assessed initially for who would own the assets that would be created as a part of the project. Ownership of the assets is a critical step in determining the type of PPP structure to be implemented. Once the ownership is established, all the possible risks in the project would need to be identified and allocated to the entities (i.e., Private Operator and Bus Transport Undertaking) best equipped to handle

them. A risk allocation matrix in terms of risks faced by the private operator, risks undertaken by the bus transport authority or ULB and shared risks would be created. Based on the study of PPP structures implemented in India, a listing of possible contractual structures and their risk allocation matrices would be prepared. These would be compared against the risk allocation matrix of the project and the best matching option would be selected. Other factors considered would be the ease of application of the contract, recovery of costs and competition for the contract.

1.14 Step 4: PPP Procurement

The chosen contract structure obtained in the previous step along with the reviewed risk allocation matrix would be used to create an implementation structure to draft a contract for the project. Based on the bus transport authority or ULB's requirements, it will choose an appropriate process to shortlist bidders. Typically, depending on the scope of work of the project and number of bidders, the bidders would initially be shortlisted in terms of their financial and technical capability. Shortlisted applicants would be invited to submit a bid for the project. Based on the requirements of the project, the preferred bidder would be chosen based either on either his financial offer or a combination of his technical plan and financial offer.

All the four steps discussed above have been detailed out in the following sections of this report.

STEP 1: PROBLEM DEFINITION

The problem definition stage of this toolkit involves the current assessment of the urban bus transportation system to be undertaken by the bus transport authority or ULB. It would involve a physical survey of the system coupled with the assessment of the service level of the bus transport undertaking. The bus transport authority or ULB must also simultaneously prepare a comprehensive mobility plan to study the existing traffic and travel characteristics and suggest medium and long-term traffic solutions. The bus transport authority or ULB has to subsequently compile the key parameters of the system and benchmark it against well-implemented systems offering similar/same services. Based on these, the bus transport authority or ULB will identify measures for improvements of the current situation. These projects, after due consideration, would be prioritized in terms of their order of importance.

1.15 Assessment of current urban bus transportation system

This section involves an assessment and understanding of the current situation of the bus transport undertaking. This assessment would indicate the inventory of assets and quality of services provided by the bus transport undertaking. It should be noted that for a successful implementation of PPP in urban bus transportation, the existing system need to be accurately understood. The resultant PPP structure would be dependent upon the outputs of this stage. A detailed report will be prepared for the same. This assessment of the current situation should broadly contain:

1. Physical Survey of the Assets of System
2. Financial Health of the Bus Transport Undertaking
3. Review of the Services provided by the Bus Transport Undertaking
    - Benchmarking of Operational Parameters
    - Demand Assessment for services of Bus Transport Undertaking

This current assessment for the bus transport undertaking would highlight issues which are currently besetting the system. The comprehensive mobility plan which will be explained in the succeeding sections would assist in identifying new routes/areas for operation. The output of both these sections would help in identifying projects for implementation to improve services provided by the urban bus transportation system with PPP intervention if necessary. This current assessment can be undertaken by either the bus transport undertaking itself or by an independent agency with the requisite technical skills.

1.15.1 Physical Survey of the Assets of the System

A physical survey of all the assets of the bus transport undertaking would need to be undertaken to determine the current condition of the assets of the bus transport undertaking. The typical assets of the bus transport undertaking include

1. Rolling Stock - Buses
2. Bus Shelters

3. Bus Depots
    a. Repair Kits
    b. Bus Wash System
    c. Fuelling Station
    d. Rest Rooms
4. Bus Terminals
5. Employees
6. Administrative Offices

The assets would mainly be surveyed to determine the specifications of asset, age, value, operability and condition. The broad parameters to be covered in the survey have been mentioned in the table below

Figure 2: Physical parameters of urban bus transport undertaking

INDICATOR	VALUE
No of Buses	
No. Depots	
No. of Repair Kits	
No. of Bus Wash Systems	
No. of Fuelling Stations	
No. of Rest Rooms	
No. of Bus terminals	
No. of Bus Shelters	
No. of Routes	
No. of trips/day	
No. of employees[3]	
No. of Passengers travelling/day	
Distance travelled/bus/day	
Distance travelled by the buses/day	
Diesel Consumed/day	
Average Age of Employees	
Average Age of Fleet	
Fuel Efficiency	
Special Schemes (if any)	

Source: CRIS

[3] The number of employees needs to be provided as a break-up of different workers in the transport undertaking. For e.g., drivers, conductors, mechanics, travelling ticket examiners etc.

A survey of these assets will chiefly determine the condition of these assets and also help determine which of these need immediate replacement or refurbishment. For e.g.; an old fleet of rolling stock is one of the prime reasons for poor quality of bus service provided across cities. An old bus fleet leads to increased operational expenditure as well as affects the operational parameters of the system like punctuality and fuel mileage. An updated and accurate inventory list would help generate an understanding of the requirements of that urban bus transportation system.

1.15.2 Financial Health of Bus Transport Undertaking

A review of the financial statements of the bus transport undertaking will have to be undertaken to make an assessment of the current financial condition of the system. The review of the existing system will gauge the current revenue streams and costs for the bus transport undertaking. A financial assessment of the bus transport undertaking is important from the viewpoint of understanding the current situation of the system. The financial assessment also gives an insight into the most important sources of revenues as well as indicates where the highest costs are incurred. It will also help in the assessment of ratios like the average earnings per passenger, costs of operations, cost incurred per km, earnings per passenger kilometre, gross profit and non-traffic revenues.

Revenue streams and costs for a bus transport undertaking consist of the following

- Passenger Fares (Tickets and Passes)
- Bus Rental Revenues
- Advertisement Revenues (from Buses, Bus Shelters and Terminals)
- Rental of Commercial Spaces at Bus Shelters

Operational Costs consist of

- Employee Costs (Salaries)
- Fuels Costs
- Engine Oil Costs
- Tyres Costs
- Repair and Maintenance Costs
- Depreciation and Interest Charges
- Taxes, Fees, Insurance etc.

Capital Costs consist of

- Procurement of rolling stock
- Building of Bus shelters, Bus Depots and Terminals
- CNG Conversion

The financial assessment will also gauge the amount of deficit in case the transport authority or ULB is making losses as in some scenarios user charges are not enough to cover the operational and maintenance charges of the system. A financial assessment of the transport authority or ULB is important from the viewpoint of understanding the current situation of the system. The financial assessment also gives an insight into the most important sources of revenues as well as indicates where the highest costs are incurred. It will also help in the

assessment of ratios like the average earnings per passenger, costs of operations, cost incurred per km, earnings per passenger kilometre, gross profit and non-traffic revenues

1.15.3 Review of the services provided by the Bus Transport Undertaking

In conjunction with the physical survey of the assets of the system another important study which would be required to be undertaken would be the review of the service provided by the system. The main components of the study that are required to be undertaken are:

1. Benchmarking of Operational Parameters
2. Demand Assessment of Services of Bus Transport Undertaking

1.15.3.1 Benchmarking of Operational Parameters

The primary objective of this study is an assessment of the performance and operational parameters of the entire urban bus transportation system against the standards prevalent. The standards prevalent can be obtained by benchmarking already well- established urban bus transportation systems in the country (for example, Brihanmumbai Electricity Suburban Undertaking – BEST in Mumbai). A benchmarking of the operational parameters of the system would facilitate in determining the efficiency of the system. It would also give the bus transport undertaking pointers to the implementation of projects/measures, which would help in improving the efficiency of the system. The benchmarking of the operational parameters of the system would mainly answer the following questions:

- What are the main reasons for non-provision of quality service?
- Where are the losses occurring in the system?
- What corrective measures will ensure improvement in efficiency?
- What will be the approximate cost for these measures?
- How much will these measures improve the current condition?

The benchmarking must be carried out in terms of the key parameters of the system, which have been explained in Section 1.17.

1.15.3.2 Demand Assessment for services of Bus Transport Undertaking

In continuation of the physical survey undertaken by the bus transport undertaking, the bus transport authority or ULB must also undertake a consumer survey (if possible) or make use of past studies of users to gauge the satisfaction of users with the services provided. The consumer survey would essentially ask users for rating services and their satisfaction levels with the services in the city. The consumers should also be queried on major problems which are faced by them. The broad parameters of the consumer survey would include:

- Major problems faced by the consumers in availing bus transportation
- Rating of services by consumers
- Suggested additions in services/routes

- Willingness to use the Bus Transportation System

The consumer survey would provide the bus transport authority or ULB with information on the requirements of the consumer and the expectations of the consumer from the government. The consumer survey in addition would also give information to the bus transport authority or ULB on new routes or augmentation of existing routes which would create demand for the services provided by the bus transport authority or ULB.

1.16 Comprehensive Mobility Plan

Parallel to the current assessment of the transportation system a comprehensive mobility plan (CMP) for the city needs to be prepared. The main objective of a CMP is to identify various measures needed to improve the mobility of residents in the city under consideration. The scope of work for a CMP includes:

- To study the existing traffic and travel characteristics of the study area
- To identify the existing coverage of the transport undertaking
- To identify short-term transport improvement measures
- To prepare medium and long term transport improvement plans
- To suggest implementation mechanisms and institutional arrangements

The CMP will help in the identification of areas of the city which would have a great impact on travel demand patterns including the detailed study of the land use in these areas. The CMP will attempt to derive from the City Development Plan (CDP) or any other comprehensive documents, future plans for the city if prepared for the city.

The CMP will be required to conduct

1. Passenger Origin-Destination Survey
2. Speed and Delay Survey
3. Parking Survey
4. Midblock count on major corridors in the city
5. Turning Movement Survey of important intersections in the city
6. Origin Destination Survey at exit points
7. Demand Survey at major commercial areas.
8. Collection of data from previous studies in respect of Household Survey.

The CMP will provide the bus transport authority or ULB information on the requirements of new routes, augmentation to current routes, areas which the bus transport authority or ULB would require to cover, the major intersections of the city, and emerging new areas where there would be travel demand.

1.17 Compiling Key Parameters

Some key performance indicators are used for assessment of the quality of services, determining the gaps in terms of infrastructure, and technical indicators. The key parameters for the assessment of the bus transportation system are discussed in the following section.

Table 1: Key parameters for assessing bus transport system

INDICATOR	CALCULATION	NORM	RATIONALE	REMARKS
Adequacy of Stock				
No. of buses per lakh of population	No. of buses in fleet/Total Population of Area (in lakhs)	60	Indicates whether the number of buses serving the population is adequate for the population or are too few. A value very much lesser than the norm can also indicate poor route coverage	• Current estimate of population within municipal limits to be considered • Only operational fleet of buses to be considered • The bus size considered is assumed to be a normal 35 seater bus
Fleet Description				
Average Age of Bus (years)	NA** (From Physical Survey conducted)	<4 years	Indicates whether the fleet of buses being used are past their useful age. Age of buses is the most important reason for inefficiency in bus transport undertakings affecting all other standards. A value higher than the norm can indicate unreliable service and poor safety performance.	• Average Age of total existing fleet to be taken (i.e. operational fleet + buses which are inoperable but not eligible for scrapping)
Fuel	Total No. of kms	4.0-4.2	Fuel Costs are one	• Kms Operated

INDICATOR	CALCULATION	NORM	RATIONALE	REMARKS
Efficiency (km/litre)	operated/Litres of diesel consumed	km/lt	of the most important components of cost and lower fuel efficiency has direct fallout on the profitability of operations leading to further financial deficit. Less fuel efficiency indicates low profitability, pollution and poor quality/old vehicles	have to also include dead kms incurred for the bus to travel from depot to terminal and on routes.
Utilization of Rolling Stock				
Fleet Utilization	Buses Operated/Total Buses in Fleet	>60%	A low Fleet Utilization indicates if there are old and poor quality inoperable buses in the fleet which cannot be used.	• Buses operated are based on the average number of buses operated over the year
Bus Productivity	Kms. Operated by Buses/Total Number of Buses	225-275 km	Bus Productivity indicates if the buses being operated are operated at optimum level. Higher Bus Productivity can also indicate higher number of non-operational buses in the fleet. Lower bus productivity leads to fewer buses per capita of population	• Norm to be taken at 190-200 km if the fleet operates mini-buses • Effective kms to be considered
Dead Kilometres (kms)	(Total no. of kms travelled – Total no. of kms spent on trips)/Bus	No norm	Dead Kilometres indicate if the bus depot is too far away from the actual operating	• Estimation of total kms travelled to be done on basis of distance from

INDICATOR	CALCULATION	NORM	RATIONALE	REMARKS
			routes i.e. between stands and depots. Dead kilometres result in low profitability	depots to origination of service like terminals • Total no. of kms spent on trips to be estimated as the product of No. of trips and length of trips
Regularity of Service				
Trip Efficiency	No. of actual trips/No. of trips scheduled	>95%	Trip Efficiency indicates the quality of operations and can indicate either an old fleet being in service or operational inefficiency. Lack of trip efficiency leads to irregular frequency and unreliable service.	• No. of trips scheduled are to be sourced from the time table of the bus transport undertakings
Kilometre Efficiency	No. of kms operated/No. of kms scheduled	>95%	Kilometre Efficiency indicates the quality of operations and can indicate either an old fleet being in service or operational inefficiency. Kilometre efficiency indicates unreliable service	• No. of kms scheduled to be sourced from time table of services of the bus undertaking
Punctuality of Operations				
Punctuality of Operations	No. of trips on time/total number of trips	>95%	A low value of Punctuality of Operations can indicate irregular frequency and unreliable service	• Total number of trips can be sourced from the time table of services of the undertaking

INDICATOR	CALCULATION	NORM	RATIONALE	REMARKS
				• No. of trips on time can be sourced from the consumer survey
Reliability of Operations				
Unreliability of Buses (per 10000 kms)	No. of breakdowns*10000/Total km operated	<5%	A high value of unreliability of Buses can indicate an old fleet/poor quality vehicles	• Total kms operated is based on the number of trips
Safety of Operations				
Safety of Buses (per 10000 kms)	No. of accidents*10000/Total kms operated	<5%	A high value of Safety of Buses indicate poor safety	
User Satisfaction				
Dirtiness of Buses (per 1000 trips)	No. of buses reported dirty*1000/Total no. of trips schedules	<5%	A high value of Dirtiness of Buses indicates mistreatment of passengers	No. of dirty buses can be sourced from the consumer survey conducted
User dissatisfaction (per 1000 trips)	No. of complaints*1000/Total no. of trips operated	<2%	A high value on User dissatisfaction indicates mistreatment of passengers	No. of complaints can be sourced from the consumer survey conducted
Financial Recovery Ratio				
Cost Recovery Ratio	Revenue/Total Operating Costs	>100%	A Cost Recovery Ratio <100% indicates the requirement of a grant or subsidy to carry on operations	• Only Revenue from fare to be considered
Staff Ratios				
No. of Staff/bus	Total Number of Staff/No. of buses in fleet	< 5.5	Staff Ratios indicate whether the bus transport authority or ULB is facing a shortage or workers for completions of it	• Total number of staff to be considered • There is no ideal staff ratio

INDICATOR	CALCULATION	NORM	RATIONALE	REMARKS
			services	it is contingent upon hours of operation, type of service, ticketing system etc.
Others				
Load Factor	Actual Earning from fares/ Expected Passenger Earnings	70%	Load Factor indicates roughly the demand for the service and could also indicate lack of quality of service	• Expected Passenger Earning are estimated considering all routes operated at full capacity of buses
Service Coverage	Total length in route kms of the corridors along with the bus transport system/Area of the urban limits of the city	>1	Service Coverage indicates the extent to which all areas of the city are covered. A higher value indicates more coverage by the routes of the bus transportation system	• Total length of routes within the urban limits are to be considered • Total urban area of the city to be considered
Average Waiting time	NA	< 10 min.	A high value of average waiting time indicates that passengers have to wait for a longer time to get buses thus leading to crowded buses and a lesser level of service	• Based on the survey carried for waiting time in minutes for passengers boarding buses on each route

Source: MoUD Urban Transportation Guidelines and Jaipur Concession Contract

1.17.1 Typical Issues in Bus Systems

The key issues for the bus systems will be identified from the analysis conducted in Sections 1.15, 1.16 and 1.17. The 3 main problems that beset a bus transport authority are

1. High Wage Component of Employees

2. High Age of Bus Fleets
3. Failure to revise tariffs periodically

The other typical problems that beset a bus undertaking have been identified below[4].

1 Few buses or inadequate service capacity
2 Unreliable Service
3 Irregular Frequency
4 Poor Route Coverage
5 Excessive Fares
6 Losses/Low Profitability
7 Low Demand for buses
8 Supportive Infrastructure
9 Excessive requirement of grant/subsidy
10 Poor Quality/Old Vehicles
11 Poor Safety Performance
12 Pollution caused by buses
13 Mistreatment of Passengers
14 High wages of employees

The bus transport authority or ULB is expected to make a list of those problems facing the bus transport undertaking with the help of the analysis of Table 1 as well as a qualitative analysis of Sections 1.15 and 1.16.

1.18 Review of Project with approved DPRs

Typically, the output of the assessment process would be the key input for any project the bus transport undertaking proposes to develop for the improvement of the bus transportation services. As a next step towards addressing the issues of bus transportation systems, the bus transport undertaking needs to develop short, medium and long-term projects which would effectively address the current issues in the bus transportation system. The bus transport undertaking may develop Detailed Project Reports (DPRs) which would list all the specific components which need to be addressed in terms of capacity augmentation or replacement with the corresponding investment requirement.

In instances where the bus transport undertaking has already prepared a DPR (under an existing scheme like JnNURM, UIDSSMT etc.), it is important to undertake a thorough review of the components of the DPR. This review must assess and establish the need for various proposals made in the DPR, and must evaluate the costs allocated for various activities. A detailed list of the activities which need to be undertaken for a due diligence of the project cost components has been elaborated in Section 0. In addition to the costs which are to be incurred, the projected revenue from the proposed project must also be elaborated. The

[4] Reference from PPIAF Urban Bus Toolkit : This is an indicative list of problems identified which would vary in each city

detailed components of the revenues which would likely accrue to the project have also been explained in Section 0.

If there are infrastructure and other issues which are not directly addressed in the DPR, then those need to be added and the corresponding investment requirement needs to be revisited. A review of DPR' which have already been approved for a central government grant must be done before the start of the project and be suitably modified, even if it means additions/changes in the scope of work. This modified DPR must be then sent to the centre for approval for allowing funding for the changes/additions in the modified scope of work.

1.19 Prioritisation of key areas of investment

The bus transport authority or ULB will have to prioritise the projects identified depending upon the need of the city. Various projects can include procurement of buses, construction of a bus terminal, development of parking facility; construction of a bus depot, construction of bus-stops, etc. The proposed projects shall have to be prioritised depending upon the need of the system. This will include a qualitative assessment wherein the bus transport authority or ULB needs to address the following criteria:

- Is there a need to increase the capacity of the current system?
- Is the service delivery poor?
- Are the buses in the system too less? Is there a high waiting time for buses and consistent crowding of buses?
- Is the coverage of the transport less
    a. Is this a result of ageing fleet or poor route planning or poor operational efficiency
- Is the number of consumer complaints very high?
- Is the safety record very poor?

Most of the problems mentioned above would map to key parameters of the system described above in Table 1. Thereby, the bus transport authority or ULB shall need to prioritise the proposed projects and further gauge if it is feasible to undertake the projects on a PPP basis.

STEP 2: DECIDING ON UNDERTAKING THE PROJECT ON PPP

The assessment undertaken so far by the bus transport authority or ULB would help in identifying projects which are required for the improvement of the urban bus transportation system. For the projects so identified, the most important activity would be undertaking a viability assessment of the project under consideration. In this section of the report, the entire process of undertaking a viability assessment of the project has been elaborated. Viability Assessment will help in the facilitation of understanding whether the project is financially feasible, amount of investment required for the project and the approximate returns that can be earned by the private sector and public sector (in case the project involves sharing of revenues). This would be possible by the simulation of a financial model which would project the revenues for the project based on assumptions. This section discusses the various factors which might be considered to arrive at a decision regarding the projects viability. Further, this section outlines the qualitative assessment that the bus transport authority or ULB needs to do in order to decide whether to finally implement the project on a PPP basis or not.

1.20 Viability Assessment

One of the most critical activities which need to be taken up to determine the possibility of developing a project on a PPP mode and to further pursue the same is a detailed financial analysis. The financial analysis so undertaken would determine the viability of the project given the costs involved and the expected revenues from the same. The next step in the entire scheme of activities is therefore to undertake a detailed financial analysis.

The key input for the financial feasibility analysis is the project cost. Two broad categories of costs need to be considered i.e., 1) capital costs for project development and 2) operation and maintenance costs which arise during the operation of the created infrastructure or asset. The following sections define these costs and guide the identification of these costs by the bus transport authority or ULB.

1.20.1 Identification and Due diligence of Project Costs

1.20.1.1 Capital Costs

Capital costs are those which are directly associated with the provision of service of the project. The capital costs include the basic costs of the capital assets for the project such as rolling stock, buildings, and conversion kits (if required). The cost estimates of the project should reflect the full resource costs of the project. The main capital costs identified for any urban bus transportation projects are tabled below.

Table 2: Typical capital costs of urban bus transportation projects

SR. NO	COST	RS. (IN CRORE)
1	Cost of rolling stock	
2	Construction Cost for (Depots/Terminals/Bus Shelters/Administrative/Workshops)	
3	Machinery for Depots (Bus Washers/Fuelling Stations)	
4	Land Acquisition Costs	
5	Preliminary and pre-operative expenses	
6	Interest during Construction	
7	Contingency Expenses	
8	Capitalised Operation and Maintenance	

Source: CRIS

1.20.1.2 Operating Costs

As indicated, in addition to consideration of the capital costs to be incurred for the creation of an asset, the project cost estimation should also include the costs on operation and maintenance of the project. While the exact nature of the costs would be dependent on the service to be delivered, which would in turn be contingent on the project, these costs broadly, include the following items

Table 3: Typical operational costs of urban bus transportation projects

SR. NO	COST	RS. (IN CRORE)
1.	Cost of Fuel (Diesel/CNG)	
2.	Cost of tyres replacements	
3.	Cost of Engine Oil	
4.	Insurance Costs	
5.	Employee Salaries (calculated as Cost to Company)	
6.	Repairs	
7.	Body Maintenance	
8.	Administrative Expenses	
9.	Other Miscellaneous Operating Cost	

Source: CRIS

The operating costs would be identified on the basis of the demand projections presented in the detailed project report and the rates of operating costs identified on the basis of current market rates or rates paid in recent similar projects.

1.20.1.3 Treatment of Grants

Any project in the urban bus transport sector will include one-time, third-party revenues or capital receipts. These receipts, if any, will be deducted from the capital costs. These receipts are in the form of grants or subsidies which accrue either through schemes like JnNURM or fiscal stimulus packages like as a part of the second stimulus package which provided grants for procurement of buses for state bus transport undertakings or viability gap funding scheme of the Government of India.

1.20.2 Due diligence of Project Costs

The urban bus transport authority or ULB has to conduct a due diligence of project costs by benchmarking costs against existing market rates to ensure their credibility, realism and consistency. This is necessary to ensure that the estimates of both project and operational costs are acceptable to prospective bidders. The due diligence of project costs would be dependent on the following factors:

1. **Basis for Estimation of Costs -** The cost must be estimated using the basis of standardised costs, costing of similar projects, actual market prices and standard industry norms

2. **Inflation -** The project would be implemented over a period of time. The project cost must therefore, if based on standard historical costs, be adjusted for inflation. If inflation is not accounted for, then the cost estimated will be lower, which would result in the feasibility study indicating returns higher than what would actually accrue.

3. **Opportunity Cost -** The project will have to be compared in terms of the opportunity cost which is incurred by the executioner of the project by considering the opportunity cost for deploying the resources profitably elsewhere. The implications of omitting opportunity costs are that cost estimates will be lower than actual thereby inflating the returns of the project. This would also help in deciding whether to undertake the project on PPP.

1.20.3 Identification of project revenues

The next important estimation which needs to be undertaken by the bus transport authority or ULB as a part of the financial feasibility analysis is the project revenues. Project revenues are a representation of the income generated from operations of bus transport project, rolling stock etc. Only inflows of a revenue nature should be considered by the bus transport authority or ULB for project revenues. The typical revenues generated from project in urban bus transportation systems have been discussed in the following section.

1.20.3.1 Revenues from project

All project revenues will have to be identified for the project and assessed for feasibility of implementation; Project Revenues can be classified into 2 types of revenues i.e., 1) Direct Revenues that are directly attributable to the project and 2) Indirect Revenues that are indirectly attributable to the project

1.20.3.1.1 Direct Revenues

Direct revenues can be classified as revenues which are directly attributable to the project and are collected from the primary beneficiaries of the project. An indicative list of the direct revenues accruing to a bus transport undertaking project is given in the table below

Table 4: Typical direct costs of urban bus transportation projects

SR. NO	ITEMS	RS. (IN CRORE)
1.	Collection of Fares	
2.	Collection of Pass Revenues	
3.	Advertising Rights on the buses	
4.	Advertising Rights on the bus shelters	
5.	Sale of vending rights on the corridor (if any), terminals, depots and rolling stock	
6.	Parking charges (if any at terminals)	
7.	Penalties/Fines etc.	

Source: CRIS

Direct revenues are specifically tied to the project and they are prima facie part of the project.

1.20.3.1.2 Indirect Revenues

Indirect revenues are revenues which accrue to the project but are not directly connected to it. These enhance the total project revenues if the first level revenues are inadequate. The table below indicates the indirect revenues accruing to the system

Table 5: Typical indirect costs of urban bus transportation projects

SR. NO	ITEMS	RS. (IN CRORE)
1.	Revenues from commercial development of project land	
2.	Sale of FSI along transport corridor	
3.	Transfer of Development Rights (TDR) and sale of FSI (in case if depot land is also a part of the project)	

Source: CRIS

1.20.4 Preparation of the financial model

Once the project costs and revenues are identified, the next stage in the financial analysis is to build the financial model of the project. This task involves the following activities:

1) Identifying all the inputs for the financial model:
   a) Project cost
   b) Project revenues
   c) Operation and maintenance costs

d) Assumptions for the financial model

2) Preparing the financial model including the following components:

a) Calculation of project cash flows

b) Calculation of Project IRR

1.20.4.1 Inputs to the financial model

Some basic assumptions and inputs need to be considered when a financial model is prepared. The inputs and assumptions are listed below.

- Project cost arrived at after undertaking the due diligence
- Any grants which have been approved for the project
- Project revenues including the revenues which have been identified in the preceding sections.
- Operations and maintenance costs which have been identified in the preceding sections.
- Certain assumptions for projecting the cash flows in the future, for instance, long-term inflation rates, long-term interest rates, income tax rates in the future, etc.

All these assumptions will need to be documented as part of the financial feasibility process.

1.20.4.2 Preparation of the financial model

The financial viability of any capital-intensive project is largely defined by the returns on investment the project is expected to earn the investors. Therefore, one of the key objectives behind the preparation of a financial model is to estimate the returns that the project can generate in the future. These returns are calculated on the basis of project cash flows, which are available for investors who have invested in the project, both debt and equity investors.

Therefore, for the calculation of the project cash flows, the following key statements would have to be prepared:

- Projected Profit and Loss A/C
- Projected Balance Sheet
- Projected Cash Flow statement (showing calculations of the project cash flows)
- A statement of the assumptions used across the financial statements
- Total capital expenditure and its phasing

The purpose of the financial model is to estimate the returns of the project. These would be calculated on the basis of cash flows which are available for the investors who have invested both debt and equity in the project. Cash flows would be calculated through profit and loss statements, projected balance sheets and projected cash flow statements. In addition, there would need to be sheets that clearly state the assumptions, depreciation schedules, debt repayment schedules etc. Generally, the financial statements listed above are projected to cover the economic life of the created asset so as to consider the costs of the complete project life cycle. Typically, the projection for projects concerning rolling stock would be for 10-12 years

1.20.5 Assessing the viability of the private investment

There are two kinds of PPP contract structures where:

1. Private operator invests capital in the project.
2. Private operator does not invest capital in the project.

Where the private sector invests capital it has an expectation of an attractive return based on market returns. Therefore such projects need to be assessed for their commercial feasibility to determine whether they would evince private operator interest or not. The willingness of the private operator shall be dependent upon the returns the project shall generate in conjunction with the risk faced by the operator. The following-sub sections describe how to evaluate whether a project will attract a private operator or not.

1.20.5.1 Process flow of viability assessment

The financial model prepared by the bus transport authority or ULB would give the internal rate of return for the project (Project IRR), which would require to be compared against a benchmark to assess whether the project is commercially viable or not. Project IRR is defined as the discount rate at which the net present values of all the cash flows become zero. Projects can be benchmarked against the return provided by similar project. Projects need to be compared against the post-tax Weighted Average Cost of Capital (WACC), which gives a logical benchmark to compare the Project IRR.

Post-tax Weighted average cost of capital (WACC) is a ***minimum return that a project must earn on its asset base to satisfy its creditors, owners, and other providers of capital.*** It is calculated as:

WACC = (I-t) [(E/K)*Ce + (D/K)*Cd] Where:

t = amount of tax applicable

E = Value of equity in the project

D = Value of debt in the project

K = D+E

Ce = Cost of Equity/ Minimum return expected by equity investors

Cd = Cost of Debt/ Minimum return expected by debt investors

The project IRR must at least be equal to the WACC of capital for the project to be called commercially viable. The value of WACC would be directly related to the risk perceived in the project by the investors.

Project Internal Rate of Return > Weighted Average Cost of Capital

The explanation for the usage of the WACC for commercial viability has been explained below.

Sovereign debts (i.e.; 10-year government bonds) carry the least risk because the Government of India is not expected to default on its obligations. This rate is commonly referred to as the risk-free rate of return. All other risks are benchmarked against this rate. Therefore, the Project IRR should be greater than the risk-free rate of return as the investor could easily invest in these bonds and earn the **risk free rate of return.**

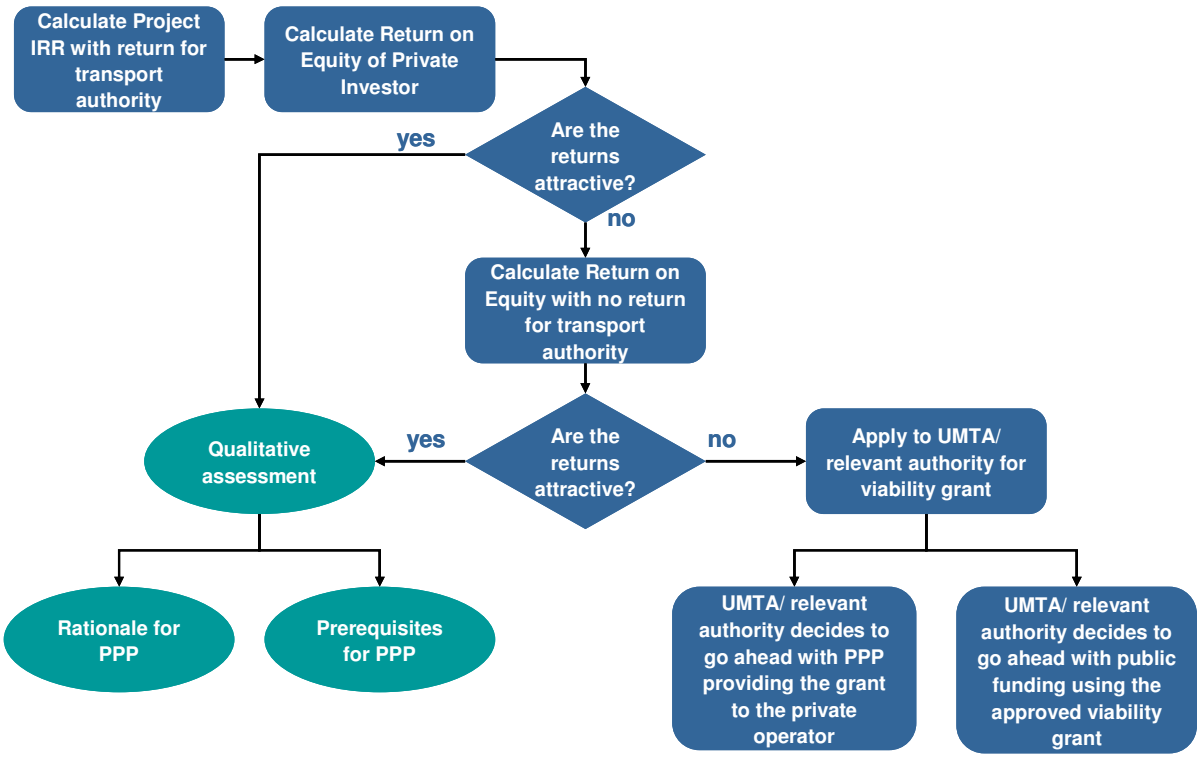
The next least risky option to invest in AAA-rated bonds because these ratings are given to companies with sound fundamentals and stable revenues. This risk of the project under development will realistically be equal or higher than the AAA-rated bond. If the project offers returns less than the AAA-rated bond then investors would prefer investing in the AAA-rated bond which has a lesser risk. In such a case, the public sector should fund the project completely as the returns are not attractive for a private investor.

The next least risky option is the existing long-term interest rate offered by banks. If the return offered by the project is lesser than the long-term interest rate then the investor would be more comfortable investing his capital in lending to a project with the same risk as this project and deriving returns equal to the long term interest rate which are higher than the rate of return of the project.

The next option is investment in other business opportunities. As a representation of all business opportunities available to the investor, the rate of return of the equity market over a long term can be used to compare whether on a objective basis whether the Project IRR is commercially attractive or not. Therefore the final benchmark for the project team would be the long term return on the BSE Sensex or NSE Nifty. In case the returns available for the equity investors is equal or more than the market rate of return the project can be declared as commercially viable for execution through private investment.

This range of the actual project IRR will support the decision to be taken by the bus transport authority or ULB of whether the project is attractive for investors and if the project returns can factor in a return for the bus transport authority or ULB. This process is mapped out in the form of a flow chart given below.

Figure 3: Process flow for viability assessment



Source: CRIS

As evident from this flowchart, if the returns are found to be attractive for the private investor, then the bus transport authority or ULB must consider a qualitative assessment of the PPP option, based on the rationale and pre-requisites. If the returns of the project are lesser than the market returns in both instances, the bus transport authority or ULB should consider viability gap funding.

1.20.5.2 Viability Gap Funding

If the project returns are still not attractive even after factoring no returns for the bus transport authority or ULB, then the bus transport authority or ULB can consider applying for a viability gap funding (VGF) for the project. The VGF scheme by GoI has been initiated with the purpose of lending financial support to those infrastructure projects which are being developed on a PPP basis. However, to be able to attract VGF grant there are a few basic guidelines which need to be adhered to:

- The scheme provides VGF grants to PPP projects in specific sectors, sponsored by any level of administration -- Central Government, State Government and Local Government.
- The VGF support is issued only after the other options of enhancing viability are exhausted or are not possible in the case of a specific project. Therefore, if the bus transport authority or ULB has explored all the available options for funding a proposed project and would need additional investment support to make it commercially viable enough to attract private sector for the project.
- The VGF support is capped at 20% of the project cost. An additional VGF grant, capped at 20%, can be given by the government agency sponsoring the project.
- The VGF scheme provides a one-time grant or deferred grants with the exclusive reason of making the project viable. It is generally in the form of a capital grant at the stage of project construction.
- To be eligible, the project should involve provision of a service against the payment of user charge.
- The approved amount of VGF grant for a project is released in its entirety to the Lead Financial Institution (lead member of the consortium financing the project). The Lead Financial Entity releases the grant after the equity of the private partner is exhausted. The release of the grant to the project is in the ratio of release of the debt.

The extent of VGF support that would be required to make the project attractive for private investment would therefore have to be assessed. The viability gap may be sourced from the city itself through levies like fuel cess, employee taxes, congestion charges, license fees, and betterment levies.

1.20.5.3 Assessment where Private Operator does not invest capital in project

PPPs which require no private investment are in the nature of licensing or management contracts. For the urban transport authority or ULB to decide, a comparison of the cost of service of both the governmental and private option needs to be considered. The service should be outsourced only when the price of the service is lower than the cost incurred in providing the service in-house. The following steps need to be followed to assess the same

1. Based on the service the bus transport authority or ULB would have to list all costs of implementing the service and classify them into fixed and variable costs

2. It would have to separate both these costs into costs which can be retained by the bus transport authority or ULB and costs which need to be transferred to the private operator

3. The bus transport authority or ULB will have to consequently price the service on basis of the costs transferred to a private operator and compare it against pricing if the service were done in-house. Fixed costs will need to be assumed by the bus transport authority or ULB at the same rate while variable costs would have to be taken by assuming a level of operations.

