



GOVERNMENT OF KARNATAKA

INFRASTRUCTURE
DEVELOPMENT
DEPARTMENT



FEEDBACK INFRA
Making Infrastructure Happen

*Sector Specific Inventory &
Institutional Strengthening
for PPP Mainstreaming
Transport Department*

Pre-feasibility Report

Development of Bus Terminal cum Commercial Complexes in Tier 1 Cities

Submitted by:

**Feedback Infrastructure
Services Pvt. Ltd., India**

April 2012



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1 EXECUTIVE SUMMARY

Background

Government of Karnataka (GoK) envisages development of infrastructure through Public Private Partnership (PPP) and intends to attract investments in various sectors in Karnataka.

The current report details out the prefeasibility study done for 'Modernisation of Bus Terminals at Tier I Cities'. The following sites for modernization of bus terminals were finalized in consultation with the Transport Department in the Workshop held under the Chairmanship of the Principal Secretary, Transport on 23rd February 2012:

- Kalasipalayam (Bengaluru)-4.3 acre
- Yelahanka 5th phase (Bengaluru)-1.05 acre
- Vijaynagar Phase II & III (Mysore) to be given out as a package to the private developer- 2.7 acres

The main project idea is to have a modern bus terminal with ample parking for state along with commercial development for Tier 1 cities such as Bangalore and Mysore.

Sector Profile

Transport sector in Karnataka is looked after by the State Transport Department (Secretariat). The Transport Department includes the following:

- four state transport undertakings, viz; Karnataka State Road Transport Corporation (KSRTC), Bangalore Metropolitan Transport Corporation (BMTTC), North East Karnataka Road Transport Corporation (NEKRTC) & North West Karnataka Road Transport Corporation (NWKRTC) for providing road transport services and associated infrastructure across Karnataka,
- Dr. Devraj Urs Truck Terminal Ltd that is responsible for setting up truck terminals, wherever required in Karnataka and
- Office of the Transport Commissioner, also called as the Road Transport Department

Some of the key steps required for greater success of PPP projects in the sector are as follows:

- More proactive approach to take up a larger number of PPP projects
- Need for greater reliance on commercial considerations while framing PPP structure
- A need for standardized concession agreement across all the state transport undertakings
- Flexibility in concession period and FAR restrictions for making projects more attractive
- There is a need for curbing illegal parking outside the terminal, especially in case of private buses
- Interdepartmental issues should be resolved before the project is bid out
- The distribution of risk between the private and public sector needs to be fair

- Concession period needs to be in sync with the kind of development envisaged. An option of extending concession period via right of first refusal can be given

Project Details:

Karnataka has several bus terminals in need for refurbishment. There is also need to build new bus terminals in the state. One way of doing so is by building Bus Terminals on PPP basis, where a commercial component is also provided in order to allow the private investor to get returns.

For the same, extensive discussions were held with Karnataka State Road Transport Corporation and Bangalore Metropolitan Transport Corporation and the Principal Secretary (Transport Department), on the basis of which the following locations were finalized for Tier 1 cities:

- 2 sites are chosen in the Bangalore City—Kalsipalayam (4.3 acres) and Yelahanka (1.05 acre)
- Another 2 sites are chosen in Mysore - Vijaynagar stage III & IV (total - 2.7 acres). It was decided that Mysore sites would be taken as one package as they are very close to each other.

Case Studies:

In order to derive a better understanding of the issues faced and to cull out the learnings from past experiences, the Consultants have analyzed experiences of similar projects undertaken in Karnataka and other states. The following case studies were considered:

- Amritsar Bus Terminal
- Intermodal Transit Centre (IMTC) – Majestic Bus Stand, Bangalore
- Greater Mohali Bus Terminal cum Commercial Development

Market Assessment:

Product mix for development of any land plot is derived based on its suitability for various kinds of development options available. A suitable product mix attracts potential buyers/takers and in turn generates good returns from land. In this section, a suitability analysis has been done for Bus Terminal development at the project sites. Various factors which directly and indirectly govern the suitability and demand of the possible or envisaged activities are discussed. The following product mixes are proposed for the three sites:

- Kalasipalyam

Product Mix	Percentage	Area (sqm)
Terminal Area		15931
<i>Commercial Area within the Terminal (Retail)*</i>		2213
Commercial Complex		17,701
<i>Retail Shopping with entertainment</i>	40%	7,081
<i>Commercial office space</i>	40%	7,081

Product Mix	Percentage	Area (sqm)
<i>Budget Hotels</i>	20%	3,540
Total	100%	33,632

*This will accommodate the 80 displaced shops with an area of 25 sqm each (totaling to 2,000 sqm)

- Yelahanka 5th Phase

Product Mix	Percentage	Area (sqm)
Terminal Area		1912
<i>Commercial Area Within the Terminal(Retail)</i>		212
Commercial Complex		4110
<i>Retail Shopping with entertainment</i>	60%	2,466
<i>Commercial office space</i>	40%	1,644
Total		6,234

- Vijaynagar stage III & IV

Product Mix	Percentage	Area (sqm)
Terminal Area		4248
<i>Commercial Area Within the Terminal(Retail)</i>		425
Commercial Complex		12,422*
<i>Retail Shopping with entertainment</i>	40%	4,969
<i>Commercial office space</i>	30%	3,727
<i>Budget Hotels</i>	30%	3,727
Total		16,670

*A substantial commercial area is available for exploitation, as there are two sites being developed in a package, with no bus terminal at one of the sites. The 45% of FAR limitation for commercial is taken for each site separately.

Project Financials:

Financial analysis of the projects has been done to understand if the Project is bankable from the perspective of DSCR (Debt Service Coverage Ratio) and Post Tax NPV. Different concession fee scenarios have been considered to analyse the returns / risks for the Concessionaire and the Government.

Three payment models to the Government are considered:

1. When the private player only pays the lease rental to the government
2. When the private player pays an upfront amount plus the lease rental to the government. The Upfront Payment is the bid variable in this model
3. When the private player pays an upfront amount, the lease rental and an annual revenue share subject to a minimum payment every year. Revenue share is the bid variable here.

The summary of the project financials is presented below:

- Kalasipalayam: While the NPV of receivables is highest for the Government in the third model (where the Government gets upfront fee and a revenue share), the private player earns lower returns. For ensuring balanced returns to both the parties, an upfront payment plus lease rental model is suggested. The Value for Money is positive in all the models, hence the project is expected to create value all stakeholders involved if awarded on PPP basis.