4. If the price offered by private operator is lesser than the price offered by providing the service in-house then the contract can be considered for PPP.

1.21 Choice of public funding and PPP

Once, it has been clearly established that the proposed project offers returns that are adequate to attract a private developer to the project; the bus transport authority or ULB would have to decide whether the project is to be taken up through the route of PPP or complete public funding. The following section of this report would discuss the key parameters the bus transport authority or ULB needs to consider before a final decision on the involvement of the private sector for the project is made.

1.21.1 Key parameters for decision making

The most important parameter to decide between public spending and PPP is if the cost incurred by the public sector to provide the service is more than the cost of the private sector providing the same service. A bus transport authority or ULB's choice of adopting a PPP option would also have to be supported by the following parameters:

1.21.1.1 Innovation

The urban bus transport authority or ULB needs to review whether the private operator would be able to provide the services envisaged in the project efficiently. Generally, the private operator would be able to bring in innovative practices which would help in improving the efficiency of operations of the service. Since his earnings are largely linked to how best the services are provided, the operator has an incentive reduce costs and improve the revenues on the project.

1.21.1.2 Responsibility and risk sharing

It is important that each risk in a project be allocated to that party which is best able to manage the risk at least possible cost. Therefore, it needs to be assessed as to whether a particular risk can be managed better by the private operator at a lesser cost or not. If the case is that the private operator would be able to handle the identified risk better, it is recommended that the same be handed over to it. Additionally, it also needs to be assessed if the private operator can also take up some of the responsibilities of the bus transport authority or ULB and handle the same efficiently. Doing so, would make available some of the resources of the urban transport authority or ULB to undertake some other higher priority projects and or works.

1.21.1.3 Sharing in funding

One of the important and major benefits of private sector participation is that the private developer would have to partake in some of the capital investment for the identified project. Therefore, the urban bus transport authority or ULB is in a position to access some of the private sector funds for developing the projects in the sector. The private operator spending some of the capital costs would also make him responsible for the losses (if any) to be incurred by the project. It also frees up capital which the government would otherwise have to spend on the project. Thus the opportunity cost for the government is avoided.

1.21.2 Rationale for PPP

The choice of opting for a PPP-based route for execution of the identified project would be dependant upon a set of key parameters. These parameters justify the use of PPPs in creation of an asset in the urban bus transport undertaking. These parameters shall guide the decision of implementing through a PPP or not. The rationale for PPP will be based on three important questions

1. Will the private sector be able to bring in efficiency by cutting on costs and increasing revenues?
2. Will the private operator be able to invest in funds in the project?
3. Can the risks and obligations be handed over to the entities best equipped to handle them?

1.21.2.1 Improvement in Efficiency

The bus transport authority or ULB will need to assess whether the private sector can bring in efficiency in the provision of the service. The bus transport authority or ULB has to obtain the cost of public service which can be obtained from the financial assessment undertaken which making a current assessment of the urban bus transport undertaking. The private operators' cost of service can be derived from the financial feasibility exercise conducted in the preceding sections. This comparison of costs must be done after the financial model prepared in the preceding task is refined according to a suitable PPP model. This exercise would generate the service costs for the PPP arrangement for comparison with the public sector costs obtained before. The Rationale for PPP would be based on answers to the following questions

1. Has the bus transport authority calculated its own cost of service to compare with the private operator?
2. Will the private sector be allowed to innovate to bring in efficiency and improve the efficiencies of operation?
3. Will the innovations identified bring in efficiency in terms of revenue realization or are the savings going to be marginal in nature?

1.21.2.2 Resource Constraints

The bus transport authority or ULB will have to assess whether any constraints like existing work force, limited resources, and obsolete technology can be removed internally by the bus transport authority or ULB. If these cannot be removed internally then PPP must be considered. Resource constraints would be based on the bus transport authority or ULB answering the following questions

1. What are the required resources required – land, labour, technology etc.?
2. What are the constraints in providing the service?
3. What is the nature of the constraint?
4. Can the constraint be removed?
5. Can the bus transport authority or ULB remove the constraint itself?

1.21.2.3 Capacity of Private Sector to offer service

The bus transport authority or ULB needs to assess if the private sector would be able to provide the service. This stems from private operator having the technical and financial capability to execute the project. Otherwise, the bus transport authority or ULB will have to provision the service with internal sources. The urban bus transport authority or ULB also needs to assess if there is a requirement for the presence of multiple players in the market to ensure a competitive bidding process to ensure competitive quotes for the contract. The capacity of the private sector would be based on the bus transport authority or ULB answering the following questions

1. Will the private sector face the same constraints besetting the bus transport authority or ULB?
2. Is the private player technically and financially capable?
3. Are there enough players in the market to ensure competitive rates?

1.21.3 Prerequisites for PPP

In addition to consideration of the factors of improvement of efficiency of operation, resource constraints and capacity of the private sector it is important for the bus transport authority or ULB **to assess whether the bus transport authority or ULB has the right to appoint a private operator through a PPP contract for providing a service for which it has a legal mandate.** Additionally it needs to assess if there are some approvals required from some higher authorities to be able to involve a private operator in provision of urban bus transportation projects. The urban bus transport undertaking will also assess whether there is a need for an enabling provision in the authority's bye-laws or other legislations to provide an environment suitable for PPP arrangement.

The bus transport authority or ULB would be able to take a final decision on whether private sector participation is required for the provisioning of bus transport services based on the general views of the public and the support extended by the political representatives. The inclusion of private sector in this domain which has traditionally been public is a sensitive matter. The bus transport authority or ULB would therefore have to necessarily consult the various stakeholders who are directly or indirectly related to the provisioning of bus transportation services provided. A detailed process of consultation would be necessary with the end consumers and the members of the Municipal Councils or Corporation to create awareness regarding the proposed change in hand in provision of the service, and in the interactions so held, the concerns of the stakeholders would need to be gauged well. This is a very important step which would be required to be carried out before the bidding process is started.

1.21.4 Making the Choice

A study of the financial feasibility of the project involves a comparison the project IRR with a series of benchmarks. Based on the analysis presented in Section 1.20.5, the bus transport authority or ULB will assess whether the project is viable enough for a private investor to invest in. If the project returns are attractive, then the project will be judged suitable for PPP. Once the viability of the project is established, a qualitative assessment of the project as detailed in Section 1.21.2 and Section 1.21.3 needs to be carried out to assess the capacity of the private sector to provide improvements in efficiency as well as capacity to infuse capital, and its ability to work with current existing constraints. The PPP structure will also be assessed for its legal validity via existing laws and bye-laws as well as its acceptance with public and political stakeholders. Even though the project might not be commercially viable other parameters permitting the bus transport authority or ULB might consider implementation of the project with a viability gap.

After going through the above stages, the bus transport authority or ULB will have to finalize the choice i.e., PPP or public funding. This final decision needs to be well-documented with its rationale for deciding why PPP is suitable for the implementation of the project with the subsequent choice of type of PPP structure.

STEP 3: CHOOSING THE PPP STRUCTURE

Once it has been decided by the bus transport authority or ULB to implement the project on a Public Private Partnership basis, the bus transport authority or ULB will have to select the appropriate contractual structure which would be used for the implementation of the project structure. The following activities mentioned below need to be performed to ensure this:

1. Ownership of Asset
2. Identification of all possible risks
3. Allocation of risks
4. Identification of contractual structures
5. Selection of appropriate contractual structure for PPP

1.22 Ownership of Asset

The major driver for the ownership of the asset in a project is operational costs and capital costs of the project. Capital costs involve the procurement of new buses and other transport infrastructure while operational costs are the costs involved in the day-to-day operations of the venture. This is supported by the analysis of the current assessment of the bus transport undertaking, as detailed out in Section 0 which gives information on operational costs and financial feasibility carried out in Section 0 which gives information on the capital costs of the project. These costs lead to three scenarios

1. Revenues of the project are not enough to cover even operational costs
2. Revenues of the project are enough to cover operational costs and only a part of capital costs
3. Revenues of the project are enough to cover both operational and capital costs

Revenues of the project are not enough to cover operational costs

If the revenues are not enough to cover even operational costs then the assets should be owned by the bus transport authority or ULB and the private operator could be appointed for operations and maintenance of the system.

Revenues of the project are enough to cover operational costs and only a part of capital costs

If the revenues are not enough to cover capital costs then the assets could be owned by an SPV in which both the bus transport authority or ULB and private operator invest in the capital assets. The operations and maintenance of the rolling stock would still reside with the private operator.

Revenues of the project are enough to cover both operational and capital costs

If the project revenues are enough to cover both operational and capital costs then the ownership of the assets should reside with the private entity for the concession period including operations and maintenance of the system.

1.23 Identification of Risks

The risks associated with the project would be required to be identified. The process of identification of risks pertains to different phases of the project. The typical phases in a project would include the inception phase, developmental phase and the operational phase. An indicative set of risks associated with a project along with the consequences is presented in Table 6.

Table 6: Types of risk in an urban bus transportation sector

RISK	EXPLANATION	CONSEQUENCES
Commissioning Risk	The risk that the bus transport authority or ULB and/or the private operator might not receive all the approvals necessary to provide services	• Additional costs • Delay in project
Demand Risk	The risk that the demand for the project may not actually translate when the project is implemented	• Reduced Revenues/Losses
Design Risk	The risk that the project will not be able to meet the performance and quality standards specified	• Additional Costs • Redesigning • Delay in project
Financial Risk	The risk that the project will not be able to achieve financial closure and/or will have problems raising debt for the project	• Additional funding costs • Default in Obligations • Delay in project
Force Majeure Risk	An unanticipated act such as natural disaster, unnatural disasters like strikes/riots leading to damage to buses, earthquake or flood etc. that delays or destroys the assets of the project	• Additional Costs • Reduced Revenues/Losses
Operating Risk	The risk that the day to day operations will be adversely affected	• Additional Costs • Reduced Revenues/Losses
Performance Risk	The risk that the private operator will not be able to adhere to the performance and quality standards that have been defined	• Reduced Revenues/Losses
Change in law risk	The risk that the legal framework which affect the project will be affected	• Additional Costs • Cost of compliance with new regulations

Source: CRIS

1.24 Allocation of Risks

The next step shall be to allocate the risks to the parties of the Project. The main principle of risk allocation is that risks need to be allocated to the entity which is best equipped to handle the same thus enabling the least cost as well as efficiency. This is determined more by an assessment of each of the parties to reduce the probability of a risk occurring. Factors for risk allocation are

1. Strengths of each entity, i.e., bus transport authority or ULB and private operator to handle each risk
    a. Previous experiences of the private operator and bus transport authority or ULB
2. Public Interest
3. Market attitudes towards risk

All risks identified need to be classified as retained risks (still with bus transport authority or ULB), transferable risks (transferable to private operator) and shared risks (shared by both parties). Risk-sharing has to occur in accordance with an agreement with both parties. In the case of transferable risks, the private operator needs to have the freedom to decide the best suitable option to handle that risk. Shared risks are those risks which both the entities have no control over. Risks allocations should make provision for risk mitigation. The risks identified and allocated should be represented as a risk matrix tabled below.

Table 7: Indicative risk matrix

RISK	RISK ALLOCATION		RISK MANAGEMENT STRATEGY
	TRANSPORT AUTHORITY OR ULB	OPERATOR	
Commissioning Risk			
Demand (Usage) Risk			
Design Risk			
Performance Risk			
Financial Risk			
Force Majeure Risk			
Operating Risk			
Change in Law Risk			

Source: CRIS

1.24.1 Risk Mitigation Strategy

Once the risks have been identified, and allocated appropriately, the next activity to be undertaken is development of possible risk mitigation strategies. Risk mitigation strategies are developed with the intention of reducing each party's exposure to risk.

The possible strategies for mitigating risks in the system are

1. Preparation of comprehensive contract
    a. Provision for all outcomes for project
    b. Identification of regulations and approvals
    c. Identification of obligations of each party based on the risk matrix
    d. Well-defined mitigation processes for each identified risk
2. Proper and transparent bidding process
3. Preparation of contingency plan
4. Insurance for Force Majeure, private operators risks
5. Pass through of risks
    a. In the case of private operators, transfer of risks to sub-contractors if any
6. Creation of a transport fund which would receive all the revenues (Direct and Indirect) that would accrue to the project.
    a. It would be used to make payments of VGF (if required) to the private operators
    b. It would be used to make investments in other infrastructure like bus stops etc. if necessary

1.25 Identification of Contractual Structures

Once the risk matrix as explained in Table 7 above has been constructed, the bus transport authority or ULB has to subsequently identify the contract structure which would fit the identified risk allocation scheme, i.e., Risk Matrix. This would require a listing of all the possible contract structures and a comparison of the risk allocation of each of these with the derived risk matrix. PPP arrangements are dynamic in nature and most arrangements are dependent on existing conditions.

The study of implementation of PPP structures in India for rolling stock as well as a study of available literature yields chiefly four types of structures, which can be used for the implementation of PPP in India. These are:

1. Cost Plus Contract
2. Gross Cost Contract
3. Net Cost Contract
4. Licensing Contract

The sections below contain a brief explanation of each of these contracts. These contracts have been covered in detail in Volume 2 of this toolkit.

1.25.1 Cost Plus Contract

A Cost Plus Contract is classified as a PPP arrangement, which is typically a lease contract agreement. Under this arrangement, the private authority handles the activity of operations and maintenance of the bus transport system. Private Operators own and run the buses while the bus transport authority or ULB collects revenue. The private operators are paid on a per-km basis, decided by the operating cost of each bus. The basis of such a contract is to bring in ensure quick ramp-up of capacity of the services as well as improvement in the running of the system. Cost Plus contracts are preferred when the revenues of the project are not enough to cover even the operational costs of the system.

Pune Mahanagar Parivahan Mahamandal Limited (PMPML) and Jaipur City Transport Services Limited (JCTSL) have applied the Cost Plus arrangement successfully in the urban bus transport sector.

1.25.2 Gross Cost Contract

A Gross Cost contract is also typically a lease contract agreement. Under this arrangement, private operators own and run the buses while the bus transport authority or ULB collects revenue. Under this agreement, all the fare revenues are transferred to the authority, which selects the private operator offering to provide the service required at the lowest cost. The contracted payment contained in the bid can be in terms of a fixed per hour charge for the bus or a per kilometre charge. Gross Cost contracts are preferred when the revenues of the project are not enough to cover even the operational costs of the system but there are many bidders for the project.

Copenhagen and London in the UK provide examples of the implementation of Gross Cost Contracts.

1.25.2.1 Difference between Cost Plus and Gross Cost Contracts

The key difference between a cost plus contract and a gross cost contract is that in the case of a cost plus contract, the liability of the bus transport authority or ULB is high i.e., the bus transport authority or ULB will reimburse the operating costs of the franchisee on the basis of what has been incurred. In the case of the gross cost contract, the liability of the bus transport authority or ULB is limited to the negotiated amount of payments to be made to the franchisee as consideration for its services. Thus in a gross cost contract, a part of the operational risk is transferred to the franchisee and he has an additional incentive to induce efficiencies in his operations to increase its profit margin. A gross cost contract thus achieves more operational efficiency because the operators profit will be directly proportional to the cost savings which he manages to get as the revenues in his case are fixed.

1.25.3 Net Cost Contract

A Net Cost Contract is typically a lease contract arrangement. Private operators procure, own and run the buses. The private operator also collects the revenue. Under a Net Cost Contract, the operator provides a specified service for a specified period and retains all the revenue. The authority may consider a payment of a subsidy to the operator if the bus services in the area are unprofitable. If the services are profitable then the private operator can consider

payment of a fixed amount to the bus transport authority or ULB. Net Cost Contracts are preferred when revenues from the project are enough to cover the operational as well as capital costs of the project

A Net Cost Contract is a type of PPP arrangement successfully applied in India's growing bus transport sector. Indore City Transport Services Limited (ICTSL) has implemented a Net Cost Contract for the running of its operations.

1.25.4 Licensing Contract

A Licensing Contract is typically an operations and maintenance contract arrangement. Under this arrangement, the bus transport authority or ULB procures the buses. Typically, buses are procured through grants available through government schemes like JnNURM. The bus transport authority or ULB pays a proportion of the amount towards the procurement of the buses while the remaining amount is contributed by way of a grant from the central and state governments. The private operator pays the amount incurred by the bus transport authority or ULB towards purchase of the buses. It operates and maintains the bus services and collects the revenue and remits to the bus transport authority or ULB a royalty based on a per-km basis. Licensing Contracts are preferred when revenues from the project are enough to partly cover the operational as well as capital costs of the project

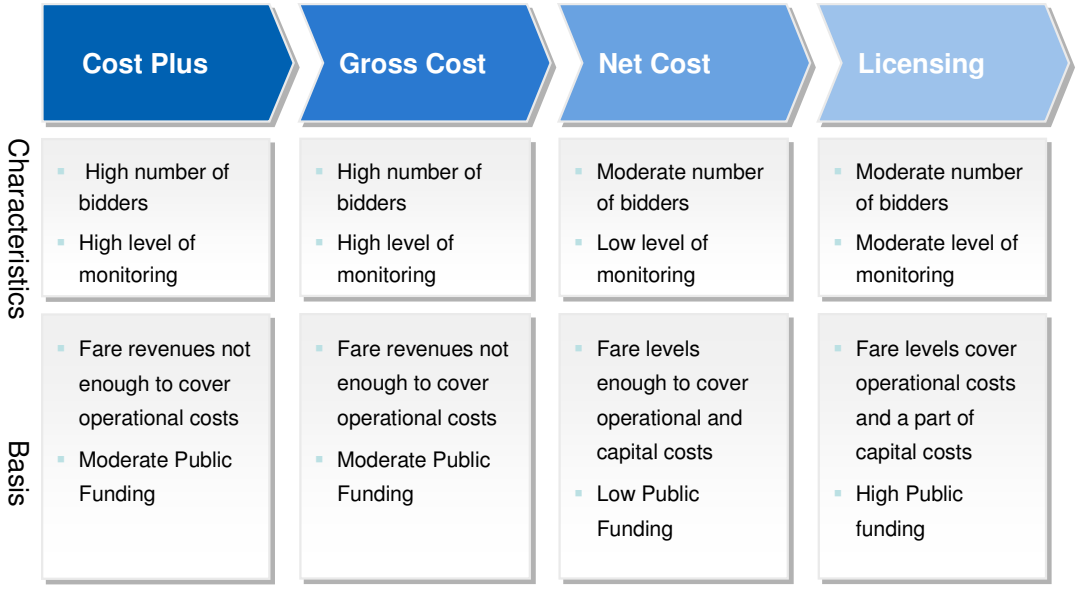
1.25.4.1 Difference between Licensing and Gross Cost and Net Cost Contracts

The key difference between a licensing contract and other contract such as net and gross cost contracts is that in the case of the a licensing contract, the ownership of the assets rests with the bus transport authority or ULB as it has invested in the procurement of the asset. The bus transport authority or ULB would licence the private operator for the operations and maintenance of the bus system. The private operator would adhere to the bus transport authority or ULB's performance standards and operate and maintain the buses.

1.26 Selection of Appropriate Contractual Structure for PPP

Some of the possible PPP options have been discussed in the Section 1.25 above. In addition to these, there may be other PPP structures which may be developed to suit the specific requirements of the bus transport authority or ULB. The authority would then need to review the PPP alternatives with the project requirements to determine the best suited PPP option. **An indicative PPP structure matrix along with different status of the existing value chain of services** has been represented in the following matrix followed by a detailed explanation of the same.

Figure 4: Selection of PPP Structures



Source: CRIS Analysis

1.26.1 Competition for Contract

Gross Cost, Cost Plus Contracts create more competition than net cost contracts because of the preference of the risk allocation by private operators. The is due to demand risk being borne by the private operator in Net Cost Contract and Licensing Contract and by the bus transport authority or ULB in the case of Cost Plus and Gross Cost Contracts. Demand risk with the bus transport authority or ULB ensures fixed returns to the operator, even though there is a low demand for services. Hence the number of bidders also plays a role in deciding the type of contract to be implemented.

1.26.2 Ease of contract management

Gross Cost and Cost Plus Contracts require an effective monitoring system to ensure compliance with performance standards as the revenue streams of private operators are not tied to demand. In case of Net Cost and Licensing Projects which have a good demand such extensive monitoring would not be required. Under the Net Cost, Gross Cost and Licensing contracts the operator has the incentive to increase profit by introducing operational efficiency. In the case of Cost Plus Contracts, the private operator has no incentive to bring in operational efficiency as his earnings are directly linked with the operational costs he incurs. The provision of subsidies (children's passes, students, disabled passes) under a net cost system would be difficult as there is no incentive for the operator to cater to passengers offering lower fares. Furthermore disputes over payments may arise

Hence based on the ease of contract management that the urban transport authority or ULB wants with respect to monitoring and complexity of contract, the bus transport authority or ULB should decide on the contract structure

1.26.3 Basis of Appropriate Structure

If the revenues of the project are not enough to cover even operational costs then a gross cost or cost plus contract would be preferred. If the revenues of a project are not enough to cover capital costs then the licensing contract can be considered provided buses have been funded by a grant with the private operator paying the amount spent by the bus transport authority or ULB in procurement of buses. If the project revenues are enough to cover both operational and capital costs then a Net Cost Contract is preferred.

STEP 4: PPP PROCUREMENT

The phase of PPP procurement will include the finalization of the funding structure of the project, definition of the implementation structure and planning of the procurement process. The contract structure identified in the previous structure would be translated into a workable structure with clear definition of the roles and responsibilities of each of the parties. This is termed as the implementation structure. Based on this implementation structure the contract for the PPP arrangement would be drawn up and the procurement plan finalised and put into operation.

1.27 Implementation Structure

The primary task of the bus transport authority or ULB before the drafting of the contract would be to define an implementation structure which is the framework of the primary relationship between the private operator and bus transport authority or ULB. It can be divided into the following components

- Allocation of Demand Risk
- Tariff
- Government Commitment
- Performance Indicators/Parameters
- Payment Terms
- Bid Criteria

1.27.1 Allocation of demand risk

Demand Risk is the risk that the actual demand for the service on the proposed urban bus transport system will be lesser than the demand for the service estimated as a part of the financial feasibility. The allocation of demand risk is important because this determines the risk return profile of the project. Private operators as stated earlier are open to the concept of a PPP project only if they are comfortable with the allocation of risks. The allocation of commercial risks is primarily drawn from the risk matrix. This can be changed to make the project more attractive to private operators. For e.g. Guaranteeing a minimum amount of traffic on the routes and setting payment levels based on actual traffic levels. An optimal risk allocation matrix, especially for demand risk will ensure good participation and competition for the bid.

1.27.2 Tariff

In the case of urban bus transportation contracts, tariffs are probably the most sensitive aspect of PPP contracts. The bus transport authority or ULB needs to consider the methodology to be followed for tariff setting. When there is competition in the market for the same service, private operators have to be given scope for setting tariff as the competition serves as a good check for the prices being in control. In the case of some degree of monopoly the tariff needs to be regulated and set by the government to ensure the tariff

charged is fair. It is advisable for the tariff setting mechanism to remain with the bus transport authority or ULB if it desires to protect the weaker sections of society.

1.27.3 Government Commitment

The government commitment to the project needs to be clearly drafted in the agreement. Clear clauses have to be inserted in the agreement stating the process to be followed in the case of the termination of the agreement.

1.27.4 Performance Indicators/ Parameters

The bus transport authority or ULB has to specify performance indicators/parameters to gauge the performance of the system. These performance indicators can be based on the parameters described in Section 1.17. Penalties for the non-conformance to these performance parameters will be constituted to ensure performance is sustained.

1.27.5 Payment terms

In PPP arrangements the payment can flow from the private operator to the bus transport authority or ULB or vice-versa. The private operator may pay the bus transport authority or ULB a royalty for using its bus transport infrastructure or for the right to operate services or both. In case of the project not being commercially viable, a viability gap can be considered.

1.27.6 Bid Criteria

The Bid Criteria for the project depends upon the need of the bus transport authority or ULB. The bidding parameter can vary from the cost per-km which will be paid to bus operator in the case of Cost Plus Contracts and Gross Cost Contract. It can also be based on the per-km royalty which would need to be paid to the bus transport authority in case of a net cost or licensing contract. In case of licensing contracts the bid parameter can again be the amount to royalty on a per-km the private operator is willing to pay to the bus transport authority.

1.28 Drafting the PPP contract

The PPP Agreement would be documented out from the final implementation structure into a legally enforceable document. The PPP document would have to be drafted before the initiation of the PPP procurement process as during this process, prospective bidders would need to know the terms and conditions of their contracts. The agreement would make bidders aware of their roles as well all the risks and obligations involved in the transactions.

A typical contract would contain

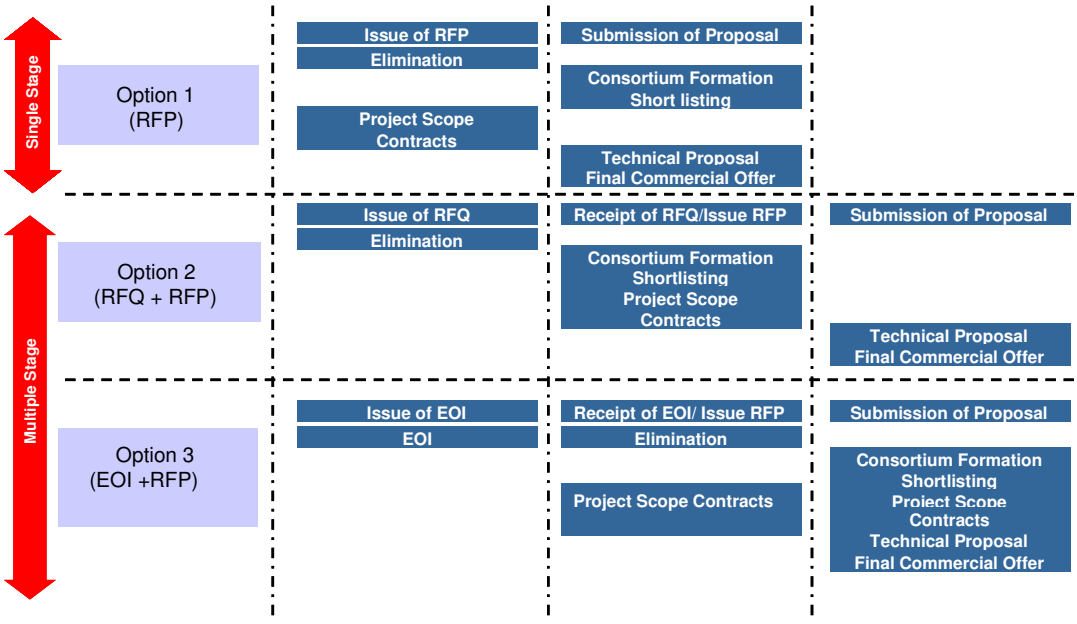
1. Recitals
2. Definitions and Interpretations
3. Rights of the parties
4. Obligations of the parties to the Contract
5. Consideration of the contract

6. Payment Mechanism
7. Performance Management
8. Defaults and Consequences of defaults
9. Dispute Resolution
10. Termination of the Contract
11. Effect of Termination i.e. terminal payment arrangements and other issues related with the termination

1.29 Managing the Procurement Process

Once, the PPP contract document is drafted, the bus transport authority or ULB shall have to commence with the procurement process of the private operator. The following schematic represents the range of procurement processes that can be implemented by the bus transport authority or ULB.

Figure 5: Alternative procurement process strategies



Source: CRIS

The bus transport authority or ULB would select the procurement process based on which is most suitable to the project. This selection would be based on the matrix given below

Table 8: Selection matrix of procurement process

OPTION	PROJECT CHARACTERISTICS	BIDDER CHARACTERISTICS
Option 1 (RFP)	• Project Scope is unambiguous • Execution options well	• Bidder Universe is well-defined and limited

OPTION	PROJECT CHARACTERISTICS	BIDDER CHARACTERISTICS
	defined	
Option 2 (RFQ + RFP)	• Project Scope if ambiguous and requires extensive discussions	• Bidder Universe is well-defined • Number of Bidders is large and needs to be limited • Considerable effort required by bidders to submit proposal
Option 3 (EOI + RFP)	• Project Scope if ambiguous and requires extensive discussions	• Bidder Universe is limited • Bidder Profile needs sharpening • Considerable efforts required from bidders to submit proposals

Source: CRIS

The following sections describe the procurement process based on the common two-stage (RFQ-RFP) procurement process which is extensively followed. The bus transport authority or ULB can select any other type based on the unique characteristics of the project

1.29.1 Pre-Bid Activities

The first steps in pre-bid activities are to reinforce linkages between feasibility stage and procurement phases for the project. This stage would review and analyze the following

1. Project Scope, Definition and Objective
2. Procurement Plan for reviewing in terms of timelines, strategies, processes and deliverables
3. Nature of project and structuring in terms of potential project structure and sources of funds
4. Payment mechanism in terms of payments to/from bus transport authority or ULB
5. Updating the Risk Matrix after the PPP feasibility stage
6. Third Party Contracts

The following steps would entail the key decisions to be taken in the procurement process. These includes

1. **Bidding timeframes** – The time period required for the bidder to prepare and submit the bids. This would be directly linked to the size of the bid and impact the quality of the bid

2. **Information related to Bus Transport Undertaking assets** – All information relation to the service delivery assets including their condition and maintenance schedules should be provided

3. **Labour Issues** – If existing staff are displaced through the project then bidders need to be provided with information and implications of the same in the RFP document.

4. **Regulatory Requirements** – Sufficient provision should be made for providing time for compliance with regulatory requirements

1.29.2 Prepare RFQ and pre-qualify Bidders

The Request for Qualification (RFQ) in the PPP procurement process is to limit the number of bidders in a manner, so that only technically and financial qualified bidders are selected for the next stage of the PPP procurement process.

The bus transport authority or ULB has to prepare the RFQ document to effectively communicate to private bidders the service delivery specifications of the project. It should allow respondents to provide appropriate information about them. It should also clearly lay down the evaluation criteria in the document

The indicative contents of a RFQ document are given below

Figure 6: Contents of an RFQ

The RFQ typically has the following details about the project and the evaluation process

1. Disclaimer
2. Terms and conditions of the issuance of RFQ
3. Outline of the contents of the RFQ
4. Purpose of issuing the RFQ- A brief description of the intention of the transport authority to undertake the project
5. Project Information- Detailed information of the project including descriptions, background, performance parameters, financing structure, risk allocation etc.
6. Description of the procurement process along with evaluation criterion
7. Instructions to respondents
8. Information required from bidders along with information formats
9. Description of the evaluation process

Source: CRIS

The RFQ should be should be well advertised as per the existing rules of business and hosted on the bus transport authorities' website if possible.

The bus transport authority or ULB must respond to any request for clarifications by bidders that is received within a pre-determined date as per the procurement plan. It should also hold a pre-bid meeting if possible to answer issues raised by bidders

1.29.2.1 Evaluation of Responses

The responses received to the RFQ document have to be evaluated based on the evaluation criteria in the RFQ document. The evaluation criteria need to consider the technical and financial capability of the private operator and its understanding of the project and its skill sets to deliver the project.

Bidders meeting the RFQ criteria should be notified by the bus transport authority or ULB and invited to place a bid. The notification should also indicate the terms and conditions for obtaining the Request for Proposal documents, date and cost of the documents

1.29.3 Preparation of Request for Proposal (RFP)

The RFP document is the most critical stage of the PPP process as it is a means of communicating the project service requirements to the bidders of the project. The structure of the RFP documents must clearly communicate the information required from the bidders. The form of information has to be clear and concise. The indicative contents of a RFP document are shown in the exhibit below

Figure 7: Contents of RFP document

- ***Introduction to the project***
  - *Description of project*
  - *Milestones of project*
  - *Scope of Work*
  - *Brief Description of Bid Process*
  - *Contract Structure*
  - *Contents of RFP Document*
- ***Principal Document***
  - *Definitions*
  - *Instructions to Bidders*
    - *Enquiries & Clarifications*
    - *Submission of Bid*
  - *Description of the Selection Process*
    - *Evaluation Criterion*
- ***Evaluation***
  - *Technical Proposal*
  - *Commercial Proposal*
  - *Selection of Preferred Bidder*

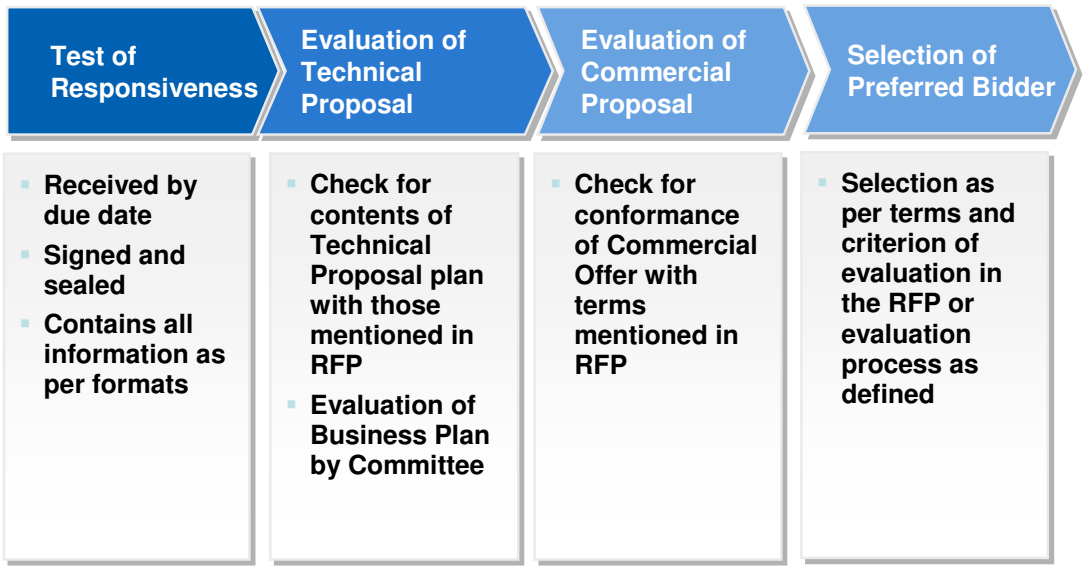
Source: CRIS

The bus transport authority or ULB must distribute the RFP document to pre-qualified bidders.

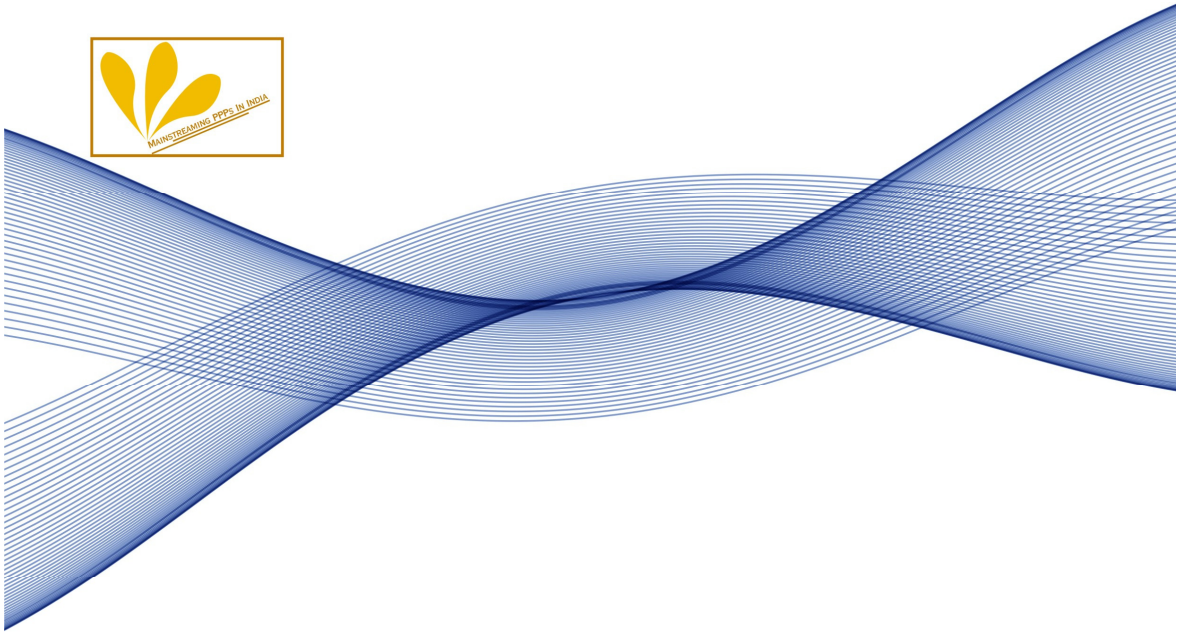
1.29.4 Evaluation and Selection

The evaluation of bids is an extremely important and final stage in the PPP Project lifecycle. To ensure transparency the evaluation criteria, processes and timelines need to be stated clearly in the RFP. The RFP would be evaluated based on the Exhibit shown below

Figure 8: Evaluation of RFP



The Preferred Bidder will be selected based on the terms and conditions of the RFP.