Item	Only Lease Rental Paid by the Pvt Developer	Upfront Payment Plus Lease Rental Model	Upfront Payment, Lease Rental and Revenue Share subject to a minimum annual payment of INR 1 crore
Project Cost (INR Cr) including IDC and Upfront Payment	59.63	79.55	69.00
Equity (INR Cr) @ 30% of capital cost	17.89	23.86	20.70
Debt (INR Cr) @70% of capital cost	41.74	55.68	48.30
Project IRR (%) for the Concessionaire	21.20	17.10	17.40
Project NPV (INR Cr) for the Concessionaire	51.21	35.79	32.38
Equity IRR (%) for the Concessionaire	26.60	20.10	20.40
VFM (INR Cr)	66.93	51.51	48.00
Receivables to Govt			
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.10	0.10	0.10
<i>Upfront Payment (INR Cr)</i>	0.00	17.00	8.00
<i>Revenue Share (INR cr @ assumed 5% of the Revenue)</i>	0.00	0.00	5.00
NPV of Receivables to Govt (INR Cr)	0.85	14.47	22.49

- Yelahanka 5th Phase: This site is not found to be feasible from the private investor's point of view even in the case when only lease rentals are paid to the government. Even though the Value for Money is positive in all three cases, the project is not expected to find private investors. The private player can only earn revenues through commercial activities on the site. However this site is very small; further, the commercial activities are restricted only to 45% of the FAR. Hence the space left for commercial exploitation is very less.

Item	Only Lease Rental Paid by the Pvt Developer	Upfront Payment Plus Lease Rental Model	Upfront Payment, Lease Rental, Revenue Share subject to a minimum annual payment of INR 0.2 crore
Project Cost (INR Cr) including IDC and Upfront Payment	9.06	12.58	10.23
Equity (INR Cr) @ 30% of capital cost	2.72	3.78	3.07
Debt (INR Cr) @70% of capital cost	6.34	8.81	7.16
Project IRR (%) for the Concessionaire	8.70	6.10	4.40
Project NPV (INR Cr) for the Concessionaire	-2.18	-4.98	-4.90
Equity IRR (%) for the Concessionaire	7.90	4.50	2.40
VFM (INR Cr)	3.62	0.81	0.90
Receivables to Govt			
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.025	0.025	0.025
<i>Upfront Payment (INR Cr)</i>	0.00	3.00	1.00
<i>Revenue Share (INR cr @ assumed 5% of the Revenue)</i>	0.00	0.00	5.00
NPV of Receivables to Govt (INR Cr)	0.21	2.62	3.13

- Vijaynagar Phase III & IV: This site has a positive Project NPV in all the three cases. The project however is a borderline case and despite a positive project NPV, may have issues in attracting large private interest. While the Government has the largest receivables in the third model, it will also have to bear a part of revenue risk with the private player. Thus, upfront payment plus lease rental model is recommended. The Value for Money for the Government is positive in all the three cases; hence the project will create value all stakeholders involved, if it is awarded on PPP basis.

Item	Only Lease Rental Paid by the Pvt Developer	Upfront Payment Plus Lease Rental Model	Upfront Payment, Lease Rental and Revenue Share subject to an Annual Payment of INR 0.2 crore
Project Cost (INR Cr) including IDC and Upfront Payment	25.99	30.67	27.16
Equity (INR Cr) @ 30% of capital cost	7.80	9.20	8.15
Debt (INR Cr) @70% of capital	18.19	21.47	19.01

cost			
Project IRR (%) for the Concessionaire	14.20	12.34	12.32
Project NPV (INR Cr) for the Concessionaire	4.21	0.46	0.36
Equity IRR (%)for the Concessionaire	15.70	13.10	13.00
VFM (INR Cr)	18.49	14.74	14.64
Receivables to Govt			
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.06	0.06	0.06
<i>Upfront Payment (INR Cr)</i>	0.00	4.00	1.00
<i>Revenue Share (INR cr @ assumed at 5% of the Revenue)</i>	0.00	0.00	5.00
NPV of Receivables to Govt (INR Cr)	0.51	3.71	5.12

Statutory & Legal Framework:

As per the amendments made to the Infrastructure Policy, 1997 in 2007 (Government Order No.IDD 32 IDM 2003 Bangalore dated 16th July 2007), Government of Karnataka has introduced the involvement of private players through public private partnerships (PPP) for the implementation of major infrastructure projects. The projects would be implemented through open competitive bidding for the upgradation, expansion and development of new infrastructure projects.

Environmental & Social Impacts:

Preliminary environmental and social screening of the projects has been conducted to identify critical issues and areas that would require to be studied in detail for impact assessment, mitigation measures and management plan. Findings of the screening are presented in this chapter. A more detailed study will be required to be done by the Concessionaire in the subsequent stages of the project.

For the purposes of prior environmental clearances, the projects do not fall either under Category 'A' or 'B' , as the projects do not satisfy all the criteria laid under the purview of the EIA Notification of September 2006 and its subsequent amendments.

The social impact of these projects is generally a consequence of Land Acquisition process and the change in land use and traffic flow patterns. Because the land is already owned by government agencies, there will be no issues related to shifting or disruption of activities on the site.

Another impact of any new development with commercial component is changes in traffic pattern and generation of additional traffic, which can create congestion on roads. These issues will need to be dealt with in detail by the Government in co-ordination with the concerned municipal authorities.

Operating Framework:

The projects are proposed to be implemented on Public-Private Partnership (PPP) format under Design, Finance, Build, Operate and Transfer (DBFOT) basis.

Under this structure, Private Developer / Private Sector Player (PSP) shall finance, design, engineer, construct, market, operate, maintain and manage the projects during the concession period and transfer the project facilities to the concessionaire at the end of the same. The following structure is proposed:

Component	Description
Structure	<ul style="list-style-type: none"> • The project is to be developed under DBFOT model of PPP • The project is structured for capital investment to be brought in by the selected private sector player and land is provided by Concessionaire. • The private sector player recovers its investments over a period of time from revenues from property development created under the project and any other applicable sources.
Concession Period	30 years including a construction period of 3 years
Payment to Concessionaire	<ul style="list-style-type: none"> • Kalasaipalayam: Combination of Upfront & Recurring Rental • Yelahanka: Project not viable financially • Vijaynagar: Combination of Upfront & Recurring Rental
Role of Concessioner	<ul style="list-style-type: none"> • Provision of identified land for the Project, free from all encumbrances • Grant of lease hold rights of the project site to the concessionaire • Provision of adequate rights to the concessionaire for collection of user charges, parking fees and rentals from property development. • Provide assistance in getting all the required clearances
Role of Private Sector Developer	<ul style="list-style-type: none"> • Detailing and placement of the Project components • Detailed designing and Engineering of facilities based on Concept • Achieving financial closure and making the necessary capital investment • Construction, Marketing, Operating, Maintaining and Managing (Utilities, Facilities, Equipments etc) the Project during the Authorization Period • Obtaining all clearances/approvals from the concerned Govt. Department, handling legal issues etc

2 INTRODUCTION

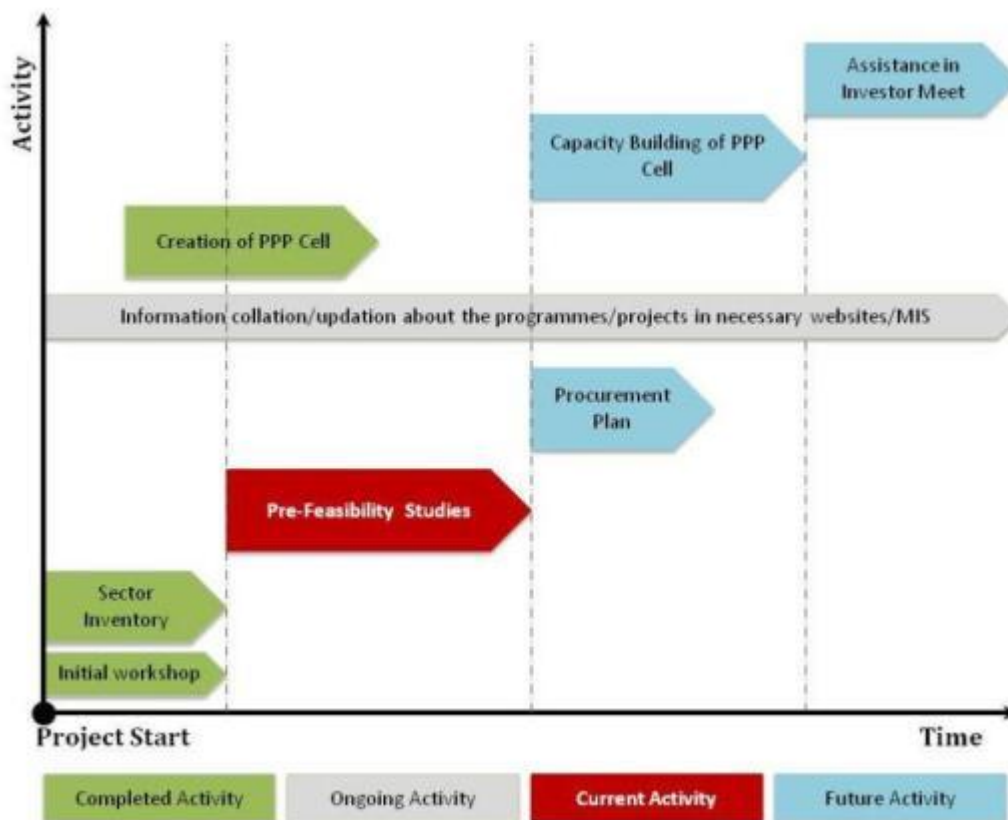
2.1 Project Background

Government of Karnataka (GoK) envisages development of infrastructure through Public Private Partnership (PPP) and intends to attract investments in various sectors in Karnataka.

For this, Infrastructure Development Department (IDD) has selected consultants for Sector Specific Inventory & Institutional Strengthening for mainstreaming of PPP for various departments related to infrastructure development in the state. Feedback Infrastructure Services Private Limited (FISPL) was selected to assist Transport Department to fulfill the above objective.

For the same, the Inception Report, comprising the preliminary information on the various sectors covered under Transport and the inventory of the projects finalized in consultation with Transport department, was submitted by the said consultant on March 06, 2012. The figure below summarizes the current state of work, in reference to the defined objectives.

Figure 1: Project Status



The current report details out the prefeasibility study done for 'Modernisation of Bus Terminals at Tier I Cities'. The following sites were finalized in consultation with Transport department in the Workshop held under the Chairmanship of the Principal Secretary, Transport on 23rd February 2012:

- Kalsipalayam (Bengaluru) (Area-17,701 sqm)

- Yelahanka 5th phase (Bangalore) (Area-4,248 sqm)
- Vijaynagar Phase II & III (Mysore) (Area-11,025 sqm)

The main project idea is to have a modern bus terminal with ample parking for the state along with commercial development in Tier 1 cities such as Bangalore and Mysore. In some sites like Kalasipalayam in Bangalore, parking space for stage carrier private buses will also be provided. Typically following facilities are provided along with the bus terminal. However, the facilities will differ as per the requirement at each site, arrived at after detailed market assessment.

- Modern Bus Terminal
- Parking for State Transport Buses & Private Stage Carriage buses (if allowed)
- Restaurants
- Malls / Retail Shops
- Multiplex
- Commercial Office Space
- Parking for Cars and Bikes
- Budget Hotels

2.2 Structure of the Report

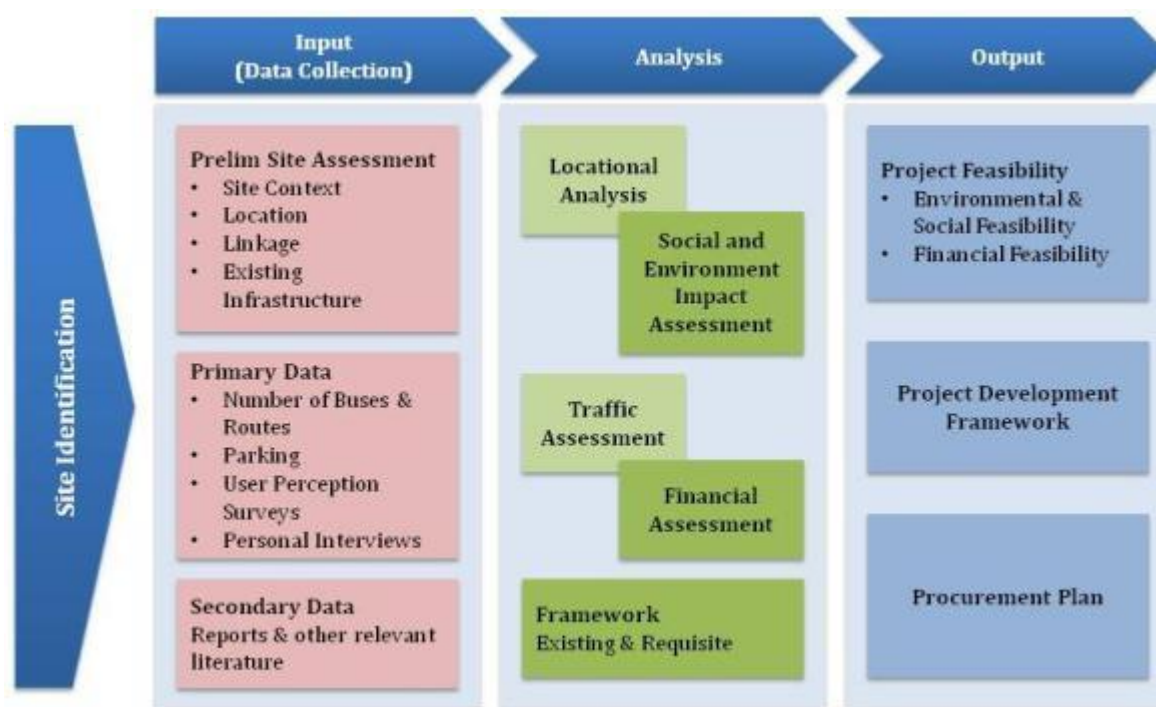
This Project Report has been structured along the following - in a chapter-wise format.