Urban Transport

Volume - 2 : PPP Structures

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LIST OF ABBREVIATIONS

DPR:	Detailed Project Report
ICTSL:	Indore City Transport Services Limited
JCTSL:	Jaipur City Transport Services Limited
JnNURM:	Jawaharlal Nehru Urban Renewal Mission
PPP:	Public Private Partnership
PMPML:	Pune Mahanagar Parivahan Mahamandal Limited
SQP:	Service Quality Plan

2 BACKGROUND

This volume of the report provides key information relating to the four PPP structures mentioned in Volume 1 of this toolkit that have been studied and reviewed in great detail. These four PPP structures represent the different types of contracts which can be used in the procurement of rolling stock (i.e. buses) for urban bus transport undertakings. The overall structure of each PPP Contract, the obligations of the involved parties, the nature and type of risk allocations between the public and private entity and other key features have been presented. The four PPP structures for the procurement, operations and management of a bus urban transportation system are:

1. Cost Plus Contract
2. Gross Cost Contract
3. Net Cost Contract
4. Licensing Contract

Each of these structures has been discussed in the detail in the following sections.

3 COST PLUS CONTRACT

A Cost Plus Contract is classified as a PPP arrangement, which is typically a lease contract agreement. Under this arrangement, the private authority handles the activity of operations and maintenance of the bus transport system. Private Operators own and run the buses while the bus transport authority or ULB collects the revenue. The private operators are paid on a per-kilometre, calculated on the operating cost incurred for each bus. The basis of such a contract is to ensure a quick ramp-up of capacity of the services as well as improvement in the running of the system.

Pune Mahanagar Parivahan Mahamandal Limited (PMPML) and Jaipur City Transport Services Limited (JCTSL) have applied the Cost Plus arrangement successfully in the urban bus transport sector in India.

3.1 About the PPP Structure

Under this agreement, the private operator would be required to procure buses and lease them to the bus transport authority or ULB based on a pre-determined per-kilometre charge agreed upon in the contract. The bus transport authority or ULB employs the conductor who collects the fare revenue. The private operator is in charge of the operations and maintenance of the buses and employment of skilled staff for the running of the buses. The private operator maintains a record of the kilometres travelled each day by the buses and is reimbursed in terms of the per-kilometre charge. The running rate per kilometre is decided by a combination of the following components quoted on a per-kilometre basis:

1. Hiring Cost (C)
2. Staff Labour Cost (S)
3. Fuel, Oil and Lubricants (F)
4. Tyres Cost (T)
5. Repair and Maintenance Cost (R)
6. Depreciation and Interest Charges (D)
7. Taxes, Fees and Insurance (X)
8. Other Charges (O)

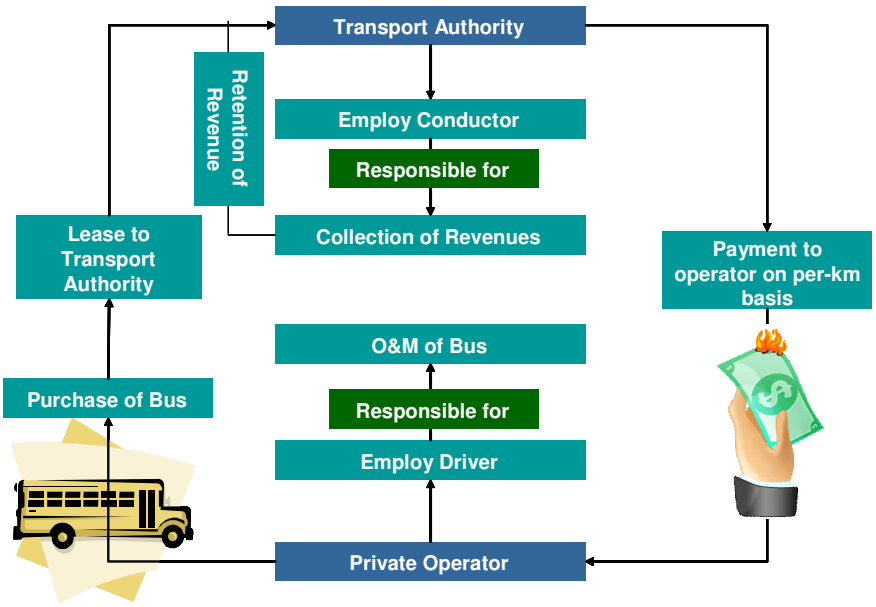
Therefore Hiring Cost C = S + F + T + R + D + X + O

In the case of the Cost Plus contract, the private operator has to bear all the costs associated with the procurement of the buses. The buses procured need to conform to standards as specified in the contract by the bus authority. The bus transport authority or ULB would appoint the private operator and specify the physical specifications of the buses, performance standards and penalties, and minimum running for the buses. The contract between the two entities is indicated in the agreements and varies between five-seven years or is dependent upon the usage of the bus (typically 7, 50,000 km)

The private operator would be able to recover the investments made by made by way of a per-km charge levied based on the operational expenses incurred by him. The bus transport authority or ULB that collects the revenues decides the fares charged to passengers. The per-km charge is reviewed whenever there is a rise/fall in the price of fuel, spares etc., used in the operation of the buses as specified in the contract.

The figure and table below contains the key roles and responsibilities of the stakeholders

Figure 9: Structure of Cost Plus Contract



Source: CRIS Analysis

Table 9: Key roles and responsibilities of private operator and bus transport authority

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
Primary Task	Procure buses and skilled staff for operations, maintenance of buses	Setting of fares, Route Planning and management of transport infrastructure like bus stops, terminals etc.
	Procurements of permits	Monitoring and regulation of performance and quality standards
	Procurement of diesel, spares, engine oil etc. and other consumables for running of buses	Collection of all revenues such as tickets, seasonal tickets, advertising revenues etc.
Fares & Payments	The private operator receives a payment in terms of per-kilometre charge based on operational expenses incurred	Setting of fares and collection of fares
Operating Expense	Spares, Minor and Major Repairs	NA
	Fuel	
	Any other O&M expense	

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
	Registration of Buses	
Capital Expense	Bear capital expenditure for the procurement of buses	NA
Asset Ownership	Private operator takes over the assets after the end of the contract	Buses are run in the name of the bus transport authority or ULB

Source: CRIS Analysis

A detailed list of the obligations and responsibilities of the bus transport authority or ULB and private operator is presented in Volume IV of this report.

3.1.1 Preparatory work by bus transport authority or ULB

Before such a contract comes into effect, both the private operator and the bus transport authority or ULB would need to undertake certain preparatory activities. In order to set reasonable targets for the private operator, the bus transport authority or ULB would need to:

- Undertake a survey to evaluate the routes on which it intends to ply the buses.
- Establish the exact requirement and physical specification of buses required for operation, and the routes on which the buses would operate.
- Create a service quality plan (SQP) which contains performance and quality parameters for the system. The system would also provide for the imposition of fines and penalties in case of non-conformance with the quality contract.
- Make a provision for facilitating inspections of the bus, checking of the log of kilometres run, display of advertisements and fitment of vehicle-tracking devices in the buses.
- Provide the private operator the right to use of the transport infrastructure such as bus stops and bus terminals.
- Provide the private operator the rights to use the bus depots and specify clear terms for the usage, specifications and area of the bus depot.

3.2 Key Risks

The key risks, which need to be borne by the private operator and bus transport authority or ULB, are stated as follows:

Table 10: Key risks of the private operator and bus transport authority

ACTIVITY	PRIVATE OPERATOR	TRANSPORT AUTHORITY	COMMENTS
Commissioning Risk			
Procurement of buses for the commencement		√	The buses will have to procured as per the bus delivery schedule and specifications mentioned. The private operator is liable to

ACTIVITY	PRIVATE OPERATOR	TRANSPORT AUTHORITY	COMMENTS
of operations			pay a penalty for any delay in procurement of buses.
Delay in allocation of bus depot	√		The specifications, location and area of the depot will be clearly mentioned in the contract and right for usage of the same will be given to the private operator on the commencement of operations
Demand (Usage) Risk			
Demand for buses is not adequate		√	The private operator collects his revenues based on a per-kilometer charge levied and therefore the demand risk for operations lies solely with the bus transport authority or ULB
Performance Risk			
Adherence to the service quality plan and performance parameters		√	The private operator is required to adhere to the service and performance quality standard failing which he would be required to pay fines/penalties.
Financial Risk			
Cost for procurement of buses	√		The private operator is solely responsible for arranging the finances required to procure buses
Collection of fares		√	The bus transport authority or ULB is responsible for the collection of revenues through its mechanisms
Force Majeure Risk			
Force Majeure Risk	√	√	Each party is to bear their individual cost pertaining to their respective assets
Operating Risk			
Provision of operations of the buses		√	The private operator operates and maintains the buses and is paid a per- km charge based on his operational costs. Therefore the bus transport authority or ULB would be liable for payment if there is an increase in operational costs.
Labor	√	√	The private operator will arrange for the drivers and mechanics for operations of the buses and the bus transport authority or ULB would provide the conductor for collecting revenues.

Source: CRIS Analysis

3.3 Applicability of Cost Plus Contract

A cost plus structure is applicable in cases where the bus transport authority or ULB proposes to engage the private entity with the objective of increasing the number of services and there exists a high level of regulation and monitoring thereby enabling the authority to keep a good check on the operational and performance standards. It is also applicable where moderate public funding is available thereby enabling the bus transport authority or ULB to pay the private operator as fare revenues are not enough to cover operational costs. Thus, the applicability of PPP can be gauged from the following points:

1. The revenues which accrue from collection of fare are not enough to cover the operational costs for running the buses

2. The utility which is currently operating the system is not able to induce the desired level of operational efficiency in the system

3. The bus transport authority or ULB has substantial level of regulations in place on the performance standards of the buses, trips, fare levels, routes etc.

4. The current fleet of buses is not enough to meet the requirements of the population of the city and there needs to be significant increase in the number of buses in a short period of time.

5. The bus transport authority or ULB has supporting infrastructure in place like bus terminals and depots in place.

4 GROSS COST CONTRACT

A Gross Cost contract is typically a lease contract agreement. Under this arrangement, private operators own and run the buses while the bus transport authority or ULB collects revenue. Under this agreement, all the fare revenues are transferred to the authority, which selects the private operator offering to provide the service required at the lowest cost. The contracted payment contained in the bid can be in terms of a fixed per hour charge for the bus or a per kilometre charge.

Copenhagen and London in the United Kingdom provide examples of the implementation of Gross Cost Contracts.

4.1 Difference between Cost Plus and Gross Cost Contracts

The key difference between a cost plus contract and a gross cost contract is that in the case of a cost plus contract, the liability of the bus transport authority or ULB is high i.e., the bus transport authority or ULB will reimburse the operating costs of the private operator on the basis of what has been incurred. In the case of the gross cost contract, the liability of the bus transport authority or ULB is limited to the negotiated amount of payments to be made to the private operator as consideration for its services. Thus in a gross cost contract, the private operator he has an additional incentive to induce efficiencies in his operations to increase its profit margin. A gross cost contract thus achieves more operational efficiency because the operators profit will be directly proportional to the cost savings which he manages to get as his revenues in his case are fixed.

4.2 About the PPP Structure

Under the gross cost contract, the private operator would procure the buses and lease them to the bus transport authority or ULB based on a fixed pre-determined per-km charge or charge per hour basis. The bus transport authority or ULB employs the conductor who collects the fare revenue. The private operator is in charge of the operations and maintenance of the bus and of employing skilled staff for running the same. The private operator maintains a record of the kilometres travelled each day by the bus and is reimbursed in terms of a fixed per-kilometre charge or per hour charge.

Thus, the PPP structure is similar in nature to that of the Cost Plus structure.

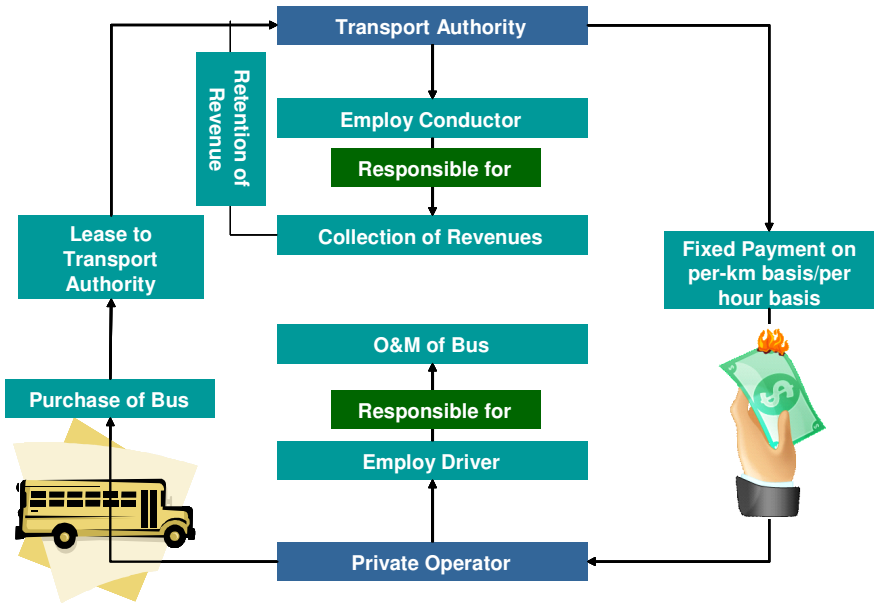
The private operator would be able to recover the investments made by way of the fixed per-kilometre or per hour charge charged. The per-kilometre charge is fixed and not changed throughout the tenure of the contract except for considerations made for standard escalations per year. The bus transport authority or ULB that collects the revenues decides the fare to be charged to passengers.

The private operator has to bear all the costs associated with the procurement of the buses. The buses procured need to conform to standards specified in the contract by the bus transport authority or ULB. The bus transport authority or ULB would appoint the private

operator and specify the physical specifications of the buses, performance standards and penalties, and minimum running for the buses. The contract between the two entities is indicated in the agreements and varies between five-seven years or is dependent upon the usage of the bus (typically 7, 50,000 km)

The figure and table below contains the key roles and responsibilities of the stakeholders

Figure 10: Structure of Gross Cost Contract



Source: CRIS Analysis

(The Gross Cost Structure is similar to the Cost Plus contract structure. The only difference between the key roles and responsibilities of the Gross Cost Structure is in payment terms)

Table 11: Key roles and responsibilities of private operator and bus transport authority

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
Primary Task	Procure buses and skilled staff for operations, maintenance of buses	Setting of fares, Route Planning and management of transport infrastructure like bus stops, terminals etc.
	Procurements of permits	Monitoring and regulation of performance and quality standards
	Procurement of diesel, spares, engine oil etc. and other consumables for running of buses	Collection of all revenues such as tickets, seasonal tickets, advertising revenues etc.
Fares & Payments	The private operator receives a fixed payment based on per-kilometre of per-hour usage basis.	Setting of fares and collection of fares
Operating Expense	Spares, Minor and Major Repairs	NA
	Fuel	

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
	Any other O&M expense	
	Registration of Buses	
Capital Expense	Bear capital expenditure for the procurement of buses	NA
Asset Ownership	Private operator takes over the assets after the end of the contract	Buses are run in the name of the bus transport authority or ULB

Source: CRIS Analysis

A detailed list of the obligations and responsibilities of the private operator and bus transport authority or ULB is presented in Volume IV of this report.

4.2.1 Preparatory work by bus transport authority or ULB

Before such a contract comes into effect, both the private operator and the bus transport authority or ULB would need to undertake certain preparatory activities. In order to set reasonable performance targets for the private operator, the bus transport authority or ULB would need to:

- Undertake a survey to evaluate the routes on which it intends to ply the buses.
- Establish the exact requirement and physical specification of buses required for operation, and the routes on which the buses would operate.
- Create a service quality plan (SQP) which contains performance and quality parameters for the system. The system would also provide for the imposition of fines and penalties in case of non-conformance with the quality contract.
- Make a provision for facilitating inspections of the bus, checking of the log of kilometres run, display of advertisements and fitment of vehicle-tracking devices in the buses.
- Provide the private operator the right to use of the transport infrastructure such as bus stops and bus terminals.
- Provide the private operator the rights to use the bus depots and specify clear terms for the usage, specifications and area of the bus depot.

4.3 Key Risks

The key risks, which need to be borne by the private operator and transport authority or ULB, are stated as follows:

Table 12: Key risks of the private operator and bus transport authority

ACTIVITY	PRIVATE OPERATOR	TRANSPORT AUTHORITY	COMMENTS
Commissioning Risk			
Procurement of buses for the commencement of operations		√	The buses will have to procured as per the bus delivery schedule and specifications mentioned. The private operator is liable to pay a penalty for any delay in procurement of buses.
Delay in allocation of bus depot	√		The specifications, location and area of the depot will be clearly mentioned in the contract and right for usage of the same will be given to the private operator on the commencement of operations
Demand (Usage) Risk			
Demand for buses is not adequate		√	The private operator collects his revenues based on a fixed per-kilometer or per-hour charge levied and therefore the demand risk for operations lies solely with the bus transport authority or ULB
Performance Risk			
Adherence to the service quality plan and performance parameters		√	The private operator is required to adhere to the service and performance quality standard failing which he would be required to pay fines/penalties.
Financial Risk			
Cost for procurement of buses	√		The private operator is solely responsible for arranging the finances required to procure buses
Collection of fare		√	The bus transport authority or ULB is responsible for the collection of fares and other revenues through its mechanisms
Force Majeure Risk			
Force Majeure Risk	√	√	Each party is to bear their individual cost pertaining to their respective assets
Operating Risk			
Provision of operations of the buses	√		The private operator operates and maintains the buses and paid a fixed amount for the same. Therefore operating risk lies with the private operator. Moreover, the bus transport authority or ULB would periodically inspect buses and would levy fines if buses do not meet the standards specified.
Labor	√	√	The private operator will arrange for the drivers and mechanics for operations of the buses and the bus transport authority or ULB would provide the conductor for collecting revenues.

Source: CRIS Analysis

4.4 Applicability of Gross Cost Contract

A Gross Cost Contract is applicable in the cases where the bus transport authority or ULB proposes to engage the private entity with the sole objective of provisioning service at the lowest possible cost. This is possible when there are many bidders in the market who would be willing to quote competitive rates to win the contract. It is also applicable to implement in cases where there is a high level of regulation and monitoring thereby enabling the authority to keep a good check on the operational and performance standards. Gross Cost Contracts transfer the operating risk to the private operator and are hence more useful in bringing in operational efficiency than Cost Plus Contracts. Gross Cost Contract, similar to Cost Plus Contracts are applicable to implement where moderate public funding is available thereby enabling the bus transport authority or ULB to pay the private operator as fare revenues are not enough to cover operational costs. Thus the applicability of the Gross Cost Contract can be gauged from:

1. The revenues which accrue from collection of fare are not enough to cover the operational costs for running the buses

2. The utility which is currently operating the system is not able to induce the desired level of operational efficiency in the system and wants to improve the operational efficiency in the system

3. The bus transport authority or ULB has substantial level of regulations in place regarding performance standards of the buses, trips, fare levels, routes etc.

4. The current fleet of buses is not enough to meet the requirements of the population of the city and there needs to be significant increase in the number of buses in a short period of time

5. The bus transport authority or ULB has supporting infrastructure in place like bus terminals and depots in place.

6. There are many bidders for the project who would be willing to quote competitive rates to win the contract

5 NET COST CONTRACT

A Net Cost Contract is typically a lease contract arrangement. Private operators procure, own and run the buses. The private operator also collects the revenue. Under a Net Cost Contract, the operator provides a specified service for the period in the contract and retains all the revenue. The authority may consider a payment of a subsidy to the operator if the bus services in the area are unprofitable. If the services are profitable then the private operator can consider payment of a fixed payment to the bus transport authority or ULB.

A Net Cost Contract is a type of PPP arrangement successfully applied in India's growing bus transport sector. Indore City Transport Services Limited (ICTSL) has implemented a Net Cost Contract for the running of its operations.

5.1 About the PPP Structure

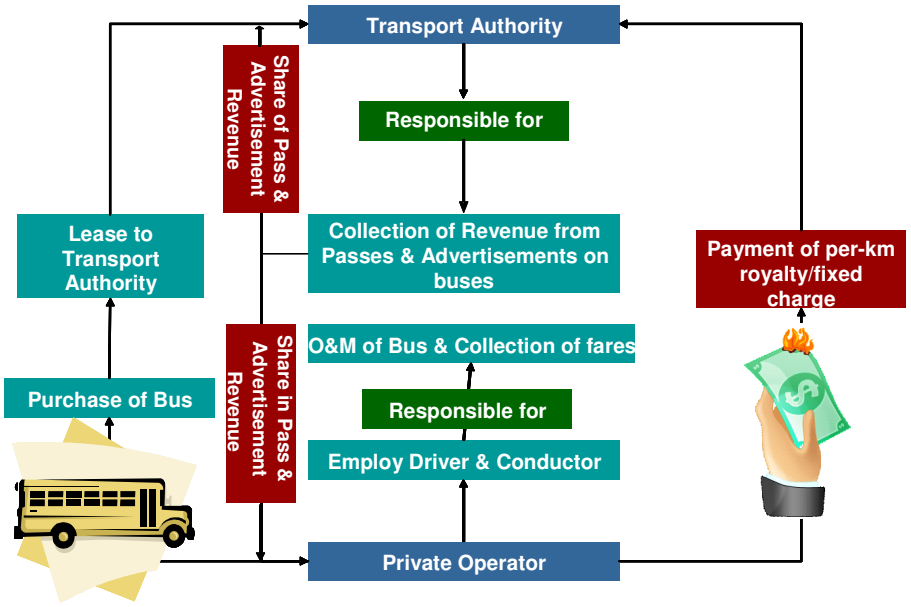
Under this agreement, the private operator would be required to procure buses and lease them to the bus transport authority or ULB based on either a fixed per-km royalty or fixed charge per month as agreed in the contract. The private operator would collect all the revenues accruing on the route and also be entitled to income that accrues from bus passes and advertisements displayed on the buses. The private operator is in charge of the operations and maintenance of the bus and employment of skilled staff for the running of the buses. The private operator either maintains a record of the kilometres travelled each day or is monitored by a vehicle-tracking device.

In case of the Net Cost Contract, the private operator has to bear all the costs associated with the procurement of the buses. The buses procured need to conform to standards specified in the contract by the transport authority or ULB. The bus transport authority or ULB would appoint the private operator and specify the physical specifications of the buses, performance standards and penalties, and minimum running for the buses. The contract between the two entities is indicated in the agreements and varies between five-seven years or is dependent upon the usage of the bus (typically 7, 50,000 km). The contracts are usually bid out on the highest per-km royalty or fixed charge/month the operator is willing to pay to the bus transport authority or ULB.

The private operator would be able to recover the investments made by collection of fares on the buses as well as his share in pass and advertisement revenues. The bus transport authority or ULB decides the fares to be levied to passenger and these fares are reviewed periodically.

The figure and table below contains the key roles and responsibilities of the stakeholders

Figure 11: Contract Structure of Net Cost Contract



Source: CRIS Analysis

Table 13: Key roles and responsibilities of private operator and bus transport authority

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
Primary Task	Procure the buses and skilled staff for operations, maintenance and supervision to be used for plying of routes in the city	Setting of fares, route planning and management of other transport infrastructure like bus stops, terminals etc.
	Collection of fares	Monitoring of operational and performance standards of bus fleet
	Procurement of permits as well as consumables	Collection of revenue from advertisements and passes
	Procurement of consumables like diesel, spares, engine oil etc. for the operation of buses	
Fare & Payments	• Collection of Passenger Fares • Payment to bus transport authority or ULB based on a per-km royalty/fixed charge • Receipt of share in advertisement and pass revenues from bus transport authority or ULB	• Setting of passenger fares • Collection of seasonal pass revenues • Collection of advertisement tariffs
Operating Expense	Spares, Minor and Major Repairs	NA
	Fuel	

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
	Any other O&M expense	
	Registration of Buses	
Capital Expense	Bear capital expenditure for the procurement of buses	
Asset Ownership	Take over assets at the end of the concession period	Buses are run in the name of the bus transport authority or ULB

Source: CRIS Analysis

A detailed list of the obligations and responsibilities of the private operator and bus transport authority or ULB is presented in Volume IV of this report.

5.1.1 Preparatory work by bus transport authority

Before such a contract comes into effect, both the private operator and the bus transport authority or ULB would need to undertake certain preparatory activities. In order to set reasonable performance targets for the private operator, the bus transport authority or ULB would need to:

- Undertake a survey to evaluate the routes on which it intends to ply the buses.
- Establish the exact requirement and physical specification of buses required for operation, and the routes on which the buses would operate.
- Undertake a financial feasibility exercise for the routes/area the bus transport authority or ULB is planning to offer out on the basis of a PPP contract.
- Create a service quality plan (SQP) which contains performance and quality parameters for the system. The system would also provide for the imposition of fines and penalties in case of non-conformance with the quality contract.
- Provide the private operator the right to use of the transport infrastructure such as bus stops and bus terminals.
- Make a provision for facilitating inspections of the bus, checking of the log of kilometres run, display of advertisements and fitment of vehicle-tracking devices in the buses.
- Provide the private operator the rights to use the bus depots and specify clear terms for the usage, specifications and area of the bus depot.

5.2 Key Risks

The key risks, which need to be borne by the private operator and bus transport authority or ULB, are stated as follows:

Table 14: Key risks of the private operator and bus transport authority

ACTIVITY	PRIVATE OPERATOR	TRANSPORT AUTHORITY	COMMENTS
Commissioning Risk			
Procurement of buses for the commencement of operations		√	The buses will have to procured as per the bus delivery schedule and physical specifications given by the bus transport authority or ULB and the private operator would be liable to pay delay charges if the schedule is not adhered to
Delay in allocation of bus depots	√		The specifications, location and area of the depot will be clearly mentioned in the contract and right for usage of the same will be given to the private operator on the commencement of operations
Demand (Usage) Risk			
Demand for buses is not adequate	√		The private operator collects the revenues and hence the demand risk is transferred to the private operator
Performance Risk			
Adherence to the service quality and performance parameters	√		The private operator is required to adhere to the service and performance quality standard failing which he would be required to pay fines/penalties.
Financial Risk			
Cost for procurement of buses	√		The private operator is solely responsible for arranging the finances required to procure buses
Collection of fares	√		The private operator is responsible for the collection of fares through its mechanisms. He is also entitled to a share in advertisement and pass revenues
Force Majeure Risk			
Force Majeure Risk	√	√	Each party is to bear their individual cost pertaining to their respective assets
Operating Risk			
Provision of operations and maintenance of the buses	√		The private operator operates and maintains the buses. The bus transport authority or ULB would periodically inspect buses and would levy fines if buses do not meet specifications.
Labor	√		The private operator will arrange for the driver of the bus and other personnel for O&M and administration of the system

Source: CRIS Analysis

5.3 Applicability of Net Cost Contract

A net cost contract is applicable in cases where the demand for the bus transport services has been established in an objective and credible manner. It is applicable to implement in cases of a moderate level of regulation and monitoring as net cost contracts transfer the operational risk and demand risk to the private operator. Therefore in a net cost contract the private operator has the incentive to improve his profits by both bringing in operational efficiency as well as stimulating demand. Net cost contracts are applicable to implement where there is low public funding and fare revenues are enough to cover operational costs as well as capital costs. Thus the applicability of the net cost contract can be gauged from:

1. The revenues which accrue from collection of fare are enough to cover the operational costs and capital cost for running the buses.

2. The demand for urban bus service is established in an objective and credible manner.

3. The bus transport authority or ULB does not have the resources to manage the revenue collection activity.

4. The bus transport authority or ULB is not able to induce the desired level of operational efficiency in the system and wants to improve the operational efficiency in the system

5. There is a fair mechanism for the setting of fares and good grievance redressal mechanism in case operators are charging extra fares. A fair mechanism for setting of fares would ensure that the private players are interested in the project.

6 LICENSING CONTRACT

A Licensing Contract is typically an operations and maintenance contract arrangement. Under this arrangement, the bus transport authority or ULB procures the buses. Typically, buses are procured through grants available through government schemes like JnNURM. The bus transport authority or ULB pays a proportion of the amount towards the procurement of the buses while the remaining amount is contributed by way of a grant from the central and state governments. The private operator pays the amount incurred by the bus transport authority or ULB towards purchase of the buses. It operates and maintains the bus services and collects the revenue and remits to the bus transport authority or ULB a royalty based on a per-km basis.

6.1 Difference between Licensing and Gross Cost and Net Cost Contracts

The key difference between a licensing contract and other contract such as net and gross cost contracts is that in the case of the a licensing contract, the ownership of the assets rests with the bus transport authority or ULB as it has invested in the procurement of the asset. The bus transport authority or ULB would licence the private operator for the operations and maintenance of the bus system. The private operator would adhere to the bus transport authority or ULB's performance standards and operate and maintain the buses. In the case of a gross cost/net cost contract the ownership of the asset remains with the private operator.

6.2 About the PPP Structure

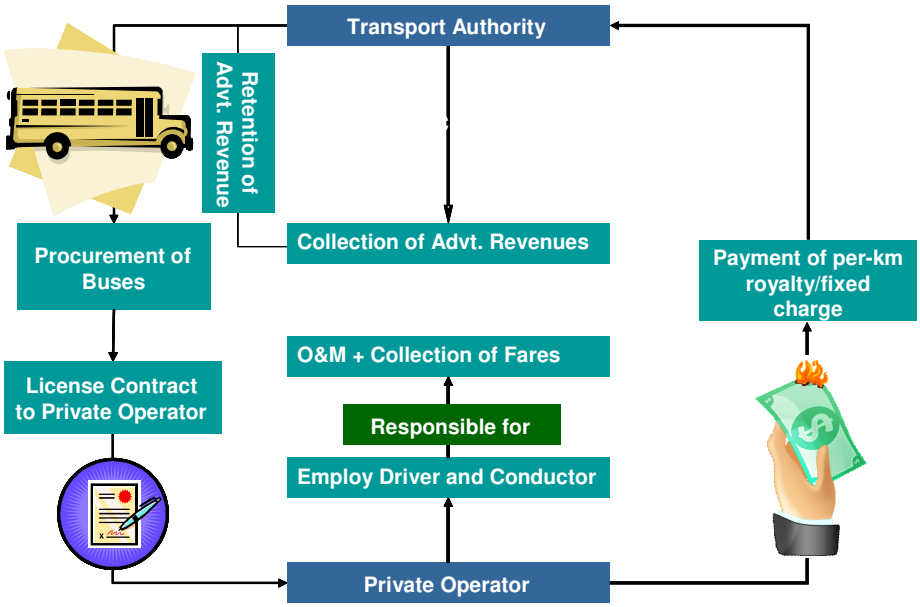
Under the licensing contract, the private operator is provided buses by the bus transport authority or ULB. The private operator would pay the bus transport authority or ULB based on fixed per-km royalty or fixed charge per month as agreed in the contract. In addition the private operator pays the bus transport authority or ULB the amount spent by it in procuring the buses under the grant. (For e.g.; In JnNURM, depending on the city the grant for procurement of buses is upto 90% of the cost of the bus and the municipal corporation share is 10% of the cost of the buses. Hence, the private operator in this case is expected to contribute 10% of the cost of the buses. JnNURM also specifies the physical specifications of the buses to be procured). The private operator would collect the fares accruing on the route and retain these fare revenues. The private operator is in charge of the operations and maintenance of the bus and employment of skilled staff for the running of the buses. The private operator either maintains a record of the kilometre travelled each day or is monitored by a vehicle-tracking device.

In case of licensing contracts, the private operator bears a part of the cost associated with the procurement of buses. The bus transport authority or ULB would appoint the private operator and specify performance standards and penalties, and minimum running for the buses. The contract between the two entities is indicated in the agreements and is usually for a period between 3-5 years. The contracts are usually bid out on the highest per-km royalty or fixed charge/month the operator is willing to pay to the bus transport authority or ULB.

The private operator would be able to recover the investments made by collection of fares on the buses. The bus transport authority or ULB decides the fares to be levied to passenger and these fares are reviewed periodically.

The figure and table below contains the key roles and responsibilities of the stakeholders

Figure 12: Structure of Licensing Contract



Source: CRIS Analysis

Table 15: Key roles and responsibilities of private operator and bus transport authority

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
Primary Task	Procure skilled staff for operations, maintenance and supervision of buses	Procurement of buses, Setting of fares, route planning and management of other transport infrastructure like bus stops, terminals etc.
	Collection of fares	Monitoring of operational and performance standards of bus fleet
	Procurement of permits	Collection of revenue from advertisements
	Procurement of consumables like diesel, spares, engine oil etc. for the operation of buses	
Fare & Payments	• Payment to bus transport authority or ULB based on a per-km royalty/fixed charge	• Setting of passenger fares • Collection of advertisement revenues
Operating Expense	Spares, Minor and Major Repairs	NA
	Fuel	
	Any other O&M expense	
	Registration of Buses	

PARTICULARS	PRIVATE OPERATOR	TRANSPORT AUTHORITY
Capital Expense	Bear part of the capital expenditure for procurement of buses	Bear part of the capital expenditure for procurement of buses
Asset Ownership	No ownership	Take over assets at the end of the concession period

Source: CRIS Analysis

A detailed list of the obligations and responsibilities of the bus transport authority or ULB and private operator is presented in Volume IV of this report.

6.2.1 Preparatory work by bus transport authority or ULB

Before such a contract comes into effect, both the private operator and the bus transport authority or ULB would need to undertake certain preparatory activities. In order to set reasonable performance targets for the private operator, the bus transport authority or ULB would need to:

- Undertake a survey to evaluate the routes on which it intends to ply the buses.
- Establish the routes on which the buses would operate.
- Undertake a financial feasibility exercise for the routes/area the bus transport authority or ULB is planning to offer out on the basis of a PPP contract.
- Create a service quality plan (SQP) which contains performance and quality parameters for the system. The system would also provide for the imposition of fines and penalties in case of non-conformance with the quality contract.
- Provide the private operator the right to use of the transport infrastructure such as bus stops and bus terminals.
- Make a provision for facilitating inspections of the bus, checking of the log of kilometres run, display of advertisements and fitment of vehicle-tracking devices in the buses.
- Provide the private operator the rights to enter and use the bus depots

6.3 Key Risks

The key risks, which need to be borne by the private operator and bus transport authority or ULB, are stated as follows:

Table 16: Key risks of the private operator and bus transport authority

ACTIVITY	PRIVATE OPERATOR	TRANSPORT AUTHORITY	COMMENTS
Commissioning Risk			
Procurement of buses for the commencement of operations		√	The buses will have to procured as per the bus delivery schedule by the bus transport authority or ULB
Demand (Usage) Risk			
Demand for buses is not adequate	√		The private operator collects the revenues and hence the demand risk is transferred to the private operator
Performance Risk			
Adherence to the service quality and performance parameters	√		The private operator is required to adhere to the service and performance quality standard failing which he would be required to pay fines/penalties.
Financial Risk			
Cost for procurement of buses	√	√	The bus transport authority or ULB will receive from the private operator the money it has contributed to procurement of buses and therefore the risk of cost of procurement of buses is shared
Collection of fares	√		The private operator is responsible for the collection of fares through its mechanisms.
Force Majeure Risk			
Force Majeure Risk	√	√	Each party is to bear their individual cost pertaining to their respective assets
Operating Risk			
Provision of operations and maintenance of the buses	√		The private operator operates and maintains the buses. The bus transport authority or ULB would periodically inspect buses and would levy fines if buses do not meet specifications.
Labor	√		The private operator will arrange for the driver of the bus and other personnel for O&M and administration of the system

Source: CRIS Analysis

6.4 Applicability of Licensing Contract

A licensing contract is applicable in cases where the bus transport authority or ULB is not able to achieve operational efficiency due to it not being able to run the fleet to its full optimal level or due to lack of skilled labour, transport infrastructure etc. Private participation is needed for starting full-fledged services in the city. It is applicable to implement in cases of a moderate level of regulation and monitoring as in licensing contracts the operational and demand risk is transferred to the private operator but the liability is less on account of him not contributing the full cost of procurement of the buses. The private operator has the incentive to improve his profits by both bringing in operational efficiency as well as stimulate demand. Licensing contracts are applicable to implement where there is low public funding and fare revenues are enough to cover operational costs and a part of capital costs. Thus, the applicability of licensing contract can be gauged from:

1. The revenues which accrue from collection of fare are enough to cover the operational costs and a part of the capital costs for running the buses.
2. The bus transport authority or ULB does not have the requisite expertise to run the bus transportation system though it has the funds to procure the buses and therefore would not be able to induce a fair level of operational efficiency in the system
3. There is a fair mechanism for the setting of fares and good grievance redressal mechanism in case operators are charging extra fares. A fair mechanism for setting of fares would ensure that the private players are interested in the project.