Introduction	<ul style="list-style-type: none">•Project Idea•Approach & Methodology
Sector Profile	<ul style="list-style-type: none">•Industry Overview•Regional Profile
Project Details	<ul style="list-style-type: none">•Description and Components•Needs & Considerations•Best Case Studies
Market Assessment	<ul style="list-style-type: none">•Industry Outlook•Opportunities & Demand Projections•Product Design
Project Financials	<ul style="list-style-type: none">•Cost & Revenue Assessment•Project Viability•Funding
Statutory & Legal Framework	<ul style="list-style-type: none">•Legal & Regulatory Framework
Indicative Environmental & Social Impacts	<ul style="list-style-type: none">•Environmental & Social Impact Assessment•Mitigation Measures
Operating Framework	<ul style="list-style-type: none">•Risks & Mitigation•Project Structure
Way Ahead	<ul style="list-style-type: none">•Key Milestones

2.3 Approach & Methodology

The approach and methodology adopted for the study is as outlined in the figure below.

Figure 2: Methodology for the study



Stage I: Input

The first stage involved the study of the project site to understand its suitability for the defined activity. Various factors influencing the site's potential like accessibility, linkages, physical features, economic activities and developments in proximity, etc were analyzed. This study also helped us to carry out the environmental and social impact assessment of the project.

Stage II: Analysis

This stage involved the review and analysis of data, collected in previous stages, in order to determine the feasibility of the project, both in terms of financial as well as environmental & social impact.

This stage also involved a study of the legal and statutory framework along with identification of issues and mitigation measures.

Stage III: Output

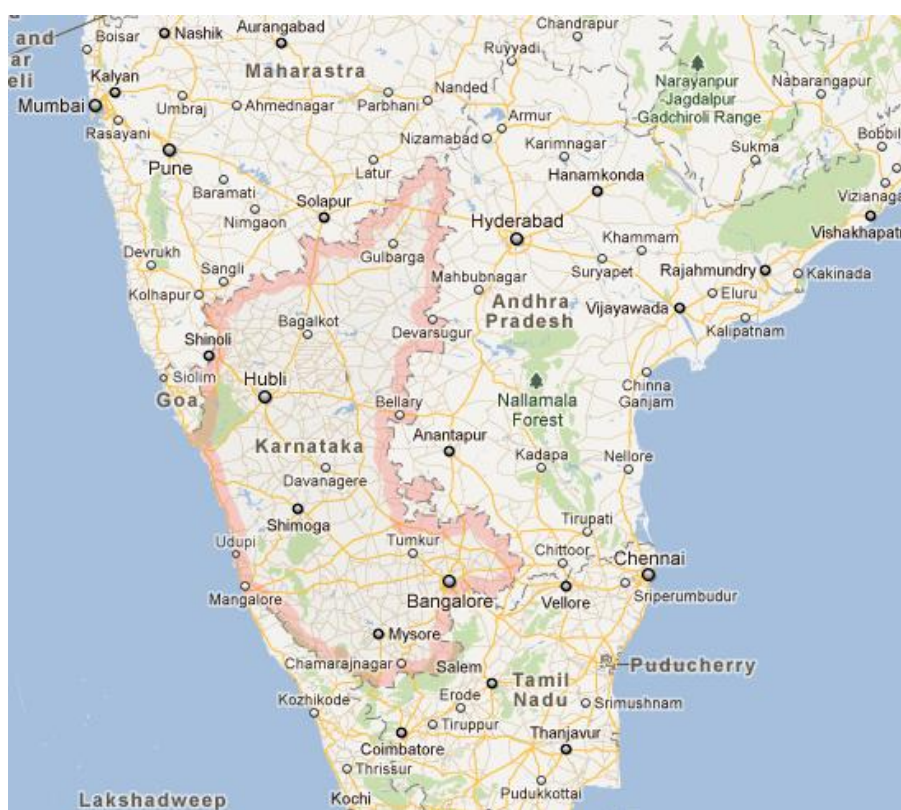
Based upon the results of the analysis, the framework and the procurement plan for further development of the project were finalised.

3 SECTOR PROFILE

3.1 Overview

Karnataka is the 8th largest state in India with an area of 191,791 sq km, spread across 30 districts and accounts for 5.83% of India’s geographical area. It has a population of about 61 million (as per census 2011). Located in the southern part of India, the state is bordered by Andhra Pradesh to the east, the Arabian Sea to the west, Maharashtra to the north and Tamil Nadu in the south. Bengaluru is the administrative and financial capital of the state.

Figure 3: Map of Karnataka



Karnataka has a total road length of 75,454 km comprising 15 National Highways, 156 State Highways and other Major District Roads. While the improvement and development of the NH network comes under the purview of the central ministry and National Highways Authority of India (NHAI), the development and maintenance of state highways, MDRs and other district roads/village roads are the responsibility of the Karnataka Public Works Department (KPWD).

Table 1: Karnataka - Road Length (as on 31 Mar, 2010)

S.No.	Hierarchy	Nos.	Length (Km)
1.	National Highway	15	4490
2.	State Highway	156	20528
3.	Major District Road	-	50436

Source: Karnataka Public Works Department

3.2 Transport Sector

Transport sector in Karnataka is looked after by the State transport Department (Secretariat). It has under it the following line departments:

- Four State Transport Undertakings, viz; Karnataka State Road Transport Corporation (KSRTC), Bangalore Metropolitan Transport Corporation (BMTC), North East Karnataka Road Transport Corporation (NEKRTC) & North West Karnataka Road Transport Corporation (NWKRTC) for providing road transport services and associated infrastructure across Karnataka. The functions of State Transport Undertakings are governed by the Road Transport Corporation Act, 1950 and Karnataka Road Transport Corporation Rules, 1961. All issues involving finances and all functions to be carried out by Government as per the Road Transport Corporation Act, 1950 & Karnataka State Road Transport Corporation Rules, 1961 are being discharged in the Transport Secretariat
- Dr. Devraj Urs Truck Terminal Ltd that is responsible for setting up truck terminals, wherever required in Karnataka
- Office of Transport Commissioner: Also called as the Road Transport Department that is responsible for tax collections and registrations of the vehicle, issue of permits, driver's and conductor's licenses etc in Karnataka. It has 56 Regional Transport Offices across the state

Karnataka State Road Transport Corporation (KSRTC)

The Karnataka State Road Transport Corporation was established in August, 1961 under the provisions of Road Transport Corporation Act 1950 with the objective of providing “adequate, efficient, economic and properly coordinated road transport services”.

With its corporate office in Bangalore, KSRTC is spread across Karnataka via 12 divisional offices. Assets owned by KSRTC include 7,599 buses, 66 depots, 124 bus stations, eight Divisional Work Shops, two Regional Workshops.

Bangalore Metropolitan Transport Corporation (BMTC)

The Bangalore Metropolitan Transport Corporation came into existence in 1997 to provide public transportation in the Bangalore city and its sub-urban areas. The organization comprises a fleet of over 6,092 buses servicing the area in the 36 kilometers radius from the city centre. In a day BMTC operates on 583 city and 1,785 sub-urban routes, runs 13 lakh kilometers .

North West Karnataka Road Transport Corporation (NWKRTC)

The North Western Karnataka Road Transport Corporation was established in the year November 1997, under provision of the Road Transport Corporation Act 1950. The Corporation's jurisdiction covers Belgaum, Dharwad, North Kannada, Bagalkot, Gadag & Haveri districts. The corporate office of NWKRTC is situated at Hubli, under which seven division headquarters are located at Belgaum, Hubli, Sirsi, Bagalkot, Gadag, Chikkodi & Haveri. NWKRTC

has 46 Depots functioning under the administrative control of respective divisions and 4,315 buses. NWKRTC operates in all villages, which have motorable roads in its jurisdiction.

North East Karnataka Road Transport Corporation (NEKRTC)

NEKRTC was established in 2000, carved out of KSRTC for providing “adequate, efficient, economic and properly coordinated road transport services” in the North Eastern part of Karnataka. NEKRTC operates 2,710 schedules covering 9.78 lakh km carrying 10 lakh passengers every day. It has 8 divisional offices in Gulbarga, Yadagir, Koppal, Raichur, Bijapur, Bellary, Bidar and Hospet.

NEKRTC serves 92% of the 4,200 villages in its area. NEKRTC’s infrastructure includes 41 Depots, 108 bus stands and 2,745 buses.

Office of Transport Commissioner

The Road Transport Department is responsible for tax collections and registrations of the vehicle, issuing of permits, driver and conductor licenses etc in Karnataka. This Department controls all vehicles and road limits and rules and regulation on road transport. There were 8.8 mn registered vehicles in Karnataka in 2009-10. The Transport Commissioner’s office operates through 56 Regional Transport Offices across the state.

A summary of the total infrastructure under the various line departments is presented in the table below:

Table 2: Summary of Transport Infrastructure under line departments

Infrastructure owned	KSRTC	BMTC	NWKRTC	NEKRTC
Depots	72	37	-	41
Divisions	15	-	-	8
Bus Stations	128	48	136	108
Vehicles	7599	6102	4315	2745
Effective Kms per day (Lakhs)	24.91	12.7	15.5	9.78
Schedules	6881	5910	3892	2710
Average traffic revenue per day (Lakhs)	589.78	385	-	-
Average passengers travelled per day (Lakhs)	23.6	45	21.5	10
Staff	34019	32715	21433	-

Source: Transport Secretariat, Karnataka

3.3 Budgetary Provisions for the sector

The Karnataka state budget 2011-12 defines a total expenditure of INR 85,319 Cr with a Plan Outlay of INR 38,070 Cr. At present, a total of ninety-one projects with an investment outlay of INR 67,792 Cr are being pursued through Public-Private Partnership mode. The plan outlay for Transport sector has been set for INR 3,743 Cr (10% of total outlay). Following are some of the major initiatives under the plan for roads and urban transport infrastructure:

- Projects for development of 4,000 km of roads are under various stages of progress
- State government has obtained loan approval from the Asian Development Bank to develop 600 km of state highways at an estimate of INR 1330 Cr
- The World Bank has conveyed its concurrence to finance development of 269 km of state highways at an estimate of INR 657 Cr.
- A state level Transport Fund to be constituted with an annual contribution of INR 60 Cr to fund the urban transport initiatives.
 - Annual accrual to this fund to come through INR 20 Cr each from the budgetary sources, a cess on local taxes collected by Urban Local Bodies and a cess on Motor Vehicle Taxes.

Some other ongoing projects, being handled by the Transport Department include:

Table 3: Ongoing projects for the Transport Department

Project Name	Nodal Agency	Capacity	Status
Modern Bus Terminal & Commercial complex at Hassan	KSRTC	Commercial Complex (1,50,000 sq ft)	Agreement signed
Modern Bus Terminal & Commercial complex at Mangalore	KSRTC	KSRTC Guest House (3000 sq ft) & Commercial Complex (90,000 sq ft)	Agreement signed
Modern Bus Terminal & Commercial complex at Puttur	KSRTC	Integrated Bus Station & Commercial Complex	Agreement signed
Development of Modern Bus Station & Commercial Complex at Gulbarga	NEKRTC	Modern Intra City Bus Station - 12 Platforms in 3 Bus Bays & Commercial development - 72,000 sq.	Signing of Concession Agreement
Commercial Development of KSRTC vacant land parcel at Chitradurga	KSRTC	Yet to be decided	Pre-Feasibility Done
Development of Commercial Complex at Bidar	NEKRTC	Yet to be finalised	Pre-Feasibility Done

3.4 Other Initiatives

Besides above initiatives, there are also various other urban transport related projects currently ongoing/completed in the region. One such example is that of projects under the purview of JNNURM. The Jawaharlal Nehru National Urban Renewal Mission (JNNURM) is a countrywide city modernisation scheme launched, in December 2006, by the Government of India under the Ministry of Urban Development with an aim to create 'economically productive, efficient, equitable and responsive Cities' through upgradation of social and economic infrastructure.

Under JNNURM, a total of 47 projects, with a cost of INR 3694 Cr, have been sanctioned till date, out of which 21 projects have been completed while the rest are under various stages of progression.

3.5 Key Issues

Some of the key steps required for greater success of PPP projects in the sector are as follows:

- More proactive approach to take up a larger number of PPP projects
- Need for greater reliance on commercial considerations while framing PPP structure
- A need for standardized concession agreement across all the state transport undertakings
- Flexibility in concession period and FAR restrictions for making projects more attractive
- There is a need for curbing illegal parking outside the terminal, especially in case of private buses
- Interdepartmental issues should be resolved before the project is bid out
- The distribution of risk between the private and public sector needs to be fair
- Concession period needs to be in sync with the kind of development envisaged. An option of extending concession period via right of first refusal can be given

4 PROJECT DETAILS

4.1 Description of the Project

Karnataka has several bus terminals in need for refurbishment. There is also need to build new bus terminals in the state. One way of doing so is by building Bus Terminals on Public-Private-Partnership basis, where a commercial component is also provided in order to allow the private investor to get returns.

For the same, extensive discussions were held with Karnataka State Road Transport Corporation and Bangalore Metropolitan Transport Corporation and the Principal Secretary (Transport Department), on the basis of which the following locations were finalized for Tier 1 cities:

- 2 sites are chosen in the Bangalore City—Kalasipalayam (4 acres 15 gunta) and Yelahanka (1 acre 2 gunta)
- Another 2 sites are chosen in Mysore, Vijaynagar stage III & IV (total - 1 acre 69 gunta). It was decided that Mysore sites would be taken as one package as they are very close to each other.