7 TYPES OF IMPLEMENTATION OF CONTRACT

The contracts explained in the Sections above can be implemented either as area or route contracts. A brief explanation of both the types of contracts has been explained in Section 7.1 and Section 7.2.

7.1 Area Contract

When a bus transport authority or ULB issues a contract to a bus operator giving him the exclusive right to run bus services in an area that forms all or a substantial part of the city it is described as an area contract. An area contract is applicable where:

1. The city has a number of relatively self-contained areas (i.e. the number of buses required to cater to the whole area is fewer than 500)

2. The bus transport authority or ULB want the private operator to undertake the bus service planning in the area which would be subject to approval by the authority

3. The bus transport authority or ULB would like the private operator to establish himself and be identified as the bus system provider for the area

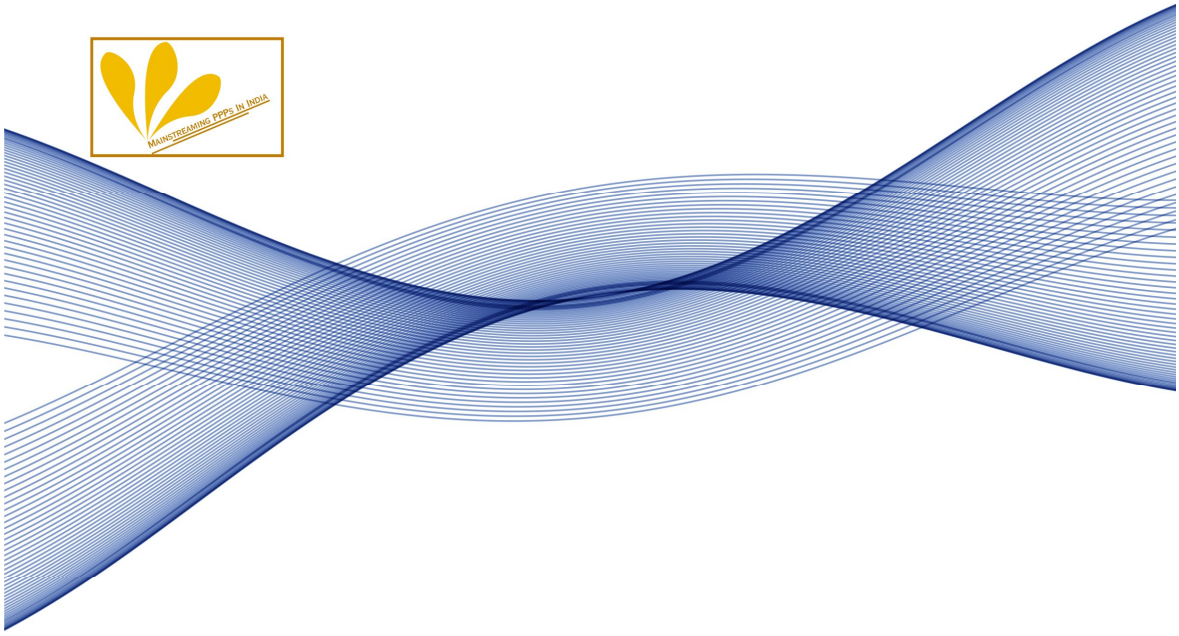
7.2 Route Contract

When the authority issues a contract for the operations of one specified route or a group of routes then it is described as a route contract. A route contract is applicable when:

1. The bus transport authority or ULB intends to determine the routes and the daily schedule.

2. The bus transport authority or ULB intends to be identified as the bus system provider.

3. The bus transport authority or ULB intends to offer opportunities to smaller players in the market.



Urban Transport

Volume – 3: Case Studies of sample cities in Maharashtra

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LIST OF ABBREVIATIONS

ADB:	Asian Development Bank
AMC:	Aurangabad Municipal Corporation
AMT:	Aurangabad Municipal Transport
APMC:	Agricultural Produce Marketing Committee
BEST:	Brihanmumbai Electric Supply and Transport
CBD:	Central Business District
CNG:	Compressed Natural Gas
CIDCO:	City and Industrial Development Corporation of Maharashtra Limited
DPR:	Detailed Project Report
ICTSL:	Indore City Transport Services Limited
JnNURM:	Jawaharlal Nehru Urban Renewal Mission
JNPT:	Jawaharlal Nehru Port Trust
KDMT:	Kalyan Dombivli Municipal Transport
MIDC:	Maharashtra Industrial Development Corporation
MSRTC:	Maharashtra State Road Transport Corporation
NMMT:	Navi Mumbai Municipal Transport
NMMC:	Navi Mumbai Municipal Corporation
NWCMC:	Nanded Waghala City Municipal Corporation
PPP:	Public Private Partnership

8 INTRODUCTION

The overall process for the identification of the Public Private Partnership (PPP) structure and the process of implementation of the same have been discussed in the toolkit presented in Volume I of this report. A preliminary assessment of the sample cities was undertaken on the basis of this toolkit.

As per the steps described therein, for determining the PPP structure suitable for the urban bus transportation system in the city, the ***first step*** to be undertaken has been that of the ***problem definition*** in the existing urban bus transportation system of the city. A set of performance assessment parameters have been compiled and the same used for determining the status of the service level provided by the urban bus transportation system. This output has been compared with bus transportation projects which have already been identified for implementation for the city to verify if the issues have already been addressed in these proposed projects.

As a ***second step*** to the entire process, a ***choice between public mode of funding and PPP*** based mode of project development was assessed for the projects already identified in the city. A preliminary viability assessment based on the financials of the projects identified was also carried out. Based on the output of this preliminary assessment an appropriate choice of option between public and private mode of developing the project was made.

As per the ***third step*** of the entire process of PPP determination and its implementation, a ***choice of the suitable PPP structure*** for the urban bus transportation has been recommended. For this implementation structure the risks have been listed and allocated between the parties.

The ***final step*** undertaken was to outline the process of ***implementation of this PPP structure*** including the identification of the key bidding parameter.

In the following Sections, the broad assessment for the sample city of Navi Mumbai followed by a preliminary financial analysis and recommendation of suitable PPP option has been presented. This assessment and analysis has been presented in such a manner that the user of this toolkit gets a broad idea of the process and the steps which are to be followed in identification and finalisation of a suitable PPP structure for the development of projects in the urban bus transportation sector.

The cities of Aurangabad and Nanded have already implemented PPP for the provision of municipal bus transport services. Hence a current assessment of the bus transportation system in the cities has been undertaken and the contracts of these cities have been studied and the key learnings have been drawn from the same.

Development of bus depots are also a part of the urban bus transportation system. This section has been analyzed separately and the study for the development of a bus depot at Rabale was taken up. The analysis on bus depots as mentioned in Volume 1 of this toolkit has been presented separately in Section 12.

9 SUMMARY OF CITY ANALYSIS

CRIS has detailed out the key features of PPP structures in the urban bus transport sector in India. Consequently, it developed a PPP toolkit that devises a methodology for selection of appropriate PPP options for projects to be implemented in urban bus transportation in India. CRIS studied the different cities selected for the urban bus transportation sector, i.e., Navi Mumbai, Nanded and Aurangabad. The city of Navi Mumbai was analyzed and a likely PPP structure recommended. The existing PPP contracts of Nanded and Aurangabad were studied and the various shortcomings of each were identified. CRIS suggested measures for improvements in these contracts. The summary of the findings have been given in Table 17 below.

Table 17: Key Findings of Volume 3

CITY	FINDINGS	ANALYSIS
Navi Mumbai	• Low number of buses per lakh of population • Ageing Fleet of buses • Low Operational Efficiency of service • Low Fuel Efficiency of buses • Requirement of grant by NMMT from NMMC for continued operation • Requirement of Land for Depots • Requirement of fund up to Rs. 90 crore for expansion	• Implementation of a Net Cost Structure
Aurangabad[5]	• Existing Net Cost PPP contract • Low number of buses per lakh of population • No performance or quality standards specified for provision of bus transportation service in contract. • Provision of fewer buses than stipulated in PPP contract • Aurangabad Municipal Corporation (AMC) is the guarantor for loan taken by private operator in lieu of a payment security paid to AMC • Royalty payments fixed at Rs. 0.80 per km travelled by buses • No performance guarantee taken from private operator • Lack of clarity in terms specified for private operators usage of bus depot • Lack of agency support for private operator	• Definition of performance standards and penalties for non-adherence of the same • Collection of performance guarantee from private operator • Clear terms of payments with the AMC with appropriate escalation factors • Clear definition

[5] The Municipal Corporation already has an existing contract with a private operator

CITY	FINDINGS	ANALYSIS
	• Lack of clarity in contract with regards to payment of taxes • Private operator not provided grant for provision of subsidised passes to students and disabled persons	for use of bus depots • Incorporation of a bus delivery schedule for the buses in contract with delay charges
Nanded[6]	• Existing Net Cost PPP contract • Low number of buses per lakh of population • No performance or quality standards specified for provision of bus transportation service in contract. • Provision of fewer buses than stipulated in PPP contract • Nanded Waghala City Municipal Corporation (NWCMC) is the guarantor for loan taken by private operator with no payment security taken. • Royalty payments fixed at Rs. 0.72 per km travelled by buses • No escrow account formed for remitting fare revenues despite contract stipulating creation of the same • No performance guarantee taken from private operator • Lack of clarity in terms specified for private operators usage of bus depot • Lack of agency support for private operator • Lack of clarity in contract with regards to payment of taxes • Private operator not provided grant for provision of subsidised passes to students and disabled persons	• Definition of performance standards and penalties for non-adherence of the same • Collection of performance guarantee from private operator • Clear terms of payments with the NWCMC with appropriate escalation factors • Clear definition for use of bus depots • Incorporation of a bus delivery schedule for the buses in contract with delay charges • Enforceability of contract

Source: CRIS Analysis

During discussions with NMMT, one of the projects proposed was construction of a bus-depot at Rabale. CRIS thereby has designed a PPP structure to implement such project. Since no quantitative information was provided by NMMT in this regard, the identification of the PPP structure was undertaken on a qualitative assessment basis. As per the proposed PPP

[6] The Municipal Corporation already has an existing contract with a private operator

structure, the private operator will undertake construction of the bus depot and hand it over to the urban bus transport authority on a turnkey basis. It would develop real estate on the depot land to give out on lease and earn revenues. These revenues are shared with the bus transport authority.

CRIS also studied the operations and maintenance contract of the monorail being implemented in Mumbai, and drafted the key principles of an operations and maintenance contract for the monorail, based on the principles of the current contract.

10 PPP STRUCTURE FOR NAVI MUMBAI

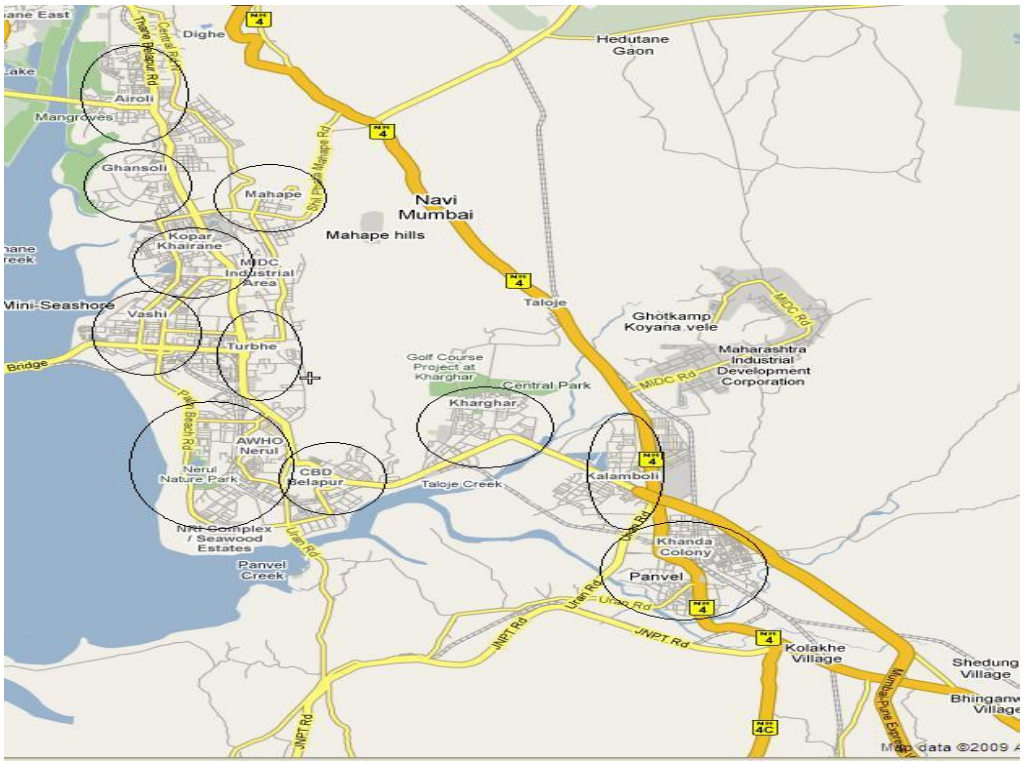
The following chapter discusses the proposed PPP structures for the city of Navi Mumbai that currently does not have any PPP in the urban bus transportation sector.

10.1 Current Assessment of Navi Mumbai

10.1.1 Navi Mumbai

Navi Mumbai is the twin city of Mumbai and one of the largest planned cities in the world with a total area of 344 square kilometres. It lies on the eastern coast of the Thane Creek. The city limits stretch from Airoli in the north to Uran in the South. The main areas of Navi Mumbai (163 sq. km.) come under the aegis of the Navi Mumbai Municipal Corporation (NMMC). Navi Mumbai is divided into 14 nodes - Airoli, Ghansoli, Kopar Khairane, Vashi, Sanpada, Nerul, CBD Belapur, Kharghar, Kalamboli, Kamothe, New Panvel, Ulwe, Pushpak and Dronagiri. The map below indicates a layout of the city of Navi Mumbai with the main nodes of the city marked out.

Figure 13: Map of Navi Mumbai



Source: Google Earth

Navi Mumbai has been expanding rapidly, registering a growth in its population from 7 lakhs in 2001 to approximately 21 lakhs today. The main drivers for growth in the city are:

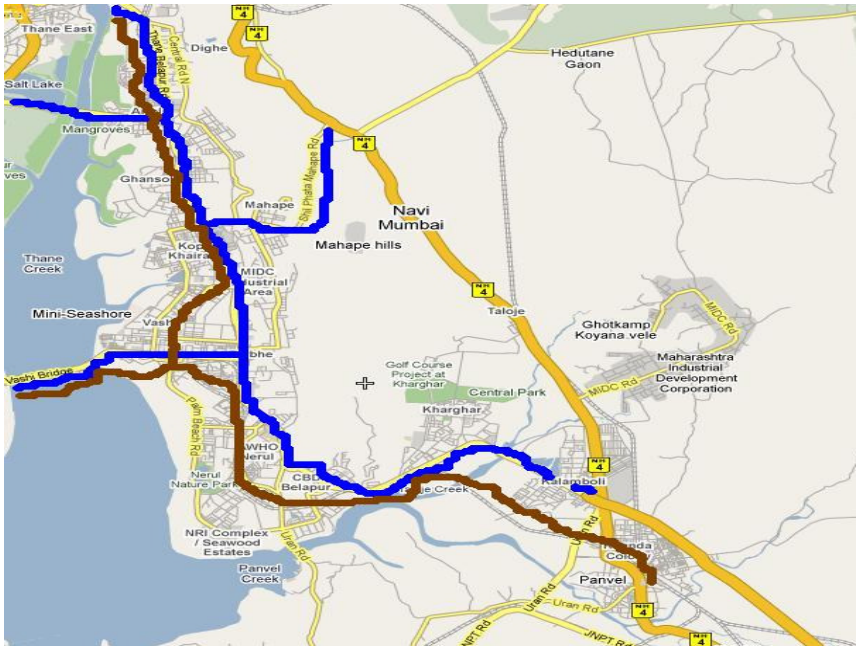
1. Educational Institutions like engineering and medical colleges
2. MIDC industrial area as well as other commercial areas like APMC market and JNPT
3. IT parks and developments like the Dhirubhai Ambani Knowledge City
4. Residential plots in areas like Kharghar, Uran, Taloja and Panvel
5. Upcoming developments like the Navi Mumbai International Airport and Navi Mumbai Special Economic Zone

It is expected that the nodes which CIDCO has planned will get saturated by the end of 2015 and there will be an immense need for good transportation in the newer areas of the city like in the upcoming nodes mentioned above. The current modes of transportation in the city have been described in the preceding section.

10.1.2 Current and Planned Transportation System

The current connectivity to the city of Navi Mumbai is through roads, as displayed in the diagram below.

Figure 14: Current Road Transportation System



Source: Google Earth

10.1.2.1 Road Connectivity[7]

The road connectivity to Navi Mumbai to other areas of the Mumbai Metropolitan Region is mainly through the following 3 roads:

1. Sion-Panvel Highway: This road, which includes the Vashi Bridge, provides main connectivity with the region of Greater Mumbai. The Sion-Panvel highway receives heavy traffic in peak hours to the tune of almost 7300 PCU/hr (Passenger Car Units/Hour).

2. Thane-Belapur Road (Mulund-Airoli): This road which connects Thane to Belapur includes the Mulund Bridge and provides connectivity with the eastern suburbs of the Greater Mumbai Region as well as Thane. The Thane-Belapur Road receives traffic of 2900 PCU/hr in peak traffic.

3. Shil Mahape Road: The Shil-Mahape Road, which originates from the Thane-Belapur Road at Mahape, provides connectivity to Kalyan and Dombivli.

10.1.2.2 Rail Connectivity

1. Harbour Line: The Harbour Line of the Central Railway provides connectivity to Greater Mumbai from Mankhurd and the network continues along the nodes of Navi Mumbai like Vashi, Sanpada, Jui Nagar, Nerul, Belapur, Kharghar, Khandeshwar and Panvel.

2. Thane to Vashi Line: The Thane to Vashi line runs along the Thane- Belapur road with stops at Turbhe, Kopar Khairane, Ghansoli, Rabale, and Airoli up to Thane.

The main rail and road connectivity are used as mass transport systems to travel to Mumbai and the Greater Mumbai Region The other existing transportation system, which consists of buses operated by the Municipal Corporation, autos, and taxis mainly act as feeder systems to access the railway stations as well as serve the purpose of internal travel between the different nodes of Navi Mumbai.

10.1.2.3 Planned Transportation System8

Navi Mumbai is a rapidly growing city and hence has a growing urban transportation demand and the following developments have been planned in the near future to cater to this demand.

1. Extension of the rail line of the Thane-Vashi line up to Nerul

2. Extension of the Harbour railway line from Panvel to Uran

3. Development of the road from Vashi Gaon to Dighe along the Vashi Creek

---

[7] Source: Comprehensive Mobility Plan of Navi Mumbai

[8] Source: Comprehensive Mobility Plan of Navi Mumbai

4. Road from Uran Phata to NH-3 along Nerul, Turbhe, Mahape and the Rabale Industrial area

Thus, the planned infrastructure will help in the creation of good demand along the new developing nodes of CIDCO.

10.1.3 Current Bus Transportation System

The Navi Mumbai area primarily relies on four bus transport corporations which operate their services in the area. These are:

1. Navi Mumbai Municipal Transport (NMMT),
2. Brihanmumbai Electric Supply and Transport (BEST),
3. Maharashtra State Road Transport Corporation (MSRTC), and
4. Kalyan-Dombivli Municipal Transport (KDMT)

About 210 buses of BEST, 350 buses of ST, and 35 buses of KDMT are operating along with 269 buses of the NMMT. NMMT provides services mainly in the NMMC region and has 11 bus terminals in the area along with two existing depots at Turbhe and Asudgaon. NMMT plans to add another bus depot at Rabale. The main parameters of the Navi Mumbai Municipal Transport (NMMT) undertaking are given in Table 18 below.

Table 18: Basic Profile of NMMT

PARAMETER	VALUE
No of Buses	269
No. Depots	2
No. of Bus terminals	12
No. of Routes	39
No. of trips	2882
No. of employees	1300
No. of Passengers travelling/day	2.3 lakh
Distance travelled/bus/day	277 km
Distance travelled by the buses	74,621 km
Diesel Consumed	21950 litres
Average Age of Employees	45 years
Average Age of Fleet	8 years
Revenue/day	Rs. 16.82 lakh
Revenue/km	Rs. 25.6
Fuel Efficiency	3.4 km/litre
Special Schemes	• Monthly, Weekly, Daily and Quarterly Passes

PARAMETER	VALUE
	• Concessions for freedom fighters, students and Senior Citizens

Source: Navi Mumbai Municipal Transport

The Navi Mumbai Municipal Transport Undertaking operates services in the NMMT region. The main areas in which the transport company provides services are inter-node routes, Thane, Kalyan, Dombivli, Kalamboli, Panvel, Kharghar, Uran; the company also provides some services to Mumbai. The main functions of NMMT is to support the mass transport system of railways and buses which operate to the Greater Mumbai Region as well as transport people from one node of Navi Mumbai to another.

The main routes serviced by the Navi Mumbai Municipal Transport System are:

1. Navi Mumbai to other municipal corporations like Kalyan, Dombivli, and Thane
2. Navi Mumbai to Panvel, Uran and New Panvel
3. Routes operating to Vashi, Airoli, Kopar Khairane and APMC market
4. In addition, the NMMT also acts as a feeder system to the railway station on the Central Railways system such as Vashi, Belapur and Kopar Khairane.

The future expansions of the bus transportation system are planned in the new nodes like Kharghar, Uran, Taloja and Panvel.

10.2 Step 1: Problem Definition

As a first step to assessing the status of the urban bus transportation services provided by NMMT, an assessment of the problem areas in the existing system needs to be carried out. This activity would assist in highlighting the interventions required in improvement in the level of services. The first activity that therefore needs to be undertaken is the assessment of the current quality of service provided. On the basis of this assessment, the key issues in the current system would be identified and existing projects would be reviewed. It has to be noted here that the basis for the assessment presented here for Navi Mumbai in only based on a few parameters and hence is indicative. For a detailed review of the system, as has been discussed in Volume I of this toolkit, the urban bus transport authority would be required to carry out a physical survey of its assets and assessment of its finances The key performance parameters used have been presented below:

10.2.1 Compiling Key Parameters

Based on a preliminary analysis of the urban bus transportation services provided by NMMT and discussions with NMMT official, CRIS has assessed the current urban transportation system in Navi Mumbai. Table 19 presents the key indicators for assessing the urban bus transport system and inferences drawn from the same based on compiling key parameters as mentioned in Volume 1.

Table 19: Operational and Performance Standards Parameters of NMMT[9]

PARAMETER	CALCULATION	NORM	ACTUAL VALUE	KEY INFERENCE
Adequacy of Stock				
No. of buses per lakh of population	No. of buses in fleet/Total Population of Area	30	12.8**	The number of buses per lakh of population is low but passengers in Navi Mumbai also use the services of 3 other operators in the region i.e. BEST, KDMT and MSRTC for travelling
Fleet Description				
Average Age of Bus (years)	NA	<4 years	8 years	The direct fallout of having a fleet, which is aged, is that it leads to low fuel efficiency for the whole bus transport system. NMMT buses have an average age of 8 years and hence a low fuel consumption of 3.4 km/litre.
Fuel Efficiency (km/lt)	Total No. of kms operated/Litres of diesel consumed	4.0-4.2 km/lt	3.4 km/lt	
Utilization of Rolling Stock				
Fleet Utilization	Buses Operated/Total Buses in Fleet	>98%	60-65%	Out of the fleet of 269 buses, which are available in the fleet only around 65%, are available due to the old age of the fleet. The average age of the fleet is approximately 8 years.
Bus Productivity (kms)	Kms. Operated by Buses/Total Number of Buses	225-275 km	277 km	Due to poor fleet utilization the current fleet of NMMT is stretched and leading to increased operational hours for buses
Regularity of Service				
Trip Efficiency	No. of actual trips/No. of trips scheduled	>95%	93%	Due to the old age of fleet there are frequent cancellations of trips
Kilometre Efficiency	No. of kms operated/No. of kms scheduled	>95%	85%	Due to the old age of fleet there are frequent cancellations of trips
Punctuality of Operations				

[9] Key Parameters of NMMT have been obtained through discussions with officials of NMMT.

PARAMETER	CALCULATION	NORM	ACTUAL VALUE	KEY INFERENCE
Punctuality of Operations	No. of trips on time/total number of trips	>95%	80%	NMMT is unable to achieve operational efficiency in running its services
Reliability of Operations				
Unreliability of Buses (per 10000 kms)	No. of breakdowns*10000/Total km operated	<5%	15%	Reliability is low as a higher number of breakdowns occur due to the old age of the fleet
Safety of Operations				
Safety of Buses (per 10000 kms)	No. of accidents*10000/Total kms operated	<5%	0.14 %	As per norms
User Satisfaction				
Dirtiness of Buses (per 1000 trips_	No. of buses reported dirty*1000/Total no. of trips schedules	<5%	<5%	As per norms
User Dissatisfaction (per 1000 trips)	No. of complaints*1000/Total no. of trips operated	<2%	<5%	As per norms
Financial Recovery Ratio				
Cost Recovery Ratio	Fare Revenue/Total Operating Costs	>100%	83%	NMMT is a loss making enterprise and gets a grant of Rs.15 crore from the Navi Mumbai Municipal Corporation (NMMC). NMMT was able to raise Rs.75 crore in revenue but required an expenditure of Rs. 90 crore for the year
Staff Ratios				
No. of Staff/bus	Total Number of Staff/No. of buses in fleet	5.5	7.43	NMMT faces a shortage of workers and therefore has had to resort to employing workers from contractors to make good the shortfall

Source: Navi Mumbai Municipal Transport

10.2.2 Identification of Key Issues

As indicated earlier, the next stage following the assessment of the bus transportation services of NMMT is that of listing of the key issues which are being faced by the city. After the assessment of the services, the urban bus transport undertaking must list down all the different issues being faced by the current bus transportation in the city. Based on the status of the urban transportation system, key indicators and resultant inferences, the following areas need investment on a priority basis:

- Replacement of the old fleet of NMMT to improve the operational efficiency
- Improvement in the financial condition either by revising fares or increasing operational efficiency to reduce its dependency on a grant from Navi Mumbai Municipal Corporation
- Requirement of employing more workers for operating and maintaining the services of the corporation to ensure a better quality of service
- Investment in a depot at Rabale as NMMT is planning to increase the scope of its operations and add more buses to its present fleet[10].

10.2.3 Review of Proposed Projects for NMMT

NMMT has ambitious plans to ensure it is able to meet the shortfall in services, overcome its problems and expand into the new nodes of Navi Mumbai. NMMT has applied for funds under the JnNURM Scheme, as Navi Mumbai is one of the 63 cities, which have been included under the Urban Infrastructure and Governance Scheme. The various plans of NMMT focus on improvement of intra-node connectivity as well as augment services to adjacent nodes in the Mumbai Metropolitan Region like Kalyan-Dombivli, Thane and Greater Mumbai. The various schemes planned by NMMT have been mentioned in Table 20 below:

Table 20: Proposed Expansion Plans of NMMT[11]

POTENTIAL AREA OF INVESTMENT	SCHEME PROPOSED	DETAILS
30 new air-conditioned buses under the JnNURM Scheme from Thane Belapur Road to regions in Greater Mumbai like Mumbai, Dadar	JnNURM	Capital Expenditure required – Rs. 17 crore Grant – Rs. 12 crore NMMT Contribution – Rs. 5 crore
150 new non air-conditioned	JnNURM	Capital Expenditure required –

[10] Information sourced through discussions with NMMT officials. NMMT would be required to pay 50% of the market value of the land to procure it for use of the depot from CIDCO

POTENTIAL AREA OF INVESTMENT	SCHEME PROPOSED	DETAILS
buses under the JnNURM Scheme to facilitate running in new routes like Uran, Panvel, Taloja and Kharghar		Rs. 100 crore Grant – Rs. 70 crore NMMT Contribution – Rs. 30 crore
Development of Depot at Rabale	No Proposed Scheme	Capital Expenditure – Rs. 10 crore
Fitment of CNG Kits on existing buses	No Proposed Scheme	Capital Expenditure – Rs. 5 crore
Requirement of 300 new buses to run in new developing nodes of City	No Proposed Scheme	Capital Expenditure – Rs. 75 crore

Source: Navi Mumbai Municipal Transport

NMMT would require an equivalent of Rs. 60-65 crore to carry out its expansion plans related to JnNURM. It could explore options for this capital expenditure which is required, as well as for the solution of the problems mentioned in the section above. It has already managed to tie funds for the schemes related to JnNURM.[11]

NMMT mainly requires capital to spend on the new schemes that have no proposed grants. These entail an expenditure of approximately Rs.90 crore. The analysis presented in the succeeding section below examines the feasibility of exploring the PPP option for the procurement project of 300 new buses for NMMT. The project based on the development of a bus depot at Rabale has been explored in Section 12.

10.3 Step 2: Deciding on undertaking the project on PPP

Having undertaken the assessment of the existing status of bus transport services provided by NMMT, identification of key issues thereon and a brief review of the projects identified in the city, the next stage in the entire process as indicated in Volume 1 of this toolkit is the choice that is to be made between public mode of funding and implementation of the proposed project and the private or PPP based mode of development and implementation of the project. The first step in this direction is undertaking a viability assessment as indicated below:

10.3.1 Viability Assessment

As mentioned earlier a preliminary financial analysis has been undertaken to assess the viability of the projects identified. This assessment has been for the purpose of assessing the commercial viability of the project if it is to be developed on a PPP mode. The viability

[11] Information sourced through discussions with NMMT officials.

assessment undertaken in the following sections have largely focused on determining whether the public sector viz. NMMT or the financial sector has the financial capability to undertake the project. The investment need under both the scenarios has been looked at.

For undertaking the financial analysis a set of key assumptions have been used which have been indicated in the table below. It is observed from Table 20 that the project for procurement of 300 buses would require an investment of around Rs. 75 crore. The key assumptions of the analysis are outlined in Table 21.

Table 21: Financial Assumptions

PARAMETER	VALUE	ESCALATION
Phasing of capital expenditure	Over a period of 3 years procuring 100 buses every year	5%
No. of kms travelled by bus/day	225 km	0%
Base Cost of Fuel (CNG)	Rs. 25/ kg	5%
Fuel Efficiency	4 km/kg • NMMT – Faster Reduction in fuel efficiency from 4 km/kg to 2.4 km/kg • Private – Gradual Reduction in fuel efficiency from 4 km/kg to 2.4 km/kg	NA
Peak number of passenger/bus/day	855	0%
Average fare/passenger	Rs. 8	20% every 3 years
No. of employees/bus	7 per employee	0%
Salary/Employee	Rs. 93500 • NMMT – Rs. 93500 • Private – 60% of NMMT wages	5%
Vehicle Maintenance	Rs. 1.55 lakh/year	• NMMT – 5%/year to 14%/year over 10 years • Private – 5%/year to 10%/year over 10 years
Other Accruals	• NMMT – Rs. 550/day • Private – 15% more than NMMT accruals	5%

Source: CRIS Analysis

Based on the assumptions stated in the preceding table, the preliminary financial assessment has been undertaken to review the viability of the project under two scenarios. The first scenario is Option 1 where the investments identified have been made by NMMT. The second scenario, under Option 2 is where the investments identified for the proposed projects are to be fully funded by a private developer.

Option 1: Investments by NMMT

NMMT will have to invest a total of Rs. 78 crore for the project. This would result in a Project IRR of around 6% considering the operational efficiency for the project to be at current levels of NMMT. These returns are lesser than the returns offered by AAA-bonds.

Option 2: Investment by private operator

The project when given to the private operator will cost the same, i.e., Rs. 78 crore. Nevertheless, the private operator would be able to bring in operational efficiencies in terms of salaries to employees, vehicle maintenance and other accruals to the system in terms of advertising. The project would be able to generate a return of around 16%. This return factors a payment of Rs. 1.5 per km as royalty payment to the operator. NMMT would be able to earn a NPV@9% of around Rs. 24 crore over the period of the project. Hence, it is more financially feasible for the private operator to operate the project. Moreover, the project would also have the capacity to generate some returns for NMMT, as a revenue-sharing option with the private operator should be considered in lieu of usage of the transport infrastructure of NMMT.

Table 22: Comparison of Private v/s Public Operator

PARTICULARS	CAPEX (RS. CRS)	NMMT	PRIVATE OPERATOR
Project Cost	75		
Escalated Cost	78		
IRR (for the project)	NA	6%	19.5%
IRR (for the operator)	NA	4.7%	21.4%

Source: CRIS Analysis

The details of the financials have been attached in the Annexure.

From the above analysis, it is understood that the option of developing the project using funds from NMMT is not viable given the huge investment requirements and the limited fund availability with NMMT as it has already tied funds for other project. However, the option of undertaking the project under PPP is viable even after factoring a return for NMMT. Therefore NMMT can undertake this project on a PPP basis.

10.4 Step 3: Choosing the PPP structure

Having assessed the viability of developing the project through a public funded or PPP mode, the next step decision which needs to be made is regarding the choice of PPP structure which is best suited to address the overall needs of the proposed project.

From the preliminary financial analysis of NMMT and the viability assessment conducted above, it has been observed that the most suitable form of PPP contract is that of a Net Cost Contract.

A Net Cost Contract is typically a lease contract arrangement. Private operators procure, own and run the buses. The private operator also collects the revenue. Under a Net Cost Contract, the operator provides a specified service for the period in the contract and retains all the revenue. The authority may consider a payment of a subsidy to the operator if the bus services in the area are unprofitable. If the services are profitable then the private operator

can consider payment of a fixed payment to the bus transport authority on a per-kilometre basis.

The details of the obligations, risks and payment arrangements under the net cost contract as mentioned in Option 2 of Section 10.3.1, have been provided in Volume II of this report. Additionally, the term sheet for this contract structure has been attached in Volume IV of this toolkit

10.5 Step 4: PPP Procurement

Having identified the PPP structure to be adopted for operating and maintaining the proposed project, and finalizing the same, the next stage is to plan the procurement process. For initiating the procurement process, NMMT would need to develop a contract structure which would cover the aspects relating to details on the parties involved in the contract, the contractual relationship between the parties, the nature of the arrangement, the risk allocation, performance and quality standards, duration of the contract, payment terms, award criteria and contract management strategies. The details can be found in the term sheet attached in Volume IV of this report.