4.2 Kalasipalayam

The project site is located in the heart of Bangalore city near the central market area. The site is just 2 Km away from the Kempegowda (Majestic) Bus stand and Bangalore junction railway station. From the Eastern side, the site is just ~2.5 km away from Cubbon Park and major government offices like Vidhan Soudha, Vikasa Soudha and High court complex . The site is placed at city's main wholesale market area, which makes the location even more prominent. The location is highlighted in the figure below:

Figure 4: Location map of Kalasipalayam

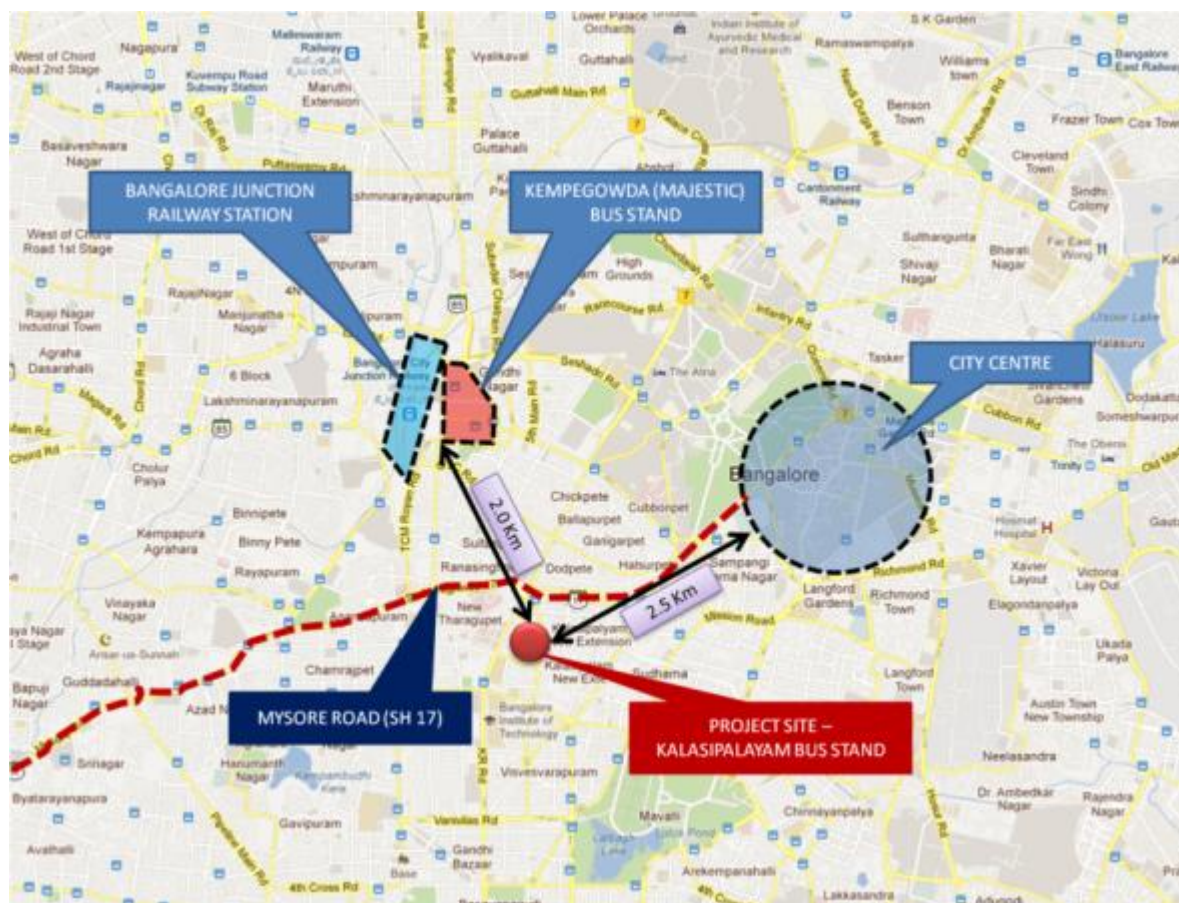


The site is a rectangular plot and has a total area of 4 Acre 15 Gunta and is located at the existing Kalasipalyam Bus stand. The ownership of the land currently vests with BBMP. The existing bus stand, in itself, includes a police outpost, a temple and offices for Horse Cart Association, BMTC office as well as RMS office. The site is surrounded primarily by commercial activity with offices of Travel agencies, Lodges/Hotels and other shops.

Connectivity:

From the city centre, the project site is connected via Mysore road (SH 17) from the Northern and Eastern side of the site and through KR road from the southern side and Albert Victor Road from the western side. The project site is connected by 18m wide Nawab Hyder Ali roads from the government wholesale vegetable market area and the elevated Mysore road. On the west, the site is connected via a 12m wide, Albert Victor road, which also connects the Hospital complexes nearby. Due to its connectivity to the Mysore road, the project site is suited for operations of inter-city buses. The site is also connected via numerous small and medium local roads from the city main roads.

Figure 5: Connectivity with the city



Source: Google map

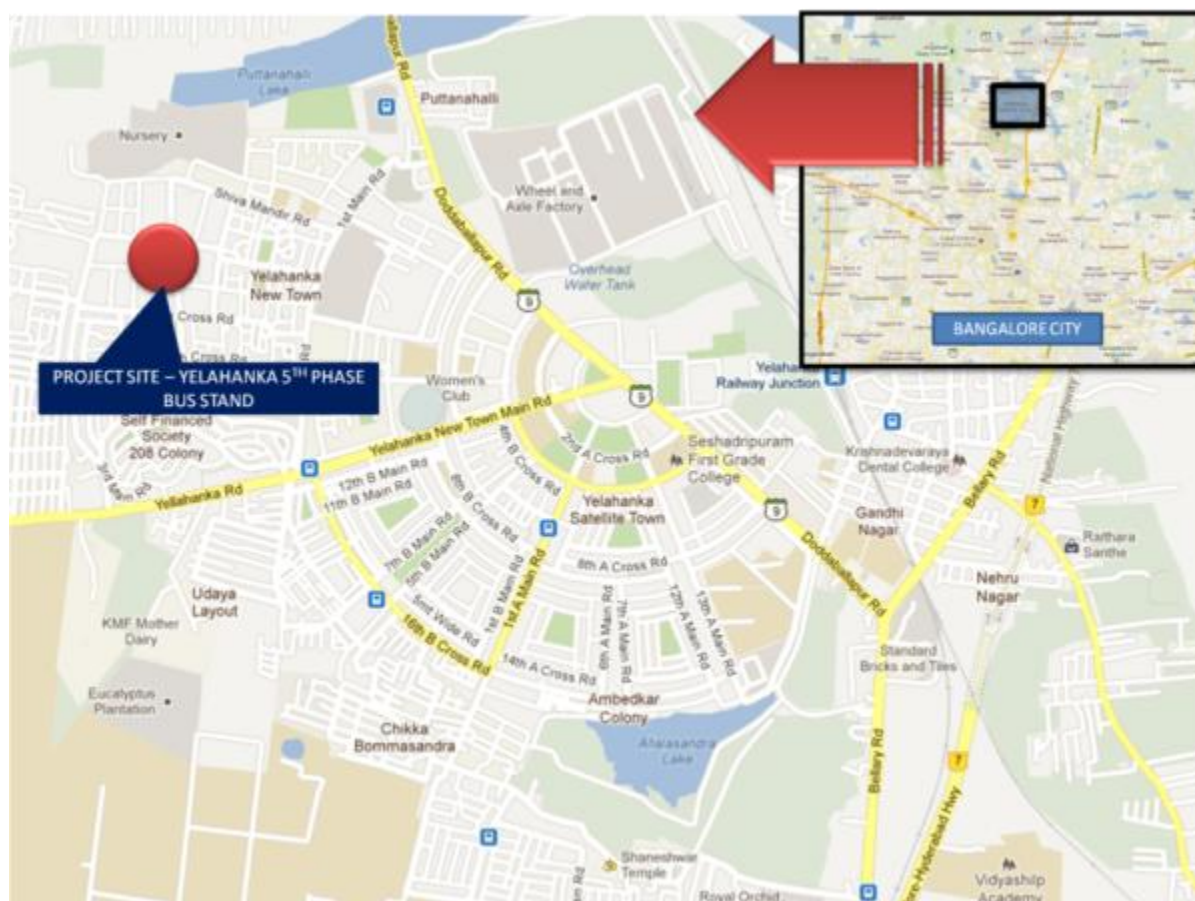
Key Issues:

- The land is owned by BBMP, the transfer of land to BMTC is yet to happen. The state government also needs to give a go-ahead for the project
- There is also an issue of relocation of retail shops that have been temporarily evicted for building the bus stand. These shops are to be given space within the new terminal. The consultants have incorporated this in the project design.

4.3 Yelahanka 5th Phase

Yelahanka is located in the northern part of greater Bangalore. It is ~15 km away from the city centre. Yelahanka satellite town is a new town development and is divided into different phases. The subject site is located in Phase 5 and is the existing bus stand. The bus stand is a basic one, with few commercial shops at the front and will be upgraded as part of this project. The existing bus stand is located within the low rise high income residential developments. Most of the residential developments are owned by the Central government and State Government, which are developed for its employees. The site is adjacent to the two BMTC Bus depots which are operating at Yelahanka (Depot 11 & 30). The location of the bus stand is provided in the figure shown below:

Figure 6: Location map of Yelahanka 5th Phase



Source: Google map

The project site is a rectangular plot located within the Yelahanka New Town residential area. It has a total area of 1 Acre 2 Guntas. The ownership of the plot rests with BMTC. The site is surrounded by a mix of activities-residential, educational and other social infrastructure. There is residential development on three sides of the site along with a Sector Park on one side. It also has 2 colleges, viz. SB Management School and Miranda College of Nursing, as well as a school within close proximity to the site.

Connectivity:

Yelahanka is connected to the city centre by NH 7, which is a 6 lane highway that passes through the outskirts of the Yelahanka Satellite town. The subject site is connected via 7m wide local road with the 18m wide main city road (Doddaballapur Road) which further connects to NH 7. The subject site is connected via neighborhood roads to the residential clusters. The connectivity from the subject site is provided in the figure given below:

Figure 7: Connectivity of Yelahanka 5th phase



Source: Google map

Key Issues:

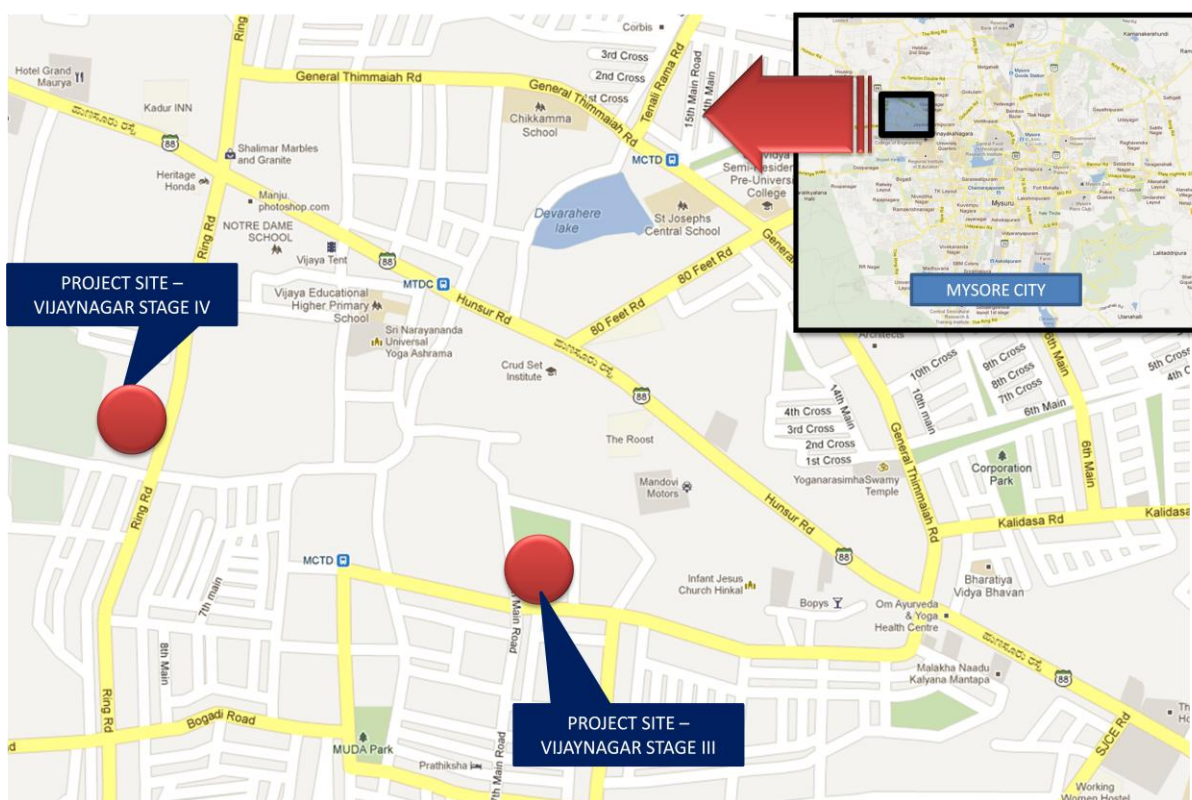
- The site has good potential for commercial shops as well as office space but availability of land is limited for any kind of larger commercial developments.

- After the commissioning of new bus stand at 4th phase, most of the bus trips have been shifted to 4th phase.