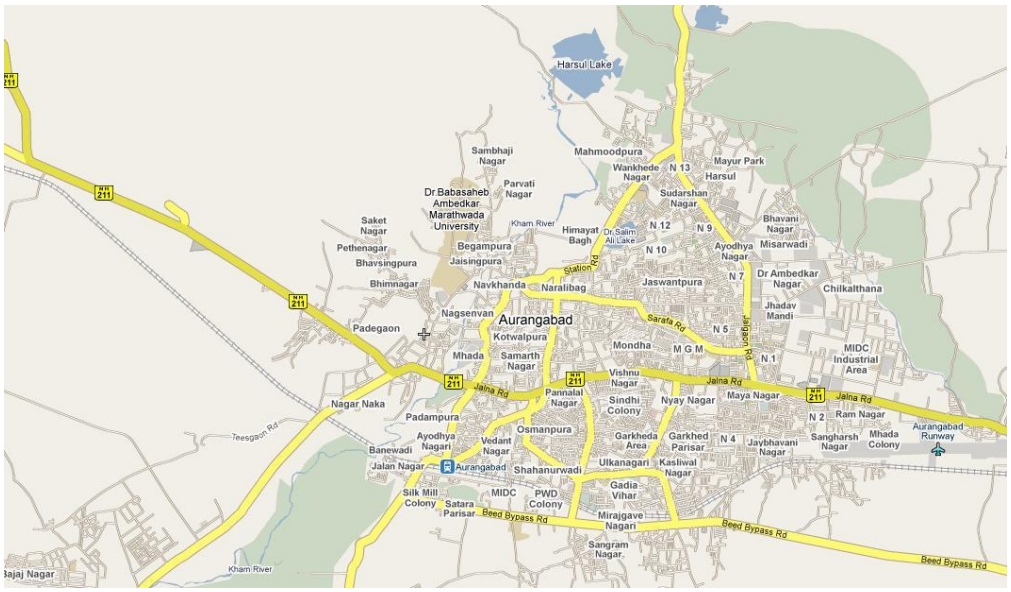
11 PPP STRUCTURES OF AURANGABAD AND NANDED

11.1 Aurangabad

11.1.1 Assessment of Current Situation

Aurangabad is the administrative headquarters of the Marathwada Region with a total area of 200 square kilometres. It is a part of the Aurangabad district of Maharashtra and is surrounded by Jalna and Ahmednagar districts on either side. The main city of Aurangabad comes under the aegis of the Aurangabad Municipal Corporation. Aurangabad is famous for many tourist locations such as the Ajanta and Ellora Caves, Bibi ka Maqbara and Paithan. Five industrial areas are located on the outskirts of the town, housing industrial giants like Bajaj, Videocon, J&J, Seimens and Skoda. The city is thus primarily a manufacturing hub. The map shown below indicates the layout of the city of Aurangabad.

Figure 15: Map of Aurangabad



Source: Google Earth

The city currently has a population of 10 lakh with a high growth of 8% over the years. It's drivers are:

1. Tourism to Ajanta and Ellora which are world heritage sites
2. Industrial areas like Paithan Road, Chikathana, Harsul, Railway Station, Shendra and Waluj
3. Educational institutions which include the Dr. Babasaheb Ambedkar University

11.1.2 Connectivity

The main connectivity to Aurangabad is through the NH-211 which runs from Dhule to Solapur, which passes through the city, as well as connectivity by rail from Aurangabad Railway Station. The main arterial roads of the city include:

1. Jalna Road
2. Railway Road
3. Harsul Road
4. Shivaji Nagar Road
5. National Highway – 211 from Dhule to Solapur
6. Aurangpura Road

11.1.3 Current Urban Bus Transportation System

The current urban bus transportation system is run based on a public-private partnership with the Akola Pravasi and Mal Vahatuk Sahakari Sanstha, Akola from 2006. The private operator runs 74 buses on 24 routes around the city. The main parameters of the bus transportation system are given in Table 23.

Table 23: Basic Profile of Aurangabad Municipal Transport

PROFILE	VALUE
No of Buses	74
No. Depots	1
No. of Bus terminals	4
No. of Routes	24
No. of trips	440
No. of employees	350
No. of Passengers travelling/day	25,000-30,000
Distance travelled/bus/day	150-180
Distance travelled by the buses	13500
Diesel Consumed	3400 litres
Average Age of Employees	30 years
Average Age of Fleet	3.5 years
Revenue/day	2.75 lakh
Revenue/km	Rs. 20.37
Fuel Efficiency	4.5 km/lt
Special Schemes for users	• Monthly, Weekly, Daily and Quarterly Passes

PROFILE	VALUE
	• Concessions for freedom fighters, students and Senior Citizens

Source: Aurangabad Municipal Corporation

The main routes along which the private operator provides services in the city of Aurangabad are:

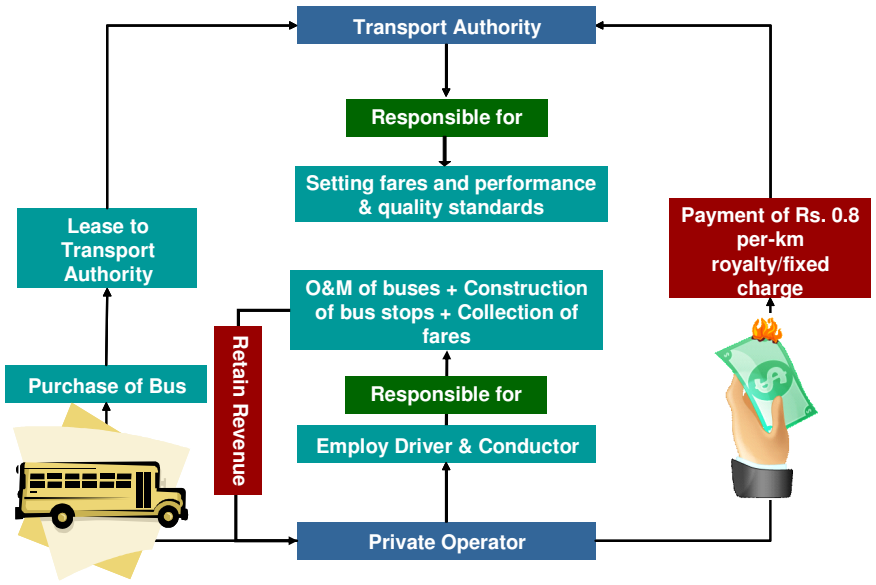
1. Railway Station – Baba Petrol Pump – Central Bus Stand – Collector Office – Harsul
2. Railway Station – Osmanpura – Jawahar Colony – Pundlik Nagar – CIDCO Bus Stand
3. Railway Station – Osmanpura – Jawahar Colony – Garkheda – Shivaji Nagar
4. Chikalthana – Kranti Chowk – Baba Petrol Pump – Ranjan Gaon
5. Aurangpura – 7 Hills – Garkheda – Shivaji Chowk
6. Auranpura – Baba Petrol Pump – Bajaj Nagar

The bus transport authority is currently not planning to introduce any other new routes on the system, but plans an increase in the number of buses operating as the initial contract mandates 100 buses to be operated.

11.1.4 Current Contract

The current contract that exists between the private operators, i.e., Akola Pravasi and Mal Vahatuk Sanstha and Aurangabad Municipal Corporation (AMC), has been described in Figure 16 below.

Figure 16: Contract Structure for PPP for Aurangabad



Source: Aurangabad Municipal Corporation

The main contractual obligations of the contract are as follows:

1. The private operator contributes 20% of the value of the buses as equity and takes a loan of 80% of the value of the buses with the AMC standing as guarantor for the loan.

2. Private operator submits a payment security of Rs. 50 lakh to the AMC for the loan which has been taken by the private operator.

3. Private operator purchases buses and operates them on the routes designated and approved by the bus transport authority.

4. Private operator runs the urban bus transportation system, operates and maintains the bus on the routes and as per the schedule specified by the bus transport authority

5. Private Operator is also contracted to build transport infrastructure like bus stops and small shops adjoining the bus stops as per the specifications provided by the AMC

6. The AMC sets the fares and approves them as well as monitors the buses.

7. Private operator collects and retains the fare revenues for tickets and advertisement revenues as well as issues passes for travel

8. Private operator pays a royalty of Rs. 0.80 paisa per-km as royalty to the bus transport authority.

9. The tenure of the contract is for 10 years after which the buses would be transferred on the name of AMC

From the contract structure above, it is inferred that the existing PPP contract in Aurangabad is a variant of the net cost contract explained in detail in Volume 2 of this toolkit. Similar to the net cost contract, the private operator collect and retains the revenues while remitting a fixed royalty per-km travelled by the buses of the municipal corporation.

The private operator earns monthly revenues of Rs. 85-90 lakh that are transferred to an escrow account from which the royalty payable to AMC and instalments for the loan taken for procurement of buses is paid. The bank royalty and loan repayment per month works out to Rs. 22.5 lakh and the operation incurs an operational expense of Rs. 65 lakh. Thus, the arrangement is able to recover its cost. It is estimated that the earnings for the private operator would significantly rise once the loan (tenure of 5 years) is repaid.

11.1.5 Compiling key parameters

Key parameters of the urban bus transportation system assist in getting an overview of the current situation of the bus transport undertaking. The definitions of these standards are given in the table below. The typical key parameters have been defined in the table, which has been explained below and compared against the desired value of the same.

Table 24: Operational and Performance Standards Parameters of AMT[12]

PARAMETER	CALCULATION	DESIRED VALUE	ACTUAL VALUE	STATUS
Adequacy of Stock				
No. of buses per lakh of population	No. of buses in fleet/Total Population of Area	30	7.3	Low number of buses per fleet
Fleet Description				
Average Age of Bus (years)	NA	<4 years	3.5 year	The buses in the fleet are relatively new with an average age of around 3.5 years
Fuel Efficiency (km/lt)	Total No. of kms operated/Litres of diesel consumed	4.2-4.5 km/lt	4.4 km/lt	The buses in the fleet are relatively new and hence have a fuel efficiency in line with the norm
Utilization of Rolling Stock				
Fleet Utilization	Buses Operated/Total Buses in Fleet	>98%	90%	The private operator has kept a few buses in the fleet on standby to use if there is a breakdown
Bus Productivity (kms)	Kms. Operated by Buses/Total Number of Buses	225-275 km	150-180 km	Non-optimum use of buses
Regularity of Service				
Trip Efficiency	No. of actual trips/No. of trips scheduled	>95%	95%	Meeting norms
Kilometre Efficiency	No. of kms operated/No. of kms scheduled	>95%	95%	Meeting norms
Punctuality of Operations				
Punctuality of Operations	No. of trips on time/total number of trips	>95%	95%	Meeting norms
Reliability of Operations				
Unreliability of Buses (per	No. of breakdowns*10000/Total	<5%	<5%	Meeting norms

[12] Information sourced through discussion with officials of Aurangabad Municipal Corporation and representatives of the Akola Pravasi and Mal Vahatuk Sanstha

PARAMETER	CALCULATION	DESIRED VALUE	ACTUAL VALUE	STATUS
10000 kms)	km operated			
Safety of Operations				
Safety of Buses (per 10000 kms)	No. of accidents*10000/Total kms operated	<5%	<1%	Meeting norms
User Satisfaction				
Dirtiness of Buses (per 1000 trips)	No. of buses reported dirty*1000/Total no. of trips schedules	<5%	<5%	Meeting norms
User dissatisfaction (per 1000 trips)	No. of complaints*1000/Total no. of trips operated	<2%	<1%	Meeting norms
Financial Recovery Ratio				
Cost Recovery Ratio	Fare Revenue/Total Operating Costs	>100%	100%	Meeting norms
Staff Ratios				
No. of Staff/bus	Total Number of Staff/No. of buses in fleet	No ideal norms	5	The private operator has been able to reduce the number of workers required for operation of the buses

Source: Aurangabad Municipal Corporation

Thus, it is observed that the private operator has brought in operational efficiency in the system as most of the service quality parameters meet the norms. But the number of bus available per capita of population is low.

11.1.6 Issues with Current Contract

CRIS studied the existing PPP contract, had discussions with the urban bus transportation officials as well as the private operator from the city. The problems facing the current contract have been identified from two both perspectives i.e. private operator and the bus transport authority. Subsequently, measures to mitigate these issues have been suggested by CRIS in terms of incorporation into the contract. The issues have been identified in sections below:

11.1.6.1 Public Sector Issues

1. **Clarity in Operational Standards:** There has been no performance measurement mechanism constituted by the bus transport authority to ensure that the private operator is providing an acceptable service quality level. There is also no constitution of any fines/penalties in the case of non-performance or negligence (For e.g.; cancellation of services, non-adherence to timelines etc.) on the part of the private operator. Furthermore, the kilometres logged by each bus at the end of each

operational day are checked manually the AMC thereby leaving scope for the private operator to log lesser kilometres than those travelled. This has the potential to decrease the earnings for the private operator. The lack of a defined set performance and quality standards as well as fines and penalties in the contract restricts the ability of the bus transport authority to monitor the performance of the bus transportation system and provide good quality service

2. **Provision of fewer buses than stipulated in contract:** The original contract between the private operator and bus transport authority was signed for 100 buses. The private operator has only been able to provide 73 buses for operation. The lack of a bus delivery schedule as part of the contract and lack of a clause citing the procedure to be followed in case of a delay in bus delivery hinders the bus transport authority from taking action.

3. **Guarantor for Loan:** The AMC is the guarantor for the loan taken by the private operator for procurement of the buses. To mitigate this risk the AMC has taken a payment security of Rs. 50 lakhs in the form of a bank guarantee. However, this amount is small in comparison to the loan taken. The municipal corporation by being the guarantor of the loan has increased its risk quotient. In case of default on the loan on the part of the private operator, the municipal corporation would be liable to pay the due amount.

4. **Royalty Payments:** The private operator is obligated to pay AMC Rs. 0.80 per-kilometre travelled by the buses. As the number of kilometres increase the royalty payment to the AMC would also commensurately increase. The private operator is currently able to pay instalments on the loan as well as the royalty to the AMC. The proportion of the earnings the operator stand to increase substantially once the loan is paid off in totality. The contract however does not provision any increase in the earnings for the municipal corporation in terms of the royalty payments

5. **No Performance Guarantee**: The municipal corporation has not taken any performance guarantee from the private operator and thus cannot control and penalise the operator when he does not adhere to performance and quality standards or there are defaults or deficiencies in provision of service.

11.1.6.2 Private Sector Issues

1. **Agency Support:** The private operator does not receive any support from the state agencies like the police and traffic police when they have faced opposition from illegal operators like converted autos (i.e. auto rickshaws illegally converted to carry 10-12 passengers). Operations have also been stalled due to opposition from these illegal operations

2. **Bus Depots:** The contract mentions unclear terms for a depot which would be allocated to the private operator for maintaining and parking his buses. Due to this lack of clarity on bus depots terms not specifying the exact locations and specifications of the depots, the private operator has not been allocated a permanent space for a depot. The private operator has incurred expenditure in shifting the location of the bus depot frequently.

3. **Octroi and Advertisement Taxes:** There are no clear terms on the how octroi and advertisements taxes for advertisements on the buses would be handled in case of the new buses procured as both these taxes are remitted to the municipal corporation.

4. **Terms for Subsidised Passes:** The private operator is obligated to offer subsidised bus passes to the students, handicapped and disabled persons. The state government compensates municipal bus transport undertakings as well as state transport undertakings for provision of these subsidies on their bus systems. However, the private operator despite providing urban bus transportation services on behalf of the municipal corporation is not compensated for providing this subsidy. This has an effect on the profits of the private operator.

11.1.7 Measures for improvement of contract

Thus, there are existing issues in the contract from both the public sector as well as private sector perspective. Most of these issues stem from ambiguity in the interpretation of clauses of the contract. CRIS in Volume 2 of this toolkit explained the various PPP structures in procurement of rolling stock. The Aurangabad bus PPP contract is a variant of the net cost contract. The measures for improvement of the current contract have been derived from the risk allocation and mitigation strategies of the net cost contract. Some of the measures for improvement of the contract include:

1. **Definition of Performance Standards:** The contract must have a clearly defined service quality plan (SQP) which defined the set of performance and quality parameters for the bus transportation service. The SQP would specify the minimum benchmark of performance standards that the private operator would need to adhere to. For e.g.; Bus Productivity which is the average number of kilometres a bus travels in a day must be more than 225 kms/day. A service quality plan would assist the bus transport authority (i.e.; AMC) in monitoring the performance of the bus service. Non-adherence to the service quality plan would involve the payment of penalties to the transport authority. Thus, a good SQP would serve the purpose of mitigating the performance risk of the bus transportation service and would ensure good quality service. The SQP should be attached as a schedule to the contract between the private operator and bus transport authority

2. **Fines/Penalties:** The bus transport authority must also have a clearly defined set of fines/penalties in case of non-adherence to the SQP or for any other default of deficiency. Penalties can be constituted for various degrees of deficiencies like bus related defaults and deficiencies, bus drive related defaults/deficiencies, bus operator related defaults/deficiencies or any other violation the bus transport authority prescribes. There also need to be clear guidelines on the process to be followed in case repeated defaults/deficiencies. For e.g.: The bus transport authority can declare an event of default in the case a serious safety related incident takes place more than twice

3. **Performance Guarantee:** The bus transport authority needs to take a performance guarantee from the private operator which can be encashed to pay off the fines and

penalties which the private operator might incur for non-adherence to SQP or any defaults or deficiency in service as specified. The performance guarantee when encashed would have to be replenished within a given time period (viz. typically 15-30 days) failing which the bus transport authority can declare an event of default

4. **Clear Definition of Bus Depots:** The physical specifications, location and land for use of the bus depot need to be clearly mentioned in the contract. Changing bus depots frequently affects the service of the private operator. The contract needs to specify the commitment of the bus transport authority in handing over the bus depot site without any encumbrance and not changing the locations of the depot for the period of the contract. It also needs to specify the rules to be followed in case of any construction or maintenance activity to be carried out on the bus depot site. A recourse to action in case the bus transport authority does not transfer the site even in the event on private operator not being in breach of the contract would also need to be specified in the contract. (For e.g.; compensation equal to expenses incurred if the private operator is asked to shift the location of the depot)

5. **Clear terms of Payments:** The terms of payment need to be clearly mentioned in the contract will a provision for escalation in the amount of payment due to the transport authority. The contract needs to clearly specify the payments due between the bus transport authority and private operator. The payment terms also need to include any subsidies and concessions offered as a part of the agreement. The payment terms also need to clearly specify which party is liable to pay the taxes which are applicable to the project. (For e.g.; Advertisement taxes, Octroi etc.)

6. **Bus Delivery Schedule:** The private operator must be obligated to submit a bus delivery schedule to the bus transport authority specify the dates and schedule for the delivery of buses. The bus delivery schedule also needs to clearly mention the dates on which the new buses procured would be operational in the system. The contract has to make provisions for delays in procurement of buses (i.e. non-adherence to bus delivery schedule). For e.g.; Private operator has to pay delay penalty of Rs. --/bus/day for every days delay in procurement of buses.

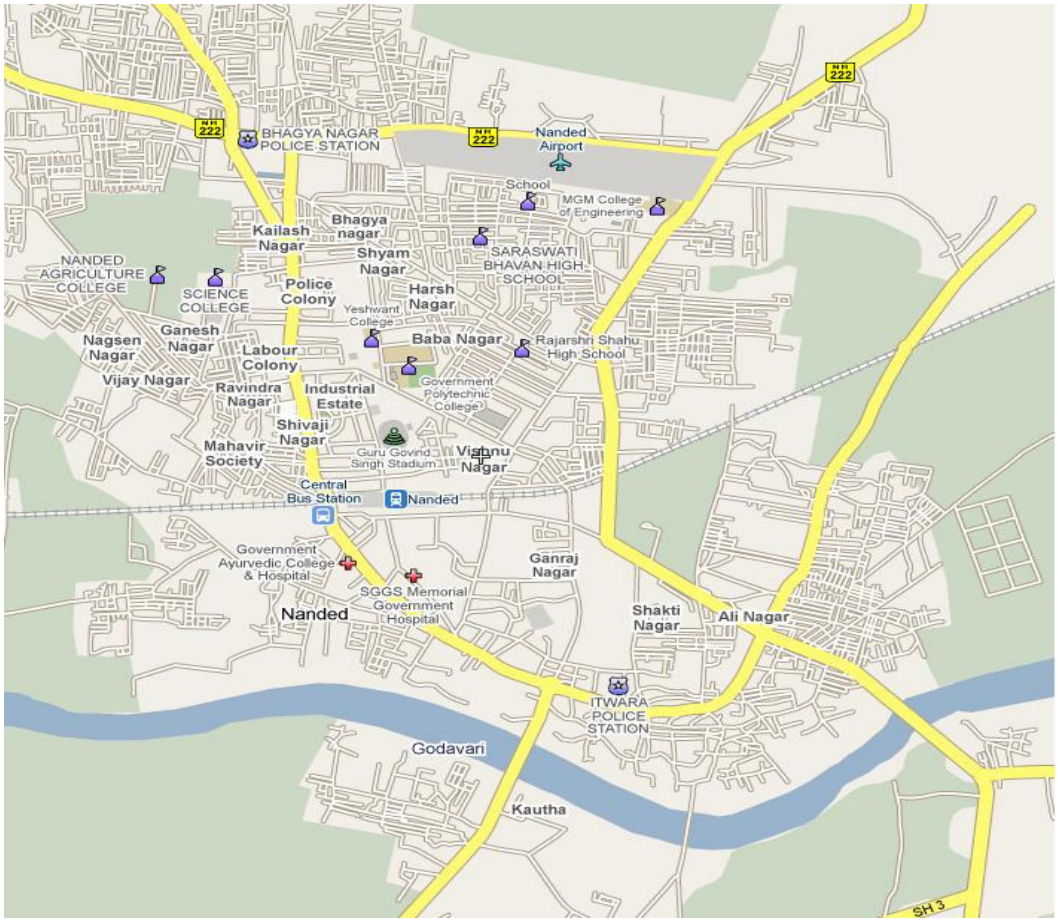
The key features for risk allocation and mitigative measures mentioned above will help in improving the quality of service of the urban bus transportation. These key features are a part of the net cost contract which has been studied in detail in Volume 4 of this toolkit.

11.2 Nanded

11.2.1 Current Assessment of Nanded

Nanded is the second largest city in the Marathwada region of Maharashtra with a total area of around 51.76 km^2. It has a population of approximately. 5.75 lakh (estimated from CDP). Nanded is an important city, situated on the northern bank of the Godavari River. The city is divided into two parts - Old Nanded, which is on the old bank of the Godavari River, and New Nanded, which consists of Waghala and six other newly merged villages. The main city of Nanded is famous for a Gurudwara, dedicated to Guru Gobind Singh, the tenth spiritual leader of the Sikhs. Nanded is also famous for the cultivation of bananas, and educational institutions. The figure shown below indicates the layout of the city of Nanded.

Figure 17: Map of Nanded



Source: Google Earth

11.2.2 Connectivity

The main connectivity to Nanded is through the NH-222 from Kalyan near Mumbai to Nirmal near Adilabad, which passes through the old city of Nanded. Nanded is also connected by rail on Mumbai-Secundrabad railway line. The old city of Nanded is developed and more

populated compared to the new Nanded. The new Nanded which consists of the Waghala and 6 other villages is where new developments and settlements are coming up. The main areas of Nanded which have the heaviest passenger traffic are:

1. Sanghvi
2. Ganesh Nagar
3. Juna Munda
4. Shobha Nagar
5. Railway Station
6. Asarjan Vidyapeeth
7. Habib Talkies

11.2.3 Current Urban Bus Transportation System

The urban bus transportation system was previously operated by MSRTC. However, this service was discontinued due to the heavy losses being suffered by MSRTC in the early 2000's. The current administration has attempted to re-introduce services under by involving private sector participation. Nanded Waghala City Municipal Corporation (NWCMC) has identified 14 routes within the city limits and three routes outside the city limits on which bus services can ply. NWCMC has managed to obtain permission for the operations of three routes on a pilot basis. NWCMC is running these routes on a public private partnership with Siddeshwar Travels from 2007. The private operator is plying 16 buses on three routes in the city.

.The Nanded Waghala City Municipal Corporation (NWCMC) has identified 14 routes within the city limits and three routes outside the city limits on which bus services can ply. NWCMC has managed to obtain permission for operation of three routes on a pilot basis. NWCMC is running these routes in terms of a public private partnership with Siddheshwar Travels. 16 mini-buses ply on three routes.

Table 25: Basic Profile of NWCMC Municipal Transport

PARAMETER	VALUE
No of Buses	16
No. Depots	1
No. of Bus terminals	1
No. of Routes	3
No. of trips	35-40
No. of employees	Not Available
No. of Passengers travelling/day	5,000-6,000
Distance travelled/bus/day	150-180
Distance travelled by the buses	2700-3000
Diesel Consumed	550-580 litres

PARAMETER	VALUE
Average Age of Employees	Not available
Average Age of Fleet	1.5 years
Revenue/day	Not available
Revenue/km	Not available
Fuel Efficiency	5.5 – 6.0 km/lt
Special Schemes for users	• Monthly, Weekly, Daily and Quarterly Passes • Concessions for freedom fighters, students and Senior Citizens

Source: Nanded Waghala City Municipal Corporation

The three routes along which the company operates are:

1. Pavdewadi Naka to Habib Talkies (8.8 km)
2. Bajaj Nagar to Hudco (12.1 km)
3. Railway Station to Waghala Naka (7.5 km)

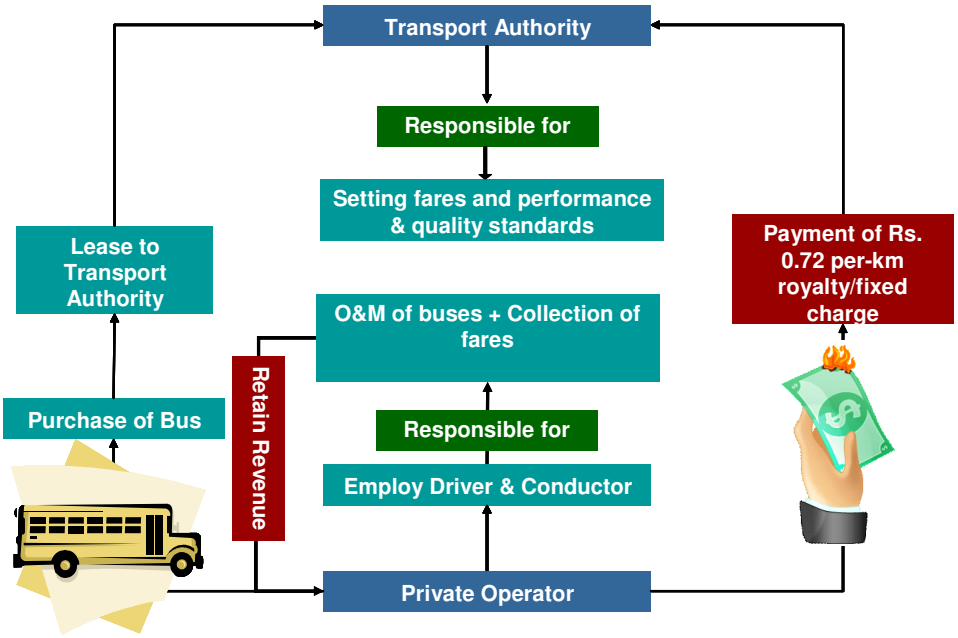
The bus transport authority is currently planning to increase the scope of operations and include all 17 routes proposed (i.e. 14 routes plying inside city + 3 routes plying outside city). NWCMC has also applied for procurement of 30 buses and augmentation of transport infrastructure like bus stops, bus terminals etc. under the JnNURM Scheme which would be financed to the extent of 90% by the Central Government and State Government of Maharashtra. The total cost of the project is expected to be around Rs. 7.5 crore.

NWCMC proposes using of the existing PPP contract for the operation of these new buses.

11.2.4 Current Contract

The current contract that exists between the private operators, i.e., Siddeshwar Travels and Nanded Waghala City Municipal Corporation (NWCMC), has been described in Figure 16 below.

Figure 18: Contract Structure for PPP for Nanded



Source: Nanded Waghala City Municipal Corporation

The main contractual obligations of the contract are as follows:

1. The private operator contributes 20% of the value of the buses as equity and takes a loan of 80% of the value of the buses with the NWCMC standing as guarantor for the loan. *(Note: No payments security taken from private operator for loan procured by him)*

2. Private operator purchases buses and operates them on the routes designated and approved by the bus transport authority.

3. Private operator runs the urban bus transportation system, operates and maintains the bus on the routes and as per the schedule specified by the bus transport authority

4. The NWCMC sets the fares and approves them as well as monitors the buses.

5. Private operator collects and retains the fare revenues for tickets and advertisement revenues as well as issues passes for travel

6. Private operator pays a royalty of Rs. 0.72 paisa per-km as royalty to the bus transport authority.

7. The tenure of the contract is for 10 years after which the buses would be transferred on the name of NWCMC

8. The private operator is not given the rights to advertisement revenues which have been sold by the NWCMC itself for Rs. 3 lakh.

From the contract structure above, it is inferred that the existing PPP contract in Nanded is a variant of the net cost contract explained in detail in Volume 2 of this toolkit. Similar to the net cost contract, the private operator collect and retains the revenues while remitting a fixed royalty per-km travelled by the buses of the corporation

11.2.5 Compiling key parameters

Key parameters of the urban bus transportation system assist in getting an overview of the current situation of the bus transport undertaking. The definitions of these standards are given in the table below. The typical key parameters have been defined in the table, which has been explained below and compared against the desired value of the same.

Table 26: Operational and Performance Standards Parameters of NWCMC[13]

PARAMETER	CALCULATION	DESIRED VALUE	ACTUAL VALUE	STATUS
Adequacy of Stock				
No. of buses per lakh of population	No. of buses in fleet/Total Population of Area	30	2.43	Very low number of buses per lakh of population due to the pilot implementation of the
Fleet Description				
Average Age of Bus (years)	NA	<4 years	1.5 year	New Fleet by private Operator
Fuel Efficiency (km/lt)	Total No. of kms operated/Litres of diesel consumed	4.2-4.5 km/lt	5.5-6 km/lt	New Fleet of mini buses which have better fuel efficiency
Utilization of Rolling Stock				
Fleet Utilization	Buses Operated/Total Buses in Fleet	>98%	90%	2 buses are kept on standby
Bus Productivity	Kms. Operated by Buses/Total Number of Buses	225-275 km	150-180 km	Non-optimum use of buses
Regularity of Service				
Trip Efficiency	No. of actual trips/No. of trips scheduled	>95%	95%	As per norms
Kilometre Efficiency	No. of kms operated/No. of kms scheduled	>95%	95%	As per norms

[13] Information sourced through discussion with urban transportation officials of the Nanded Waghala City Municipal Corporation

PARAMETER	CALCULATION	DESIRED VALUE	ACTUAL VALUE	STATUS
Punctuality of Operations				
Punctuality of Operations	No. of trips on time/total number of trips	>95%	95%	As per norms
Reliability of Operations				
Unreliability of Buses	No. of breakdowns*10000/Total km operated	<5%	<5%	As per norms
Safety of Operations				
Safety of Buses	No. of accidents*10000/Total kms operated	<5%	<1%	As per norms
User Satisfaction				
Dirtiness of Buses	No. of buses reported dirty*1000/Total no. of trips schedules	<5%	<5%	As per norms
User dissatisfaction	No. of complaints*1000/Total no. of trips operated	<2%	<1%	As per norms
Financial Recovery Ratio				
Cost Recovery Ratio	Fare Revenue/Total Operating Costs	>100%	100%	As per norms
Staff Ratios				
No. of Staff/bus	Total Number of Staff/No. of buses in fleet	No norms	Not available	

Source: Nanded Waghala City Municipal Corporation

Thus, it is observed that the private operator has brought in operational efficiency in the system as most of the service quality parameters meet the norms. But the number of bus available per capita of population is low.

11.2.6 Issues with Current Contract

CRIS studied the existing PPP contract, had discussions with the urban bus transportation officials from the city. The problems facing the current contract have been identified from two both perspectives i.e. private operator and the bus transport authority. Subsequently, measures to mitigate these issues have been suggested by CRIS in terms of incorporation into the contract. The issues have been identified in sections below:

11.2.6.1 Public Sector Issues

1. **Clarity in Operational Standards:** There has been no performance measurement mechanism constituted by the transport authority to ensure that the private operator is providing an acceptable service quality level. There is also no constitution of any fines/penalties in the case of non-performance or negligence (For e.g.; cancellation of services, non-adherence to timelines etc.) on the part of the private operator. Furthermore, the kilometres logged by each bus at the end of each operational day are checked manually by the NWCMC thereby leaving scope for the private operator to log lesser kilometres than those travelled. This has the potential to decrease the earnings for the private operator. The lack of a defined set performance and quality standards as well as fines and penalties in the contract restricts the ability of the bus transport authority to monitor the performance of the bus transportation system and provide good quality service

2. **Provision of fewer buses than stipulated in contract:** The original contract between the private operator and bus transport authority was signed for 40 buses. The private operator has only been able to provide 16 buses for operation. The lack of a bus delivery schedule as part of the contract and lack of a clause citing the procedure to be followed in case of a delay in bus delivery hinders the bus transport authority from taking action.

3. **Guarantor for Loan:** The NWCMC is the guarantor for the loan taken by the private operator for procurement of the buses. Furthermore, the NWCMC has not taken a payment security for the loan from the bank. The municipal corporation by being the guarantor of the loan has increased its risk quotient. In case of default on the loan on the part of the private operator, the municipal corporation would be liable to pay the due amount. This has unnecessarily increased the risk quotient of the municipal corporation. Discussions with city bus transportation officials revealed that the NWCMC has already received intimation about the private operator not paying his instalments for the loan taken.

4. **Royalty Payments:** The private operator is obligated to pay NWCMC Rs. 0.72 per-kilometre travelled by the buses. As the number of kilometres increase the royalty payment to the NWCMC would also commensurately increase. The private operator is currently able to pay instalments on the loan as well as the royalty to the NWCMC. The proportion of the earnings the operator stand to increase substantially once the loan is paid off in totality. The contract however does not provision any increase in the earnings for the municipal corporation in terms of the royalty payments

5. **No Performance Guarantee**: The municipal corporation has not taken any performance guarantee from the private operator and thus cannot control and penalise the operator when he does not adhere to performance and quality standards or there are defaults or deficiencies in provision of service.

6. **Enforceability of Contract:** The contract between the private operator and NWCMC specifies the creation of an escrow account where all fare revenues of the bus transportation service would be remitted. The money in this escrow account would be used to pay the royalty to the NWCMC as well repay the instalments of the loan taken

for procurement of buses. However, though operations have started for over a year, there has been no escrow account created. In the past few months, the private operator has defaulted on payments to both the bank and the private operator. The lack of a performance guarantee, payment security and clauses dealing with defaults in payments has restricted the NWCMC from taking any action against the private operator.

11.2.6.2 Private Sector Issues

1. **Agency Support:** The private operator does not receive any support from the state agencies like the police and traffic police when they have faced opposition from illegal operators like converted autos (i.e. auto rickshaws illegally converted to carry 10-12 passengers).

2. **Bus Depots:** The contract mentions unclear terms for a depot which would be allocated to the private operator for maintaining and parking his buses. Due to this lack of clarity on bus depots terms not specifying the exact locations and specifications of the depots, the private operator has not been allocated a permanent space for a depot. The private operator has incurred expenditure in shifting the location of the bus depot frequently.

3. **Octroi and Advertisement Taxes:** There are no clear terms on the how octroi and advertisements taxes for advertisements on the buses would be handled in case of the new buses procured as both these taxes are remitted to the municipal corporation.

4. **Terms for Subsidised Passes:** The private operator is obligated to offer subsidised bus passes to the students, handicapped and disabled persons. The state government compensates municipal bus transport undertakings as well as state transport undertakings for provision of these subsidies on their bus systems. However, the private operator despite providing urban bus transportation services on behalf of the municipal corporation is not compensated for providing this subsidy. This has an effect on the profits of the private operator.

11.2.7 Measures for improvement of contract

Thus, there are existing issues in the contract from both the public sector as well as private sector perspective. Most of these issues stem from ambiguity in the interpretation of clauses of the contract. CRIS in Volume 2 of this toolkit explained the various PPP structures in procurement of rolling stock. The Nanded bus PPP contract is a variant of the net cost contract. The measures for improvement of the current contract have been derived from the risk allocation and mitigation strategies of the net cost contract. Some of the measures for improvement of the contract include:

1. **Definition of Performance Standards:** The contract must have a clearly defined service quality plan (SQP) which defined the set of performance and quality parameters for the bus transportation service. The SQP would specify the minimum

benchmark of performance standards that the private operator would need to adhere to. For e.g.; Bus Productivity which is the average number of kilometres a bus travels in a day must be more than 225 kms/day. A service quality plan would assist the bus transport authority (i.e.; NWCMC) in monitoring the performance of the bus service. Non-adherence to the service quality plan would involve the payment of penalties to the transport authority. Thus, a good SQP would serve the purpose of mitigating the performance risk of the bus transportation service and would ensure good quality service. The SQP should be attached as a schedule to the contract between the private operator and bus transport authority

2. **Fines/Penalties:** The bus transport authority must also have a clearly defined set of fines/penalties in case of non-adherence to the SQP or for any other default of deficiency. Penalties can be constituted for various degrees of deficiencies like bus related defaults and deficiencies, bus drive related defaults/deficiencies, bus operator related defaults/deficiencies or any other violation the bus transport authority prescribes. There also need to be clear guidelines on the process to be followed in case repeated defaults/deficiencies. For e.g.: The bus transport authority can declare an event of default in the case a serious safety related incident takes place more than twice

3. **Performance Guarantee:** The bus transport authority need to take a performance guarantee from the private operator which can be encashed to pay off the fines and penalties which the private operator might incur for non-adherence to SQP or any defaults or deficiency in service as specified. The performance guarantee when encashed would have to be replenished within a given time period (viz. typically 15-30 days) failing which the bus transport authority can declare an event of default

4. **Clear Definition of Bus Depots:** The physical specifications, location and land for use of the bus depot need to be clearly mentioned in the contract. Changing bus depots frequently affects the service of the private operator. The contract needs to specify the commitment of the bus transport authority in handing over the bus depot site without any encumbrance and not changing the locations of the depot for the period of the contract. It also needs to specify the rules to be followed in case of any construction or maintenance activity to be carried out on the bus depot site. A recourse to action in case the bus transport authority does not transfer the site even in the event on private operator not being in breach of the contract would also need to be specified in the contract. (For e.g.; compensation equal to expenses incurred if the private operator is asked to shift the location of the depot)

5. **Clear terms of Payments:** The terms of payment need to be clearly mentioned in the contract will a provision for escalation in the amount of payment due to the transport authority. The contract needs to clearly specify the payments due between the bus transport authority and private operator. The payment terms also need to include any subsidies and concessions offered as a part of the agreement. The payment terms also need to clearly specify which party is liable to pay the taxes which are applicable to the project. (For e.g.; Advertisement taxes, Octroi etc.)

6. **Bus Delivery Schedule:** The private operator must be obligated to submit a bus delivery schedule to the bus transport authority specify the dates and schedule for the delivery of buses. The bus delivery schedule also needs to clearly mention the dates on which the new buses procured would be operational in the system. The contract has to make provisions for delays in procurement of buses (i.e. non-adherence to bus delivery schedule). For e.g.; Private operator has to pay delay penalty of Rs. --/bus/day for every days delay in procurement of buses.

7. **Enforceability of Contract:** The NWCMC need to ensure that the contract is enforceable. It requires that important factors like the opening of escrow account and performance guarantee be a condition precedent of the validity of the contract

The key features for risk allocation and mitigative measures mentioned above will help in improving the quality of service of the urban bus transportation. These key features are a part of the net cost contract which has been studied in detail in Volume 4 of this toolkit.

Also from the current assessment of the urban bus transportation system in Nanded and study of the current PPP contract for Nanded it is observed that the best contract for the purposes of implementation of the 30 new JnNURM buses being procured is a licensing contract. This contract will have to take into consideration the key features for risk allocation and mitigative measures mentioned above. The key features that are a part of licensing contracts which have been studied in detail are presented in Volume 4 of this toolkit.

12 BUS-DEPOT PPP-RABALE

As studied in Section 10.2.3, the NMMT has planned a rapid expansion of its fleet to cater to an increasing demand in the various upcoming nodes of Navi Mumbai. This expansion in the fleet of buses also entails the creation of a bus depot for parking and maintenance of buses. NMMT currently has 2 depots at Asudgaon in Panvel and at Turbhe. A third depot is being planned at Rabale. The land for the depot at Rabale would need to be procured by NMMT. The total cost of the project is estimated to be Rs. 10 crore. NMMT is exploring the option of PPP for the development of this bus depot.

12.1 Bus Depot Contracts

CRIS studied the various inter-state bus terminal PPPs in India because development of a bus terminal is similar in nature to that of a depot. Bus terminal PPPs involve the development of real estate along with the construction of bus terminals. Typically, development of bus depots or terminals is based on Build-Operate-Transfer (BOT) projects, which involve development of real estate at the site on a commercial basis. The private operator develops the commercial facility and leases out the premises to earn revenues. In addition, the private operator also operates and maintains the bus terminals, earning revenue from the bus terminal. It was observed that bus terminals primarily earn revenue from:

1. Income from “Adda” fees for the parking of private and inter-state buses
2. Annual lease of parking spaces outside terminal
3. Revenues from the lease of shops
4. Advertisement rights

Typically, bus depots, which host intra-city buses, will not earn revenues from Adda fees and advertisement rights as a depot is used to maintain buses and park them during non-operational hours. The scope for earning revenues by the private operator is less in this case. Thus, the development of bus depots on a PPP basis would involve construction and transfer of the bus depot from the private operator to the transport authority on a turnkey basis. The commercial facility would continue be operated by the private operator to help him in recouping the capital expenditure he has incurred in the project. The typical structure is described in the next section.

This PPP option explained below can be used for the development of the Rabale Bus Depot for NMMT on a PPP basis.

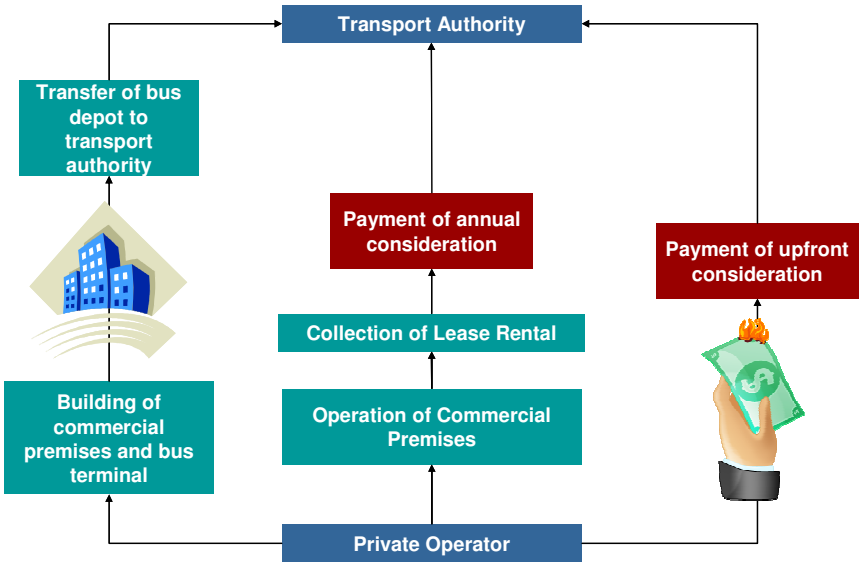
12.2 Bus Depot PPP[14]

NMMT as mentioned above wants to develop the Rabale Depot on a PPP basis. The total cost of the project is estimated to be Rs. 10 crore. This cost includes the payment to be made to CIDCO (50% of market value of land) for procurement of land for the depot at Rabale. NMMT due to its expansion plans as well as contribution towards purchase of buses for the JnNURM schemes does not have enough funds for contribution to the project. Therefore, NMMT is exploring the possibility of the development of the Rabale Depot on a PPP basis. The PPP structure discussed in the Section below for development of this depot has been based on the methodology for development of bus depots on PPP basis in Section 12.1.

12.2.1 About the PPP Structure

The typical structure for such a contract is given in Figure 19 below.

Figure 19: Development of Bus Depot PPP



Source: CRIS Analysis

As per the figure above, the private operator would construct the commercial and bus depot facility. The private operator is chosen through bidding in the following ways:

1. **Payment of the highest upfront payment for the land:** In this case the concession period and annuity payments based on revenues will also be fixed
2. **Lowest duration of concession period:** In this case the upfront payment for the land will be fixed and the annuity payments based on revenues will also be fixed

[14] The PPP chosen for the development of Bus Depot is based on information provided by NMMT officials. CRIS did not have specifications of the depot and has made the assessment of PPP Structure on a qualitative basis

NMMT will clearly demarcate the space for the commercial complex and the bus depot. It will also lay down specifications of the bus depot. It would transfer the development rights to the private operator once upfront payment is remitted and a performance guarantee is submitted. The private operator will also submit a payment security as a guarantee to making the annuity payments to NMMT. The upfront payment for the land would be based on the price to be remitted to CIDCO for purchasing the land. The private operator would submit a detailed project report (DPR) to NMMT for approval detailing his plans for development of the project. The private operator will develop the bus depot as per the specifications given by NMMT and hand over the bus depot to NMMT. An independent engineer constituted and appointed by NMMT would monitor the construction of the bus depot. The private operator will construct, design, operate and maintain the commercial facility and collect the revenues that would accrue from the venture. The private operator would pay the NMMT either in terms of a share in revenues or fixed annuity. At the end of the concession period, the contractor would transfer back the commercial premises to NMMT as per the terms and conditions of the agreement.

12.2.1.1 Stakeholder Obligations

Table 27 presents the key obligations of the stakeholders, i.e., the NMMT and the private entity in case of a bus depot contract.

Table 27: Responsibility sharing between the bus transport authority and the private entity

ACTIVITY	NMMT	PRIVATE OPERATOR
Demarcation of Depot and Commercial Space	√	
Physical Specification of the Bus Depot	√	
Transfer of lease rights to private operator	√	
Preparation of Detailed Project Report		√
Capital Expenditure (Construction of Depot & Commercial Facility)		√
Operation and Maintenance of Bus Depot	√	
Operations and Maintenance of Commercial Facility		√
Collection of Revenues		√
Independent Engineer	√	

Source: CRIS

12.2.1.2 Preparatory work by NMMT

The list of preparatory work which will need to be undertaken by the NMMT before bidding out the contract would include

1. Provision of a clear demarcation of the commercial and bus depot space.
2. Preparation of physical specifications of the bus depot along with related activities of the bus depot like fuelling station, rest rooms, administrative offices, and maintenance sheds.
3. Schedule for the implementation of the bus depot

4. List of allowed commercial activities
5. Preliminary demand assessment and financial feasibility of running of a commercial facility at the project site

12.2.1.3 Asset Ownership

The ownership of both the bus depot and commercial facility shall reside with the NMMT at all times and the NMMT shall only enter into a lease agreement with the private operator for development of the commercial facility and bus depot. Upon the termination of the contract, the commercial facility would be transferred to NMMT.

12.2.1.4 Key Risks

The key risks, which need to be borne by the private developer and bus transport authority, are as stated below.

Table 28: Key Risks of the private developer and NMMT

ACTIVITY	PRIVATE OPERATOR	TRANSPORT AUTHORITY	COMMENTS
Commissioning Risk			
Building of the bus depot premises		√	The bus depot premises will have to be built by the private operator as per the specifications provided by NMMT. In case of schedule slippage the performance guarantee submitted by the private operator will be replenished to the extent of the delay charges specified in the contract. In case of bus depot not being in line with specifications of the report then NMMT is liable to declare an event of default
Building of the commercial premises	√		The commercial premises will be constructed based on the DPR approved by NMMT. The private operator is bound to pay delay charges if there is delay in implementation of project
Transferring of lease rights	√		Lease rights will be transferred on successful completion of bus depot and commercial facility. The private operator is liable to declare an event of default if NMMT does not transfer lease rights on satisfactory completion of construction of both the bus depot and commercial facility
Demand (Usage) Risk			
Demand for commercial facility is not adequate	√		The private operator pays an annuity to NMMT irrespective of demand for project
Performance Risk			
Developer does not performs his obligations		√	If the building of bus depot or commercial premises is not as per standards mentioned in detailed project report then NMMT can reimburse

ACTIVITY	PRIVATE OPERATOR	TRANSPORT AUTHORITY	COMMENTS
satisfactorily			the performance guarantee
Financial Risk			
Non-Payments of 1. Upfront Payment 2. Annuity		√	1. Upfront payment is a condition precedent to the validity of the agreement 2. The Payment Security will be reimbursed in case of default on annuity payments
Default of payment of commercials rentals by lesses	√		The private operator is solely responsible for the collection of revenues and has to remit the agreed annuity as per the agreement.
Force Majeure Risk			
Force Majeure Risk	√	√	Each party is to bear their individual cost pertaining to their respective assets
Operating Risk			
Provision of operations and maintenance of the commercial facility	√		The private operator is solely responsible for the operations and maintenance of the commercial facility.

Source: CRIS Analysis

A detailed explanation of the Bus Depot PPP structure is given in the term sheet contained in Volume 4.

13 MONO-RAIL O&M CONTRACT

13.1 Introduction

MMRDA proposes to implement a proven and established Monorail system in various parts of the Mumbai Metropolitan region. The first pilot phase of this project is being implemented between Sant Gadge Maharaj Chowk – Wadala and Chembur. The completion target for the project is 30 months. The project has been won by the consortium of L&T and SCOMI Engineering.

The contract consists of the development, construction and commissioning of the complete monorail system in the above identified corridor in Mumbai on a turnkey basis, including its operations and maintenance for a minimum period of three years from the date of commencement of commercial operations. The scope of work includes:

1. Detailed surveys and investigations for the project
2. Preliminary and detailed design of alignment, fixed infrastructure works, communications, IT systems, etc.
3. Project construction including all system, equipment, M&E works, construction and project management
4. Operations and Maintenance
5. Organizational set-up for system operation
6. System integration, pre-operations, trial, running, overall testing and commissioning
7. Operations and Maintenance of the system for a period of three years

Asian Development Bank (ADB) proposes the creation of an Operations and Maintenance term sheet which would assist in the creation of an Operations and Maintenance contract after the expiry of three years of operations by the incumbent operator.

CRIS undertook a study of the existing contract for monorail operations and analyzed the main terms and conditions pertaining to operations and maintenance of the project. CRIS also made a list of the documents which would be required to be submitted to the transport authority by the private operator as well as vice versa. [15]

[15] CRIS has undertaken a preliminary analysis of the existing Operations & Maintenance Contract and based the term sheet for the monorail O&M Contract on clauses from this contract which are relevant to preparing an O&M Contract.

13.2 Main Clauses of O&M Contract

The main clauses of the operations and maintenance contract have been described in terms of the private operator ("Contractor") and transport authority.

13.2.1 Clauses of Private Operator

1. The Contractor shall adhere to the operations and maintenance rules and procedures as well as requirements of system safety which incorporate mandatory requirements of the "Indian Tramways Act."
2. The Contractor shall provide safe, smooth and uninterrupted train service during normal operating conditions.
3. The Contractor shall adhere to the operational safety case which includes quality and safety management reports.
4. The Contractor shall at all times keep a copy of all the manuals, publications supplied by the transport authority, the contractors' documents and other communications given under the contract.
5. The Contractor shall adhere to the operating rules and procedures which would regulate the operations and maintenance of the system.
6. The Contractor will adhere to the operating plan provided by the transport authority and operate services as specified by the time table in the plan.
7. The Contractor shall adhere to the emergency procedures plan in the case of any emergency.
8. The Contractor shall control the stations and the operation of the operations control centre which monitors the system.
9. The Contractor shall operate the depot in adherence with the depot operating procedure.
10. The Contractor will operate the ticketing and fare collection mechanism and deposit all the accruals into an escrow account from where payments to the operator will be processed.
11. The Contractor will maintain and upkeep the rolling stock and will employ trained and skilled professionals for operations of the same.

13.2.2 Clauses of transport authority

1. The transport authority shall approve the operating plan and maintenance plan of the Contractor to ensure he is able to start services.
2. The transport authority shall provide the contractor right of access to and possession of the site as may be required by the contractor to commence and proceed with work.
3. The transport authority shall provide reasonable assistance to the contractor at his request to obtain relevant permits, licenses and approvals.
4. The transport authority needs to ensure that its personnel co-operate with the contractor in a reasonable manner to allow him to execute his obligations.
5. The transport authority will facilitate in arranging the Law and Order Agency for the security and safety of the system.
6. The transport authority may issue to the contractor instructions which may be necessary for the contractor to perform his obligations under the contract.
7. The transport authority shall have made available all relevant data in the transport authority's' possession of the site as well as copies of standard operational

procedures like Operating Plans, Safety Management systems like civil works, traction, signalling, fare collection, rolling stock, E&M, O&M, Environmental, Quality Assurance and any other manuals in its possession.

8. The transport authority shall facilitate by giving necessary letters for arrangement of water and power to the system. The contractor would be responsible for payment of the respective charges
9. The Transport authority shall submit to the contractor drawings of the systems as commissioned

The transport authority shall pay the contractor each month a lump sum decided on the terms of the contract.

The detailed term sheet of the operations and maintenace contract has been provided in Volume 4 of this toolkit.

14 APPENDIX I – WORKINGS OF NMMT PPP OPTION

Figure 20: Financials with NMMT Providing Service

Current	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Source of Funds													
Opening Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Passenger Fares	1,495	3,140	5,922	6,191	6,460	8,075	8,398	8,721	10,853	11,240	11,628	14,419	14,884
Escalation in Fares													
Escalation in Passengers													
Bus Rentals	75	157	296	310	323	404	420	436	543	562	581	721	744
Other Accruals	150	314	592	619	646	808	840	872	1085	1124	1163	1442	1488
Other Collections	75	157	296	310	323	404	420	436	543	562	581	721	744
Total Revenues	1,794	3,768	7,106	7,429	7,752	9,690	10,078	10,465	13,023	13,488	13,954	17,302	17,861
		110%	89%	5%	4%	25%	4%	4%	24%	4%	3%	24%	3%
Use of Funds													
Salaries	730	1533	2414	2535	2662	2795	2935	3081	3235	3397	3567	3745	3933
Other Adminstrative Expenses	50.1	52.6	55.2	58.0	60.9	63.9	67.1	70.5	74.0	77.7	81.6	85.7	90.0
Vehicle Maintenance	164	343	546	579	619	663	716	773	843	927	1029	1152	1314
Fuel Expenses	539	1132	1876	1970	2184	2293	2549	2677	2986	3344	3762	4254	4839
CNG	*539*	*1132*	*1876*	*1970*	*2184*	*2293*	*2549*	*2677*	*2986*	*3344*	*3762*	*4254*	*4839*
Diesel	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Stationery	168	176	185	195	204	214	225	236	248	261	274	287	302
Total (Average Workshop,property tax, government tax,RTO tax)	731	1534	2417	2538	2665	2798	2938	3085	3239	3401	3571	3749	3937
Repayment of Interest	207	424	521	391	261	130	0	0	0	0	0	0	0
Total Expenditure	2420	5019	7830	8071	8451	8742	9204	9686	10377	11147	12011	12987	14112
Operating Profit	(626)	(1251)	(724)	(642)	(699)	948	873	779	2647	2342	1943	4316	3748
Operating Margin	-34.9%	-33.2%	-10.2%	-8.6%	-9.0%	9.8%	8.7%	7.4%	20.3%	17.4%	13.9%	24.9%	21.0%
Capital Costs													
Purchase of buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Purchase of buses (non-JnNURM)	2500	2625	2756	0	0	0	0	0	0	0	0	0	0
Other Expenses	68	72	75	79	83	87	91	96	101	106	111	117	123
Repayment of Loan	0	0	1133	1133	1133	1133	1133	0	0	0	0	0	0
Development of Depots	0	0	0	0	0	0	0	0	0	0	0	0	0
MMRDA/JnNUMRM Consultant Fe	0	0	0	0	0	0	0	0	0	0	0	0	0
CNG Kit	0	0	0	0	0	0	0	0	0	0	0	0	0
Closing Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2,568	2,697	2,831	79	83	87	91	96	101	106	111	117	123
FCFF for NMMT	(2,987)	(3,524)	(3,034)	(330)	(521)	991	782	683	2,546	2,236	1,832	4,199	3,626
FCFE for NMMT	(1,396)	(2,060)	(2,707)	(1,854)	(1,915)	(273)	(352)	683	2,546	2,236	1,832	4,199	3,626

Figure 21: Financials with Private Operator providing service

Current	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Source of Funds													
Opening Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Passenger Fares	1,495	3,140	5,922	6,191	6,460	8,075	8,398	8,721	10,853	11,240	11,628	14,419	14,884
Bus Rentals	75	157	296	310	323	404	420	436	543	562	581	721	744
Other Accruals	150	314	592	619	646	808	840	872	1085	1124	1163	1442	1488
Other Collections	75	157	296	310	323	404	420	436	543	562	581	721	744
Total Revenues	1,794	3,768	7,106	7,429	7,752	9,690	10,078	10,465	13,023	13,488	13,954	17,302	17,861
		110%	89%	5%	4%	25%	4%	4%	24%	4%	3%	24%	3%
Use of Funds													
Salaries	438	920	1449	1521	1597	1677	1761	1849	1941	2038	2140	2247	2360
Other Adminstrative Expenses	50.1	52.6	55.2	58.0	60.9	63.9	67.1	70.5	74.0	77.7	81.6	85.7	90.0
Vehicle Maintenance	164	345	549	584	625	672	726	788	859	940	1034	1138	1251
Fuel Expenses	539	1132	1876	1970	2184	2293	2549	2677	2810	3135	3098	3950	4839
CNG	*539*	*1132*	*1876*	*1970*	*2184*	*2293*	*2549*	*2677*	*2810*	*3135*	*3098*	*3950*	*4839*
Diesel	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Stationery	168	176	185	195	204	214	225	236	248	261	274	287	302
Workshop charges													
Property Charges													
Government Tax													
Bus Transfer Costs													
Total (Average Workshop,property tax, government tax,RTO tax)	731	1534	2417	2538	2665	2798	2938	3085	3239	3401	3571	3749	3937
Repayment of Interest	207	424	521	391	261	130	0	0	0	0	0	0	0
Total Expenditure	2128	4408	6867	7062	7392	7634	8041	8468	8923	9592	9925	11170	12477
Operating Profit	(334)	(639)	239	367	360	2056	2037	1997	4100	3896	4029	6132	5384
Operating Margin	-18.6%	-17.0%	3.4%	4.9%	4.6%	21.2%	20.2%	19.1%	31.5%	28.9%	28.9%	35.4%	30.1%
Capital Costs													
Purchase of buses	0	0	0	0	0	0	0	0	0	0	0	0	0
Purchase of buses (non-JnNURM)	2500	2625	2756	0	0	0	0	0	0	0	0	0	0
Other Expenses	68	72	75	79	83	87	91	96	101	106	111	117	123
Repayment of Loan	0	0	1133	1133	1133	1133	1133	0	0	0	0	0	0
Development of Depots	0	0	0	0	0	0	0	0	0	0	0	0	0
MMRDA/JnNUMRM Consultant Fe	0	0	0	0	0	0	0	0	0	0	0	0	0
CNG Kit	0	0	0	0	0	0	0	0	0	0	0	0	0
Closing Balance	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2,568	2,697	2,831	79	83	87	91	96	101	106	111	117	123
FCFF for Operator	(2,695)	(2,912)	(2,071)	679	538	2,099	1,946	1,901	4,000	3,791	3,917	6,016	5,261
FCFE for Private Operator	(1,104)	(1,448)	(1,744)	(846)	(857)	835	812	1,901	4,000	3,791	3,917	6,016	5,261

Urban Transport

Volume – 4: Term Sheet

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LIST OF ABBREVIATIONS

ESIC:	Employees State Insurance Corporation
PPP:	Public Private Partnership
PF:	Provident Fund
TDS:	Tax Deducted at Source

1 INTRODUCTION

The Volume IV, of this report presents the detailed term sheets prepared for the PPP options identified for the cities analyzed in Volume III. In Volume III of the report, the sample city of Navi Mumbai was studied for assessing the status of the urban bus transport system and identification of an appropriate PPP structure for the projects identified to improve the bus transport system in Navi Mumbai. The PPP structures recommended have been based on the study to a sample of PPP projects which have been implemented in India. These PPP structures can be modified as per the requirements of the projects and further refined to suit the needs of the urban bus transport authority or ULB. The term sheets so prepared have been presented in this Volume of the report. The objective and contents of the term sheets along with the detailed term sheets are presented in the following sections of this report.

1.1 Objective of the term sheet

The term sheet is a reference guide for understanding the key clauses applicable under a specific PPP structure. The clauses presented in the term sheet would help the bus transport authority or ULB in drafting a contract for the PPP structure that has been selected for implementation of the identified projects in the urban bus transportation sector. The urban bus transport authority or ULB can refer to the detailed set of clauses which have been listed in order to develop an all comprehensive PPP contract. It is to be noted here that, the clauses which have been mentioned here are generic in nature and would vary as per the unique characteristics of the PPP structure finalized for a specific city. Depending upon the output from the detailed analysis which the urban transport authority or ULB would carry out, the obligations of both the private operator and bus transport authority or ULB, risk and their allocations and mitigations are subject to change.

1.2 Contents of the term sheet

As indicated above, the term sheet is expected to offer the user with broad guidelines for preparation of a comprehensive contract for the PPP structure so identified. In this context, the term sheet broadly covers the following areas:

- Scope of the project
- List of preparatory work to be undertaken by the urban bus transport authority or ULB
- Tenure of Project
- Types of Contract
- Condition Precedents
- Roles and Responsibilities of private operator
- Roles and Responsibilities of transport authority or ULB
- Monitoring Mechanisms
- Safety Related Provisions
- Performance Standards/Service Quality Plan (SQP)
- Penalties
- Terms of Payment
- Risk Mitigation Strategies
- Events of Default
- Bidding Parameter
- RFQ Criteria
- Change in Scope
- Handover of Assets

2 COST PLUS AND GROSS COST CONTRACT

2.1 Cost Plus Contract

2.1.1 Problem Definition

The bus transport authority or ULB faces a problem of having less buses as well as employees like drivers and conductors required for running optimal urban transportation services in the city. The transport authority or ULB is also not able to bring in operational efficiency into the system either due to an old fleet of buses or insufficient employees to run buses. Moreover, the revenues accruing from fares are not enough to cover the operational expenses of the urban bus transport undertaking.

2.1.2 Need for PPP

The bus transport authority or ULB needs PPP to ramp up the services in a short amount of time to provide good quality transportation services to the public as well as improve the operational efficiency of the system. Private participation is also envisaged for improving the efficiencies in the operations as well as increasing the scope of operations.

2.1.3 PPP Structure

A Cost Plus Contract is classified as a PPP arrangement, which is typically a lease contract agreement. Under this arrangement, the private operator owns the buses and handles the activity of operations and maintenance of the bus transport system. Private Operators procure, own and run the buses while the bus transport authority or ULB collects the revenue. The private operators are paid on a per-kilometre basis, calculated on the operating cost incurred for each bus. The basis of such a contract is to ensure a quick ramp-up of capacity of the services as well as improvement in the running of the system.

2.1.4 Objective of the PPP Structure

The basis of such a contract is to bring in efficiency in running of the system that is possible by introduction of private participation and at the same time not having to spend on capital expenditure

2.1.5 Detailed Term Sheet

The following term sheet outlines the detailed working of a Cost Plus Contract for the procurement of rolling stock in an urban transport undertaking of a bus transport authority or ULB (hence referred to as "**transport authority**") including the preparatory work to be undertaken by the transport authority or ULB, the key obligations of the private operator and the transport authority or ULB, the monitoring mechanism, the payment structure, the performance standards

to be adhered to by the private operator and key clauses for risk mitigation related to the PPP structure.

SR. NO	ITEM	DESCRIPTION
1.	Scope of the Private Operator	1. Provide buses to the ULB/transport authority on the basis of a lease contract as per the physical specifications in the contract 2. Provision a driver for each bus to enable to run services 3. Provision of bus services either in terms of a area or route contract as notified by the Municipal Corporation/Transport Authority in a fair and unbiased manner 4. Operations and maintenance of bus services as per the performance and quality standards specified 5. Maintenance of a detailed log of the performance of the each bus on a per day basis 6. Redressal of complaints and issues raised by consumers 7. Maintenance of the premises leased out for purpose of maintenance and repair of buses 8. Provision of appropriate space on and inside the buses to ensure display of advertisements
2.	Information list to be prepared by Transport authority or ULB/Preparatory work for transport authority or ULB	1. Comprehensive Mobility Plan for the area/township a. Current Scenario of Urban transport b. Expected Growth in traffic c. Recommendations 2. Physical Specifications of the Buses which would be used for operations of service 3. Performance and quality standards for service to be provided 4. Design of the route system where applicable or major area demarcation for area contract

SR. NO	ITEM	DESCRIPTION
		5. Report on the total routes running through the town 6. Detailed Project Report on implementation of project with financial feasibility a. Capital Expenditure Plans b. Cost Streams c. Revenue Streams d. Market Assessment e. Current Scenario Assessment 7. Format of submission of road-worthiness certificates (Certificate to prove that the bus is in operable condition), quality and performance standard checks on buses 8. RFP for the bidding out of the contract
3.	Tenure of the PPP contract	The tenure of the PPP is defined in terms of either in terms of the number of years which is generally 5-7 years or 7,50,000 km which is the running lifecycle of a bus
4.	Types of Contract	**Area Contract** When a transport authority or ULB issues a contract to a private operator giving him the exclusive right to run bus services in an area that forms all or a substantial part of the city it is described as an area contract. The suitability of an area contract is where 1. The city has a number of relatively self-contained areas (i.e. the number of buses required to cater to the whole area is fewer than 500) 2. The authority wishes the private operator undertake the bus service planning in the area which would be subject to approval by the authority 3. The authority wishes the private operator establish himself and be identified as the bus system provider for the area **Route Contract** When the transport authority or ULB issues a contract for the operations of one specified route or a group of routes then it is described as a route contract. A route contract is

SR. NO	ITEM	DESCRIPTION
		suitable when: 4. The transport authority or ULB intends to determine the routes and the daily schedule 5. The transport authority or ULB intends to be identified as the bus system provider 6. The transport authority or ULB intends to offer opportunities to smaller opportunities to participate in the bidding
5.	Condition Precedents	**Private Operator** 1. Sign the agreement within ____ days of acceptance of letter of award 2. Submit a performance guarantee equivalent to Rs.____ in the form of a Bank Guarantee 3. All representations and warranties are true and correct 4. Delivery of the initial lot of buses as per bus delivery schedule **Transport authority or ULB** 1. Handover the land specified for the use as bus depot with right to use depot within 30 days of signing of contract
6.	Roles and Responsibilities of Private Operator	1. Payment of the performance guarantee to the transport authority or ULB to ensure performance of the system 2. Buy, own, operate and maintain the buses according to the stipulated specifications of the agreement 3. Comply with all the applicable law, rules and guidelines mentioned in the terms and conditions of the agreement 4. Make available the buses as mandated by the transport authority or ULB and as per the bus delivery schedule mentioned in the agreement 5. Maintain the space provided for the repair and maintenance of buses and not undertake any changes to these spaces without the prior permission of the

SR. NO	ITEM	DESCRIPTION
		transport authority or ULB 6. Make available the buses for display of the advertisements inside/outside the buses 7. Provide trained and skilled staff to the operations of the bus and provide qualified and competent technicians for the maintenance of the bus 8. Ensure quality of buses as per the physical specifications mentioned in the agreement as well as obtain all the relevant certificates, test reports and documents 9. Arrange for maintenance as well as for breakdown repairs 10. Maintain cleanliness and a high standard of service quality in terms of adhering to the Service Quality Plan (SQP) in terms of the number of defaults, failures and deficiencies 11. Ensure the intervention of the crew for the proper display of the route information system 12. Participate in all the meetings which are convened by the transport authority or ULB 13. Comply with all the directives and orders of the transport authority or ULB with regard to the running of the transport services 14. Submit a Project Management Plan (PMP) for approval to transport authority or ULB which details out the schedule of the delivery schedule of the buses, tasks to be performed by the private operator, staff allocations, maintenance schedule, business continuity planning etc 15. Accept any revision of the terms and conditions of the agreements especially those of performance and quality standards 16. Guarantee the transport service with freedom of access, quality, service and standards

SR. NO	ITEM	DESCRIPTION
		17. Allow the transport authority or ULB to fit communications devices on the buses to allow it to monitor the bus as well as any other device deemed necessary for the smooth operation of the system 18. Be the joint holder in the escrow account along with the transport authority or ULB 19. Submit the certificate of road worthiness of the vehicle every quarter 20. Take the permission of the transport authority or ULB before the installation of any equipment in the bus 21. Arrange the capital funds, finances for running the day to day operations of the bus 22. Liable for the any claims made and compensation awarded by motor accidents tribunal or any court. 23. Arrange for a comprehensive insurance policy for each of the buses which operate in the fleet 24. Obtain all legal permits, documents which are deemed necessary for running services in the city 25. Adherence to the safety standards as specified in the Service Quality Plan (SQP) 26. Impart adequate training to staff to deal with passengers using the service 27. Designate and appoint suitable officers to run the day to day activities of the transport system 28. Allow the transport authority or ULB full and free access to the buses during office hours for inspection purposes 29. Maintain the project implementation schedule as per the milestones which have been set in the project management plan 30. Maintain harmony and good industrial relations with the transport authority or ULB 31. Pay Employees State Insurance , Provident Fund (PF) contribution for the

SR. NO	ITEM	DESCRIPTION
		employees of the private enterprise 32. Maintain the confidentiality of the agreement
7.	Roles and Responsibilities of Transport authority or ULB	1. Permit the private operator to set up parking yard and garage for Operations and Maintenance 2. Specify the requirements for the provisioning of the system in terms of the service quality plan (SQP) 3. Establish systems and procedures for the operation of the system 4. Define the service quality performance, effective system of communications and co-ordination through the Service Quality Plan (SQP) 5. Approve the Project Management Plan with the changes deemed appropriate by the transport authority or ULB 6. Pay the private operator on a per-km basis as agreed in the contract 7. Regulate and oversee the management, planning and control activities of the transport authority or ULB with respect to the routes 8. Collect all the revenues (Fare, Passes, Advertisements) accruing from project and deposit it in an escrow account 9. Commitment to the diligent use of the resources of the transport authority or ULB and not unduly disposing off assets which may affect operations of the service 10. Guarantee peaceful possession of premises to be used by private operator 11. Grant all approvals, permissions and authorizations which the bus provider would require for service on satisfactory completion of the same
8.	Monitoring mechanism	1. The private operator would be required to maintain the bus as per the minimum service quality standards which have been specified in the Service Quality Plan (SQP) 2. In the event of the breach of the service quality plan, the private operator will be

SR. NO	ITEM	DESCRIPTION
		notified and will have to pay a fine as per the stipulated norms 3. In the event that the same breach in service quality of a serious nature such as safety occurs more than 3 times, then the transport authority or ULB is liable to declare an event of default 4. The Private operator is obligated to report an breach in the service quality to the notice of the transport authority or ULB with the sufficient explanation of the same
9.	Safety related provisions	The private operator should follow prudent utility practices generally and reasonably expected of and accepted nationally from a skilled and experienced bus transport operator. The operations of the bus service would be on the lines of the Service Quality Plan (SQP)
10.	Performance Standards/Service Quality Plan (SQP)	**Parameter – Calculation – Desired Value** 1. Utilization of rolling stock a. Fleet Utilization (%) – Buses Operated/ Buses Contracted (92-96) b. Bus Productivity (%) – Kms operated by buses/Total No. of buses held (225-275) 2. Regularity of Service a. Trip Efficiency (%) – No. of trips/No. of trips scheduled (>98%) b. Kilometre Efficiency (%) – No. of kms operated/No. of kms schedules (> 98%) 3. Punctuality of operations – No. of trips on time/Total No. of trips (> 98%) 4. Reliability of buses (per 10000 km) – No. of breakdowns*10000/Total Kms operated (< 5%) 5. Safety of Operations (per 100000 kms) – No. of accidents*10000/Total Kms operated (<1%)

SR. NO	ITEM	DESCRIPTION
		6. Cleanliness of Buses (per 1000 trips) – No. of buses reported dirty * 1000/Total No. of trips operated – (< 5%) 7. User Satisfaction (per 1000 trips) - No. of complaints * 1000/Total No. of trips operated (< 2%) 8. Deficiencies or defaults in service – Total Penalty levied*1000/Total Trips operated (XXX) 9. Load Factor – Total Revenue through tickets passes/ (Total paid kms * carrying capacity * fare per passenger per km) (70%)
11.	Penalties	1. Bus Related Defaults & Deficiencies a. Damages to bus components like tyres, seats, rails, saloon lights etc b. Unclean Dirty Bus c. Missing Medicine Box 2. Bus Driver related defaults/deficiencies a. Rash Driving b. Improper Uniform c. Jumping of red lights, signals 3. Bus Operator related defaults/deficiencies a. Not following route b. Not submitting road worthiness certificate c. No permitting transport authorities access to the bus or their premises d. Damage to fixed infrastructure like roads, bus stops etc 4. Any other violation prescribed by the transport authority or ULB
12.	Terms of Payment	1. The private operator is bound to receive a charge based on the operational charges incurred by the private operator on the bus on a per-km bus. A detailed

SR. NO	ITEM	DESCRIPTION
		break up of the charge must be provided in the terms specified in "Detailed Break-up of Payment Terms" 2. The private operator is bound to receive the payment with Tax Deducted at Source (TDS) and any other taxes which are applicable 3. The private operator is also entitled to a share of xx% in the advertisement revenues on the bus 4. The private operator is not entitled to any other revenues other than those specified in the contract agreement
13.	Detailed Break-up of Payment Terms	1. A detailed break up of the charge must be provided in terms of a. Staff Labour Costs/km b. Fuel/Oil & Lubricants Costs/km c. Tyres Cost/km d. Repair and Maintenance Costs/km e. Depreciation and Interest Charges /km f. Taxes/Fees & Insurance/km g. Other charges/km (including a rate of return for the operator) The payment is subject to review every quarter and if there is a +/- 5% change in the price of the fuel which is used for running of the buses
14.	Risk Mitigation Strategies	**Transport authority or ULB** 1. The bid security of the private operator and the second ranked bidder shall be kept valid until the fulfilment of conditions precedent. If the private operator does not sign the agreement within the ____ days of acceptance of letter of award or the date as mutually decided, then the bid security of the private operator shall be forfeited. The second ranked bidder shall be issued the letter of award. 2. Private Operator to submit a performance guarantee (equal to Rs. XX). If the

SR. NO	ITEM	DESCRIPTION
		private operator does not perform his obligations and does not adhere to the performance standards which have been defined in the Service Quality Plan (SQP) then the performance security of the private operator will be encashed and he/she would have to replenish it within a period of 30 days failing which an event of default would be declared. 3. Private operator is liable to pay delay charges of the order of Rs.XX per bus per day if there is a delay in the delivery of the buses as per the bus delivery schedule submitted by private operator and agreed upon by the transport authority or ULB 4. Private operator has to submit a project management plan (PMP) which details out the bus delivery schedule, mode of operations, tasks to be performed by the private operator, staff allocations, maintenance schedule, business continuity planning etc. The non-submission of the project management plan will be treated as an event of default 5. If the buses which have been supplied to the transport authority or ULB do not meet the specifications which have been indicated in the physical specifications of the bus then the transport authority or ULB is liable to declare an event of default 6. The private operator is to allow the authorized agents of the transport authority or ULB access to the inspect the bus during the office hours failing which the transport authority or ULB would be liable to declare an event of default 7. Private operator is liable to pay the penalties/fines as specified in the Service Quality Plan (SQP) if he does not comply with the regulations, which have been laid out in the document. The transport authority or ULB has a right to declare an event of default in the case the same offence is repeated more than 3 times in succession. 8. Private operator is liable to pay fines/penalties mentioned in the SQP if the cleanliness standard mentioned in the SQP is not met

SR. NO	ITEM	DESCRIPTION
		9. Private operator is liable to pay fines/penalties mentioned in the SQP if reliability and punctuality standard mentioned in the SQP is not met 10. Private operator is liable to pay fines/penalties mentioned in the SQP if the safety standards, which have been mentioned in the SQP, are not adhered to. The transport authority or ULB has the right to declare an event of default if the event is repeated 11. Private Operator is to submit a roadworthiness certificate of the bus every three months failing which the transport authority or ULB is liable to levy a fine of Rs. XX per day. The transport authority or ULB is liable to declare an event of default in case the road worthiness certificate is not submitted 2 times in a row 12. Private Operator is liable to pay a penalty is he does not participate in the meeting which have been convened by the transport authority or ULB. The transport authority or ULB has a right to declare an event of default in the case the same offence is repeated more than 3 times in succession. 13. Transport authority or ULB is liable to collect a penalty from the private operator if he does not allow the fitment of any equipment the transport authority or ULB deems necessary for the smooth functioning of the transport services. The transport authority or ULB has a right to declare an event of default in the case the same offence is repeated more than 3 times in succession. 14. The transport authority or ULB is also liable to declare an event of default in the case of any transfer of material deemed as the intellectual property of the transport authority or ULB **Private Operator** 1. The private operator is liable to declare an event of default if even on satisfactory completion of all conditions then transport authority or ULB does not transfer premises to the operator for parking and maintenance space

SR. NO	ITEM	DESCRIPTION
		2. The private operator is liable to recover fees at a 25% penal interest in case of delay in the payments to be made to the operator, If the transport authority or ULB is not able to make payments for the next three months then the private operator is liable to declare an event of default 3. The private operator is liable to declare an event of default in case the transport authority or ULB does not provide the necessary approvals required from it to ensure proper functioning of the service despite it not being in breach of contract
15.	(Private Operator Event of Default)	1. Non Submission of Project Management Plan (PMP) 2. Non-compliance to the performance standard mentioned in the service quality plan (SQP) (more than 3 times) for serious offences 3. Non-Adherence to safety norms more than twice in a row 4. Work or change carried out at bus premises allotted to private operators without permission of the transport authority or ULB 5. Refusal to handover the premises to the transport authority or ULB towards completion of contract 6. Material breach of the agreement 7. Insolvency of the bus operator 8. Non-replenishment of performance guarantee within 30 days 9. Operator does not provide the road worthiness certificate 2 times in a row 10. Sale of intellectual property of the transport authority or ULB to a third party
16.	(Transport authority or ULB Event of Default)	1. Non-transfer of premises required for maintenance and parking of buses to the operator despite satisfactory completion of all conditions precedent 2. Non payment of dues for a period of 3 months
17.	Consequences of Default	**In case of private operator event of default**

SR. NO	ITEM	DESCRIPTION
		1. Encashment of performance guarantee 2. The transport authority or ULB shall take over the assets of the private operator in the project by paying Rs. XX which is 50% of the value of the assets of the private operator. 3. The transport authority or ULB will also make good from the private operator any costs, expenses or loss it may have incurred by reason of breach or failure on part of private operator **In case of transport authority or ULB event of default** 1. The transport authority or ULB will release the performance guarantee 2. The transport authority or ULB shall take over the assets of the project by paying Rs. XX which is 120% of the value of the assets of the private operator.
18.	Bidding Parameter	1. The bidding parameter shall be the fixed royalty of Rs. – per-km payable by the transport authority or ULB. The private operator quoting the lowest royalty shall be selected as the Successful Bidder.
19.	Qualification Criterion (RFQ/RFP)	**Technical Criterion** • Private Operator should have experience in running a fleet of buses with atleast XX buses over YY years **Financial Criterion** • Private Operator should have a minimum networth equivalent to XX% of estimated project cost for which bids have been invited (as per Planning Commission Guidelines) • Private Operator should have average net cash accruals over the past 3 years of Rs. ZZ crores.

SR. NO	ITEM	DESCRIPTION
20.	Change in Scope	1. The private has the option but is not liable to offer up to 50% more buses for the running if the enterprise is willing to avail of the service
21.	Hand-over of assets	1. On termination of the agreement, the private operator shall hand-over the physical possession/custody of whichever premises were handed over to it in good working condition subject to wear and tear. 2. The private operator shall have the right to take back ownership of the buses after the expiry of the contract and transport authority or ULB is liable to hand over these to him without any encumbrances

2.2 Key Differences in the Gross Cost Contract

A bus transport authority or ULB that wished to employ the gross cost contract can make use of the all the clauses of the Cost Plus Contract. The key difference in the contracts is the payment mechanisms. In the cost plus contract, the private operator would be reimbursed on actuals whereas in the case of the gross cost contract the private operator would be paid a fixed amount, which is decided every year. The payment mechanism have been mentioned in the table below

4	PAYMENT MECHANISM	
	Terms of Payment	1. The private operator is bound to receive a fixed payment every year in terms of the cost incurred by him 2. A yearly escalation factor might be added to factor in inflation 3. The private operator is bound to receive the payment with Tax deducted at Source (TDS) and any other taxes deducted which are applicable 4. The private operator is not entitled to any other revenues other than those specified in the contract.

It is ***not required*** to provide a detailed break up of the cost incurred here in terms of fuel costs, tyre costs, maintenance costs etc.

3 NET COST CONTRACT

3.1 Net Cost Contract

3.1.1 Problem Definition

The transport authority or ULB faces a problem of having very few buses as well as employees like drivers and conductors required for running optimal urban transportation services in the city. In some cases, the city might not have a public transportation system. However, there is good demand for a bus transportation services in the city and the revenues accruing from fares are enough to cover the operational expenses as well as capital expenses of the urban bus transport undertaking.

3.1.2 Need for PPP

The transport authority or ULB needs PPP to ramp up the services to provide good transportation services to the public as well as improve operational efficiency of the system if it exists. The private entity is engaged with the sole objective of providing quality service to all who access the transport systems. Private participation is envisaged for improving the efficiencies in the operations as well as improvement of the scope of operations.

3.1.3 PPP Structure

A Net Cost Contract is typically a lease contract arrangement. Private operators procure, own and run the buses. The private operator also collects the revenue. Under a Net Cost Contract, the operator provides a specified service for the period in the contract and retains all the revenue. The authority may consider a payment of a subsidy to the operator if the bus services in the area are unprofitable. If the services are profitable then the private operator can consider payment of a fixed payment to the bus transport authority or ULB.

3.1.4 Objective of the PPP Structure

The basis of such a contract is to bring in efficiency in the running of the system as well as ramp us services. The net cost contract is a win-win situation for both parties with the transport authority or ULB getting paid on the basis of a royalty if the operations as profitable as well as ensuring a good public transportation system for the city. Net Cost Contracts also provide an incentive to private operators to increase the passenger footfalls as well as bring in operational efficiency as both would provide him with greater profits

3.1.5 Detailed Term Sheet

The following term sheet outlines the detailed working of a Net Cost Contract for the procurement of rolling stock in an urban bus transport undertaking of a bus transport authority or ULB (referred as "**transport authority or ULB**") including the preparatory work to be undertaken by the transport authority or ULB, the key obligations of the private operator and the transport authority or ULB, the monitoring mechanism, the payment structure, the performance standards to be adhered to by the private operator and key clauses for risk mitigation related to the PPP structure.

SR. NO	ITEM	DESCRIPTION
1.	Scope of the Project	1. Providing buses to the ULB/transport authority on the basis of a lease contract as per the physical specifications of the bus specified in the contract 2. Provision of a driver for each bus to enable to run services 3. Provision for the collection of revenues accruing from fares in the urban transportation system 4. Provision of bus services either in terms of a area or route contract as notified by the Transport authority or ULB in a fair and unbiased manner 5. Operations and maintenance of bus services as per the performance and quality standards specified 6. Maintenance of a detailed log of the performance of the each bus on a per day basis 7. Redressal of complaints and issues raised by consumers 8. Maintenance of the premises leased out for purpose of maintenance and repair of

SR. NO	ITEM	DESCRIPTION
		buses 9. Provision of appropriate space on and inside the buses to ensure display of advertisements
2.	Information list to be prepared by Transport authority or ULB/Preparatory work for transport authority or ULB	1. Comprehensive Mobility Plan for the area/township a. Current Scenario of Urban transport b. Expected Growth in traffic c. Recommendations 2. Physical Specifications of the Buses which would be used for operations of service 3. Performance and quality standards for service to be provided 4. Design of the route system where applicable or major area demarcated for area contract 5. Report on the total routes running through the town 6. Demand Assessment across each of the proposed routes with suitability on the type of contract i.e. area or route contract 7. Detailed project report on implementation of project with financial feasibility a. Capital Expenditure Plans b. Cost Streams c. Revenue Streams d. Market Assessment e. Current Scenario Assessment 8. Format of submission of road worthiness certificates, quality and performance standard checks on buses 9. RFP for the bidding out of the contract

SR. NO	ITEM	DESCRIPTION
3.	Tenure of the PPP contract	The tenure of the PPP is defined in terms of either in terms of the number of years which is generally 5-7 years or 7,50,000 km which is the running lifecycle of a bus
4.	Types of Contract	**Area Contract** When a transport authority or ULB issues a contract to a private operator giving him the exclusive right to run bus services in an area that forms all or a substantial part of the city it is described as an area contract. The suitability of an area contract is on where 1. The city has a number of relatively self-contained areas (i.e. the number of buses required to cater to the whole area is fewer than 500) 2. The authority wishes the private operator to undertake bus service planning in the area which would be subject to approval by the authority 3. The authority wishes the private operator to establish himself and be identified as the bus system provider for the area **Route Contract** When the authority issues a contract for the operations of one specified route or a group of routes then it is described as a route contract. A route contract is suitable when: 1. The transport authority or ULB intends to determine the routes and the daily schedule 2. The transport authority or ULB intends to be identified as the bus system provider 3. The transport authority or ULB intends to offer opportunities to smaller opportunities to participate in the bidding
5.	Condition Precedents (Private Operator)	**Private Operator** 1. Sign the agreement within ____ days of acceptance of letter of award 2. Submit a payment security equivalent to Rs. ___ in the form of a Bank Guarantee 3. Submit a performance guarantee equivalent to Rs.____ in the form of a Bank Guarantee

SR. NO	ITEM	DESCRIPTION
		4. All representations and warranties are true and correct 5. Delivery of initial lot of buses mentioned in bus delivery schedule **Transport authority or ULB** 1. Handover the land specified for the use as bus depot with right to use depot within 30 days of signing of contract
6.	Roles and Responsibilities of Private Operator	1. Submission of payment security to the transport authority or ULB to ensure that payments are made in a timely and efficient manner 2. Submission of performance guarantee to ensure that the transport authority or ULB to ensure performance is up to the standards defined 3. Make available the buses as mandated by the transport authority or ULB and as per the bus delivery schedule mentioned in the agreement 4. Ensure quality of buses as per the physical specifications mentioned in the agreement as well as obtain all the relevant certificates, test reports and documents 5. Submit a Project Management Plan (PMP) which details out the schedule of the delivery schedule of the buses, tasks to be performed by the private operator, staff allocations, maintenance schedule, business continuity planning etc 6. Buy, Own, Operate and maintain the buses according to the stipulated specifications of the agreement 7. Operate buses on the route plan and time table which would be specified by transport authority or ULB 8. Exclusively use the buses only for the purposes of providing public transport in the stipulated hours 9. Ensure proper and fair collection of revenue as stipulated by the fares which have been set by the transport authority or ULB

SR. NO	ITEM	DESCRIPTION
		10. Comply with all the applicable law, rules and guidelines mentioned in the terms and conditions of the agreement 11. Maintain the space provided for the repair and maintenance of the buses and not undertake any change to these areas without the prior permission of the transport authority or ULB 12. Make available the bus/part of the bus for advertisements inside and/or outside the bus 13. Provide trained and skilled staff to the operations of the bus like drivers and provide qualified and competent technicians for the maintenance of the bus 14. Arrange for maintenance and breakdown repairs which include but are not confined to major overhauls, minor repairs, spare part replacement 15. Maintain cleanliness and a high standard of service quality in terms of adhering to the Service Quality Plan (SQP) in terms of the number of defaults, failures and deficiencies 16. Ensure the intervention of the crew for the proper display of the route information system 17. Participate in all the meetings which are convened by the transport authority or ULB 18. Comply with all the directives and orders of the transport authority or ULB with regard to the running of the transport services 19. Accept any revision of the terms and conditions of the agreements especially those of performance and quality standards 20. Guarantee the transport service with freedom of access, quality, service and standards 21. Allow the transport authority or ULB to fit communications devices on the buses to allow it to monitor the bus as well as any other device deemed necessary for the

SR. NO	ITEM	DESCRIPTION
		smooth operation of the system 22. Be the joint holder in the escrow account along with the transport authority or ULB 23. Submit the certificate of road worthiness of the vehicle every quarter 24. Arrange the capital funds, finances for running the day to day operations of the bus 25. Arrange for a comprehensive insurance policy for each of the buses which operate in the fleet 26. Liable for the any claims made and compensation awarded by motor accidents tribunal or any court. 27. Obtain all legal permits, documents which are deemed necessary for running services in the city 28. Impart adequate training to staff to deal with passengers using the service 29. Designate and appoint suitable officers to run the day to day activities of the transport system 30. Allow the transport authority or ULB full and free access to the buses during office hours for inspection purposes 31. Maintain the project implementation schedule as per the milestones which have been set in the project management plan 32. Maintain harmony and good industrial relations with the transport authority or ULB 33. Pay ESIC, PF contribution for the employees of the private enterprise 34. Maintain the confidentiality of the agreement
7.	Roles and Responsibilities of Transport authority or ULB	1. Allot transport infrastructure like a bus depot for the parking and maintenance of buses *a. The transport may/may not recover charges for the usage of these services. If so, the charges will be explicitly mentioned in the RFP and*

SR. NO	ITEM	DESCRIPTION
		contract agreement 2. Specify the requirements for provisioning of the system in terms of the service quality plan (SQP) 3. Define the service quality performance, effective system of communications and co-ordination through the Service Quality Plan (SQP) 4. Regulate and oversee the management, planning and control activities of the transport authority or ULB with respect to the routes 5. Approve the Project Management Plan with the changes deemed appropriate by the transport authority or ULB 6. Collect revenues in terms of advertisement revenues 7. Commitment to the diligent use of the resources of the transport authority or ULB and not unduly disposing off assets which may affect operations of the service 8. Guarantee peaceful possession of premises to be used by private operator to him/her 9. Appoint an engineer for the bus system to undertake, perform and carry out various duties, responsibilities, service and activities as set out by the transport authority or ULB 10. Grant all approvals, permissions and authorizations which the bus provider would require for service on satisfactory completion of the same
8.	Monitoring mechanism	1. The private operator would be required to maintain the bus as per the minimum service quality standards which have been specified in the Service Quality Plan (SQP) 2. In the event of the breach of the service quality plan, the private operator will be notified and will have to pay a fine as per the stipulated norms 3. In the event that the same breach in service quality occurs more than 3 times for

SR. NO	ITEM	DESCRIPTION
		offences deemed serious by the transport authority or ULB, then the transport authority or ULB is liable to declare an event of default 4. The Private operator is obligated to report an breach in the service quality to the notice of the transport authority or ULB with the sufficient explanation of the same
9.	Safety related provisions	Private Operator should follow prudent utility practices generally and reasonably expected of and accepted nationally from a skilled and experienced bus transport operator. The operations of the bus service would be on the lines of the Service Quality Plan (SQP)
10.	Performance Standards/Service Quality Plan (SQP)	**Parameter – Calculation – Desired Value** 1. Utilization of rolling stock a. Fleet Utilization (%) – Buses Operated/ Buses Contracted (92-96%) b. Bus Productivity (%) – Kms operated by buses/Total No. of buses held (225-275 kms) 2. Regularity of Service c. Trip Efficiency (%) – No. of trips/No. of trips scheduled (>98%) d. Kilometre Efficiency (%) – No. of kms operated/No. of kms schedules (> 98%) 3. Punctuality of operations – No. of trips on time/Total No. of trips (> 98%) 4. Reliability of buses (per 10000 km) – No. of breakdowns*10000/Total Kms operated (< 5%) 5. Safety of Operations (per 100000 kms) – No. of accidents*10000/Total Kms operated (<1%) 6. Cleanliness of Buses (per 1000 trips) – No. of buses reported dirty * 1000/Total No. of trips operated – (< 5%) 7. User Satisfaction (per 1000 trips) - No. of complaints * 1000/Total No. of trips operated (< 2%)

SR. NO	ITEM	DESCRIPTION
		8. Deficiencies or defaults in service – Total Penalty levied*1000/Total Trips operated (XXX) 9. Load Factor – Total Revenue through tickets passes/ (Total paid kms * carrying capacity * fare per passenger per km) (70%)
11.	Penalties	1. Bus Related Defaults & Deficiencies a. Damages to bus components like tyres, seats, rails, saloon lights etc b. Unclean Dirty Bus c. Missing Medicine Box 2. Bus Driver related defaults/deficiencies d. Rash Driving e. Improper Uniform f. Jumping of red lights, signals 3. Bus Operator related defaults/deficiencies g. Not following route h. Not submitting road worthiness certificate i. No permitting transport authorities access to the bus or their premises j. Damage to fixed infrastructure like roads, bus stops etc 4. Any other violation prescribed by the transport authority or ULB
12.	Terms of Payment	1. The transport authority or ULB is bound to receive a fixed charge which is based on a per-km basis 2. The charge per-km will be escalated by XX% per year 3. Any cancellation of services will need to be immediately notified to the transport authority or ULB. In the event of private not being able to provide sufficient explanation for the same then the transport authority or ULB reserves the right to

SR. NO	ITEM	DESCRIPTION
		charge a penalty for the same 4. Increase in route kms due to enforcement of law and order shall not be considered for hire charges 5. Any cancellation of trips without any reason will not lead to a deduction in the number of kilometres travelled by the bus 6. If the transport authority or ULB is in charge of the issuance of passes then the private operator is bound to have a share in revenues 7. The private operator has the right to make payment with TDS and any other taxes which are applicable but would have to provide the appropriate certificate for the same 8. The private operator is bound to pay Motor Vehicle Tax and any other taxes which are applicable for the bus 9. The private operator is also entitled to a share of xx% in the advertisement revenues on the bus if applicable as per the terms of the contract 10. The private operator is not entitled to any other revenues other than those specified in the contract agreement
13.	Risk Mitigation Strategies	**Transport authority or ULB** 1. The bid security of the private operator and the second ranked bidder shall be kept valid until the fulfilment of conditions precedent. If the private operator does not sign the agreement within the ____ days of acceptance of letter of award or the date as mutually decided, then the bid security of the private operator shall be forfeited. The second ranked bidder shall be issued the letter of award. 2. Private Operator to submit a performance guarantee (equal to Rs. XX). If the private operator does not perform his obligations and does not adhere to the performance standards which have been defined in the Service Quality Plan (SQP) then the performance security of the private operator will be encashed to

SR. NO	ITEM	DESCRIPTION
		the tune of the fine specified and he/she would have to replenish it within a period of 30 days failing which an event of default would be declared. 3. Private operator has to submit a payment security of Rs. YY to the bus operator to ensure that the transport authority or ULB can forfeit this payment security if the private defaults on payments 4. Private operator is liable to pay delay charges of the order of Rs.ZZ per bus per day if there is a delay in the delivery of the buses as per the bus delivery schedule submitted by private operator and agreed upon by the transport authority or ULB 5. Private operator has to submit a project management plan (PMP) which details out the bus delivery schedule, mode of operations, tasks to be performed by the private operator, staff allocations, maintenance schedule, business continuity planning etc. The non-submission of the project management plan will be treated as an event of default 6. If the buses which have been supplied by the transport authority or ULB do not meet the specifications which have been indicated in the physical specifications of the bus then the transport authority or ULB is liable to declare an event of default 7. The private operator is to allow the authorized agents of the transport authority or ULB access to the inspect the bus during the office hours failing which the transport authority or ULB would be liable to declare an event of default 8. Private operator is liable to pay the penalties/fines as specified in the Service Quality Plan (SQP) if he does not comply with the regulations, which have been laid out in the document. The transport authority or ULB has a right to declare an event of default in the case the same offence is repeated more than 3 times in succession. 9. Private operator is liable to pay fines/penalties mentioned in the SQP if the cleanliness standard mentioned in the SQP is not met

SR. NO	ITEM	DESCRIPTION
		10. Private operator is liable to pay fines/penalties mentioned in the SQP if reliability and punctuality standard mentioned in the SQP is not met 11. Private operator is liable to pay fines/penalties mentioned in the SQP if the safety standards, which have been mentioned in the SQP, are not adhered to. The transport authority or ULB has the right to declare an event of default if the event is repeated twice 12. Private Operator is to submit a roadworthiness certificate of the bus every three months failing which the transport authority or ULB is liable to levy a fine of Rs. XX per day. The transport authority or ULB is liable to declare an event of default in case the road worthiness certificate is not submitted 2 times in a row 13. Private Operator is liable to pay a penalty is he does not participate in the meeting which have been convened by the transport authority or ULB. The transport authority or ULB has a right to declare an event of default in the case the same offence is repeated more than 3 times in succession. 14. Transport authority or ULB is liable to collect a penalty from the private operator if he does not allow the fitment of any equipment the transport authority or ULB deems necessary for the smooth functioning of the transport services. The transport authority or ULB has a right to declare an event of default in the case the same offence is repeated more than 3 times in succession. 15. The transport authority or ULB is also liable to declare an event of default in the case of any transfer of material deemed as the intellectual property of the transport authority or ULB **Private Operator** 1. The private operator is liable to declare an event of default if even on satisfactory completion of all conditions then transport authority or ULB does not transfer premises to the operator for parking and maintenance space

SR. NO	ITEM	DESCRIPTION
		2. The private operator is liable to declare an event of default in case the transport authority or ULB does not provide the necessary approvals required from it to ensure proper functioning of the service
14.	(Private Operator Event of Default)	1. Delivery of buses not as per schedule 2. Non Submission of Project Management Plan (PMP) 3. Non-compliance to the performance standard mentioned in the service quality plan (SQP) 4. Non-adherence to the service quality plan (more than 3 times) 5. Non-Adherence to safety norms more than once in a row 6. Work or change carried out at bus premises allotted to private operators without permission of the transport authority or ULB 7. Refusal to handover the premises to the transport authority or ULB towards completion of contract 8. Material breach of the agreement 9. Insolvency of the bus operator 10. Non-replenishment of performance guarantee within 30 days 11. Non-replenishment of payment security within 30 days 12. Non payment of dues for a period of 3 months 13. Operator does not provide the road worthiness certificate 2 times in a row 14. Sale of intellectual property of the transport authority or ULB to a third party
15.	(Transport authority or ULB Event of Default)	1. Non-transfer of premises required for maintenance and parking of buses to the operator despite satisfactory completion of all conditions precedent 2. The transport authority or ULB does not grant approvals required for operations despite satisfactory completion of all required conditions

SR. NO	ITEM	DESCRIPTION
16.	Consequences of Default	**In case of private operator event of default** 1. Encashment of performance guarantee/payment security where applicable 2. The transport authority or ULB shall take over the assets of the project by paying Rs. XX which is 50% of the value of the private operators asset 3. The transport authority or ULB will also make good from the private operator any costs, expenses or loss it may have incurred by reason of breach or failure on part of private operator **In case of transport authority or ULB event of default** 1. The transport authority or ULB will release the performance guarantee 2. The transport authority or ULB shall take over the assets of the project by paying Rs. XX which is 120% of the value of the private operators assets as assessed by an independent valuation agency
17.	Bidding Parameter	The bidding parameter shall be the fixed royalty of Rs. -- per month payable to the transport authority or ULB for the usage of transport infrastructure services. The private operator quoting the highest royalty shall be selected as the Successful Bidder.
18.	Qualification Criterion (RFQ/RFP)	**Technical Criterion** • Private Operator should have experience in running a fleet of buses with atleast XX buses over YY years **Financial Criterion** • Private Operator should have a minimum networth equivalent to XX% of estimated project cost for which bids have been invited (as per Planning Commission Guidelines) • Private Operator should have average net cash accruals over the past 3 years

SR. NO	ITEM	DESCRIPTION
		of Rs. ZZ crores.
19.	Change in Scope	The private has the option but is not liable to offer up to 50% more buses for the running if the enterprise is willing to avail of the service
20.	Hand-over of assets	On termination of the agreement, the private operator shall hand-over the physical possession/ custody of whichever premises and buses to the transport authority or ULB in good working condition subject to wear and tear.

4 LICENSING CONTRACT

4.1 Licensing Contract

4.1.1 Problem Definition

The transport authority or ULB faces a problem of having very few buses as well as employees like drivers and conductors required for running optimal urban transportation services in the city. In some cases, the city might not have a public transportation system. However the city is eligible for receiving a grant under a government scheme (For e.g. JnNURM) for urban transportation sector. The grant could be used for procurement of buses for JnNURM. Moreover, there is moderate demand for a bus transportation services in the city and the revenues accruing from fares are enough to cover the operational expenses and a part of the capital expenses of the urban bus transport undertaking.

4.1.2 Need for PPP

The transport authority or ULB needs PPP to ramp up the services to provide good transportation services to the public as well as improve operational efficiency of the system if it exists. The private entity is engaged with the sole objective of providing quality service to all who access the transport systems. Private participation is envisaged for improving the efficiencies in the operations as well as improvement of the scope of operations.

4.1.3 PPP Structure

A Licensing Contract is typically an operations and maintenance contract arrangement. Under this arrangement, the bus transport authority or ULB procures the buses. Typically, buses are procured through grants available through government schemes like JnNURM. The bus transport authority or ULB pays a proportion of the amount towards the procurement of the buses while the remaining amount is contributed by way of a grant from the central and state governments. The private operator pays this amount incurred by the bus transport authority or ULB towards purchase of the buses. It operates and maintains the bus services and collects the revenue and remits to the bus transport authority or ULB a royalty based on a per-km basis.

4.1.4 Objective of the PPP Structure

The basis of such a contract is to bring in efficiency in the running of the system as well as ramp us services. The licensing contract is advantageous for parties with the transport authority or ULB getting paid on the basis of a royalty and ensuring a good public transportation system for the city. Licensing Contracts also provide an incentive to private operators as they have to spend less on the procurement of buses. The private operator also has the incentives of increasing passenger footfalls and bringing in operational efficiency as both would provide him with greater profits

4.1.5 Detailed Term Sheet

The following term sheet outlines the detailed working of a Licensing Contract for the procurement of rolling stock in an urban bus transport undertaking of a bus transport authority or ULB (referred as "**transport authority or ULB**") including the preparatory work to be undertaken by the transport authority or ULB, the key obligations of the private operator and the transport authority or ULB, the monitoring mechanism, the payment structure, the performance standards to be adhered to by the private operator and key clauses for risk mitigation related to the PPP structure.

SR. NO	ITEM	DESCRIPTION
1.	Scope of the Project	1. Provision of a driver and conductor for each bus to enable to run services 2. Provision for the collection of revenues accruing from fares in the urban transportation system 3. Provision of bus services either in terms of a area or route contract as notified by the Transport authority or ULB in a fair and unbiased manner 4. Operations and maintenance of bus services as per the performance and quality standards specified 5. Maintenance of a detailed log of the performance of the each bus on a per day basis 6. Redressal of complaints and issues raised by consumers 7. Maintenance of the premises leased out for purpose of maintenance and repair of buses

SR. NO	ITEM	DESCRIPTION
		8. Provision of appropriate space on and inside the buses to ensure display of advertisements
2.	Information list to be prepared by Transport authority or ULB/Preparatory work for transport authority or ULB	1. Comprehensive Mobility Plan for the area/township a. Current Scenario of Urban transport b. Expected Growth in traffic c. Recommendations 2. Performance and quality standards for service to be provided 3. Design of the route system where applicable or major areas area demarcated for area contract 4. Report on the total routes running through the town 5. Demand Assessment across each of the proposed routes with suitability on the type of contract i.e. area or route contract 6. Detailed project report (DPR : which would also be required for submission for funding of JnNURM) on implementation of project with financial feasibility a. Capital Expenditure Plans b. Cost Streams c. Revenue Streams d. Market Assessment e. Current Scenario Assessment 7. Format of submission, quality and performance standard checks on buses 8. RFP for the bidding out of the contract
3.	Tenure of the PPP contract	The tenure of the PPP is defined in terms of either in terms of the number of years which is generally 3-4 years
4.	Types of Contract	**Area Contract**

SR. NO	ITEM	DESCRIPTION
		When a transport authority or ULB issues a contract to a private operator giving him the exclusive right to run bus services in an area that forms all or a substantial part of the city it is described as an area contract. The suitability of an area contract is on where 1. The city has a number of relatively self-contained areas (i.e. the number of buses required to cater to the whole area is fewer than 500) 2. The authority wishes the private operator to undertake bus service planning in the area which would be subject to approval by the authority 3. The authority wishes the private operator to establish himself and be identified as the bus system provider for the area **Route Contract** When the authority issues a contract for the operations of one specified route or a group of routes then it is described as a route contract. A route contract is suitable when: 1. The transport authority or ULB intends to determine the routes and the daily schedule 2. The transport authority or ULB intends to be identified as the bus system provider 3. The transport authority or ULB intends to offer opportunities to smaller opportunities to participate in the bidding
5.	Condition Precedents (Private Operator)	**Private Operator** 1. Sign the agreement within ____ days of acceptance of letter of award 2. Submit a payment security equivalent to Rs. ___ in the form of a Bank Guarantee (the payment security submitted in this case will be higher because the buses procures have only been partly funded by the funds of the private operator. 3. Submit a performance guarantee equivalent to Rs.____ in the form of a Bank Guarantee 4. All representations and warranties are true and correct

SR. NO	ITEM	DESCRIPTION
		Transport authority or ULB 1. Handover the land specified for the use as bus depot with right to use depot within 30 days of signing of contract 2. Handover of initial lot of buses as agreed in the contract
6.	Roles and Responsibilities of Private Operator	1. Submission of payment security to the transport authority or ULB to ensure that payments are made in a timely and efficient manner 2. Submission of performance guarantee to ensure that the transport authority or ULB to ensure performance is up to the standards defined 3. Submit a Project Management Plan (PMP) which details out the tasks to be performed by the private operator, staff allocations, maintenance schedule, business continuity planning etc 4. Operate and maintain the buses according to the stipulated specifications of the agreement 5. Operate buses on the route plan and time table which would be specified by transport authority or ULB 6. Ensure proper and fair collection of revenue as stipulated by the fares which have been set by the transport authority or ULB 7. Comply with all the applicable law, rules and guidelines mentioned in the terms and conditions of the agreement 8. Maintain the space provided for the repair and maintenance of the buses and not undertake any change to these areas without the prior permission of the transport authority or ULB 9. Make available the bus/part of the bus for advertisements inside and/or outside the bus 10. Provide trained and skilled staff to the operations of the bus like drivers and

SR. NO	ITEM	DESCRIPTION
		provide qualified and competent technicians for the maintenance of the bus 11. Arrange for maintenance and breakdown repairs which include but are not confined to major overhauls, minor repairs, spare part replacement 12. Maintain cleanliness and a high standard of service quality in terms of adhering to the Service Quality Plan (SQP) in terms of the number of defaults, failures and deficiencies 13. Ensure the intervention of the crew for the proper display of the route information system 14. Participate in all the meetings which are convened by the transport authority or ULB 15. Comply with all the directives and orders of the transport authority or ULB with regard to the running of the transport services 16. Accept any revision of the terms and conditions of the agreements especially those of performance and quality standards 17. Guarantee the transport service with freedom of access, quality, service and standards 18. Allow the transport authority or ULB to fit communications devices on the buses to allow it to monitor the bus as well as any other device deemed necessary for the smooth operation of the system 19. Be the joint holder in the escrow account along with the transport authority or ULB 20. Submit the certificate of road worthiness of the vehicle every quarter 21. Arrange the capital funds, finances for running the day to day operations of the bus 22. Arrange for a comprehensive insurance policy for each of the buses which operate in the fleet

SR. NO	ITEM	DESCRIPTION
		23. Liable for the any claims made and compensation awarded by motor accidents tribunal or any court. 24. Obtain all legal permits, documents which are deemed necessary for running services in the city 25. Impart adequate training to staff to deal with passengers using the service 26. Designate and appoint suitable officers to run the day to day activities of the transport system 27. Allow the transport authority or ULB full and free access to the buses during office hours for inspection purposes 28. Maintain the project implementation schedule as per the milestones which have been set in the project management plan 29. Maintain harmony and good industrial relations with the transport authority or ULB 30. Pay Employee State Insurance, Provident Fund contribution for the employees of the private enterprise 31. Maintain the confidentiality of the agreement
7.	Roles and Responsibilities of Transport authority or ULB	1. Procure the bus as per the schedule mentioned in the agreement 2. Allot transport infrastructure like a bus depot for the parking and maintenance of buses a. *The transport may/may not recover charges for the usage of these services. If so, the charges will be explicitly mentioned in the RFP and contract agreement* 3. Specify the requirements for provisioning of the system in terms of the service quality plan (SQP) 4. Define the service quality performance, effective system of communications and co-ordination through the Service Quality Plan (SQP)

SR. NO	ITEM	DESCRIPTION
		5. Regulate and oversee the management, planning and control activities of the transport authority or ULB with respect to the routes 6. Approve the Project Management Plan with the changes deemed appropriate by the transport authority or ULB 7. Collect revenues in terms of advertisement revenues 8. Commitment to the diligent use of the resources of the transport authority or ULB and not unduly disposing off assets which may affect operations of the service 9. Guarantee peaceful possession of premises to be used by private operator to him/her 10. Appoint an engineer for the bus system to undertake, perform and carry out various duties, responsibilities, service and activities as set out by the transport authority or ULB 11. Grant all approvals, permissions and authorizations which the bus provider would require for service on satisfactory completion of the same
8.	Monitoring mechanism	1. The private operator would be required to maintain the bus as per the minimum service quality standards which have been specified in the Service Quality Plan (SQP) 2. In the event of the breach of the service quality plan, the private operator will be notified and will have to pay a fine as per the stipulated norms 3. In the event that the same breach in service quality occurs more than 3 times for offences deemed serious by the transport authority or ULB, then the transport authority or ULB is liable to declare an event of default 4. The Private operator is obligated to report an breach in the service quality to the notice of the transport authority or ULB with the sufficient explanation of the same
9.	Safety related provisions	Private Operator should follow prudent utility practices generally and reasonably expected

SR. NO	ITEM	DESCRIPTION
		of and accepted nationally from a skilled and experienced bus transport operator. The operations of the bus service would be on the lines of the Service Quality Plan (SQP)
10.	Performance Standards/Service Quality Plan (SQP)	**Parameter – Calculation – Desired Value** 1. Utilization of rolling stock a. Fleet Utilization (%) – Buses Operated/ Buses Contracted (92-96%) b. Bus Productivity (%) – Kms operated by buses/Total No. of buses held (225-275 kms) 2. Regularity of Service a. Trip Efficiency (%) – No. of trips/No. of trips scheduled (>98%) b. Kilometre Efficiency (%) – No. of kms operated/No. of kms schedules (> 98%) 3. Punctuality of operations – No. of trips on time/Total No. of trips (> 98%) 4. Reliability of buses (per 10000 km) – No. of breakdowns*10000/Total Kms operated (< 5%) 5. Safety of Operations (per 100000 kms) – No. of accidents*10000/Total Kms operated (<1%) 6. Cleanliness of Buses (per 1000 trips) – No. of buses reported dirty * 1000/Total No. of trips operated – (< 5%) 7. User Satisfaction (per 1000 trips) - No. of complaints * 1000/Total No. of trips operated (< 2%) 8. Deficiencies or defaults in service – Total Penalty levied*1000/Total Trips operated (XXX) 9. Load Factor – Total Revenue through tickets passes/ (Total paid kms * carrying capacity * fare per passenger per km) (70%)
11.	Penalties	1. Bus Related Defaults & Deficiencies

SR. NO	ITEM	DESCRIPTION
		a. Damages to bus components like tyres, seats, rails, saloon lights etc b. Unclean Dirty Bus c. Missing Medicine Box 2. Bus Driver related defaults/deficiencies a. Rash Driving b. Improper Uniform c. Jumping of red lights, signals 3. Bus Operator related defaults/deficiencies a. Not following route b. Not submitting road worthiness certificate c. No permitting transport authorities access to the bus or their premises d. Damage to fixed infrastructure like roads, bus stops etc 4. Any other violation prescribed by the transport authority or ULB
12.	Terms of Payment	1. The transport authority or ULB has a right to receive an upfront payment equal to XX% (amount funded by the grant) of the cost of the buses a. The upfront payment will be towards the buses which have already been procured b. If the buses are delivered in phases then the private operator will make a payment of the share of the transport authority or ULB's contribution whenever the buses are procured 2. The transport authority or ULB has right to receive a royalty charge which is based on a per-km basis for the running of the buses 3. The charge per-km will be escalated by XX% per year 4. Any cancellation of services will need to be immediately notified to the transport authority or ULB. In the event of private not being able to provide sufficient

SR. NO	ITEM	DESCRIPTION
		explanation for the same then the transport authority or ULB reserves the right to charge a penalty for the same 5. Increase in route kms due to enforcement of law and order shall not be considered for hire charges 6. Any cancellation of trips without any reason will not lead to a deduction in the number of kilometres travelled by the bus 7. If the transport authority or ULB is in charge of the issuance of passes then the private operator is bound to have a share in revenues 8. The private operator has the right to make payment with Tax Deductible at Source and any other taxes which are applicable but would have to provide the appropriate certificate for the same 9. The private operator is bound to pay Motor Vehicle Tax and any other taxes which are applicable for the bus 10. The private operator is not entitled to any other revenues other than those specified in the contract agreement
13.	Risk Mitigation Strategies	**Transport authority or ULB** 1. The bid security of the private operator and the second ranked bidder shall be kept valid until the fulfilment of conditions precedent. If the private operator does not sign the agreement within the ____ days of acceptance of letter of award or the date as mutually decided, then the bid security of the private operator shall be forfeited. The second ranked bidder shall be issued the letter of award. 2. Private Operator to submit a performance guarantee (equal to Rs. XX). If the private operator does not perform his obligations and does not adhere to the performance standards which have been defined in the Service Quality Plan (SQP) then the performance security of the private operator will be encashed to the tune of the fine specified and he/she would have to replenish it within a period of 30 days failing which an event of default would be declared.

SR. NO	ITEM	DESCRIPTION
		3. Private operator has to submit a payment security of Rs. YY to the bus operator to ensure that the transport authority or ULB can forfeit this payment security if the private defaults on payments 4. Private operator has to submit a project management plan (PMP) which details out mode of operations, tasks to be performed by the private operator, staff allocations, maintenance schedule, business continuity planning etc. The non-submission of the project management plan will be treated as an event of default 5. The private operator is to allow the authorized agents of the transport authority or ULB access to the inspect the bus during the office hours failing which the transport authority or ULB would be liable to declare an event of default 6. Private operator is liable to pay the penalties/fines as specified in the Service Quality Plan (SQP) if he does not comply with the regulations, which have been laid out in the document. The transport authority or ULB has a right to declare an event of default in the case the same offence is repeated more than 3 times in succession. 7. Private operator is liable to pay fines/penalties mentioned in the SQP if the cleanliness standard mentioned in the SQP is not met 8. Private operator is liable to pay fines/penalties mentioned in the SQP if reliability and punctuality standard mentioned in the SQP is not met 9. Private operator is liable to pay fines/penalties mentioned in the SQP if the safety standards, which have been mentioned in the SQP, are not adhered to. The transport authority or ULB has the right to declare an event of default if the event is repeated twice 10. Private Operator is liable to pay a penalty is he does not participate in the meeting which have been convened by the transport authority or ULB. The transport authority or ULB has a right to declare an event of default in the case the same

SR. NO	ITEM	DESCRIPTION
		offence is repeated more than 3 times in succession. 11. The transport authority or ULB is also liable to declare an event of default in the case of any transfer of material deemed as the intellectual property of the transport authority or ULB **Private Operator** 1. The private operator is liable to declare an event of default if even on satisfactory completion of all conditions then transport authority or ULB does not transfer premises to the operator for parking and maintenance space 2. The private operator is liable to declare an event of default in case the transport authority or ULB does not provide the necessary approvals required from it to ensure proper functioning of the service
14.	(Private Operator Event of Default)	1. Non Submission of Project Management Plan (PMP) 2. Non-compliance to the performance standard mentioned in the service quality plan (SQP) 3. Non-adherence to the service quality plan (more than 3 times) 4. Non-Adherence to safety norms more than once in a row 5. Work or change carried out at bus premises allotted to private operators without permission of the transport authority or ULB 6. Refusal to handover the premises to the transport authority or ULB towards completion of contract 7. Material breach of the agreement 8. Insolvency of the bus operator 9. Non-replenishment of performance guarantee within 30 days 10. Non-replenishment of payment security within 30 days 11. Non payment of dues of the transport authority or ULB for a period of 3 months

SR. NO	ITEM	DESCRIPTION
		12. Sale of intellectual property of the transport authority or ULB to a third party
15.	(Transport authority or ULB Event of Default)	1. Non-transfer of premises required for maintenance and parking of buses to the operator despite satisfactory completion of all conditions precedent 2. The transport authority or ULB does not grant approvals required for operations despite satisfactory completion of all required conditions
16.	Consequences of Default	**In case of private operator event of default** 1. Encashment of performance guarantee/payment security where applicable 2. The transport authority or ULB shall take over the assets of the project 3. The transport authority or ULB will also make good from the private operator any costs, expenses or loss it may have incurred by reason of breach or failure on part of private operator **In case of transport authority or ULB event of default** 1. The transport authority or ULB will release the performance guarantee 2. The transport authority or ULB shall take over the assets of the project 3. The private operator will also make good from the private operator any costs, expenses or loss it may have incurred by reason of breach or failure on part of transport authority or ULB. 3. The transport authority or ULB will return the upfront payment made by private operator
17.	Bidding Parameter	The bidding parameter shall be the fixed royalty of Rs. -- per month payable to the transport authority or ULB for the usage of transport infrastructure services. The private operator quoting the highest royalty shall be selected as the Successful Bidder.
18.	Qualification Criterion (RFQ/RFP)	Technical Criterion • Private Operator should have experience in running a fleet of buses with

SR. NO	ITEM	DESCRIPTION
		atleast XX buses over YY years **Financial Criterion** • Private Operator should have a minimum networth equivalent to XX% of estimated project cost for which bids have been invited (as per Planning Commission Guidelines) • Private Operator should have average net cash accruals over the past 3 years of Rs. ZZ crores.
19.	Change in Scope	The private has the option but is not liable to offer up to 50% more buses for the running if the enterprise is willing to avail of the service
20.	Hand-over of assets	On termination of the agreement, the private operator shall hand-over the physical possession/ custody of whichever premises and buses to the transport authority or ULB in good working condition subject to wear and tear.

5 BUS DEPOT CONTRACT

5.1 Bus Depot Contract

5.1.1 Problem Definition

The transport authority or ULB wants to ramp up the number of buses for the urban transportation system and is increasing the scope of operations. Hence, it would require bus depots for the upkeep and parking of buses. The bus depots would have to be located strategically to ensure that the dead kilometres (i.e. travel back to depot with no passengers) is kept to a minimum level.

5.1.2 Need for PPP

The transport authority or ULB would require procuring land for the bus depot. In most cases, the transport authority or ULB has land available but does not have the means to undertake the capital expenditure or the means for the building of the depot. The private entity is hence engaged with the objective of building the depot and handing it over to the transport authority or ULB. There is no means of earning revenue other sources (Retail, Advertisements) from the bus depot on a standalone basis as it is used to upkeep and park buses. Hence, the private operator would construct the bus depot on a turnkey basis and construct real estate to recover his costs of construction. The private operator will pay an annuity to the transport authority or ULB based on the share of the revenues accruing from the real estate

5.1.3 PPP Structure

The development of bus depots would be on a PPP basis which would consist of the development and subsequent transfer of the bus depot from the private operator to the transport authority or ULB on a turnkey basis. The commercial facility would however be operated by the private operator to help him in recouping the capital expenditure he has incurred in the project.

5.1.4 Objective of the PPP Structure

The basis of such a contract is for the transport authority or ULB to get a constructed bus depot as well as a steady stream of revenues from the real estate development

5.1.5 Detailed Term Sheet

The following term sheet outlines the detailed working of Bus Depot Contract in an urban transport undertaking of a bus transport authority or ULB including the preparatory work to be undertaken by the transport authority or ULB, the key obligations of the private operator and the bus transport authority or ULB (hereinafter "**transport authority**"), the monitoring mechanism, the payment structure, the performance standards to be adhered to by the private operator and key clauses for risk mitigation related to the PPP structure.

SR. NO	ITEM	DESCRIPTION
1.	Scope of the Project	1. Development and Construction of Bus Terminal (BTF) facility for parking, maintenance and refuelling of buses 2. Construction of related facilities for the BTF like fuelling stations, restroom for drivers conductors, administrative office space, canteen and mess facilities and other required facilities 3. Development and Construction of Commercial facility on the land allotted for construction of a commercial facility 4. Operation and Maintenance of the Commercial Facility
2.	Information list to be prepared by Transport authority or ULB/Preparatory work for transport authority or ULB	1. Requirement and Specifications of Bus Depot Facility 2. Bus Depot Facility Implementation Schedule 3. List of allowed commercial activities 4. Preliminary Demand Assessment and Financial Feasibility of running of a commercial facility at the project site 5. Site plan of the identified site for the bus terminal
3.	Tenure of the PPP contract	The tenure of the PPP is defined in terms of either in terms of the number of years, which

SR. NO	ITEM	DESCRIPTION
		are used to quote the concession period. Typically these contract are for concession periods upwards of 20 years
4.	Condition Precedents (Private Operator)	**Private Operator** 1. Sign the agreement within ____ days of acceptance of letter of award 2. Submit a payment security equivalent to Rs. ___ in the form of a Bank Guarantee 3. Submit a performance guarantee equivalent to Rs.____ in the form of a Bank Guarantee 4. Pay the upfront payment of Rs. XX crores in the form of a demand draft to transport authority or ULB 5. All representations and warranties are true and correct **Transport authority or ULB** 1. Handover the project site to the private operator within 15 days of the Effective Date of the contract
5.	Roles and Responsibilities of Private Operator	1. Submission of payment security to the transport authority or ULB to ensure the annuity based payment (only is there is a payment of an annuity to the bus transport authority or ULB) 2. Submission of a performance guarantee which will persist from the construction phase as well as development of project 3. Develop, Finance, Design, Construct the Bus Depot Facility and also arrange for power, water and other utilities as may be required for the execution and implementation of the constructions at its own cost and expenses as per the specifications of the transport authority or ULB 4. Develop, Finance, Design, Construct, Manage, Operate and Maintain the Commercial Facility according to allowed commercial activities specified in the agreement and demand, charge, collect, retain and appropriate the premium for

SR. NO	ITEM	DESCRIPTION
		applicants/ allottees/lesses of commercial built up area and also arrange for power, water and other utilities as may be required for the execution and implementation of the construction at its own cost and expenses as per the approved Detailed Project Report. 5. The private operator would be liable to pay delay charges of Rs. XX per day for any schedule slippage in the building of depot and commercial premises 6. Submission of the Detailed Project Report (DPR), which would incorporate the detailed specifications of the project to the transport authority or ULB for approval 7. Plan and organize the works in such a way that the bus depot is able to function in the minimum possible time and there is least disruption to bus services during the construction phase of the project 8. Appoint sub contractors or agents on its behalf to assist in fulfilment of obligations in relation to the bus depot facility 9. Adhere and only put up activities which conform to those mentioned in the Annexure 10. Undertake the operation and maintenance of the commercial built up area/shops/kiosks and parking lots at its cost and expense 11. Enter into licensing agreements (licenses, franchises, sub contracts and similar agreements) on mutually agreed market terms and conditions 12. Maintain the premises with the terms and conditions of the agreement to ensure when the commercial facility is transferred back to the transport authority or ULB it is in fair condition subject to normal wear and tear 13. Dispose all debris and construction material lying at the bus terminal at own cost 14. Ensure access for the transport authority or ULB at all times to the premises of the bus depot facility and authorized area 15. Ensure that the construction of both the bus depot facility and the commercial

SR. NO	ITEM	DESCRIPTION
		facility is undertaken using good quality materials and in good faith 16. Ensure proper and fair collection of the revenue as per the stipulated lease rental rates 17. Follow all the terms and conditions that have been stipulated as per the agreement 18. Provide trained and skilled staff for the operation for the operations of the commercial facility 19. Accept any revision in the in the terms and conditions of the agreements especially those of performance and quality standards 20. Arrange the capital fund, finances for the construction of the project as well as the day to day operations of the project 21. Arrange for a comprehensive insurance policy for the project which would encompass the bus depot area as well as the commercial area with the employees 22. Obtain all the legal paperwork which would be deemed necessary for the implementation of the project 23. The private operator would ensure payment of all present and future applicable taxes, rates, assessments, duties, levies, fines, cesses, penalties and other outgoings including municipality and property taxes from time to time 24. The private operator shall allow the representatives of the transport authority or ULB to inspect the commercial facility within operating hours with a reasonable notice 25. Liable for any claim that arises out of any claims made for any incidents on the commercial premises 26. Allow the transport authority or ULB full and free access to the bus depot premises

SR. NO	ITEM	DESCRIPTION
		27. Maintain the project implementation schedule as per the milestones which have been set in the detailed project report 28. Maintain harmony and good industrial relations with the transport authority or ULB 29. Maintain the confidentiality of the agreement
6.	Roles and Responsibilities of Transport authority or ULB	1. The transport authority or ULB will grant the private operator development rights over the premises once conditions precedent of the private operator have been fulfilled 2. Provide a clear demarcation to the land allotted for the bus depot facility as well as the commercial facility 3. Study and approve the Detailed Project Report with suggested changes and modifications if necessary 4. Provide the lease rights to the commercial facility on successful completion of the construction of both bus depot and commercial facility 5. The transport authority or ULB shall assist the concessionaire on a reasonable effort basis in procuring permissions required for the building of the bus depot 6. Transport authority or ULB will grant the right to the concessionaire to regulate the movement of traffic outside the commercial complex and bus depot complex 7. Transport authority or ULB shall defend against any claims made against the project site 8. Transport authority or ULB must take over the operations and maintenance of the bus depot once the same is handed over to it at its own costs and expenses 9. Transport authority or ULB shall appoint a consulting engineering firm/company of engineer having the requisite experience in similar projects through competitive bidding process. The independent engineer shall monitor the implementation of the bus depot facility. The costs of the independent engineer would be borne by

SR. NO	ITEM	DESCRIPTION
		the private operator
7.	Monitoring mechanism	1. Appointment of an independent engineer jointly by the private operator who will monitor the progress of the project and report the same to the transport authority or ULB
8.	Terms of Payment	1. The period of the contract will be for a period of XX years 2. The private operator would make an upfront payment of Rs. crore 3. The private operator will make an annuity payment of Rs. – (If there are annuity payments to be made to the transport authority or ULB) 4. The private operator would transfer the bus depot premises to the transport authority or ULB once construction is complete in all aspects 5. The private operator has the right to make payment with TDS and any other taxes which are applicable but would have to provide the appropriate certificate for the same 6. The private operator is not entitled to any other revenues other than those specified in the contract agreement
9.	Risk Mitigation Strategies	**Private Operator** 1. The bid security of the private operator and the second ranked bidder shall be kept valid until the fulfilment of conditions precedent. If the private operator does not sign the agreement within the ____ days of acceptance of letter of award or the date as mutually decided, then the bid security of the private operator shall be forfeited. The second ranked bidder shall be issued the letter of award. 2. Private Operator to submit a performance security (equal to Rs. XX). If the private operator does not perform his obligations and does not adhere to the specifications of the bus depot and commercial space as per the detailed project report (DPR) then the transport authority or ULB is entitled to encash the

SR. NO	ITEM	DESCRIPTION
		performance guarantee 3. The private operator is obligated a payment security to the extent of the annuity the transport authority or ULB is due to receive. This payment security is encashed if the private operator fails to make the annual payments to the transport authority or ULB. If the payment security is not replenished within 30 days then the transport authority or ULB has the right to declare an event of default 4. Private operator is liable to pay delays charges of Rs. XX /day if there is a delay in construction of the bus depot as well as the commercial premises 5. Private operator has a submit a detailed project report which details out the specifications of the commercial premises to be constructed, technical drawings, business continuity planning and proposed marketing. The non-submission of the detailed project report will be treated as an event of default 6. If the bus depot is not as per the specifications provided by the transport authority or ULB then the transport authority or ULB has the right to declare an event of default 7. The private operator is bound to get a completion certificate for the bus depot construction as well as commercial construction from the transport authority or ULB on the completion of construction of the bus depot as well as commercial premises failing which the construction will not be considered complete 8. The transport authority or ULB has the right to appoint an auditor to check the accounts of the private operator and report any discrepancy which must be rectified within 30 days of receipt of notice 9. The transport authority or ULB is indemnified against any losses that may accrues to the project 10. The transport authority or ULB is also liable to declare an event of default in the

SR. NO	ITEM	DESCRIPTION
		case of any transfer of material deemed as the intellectual property of the transport authority or ULB **<u>Transport authority or ULB</u>** 1. The private operator is liable to declare an event of default if even on satisfactory completion of all conditions then transport authority or ULB does not transfer premises to the operator for parking and maintenance space 2. The private operator is liable to declare an event of default in case the transport authority or ULB does not provide the necessary approvals required from it to ensure proper functioning of the service
10.	Private Operator Event of Default	1. Completion of bus depot and commercial facility not as per schedule 2. Operator does not make annuity payment 3. Non Submission of Detailed Project Report (DPR) 4. Non-adherence to safety norms in construction and operations period 5. Non-adherence to the specifications given for the bus depot 6. Work or change carried out at bus premises allotted to private operators without permission of the transport authority or ULB 7. Refusal to handover the premises to the transport authority or ULB towards completion of contract 8. Material breach of the agreement 9. Insolvency of the private operator 10. Non-replenishment of performance guarantee within 30 days 11. Non-replenishment of payment security within 30 days 12. Sale of intellectual property of the transport authority or ULB to a third party
11.	Transport authority or ULB Event of	1. Non-transfer of premises to the operator despite satisfactory completion of all

SR. NO	ITEM	DESCRIPTION
	Default	conditions precedent 2. The transport authority or ULB does not grant approvals required for operations despite satisfactory completion of all required conditions
12.	Consequences of Default	**<u>In case of private operator event of default</u>** 1. Encashment of performance guarantee/payment security where applicable 2. The transport authority or ULB shall take over the assets of the project by paying Rs. XX which is 50% of the value of the private operators assets as assessed by an independent valuation agency 3. The transport authority or ULB will also make good from the private operator any costs, expenses or loss it may have incurred by reason of breach or failure on part of private operator **<u>In case of transport authority or ULB event of default</u>** 1. The transport authority or ULB will release the performance guarantee 2. The transport authority or ULB shall take over the assets of the project by paying Rs. XX which is 120% of the value of the private operators assets as assessed by an independent valuation agency
13.	Bidding Parameter	The bidding parameter will be depend on the kind of contract **a) In case of upfront payment – highest upfront payment quoted –** In the case of the bidding parameter being the upfront payment, the concession period is fixed and there may be a consideration of a annuity payment which it either fixed or dependant on a share in the commercial facility revenues **b) In case of annuity- highest annuity quoted –** In this case the concession period is fixed. The transport authority or ULB may consider a fixed upfront payment depending on the viability of the project **c) In case of revenue share – highest revenues share quoted - –** In this case the

SR. NO	ITEM	DESCRIPTION
		concession period is fixed. The transport authority or ULB may consider a fixed upfront payment depending on the viability of the project d) **In case of concession period - Lowest concession period –** In this case the revenue share/annuity (if applicable to contract is fixed) and the transport authority or ULB may consider the payment of an upfront amount depending on the viability of the project
14.	Qualification Criterion (RFQ/RFP)	**Technical Criterion** • Private Operator should have experience in constructing atleast ---- lakh sq. ft. of commercial space • Private Operator should have constructed – no. of other similar projects (i.e. Bus Depots, Bus Terminals, etc.) **Financial Criterion** • Private Operator should have a minimum networth equivalent to XX% of estimated project cost for which bids have been invited (as per Planning Commission Guidelines) • Private Operator should have average net cash accruals over the past 3 years of Rs. -- crores.
15.	Hand-over of assets	On termination of the agreement, the private operator shall hand-over the physical possession/ custody of whichever premises were handed over to it in good condition subject to wear and tear.

6 OPERATIONS & MAINTENANCE CONTRACT FOR MONORAIL

6.1 Operations and Maintenance Contract for the Monorail

6.1.1 Problem Definition

The establishment of an Operations and Maintenance term sheet that would facilitate the creation of Operations and Maintenance contract after the 3 years of operations by the incumbent operator expire for the monorail contract

6.1.2 Objective of the PPP Structure

The basis of such a contract is a typical Operations and Maintenance Contract, which the contractor would enter into to ensure functioning of the system once the contract of the incumbent operator expires through an efflux of time.

6.1.3 Detailed Term Sheet

The following term sheet outlines the detailed working of a Operations and Maintenance Contract with the main obligations of the private operator (**"Contractor"**) and transport authority or ULB, risk sharing and mitigation and payments

SR. NO	ITEM	DESCRIPTION
1.	Scope of the Project	1. Completion of handover and transition from the contractor once the EPC Agreement is terminated by passage of time 2. Complete Operations and Maintenance of the monorail system as stipulated by the specification documents 3. Adherence to the Operations and Maintenance Rules which would incorporate O&M rules of the Indian Tramways Act, 1948 4. Adherence to the service quality standards as specified by the transport authority or

SR. NO	ITEM	DESCRIPTION
		ULB 5. Compilation of periodic reports to the transport authority or ULB on the status of the system 6. Adherence to the operating plan and route schedule as provided by the transport authority or ULB
2.	Information list to be prepared by Transport authority or ULB/Preparatory work for transport authority or ULB	1. Performance Requirement of Operational and Maintenance Plan 2. Operating Plan Template a. Development of Time-tables b. Projections of commuters using system c. Organization Structure & Staffing d. Service Quality Management e. Safety and Incident Management Procedure f. Failure & Recovery Strategy Procedure g. Station Management h. Operational Control Centre Procedure i. Depot Operation Procedure j. Systems Assurance Plan 3. Maintenance Plan Template a. Development of the maintenance organization and engineering support in a structured manner; b. Safety Management c. Maintenance Procedures d. Strategy for dealing with reactive maintenance activities including details of his recovery plan

SR. NO	ITEM	DESCRIPTION
		e. Duties and Responsibilities f. Scheduling of Preventative (planned) maintenance activities including details of possession times g. Human resources required, commensurate with skills development in India, and their training and competency certification h. Quality Assurance and Testing i. Safety Critical Licensing j. Spare parts and consumable stores to avoid shortages k. Health and safety of staff l. Data recording and trend analysis m. Documentation and reporting 4. Asset Database 5. Operations and Maintenance Rules and Procedures a. Standards b. Conduct of Personnel c. Service Requirements d. Mono Rail Operation e. Mono Rail Control and Signalling f. Traction System and Specifications g. Building Service Equipment h. Emergency Preparedness i. Incidences and Security Preparedness and Procedures 6. Operational Safety Case – Condition Precedent a. Quality Management Report

SR. NO	ITEM	DESCRIPTION
		b. Safety Management Report c. Technical Safety Report 7. Safety Management Reports a. Safety Lifecycle b. Safety Standard c. Safety Audit and Assessment d. Supply Management e. Configuration Management f. Project Safety Training 8. Manuals a. Civil Works Manual b. Traction Manual c. Signalling Manual d. Communication Manual e. Fare Collection Manual f. Rolling Stock Manual g. E & M Installations h. Operation and Maintenance Manual i. Accident & Safety Manual j. Environmental Manual k. Quality Assurance Manual l. Training m. Emergency Procedures Plan

SR. NO	ITEM	DESCRIPTION
3.	Tenure of the PPP contract	The tenure of the PPP is defined in terms of either in terms of the number of years which would typically be for a period 2-3 years followed
4.	Roles and Responsibilities of Contractor	1. Pay performance security to the transport authority or ULB so that the operations and maintenance of the system are carried out in a timely and efficient manner 2. The Contractor shall be responsible for the Operations and Maintenance of the system for a period of XX years 3. Submit an Operating Plan which the contractor would propose to adopt for the functioning of the system 4. The Contractor shall develop a Maintenance Plan that shall identify the resources necessary for the maintenance of the Monorail System. The Maintenance Plan shall describe the maintenance work to be done, the times and frequencies at which it is to be carried out and the circumstances in which maintenance intervention will be necessary 5. Take the handover from the previous operators of the system and undergo training from them if necessary to ensure continuous functioning of the system. There will be a transition period of XX months to ensure proper handover of system 6. The contractor would be required to submit monthly progress reports to the transport authority or ULB on the operational standards of the system like quality assurance, financial collections, incidents etc. 7. The Contractor shall provide permitting safe, smooth and uninterrupted train service during normal operating conditions 8. The Contractor shall adhere to the operations and maintenance rules and procedures as well as requirements of system safety which incorporate mandatory requirements of the “Indian Tramways Act” 9. The Contractor shall adhere to the Operational Safety Case which includes

SR. NO	ITEM	DESCRIPTION
		Quality and Safety Management Reports 10. The Contractor shall adhere to the Operating Rules and Procedures which would regulate the Operations and Maintenance of the system 11. The Contractor will adhere to the Operating Plan provided and operate services as specified by the time table in the plan 12. The Contractor shall adhere to the Emergency Procedures plan in the case of any emergency 13. The Contractor shall control the stations and the operation of the Operations Control Centre which monitors the system 14. The Contractor shall operate the Depot in adherence with the Depot Operating Procedure 15. The Contractor shall at all times keep a copy of all the manuals, publications supplied by the transport authority or ULB, the contractors documents and other communications given under the contract 16. The Contractor shall have an interface with the customers and public on availability, accessibility and information 17. The Contractor shall adhere the service quality prescribed to passenger comfort, convenience, customer care and timeliness of service 18. The Contractor will operate the ticketing and fare collection mechanism and deposit all the accruals into an ESCROW account from where payments to the operator will be processed 19. The Contractor will maintain and upkeep the rolling stock and will employ trained and skilled professionals for operations of the same 20. The Contractor shall prevent with the help of law and order agencies unauthorized entries as well as encroachments to the system 21. The Contractor shall maintain / repair / replace all components and materials

SR. NO	ITEM	DESCRIPTION
		required for the continuous safe operation of the Monorail System, required during the Operation & Maintenance period. 22. The Contractor in performing the contract shall comply with all the applicable laws including any statute relating to works/system, regulations and bye-laws of any local authority in whose jurisdiction the maintenance and operation of the system is to be performed 23. Responsible for adequacy, stability and safety of all site operations, handling and functioning of the various systems and sub systems 24. The contractors obligations would still hold even if the performance is partly/fully forfeited unless the contract is terminated 25. The contractor will not be able to subcontract the whole of the system and shall be deemed responsible for any default on the part of the subcontractors 26. The contractor shall comply with all safety procedures and regulations and would provide safety and security for all persons entitled to be onsite 27. The contractor shall comply with the quality assurance system in accordance with the details stated in the contract and should allow the transport authority or ULB or his/her representatives to audit any of these systems 28. The contractor shall not interfere unnecessarily or improperly with the convenience of the public and access and occupation of all roads and footpaths 29. The contractor shall be responsible for his own equipment 30. The contractor will be responsible for the security of the system during the tenure of the O&M contract 31. The contractor shall make all arrangements for engagement of all duly qualified staff and labour, local or otherwise and would comply with labour laws 32. The contractor shall submit to the transport authority or ULB the details of each type of the contractors equipment on site

SR. NO	ITEM	DESCRIPTION
		33. The contractor will have to remove from site and replace any plant, material, work or system which needs replacements as well as is not in accordance with the contract 34. The contractor will insure the whole system as well as people against injury and damage to property
5.	Roles and Responsibilities of Transport authority or ULB	1. The Transport authority or ULB shall approve the Operating Plan and Maintenance Plan of the Contractor to ensure he is able to start services 2. The Transport authority or ULB shall provide the contractor right of access to and possession of the site as may be required by the contractor to commence and proceed with work 3. The Transport authority or ULB shall provide reasonable assistance to the contractor at his request to obtain relevant permits, licenses and approvals 4. The Transport authority or ULB need to ensure that its personnel co-operate with the contractor in a reasonable manner to allow him to execute his obligations 5. The Transport authority or ULB will facilitate in arranging the Law and Order Agency for the security and safety of system 6. The Transport authority or ULB may issue to the contractor instructions which may be necessary for the contractor to perform his obligations under the contract 7. The Transport authority or ULB shall have made available all relevant data in the transport authority or ULB's possession of the site as well as copies of the standard operational procedures like Operating Plans, Safety Management systems like civil works, traction, signalling, fare collection, rolling stock, E&M, O&M, Environmental, Quality Assurance and any other manuals in its possession 8. The Transport authority or ULB shall facilitate by giving necessary letters for arrangement of water and power to the system. The contractor would be responsible for payment of the respective charges. In case the transport authority

SR. NO	ITEM	DESCRIPTION
		or ULB provides electricity and water supply it will be provided at one point 9. The Transport authority or ULB shall submit to the contractor drawings of the systems as commissioned 10. The Transport authority or ULB shall pay the contractor each month a lump sum decided on the terms of the contract
6.	Performance Standards	The Service Quality Standard would be on the basis of adherence to the service quality manuals (For e.g.; Safety Management Case and Operational Safety Case)
7.	Terms of Payment	1. The contractor shall submit a performance security of Rs. XX crore for the ensuring the performance is line with standards 2. The contractor is deemed to have satisfied himself as to the sufficiency and correctness of the contract price which would be a lump sum based annuity which would be paid on a fortnightly basis from the ESCROW account of the collections from the metro 3. The Contractor shall pay all taxes, duties, fees, royalties, rents, octroi, cess VAT, other local taxes as required to be paid by him under the contract as per the existing laws as applicable at the time of the contract and the contract price shall not be adjusted for any of these costs 4. The Contractor shall raise a bill for the Operations & Maintenance payments every fortnight at the start of the month and the 15th. These bills would be processed from the proceeds collected from the ESCROW account. Any shortfall from the ESCROW account of the system would be made good by the Transport authority or ULB 5. The contractor is not entitled to any other revenues other than those specified in the contract agreement
8.	Risk Mitigation Strategies	**Contractor**

SR. NO	ITEM	DESCRIPTION
		1. The bid security of the contractor and the second ranked bidder shall be kept valid until the fulfilment of conditions precedent. If the contractor does not sign the agreement within the ____ days of acceptance of letter of award or the date as mutually decided, then the bid security of the contractor shall be forfeited. The second ranked bidder shall be issued the letter of award. 2. The Contractor has to submit a performance security (equal to Rs. XX). If the contractor does not perform his obligations and has to prepare an operations and maintenance plan from the operational plan template and maintenance plan template which needs to be approved by the transport authority or ULB 3. The contractor is obliged to adhere to all the stipulations of the operations and maintenance template 4. The transport authority or ULB is obliged to comply with all the operating procedures and manuals provided 5. The contractor is liable to issue a notice to the transport authority or ULB in case it observes any non-adherence to any of the operating procedures and manuals 6. The transport authority or ULB has the right to appoint an auditor to check the accounts of the and report any discrepancy which must be rectified within 30 days of receipt of notice 7. The transport authority or ULB is also liable to declare an event of default in the case of any transfer of material deemed as the intellectual property of the transport authority or ULB **Transport authority or ULB** 1. The contractor is liable to declare an event of default if even on satisfactory completion of all conditions then transport authority or ULB does not transfer the operations i.e. handover of operations even though the contractor has met all his

SR. NO	ITEM	DESCRIPTION
		obligations 2. The contractor is liable to declare an event of default in case the transport authority or ULB does not provide the necessary approvals required from it to ensure proper functioning of the service
9.	Contractor Event of Default	1. Failure to comply with directive of Transport authority or ULB to correct action 2. Abandonment of System or plain intention to not continue with performance of obligations 3. Failure to operate and maintain system without any reasonable excuse 4. Sub contracting of the total system 5. The contractor becomes insolvent 6. Bribes the personnel of Transport authority or ULB 7. Disregard of E Transport authority or ULB's Instructions 8. Fails to mobilize resources like personnel, machines etc. 9. Prevent the representatives of Transport authority or ULB from inspecting site 10. Failure to comply with statutory provisions
10.	Transport authority or ULB Event of Default	1. Contractor does not receive payments due to him for 3 months 2. Transport authority or ULB becomes bankrupt or insolvent
11.	Consequences of Default	**In case of contractor event of default** 1. Encashment of performance guarantee 2. The transport authority or ULB shall take over the assets of the project 3. The transport authority or ULB will also make good from the contractor any costs, expenses or loss it may have incurred by reason of breach or failure on part of contractor **In case of transport authority or ULB event of default**

SR. NO	ITEM	DESCRIPTION
		1. The transport authority or ULB will release the performance guarantee 2. The transport authority or ULB shall take over the assets of the project 3. The contractor will also make good from the contractor any costs, expenses or loss it may have incurred by reason of breach or failure on part of transport authority or ULB.
12.	Bidding Parameter	The bidding parameter would by the lump sum payment of Rs. XX crore per month for the maintenance of the system The bidder with the lowest quote would be declared the successful bidder
13.	Change in Scope	The transport authority or ULB has the right to increase the scope of operations of the project operations in which case the contractor would have the right to renegotiate the terms of the contract only limited to the increase or variation in scope
14.	Hand-over of assets	The assets will have to handed over to the transport authority or ULB at the end of the tenure of the contract