4.4 Vijaynagar Stage III & IV

Vijaynagar Stage III and Stage IV is located in the western part of Mysore city. The site is ~8-10 Km away from the city centre. Vijaynagar is one of the largest residential neighborhoods planned and allotted by Mysore Urban Development Authority (MUDA). Vijaynagar is proposed to be developed in four stages and till now, 2 stages have been completely developed and other two stages are in the development stage with land being allotted to various residents. Stage III is partially complete while only 2/3 rd of the stage IV is developed. The location is provided in the figure below. The project site at stage IV is ~700 m away from the project site at stage III and is located along the ring road and is ready for construction. Both the sites will be taken up as a single package because the site at Vijaynagar stage IV is very small (area being detailed out in next section) and there was no requirement of bus terminal at this site. So for the subject site at stage IV, only buildings for commercial activities need to be developed. But for the Vijaynagar stage III site, the developer will have to develop a bus terminal and commercial building complex.

Figure 8: Location map of Vijaynagar Stage III/ Stage IV



Source: Google map

The Stage III site is a rectangular plot of area 1 Acre 30 guntas. The ownership of the land rests with KSRTC. It is entirely a residential area with no commercial pockets, having residential on three sides and a sector park on the fourth side of the site.

Vijaynagar stage IV site is located along the ring road with an area of 39 guntas and is surrounded by residential area comprising MIG & HIG residential units. Both the sites are just 1 km apart.

Connectivity:

From the Northern and eastern side, the project site at Vijaynagar stage III is connected by 12m wide local roads from Hunsur road (SH 88), that connects further with the city centre. From the Southern and eastern side, the subject site is connected to Ring road via local roads, which is ~700 m away.

The site at the Vijaynagar Stage IV, is located along the ring road and enjoys a good connectivity with the all other parts of the city. The connectivity for both the subject sites is shown in the figure given below:

Figure 9: Connectivity of project sites with Mysore city centre



Source: Google map

Key Issues:

- Availability of land for commercial development is less

4.5 Case Studies

The Consultants have analyzed experiences of similar projects undertaken in Karnataka and other states to understand issues faced and to cull out the learning from past experiences.

Amritsar Bus terminal

Project Overview:

Amritsar's bus stand used to get 1,800-2,000 buses per day. With demand for services rising, Punjab Government decided to modernize the bus terminal through BOT. The concessions were awarded to Rohan Rajdeep Infrastructure Ltd for undertaking project activities and develop a modern bus terminal on BOT basis for 11 years and five months

Project Requirement:

The estimated Project Cost was ~INR 20 crore. The project involved demolishing the existing terminal building and developing a state of the art Intercity Bus Terminal. For this, an area of 8.5 acres which is the existing bus terminal, was handed over to the concessionaire by the Transport department.

PPP Structure of the Project:

According to the PPP arrangement, the Punjab Government would receive assured recurring revenues in the form of lease of INR 50,000 per month plus an upfront premium of INR 35 lakhs. The revenue to be earned by the concessionaire includes:

- "Adda Fee" charged to both private and public sector buses
- Sale of Advertising rights
- Parking charges
- Lease rental from the lease of commercial spaces inside the bus terminal

Present Status:

The project became operational from the year 2005 after a construction period of 2 years (from 2003 to 2004). At present, the bus terminal handles on an average, 1,100 normal buses and 600 mini buses a day and about 80-100 buses are parked within the Terminal complex overnight. It was estimated that, ~ 2000 to 3000 buses / day would be using the bus terminal. But in actual, only 1700 buses / day use the bus terminal. One of the reasons for the lower bus numbers is the inability of the concessionaire to ensure that all buses use the Intercity Bus Terminal facilities - some buses started operating from outside the bus terminal to avoid paying adda fee.

Key Learning:

- There is a need to curb illegal parking (in-case private buses are being allowed in the terminal)
- Favorable policy environment to ensure revenue stream :

- The Government issued notifications and ensured favorable environment for the project activities. For instance, it issued notification allowing the private operator to charge “adda fee” on public sector buses too
- Lenders were given security via offering them substitution rights in case the private operator defaulted

Inter Modal Transit Centre (IMTC) – Majestic Bus Stand, Bangalore

Project Overview:

KSRTC decided to modify the existing Kempegowda Bus Terminal or the Majestic Bus stand into an Inter Modal Transit Centre which is to be developed on a PPP basis. For this, 19.9 Acres had been earmarked for the transit centre and 12.5 Acres for the development of commercial complex. Out of the total 40 Acre plot, 7.5 acre has already been transferred to BMRCL for development of Metro rail.

PPP structure of the project:

The project will be developed on Design, Build, Finance, Operate and Transfer (DBFOT) model on PPP basis. The concession period shall be 33 years including construction and the main bid variable shall be the upfront premium.

Present Status:

The project has been under bidding stage for more than a year, and has received one bid in February 2012, which is under consideration of the GoK. At the RFQ stage, ten firms had been shortlisted which included companies like L&T, HCC, NCC, Gammon, GMC, TRIL-Shriram Properties, Soma, IVRCL, Essar Projects, and Ramky Infra.

Key challenges / Issues:

- Interdepartmental coordination:
 - Coordination between KSRTC and BMRCL was needed to ascertain alignment of the underground metro line, due to restrictions on constructing above it
 - No assurance from BMRCL for not constructing a competing commercial complex on the 7.5 acre of land
- Time overrun risk of metro was passed to the contractor: 12.5 acres of land to be taken over temporarily by Bangalore Metro Rail Corporation (BMRCL) for metro construction
- Issues over Period of the Concession: Private players felt that 30 year concession was too short to recover their investment. KSRTC then increased the period by 3 years
- Detailed technical bids were to be submitted despite players clearing the RfQ stage:
 - At RfP stage private players were asked to submit a technical bid comprising a traffic plan, plans for IMTC including 3D perspective drawings, concept plan for commercial tower and landscape design concept, even though the selection was to be purely on the financial bid. This required each bidder to spend substantial sums on preparation of the bid.

- Given the extent of work and drawings to be submitted for the technical bid, the bid date was extended by nearly 7 months

Key Learning:

- Interdepartmental issues should be resolved before the project is bid out
- The distribution of risk between the private and public sector needs to be fair
- Concession period needs to be in sync with the kind of development envisaged. An option of extending concession period via right of first refusal can be given
- Technical bids should be at the RfQ stage and should be given weightage

Greater Mohali Bus Terminal cum Commercial Development

Project Overview:

Greater Mohali Area Development Authority (GMADA), Government of Punjab (GoP) and PIDB awarded the contract to C&C constructions for undertaking a full fledged bus terminal and commercial complex at Mohali through Design, Build, Operate and Transfer (DBOT) basis. The estimated potential bus trips per day would be ~1940 buses / day when the project becomes operational.

Project requirement:

The project envisaged development of three towers on an area of ~ 7 Acres with a project cost of INR 432 Cr along with the bus terminal operations.

- Tower A = Bus Terminal and passenger amenities – (BUA of 1.17 lakh sq.ft)
- Tower B = Hotel cum retail – (Hotel – BUA of 2 lakh sq.ft)
- Tower C = Commercial cum retail – (Comm. office –BUA of 4 lakh sq.ft)

The landmark of the project is the development of a 17 storey building with Helipad

PPP structure of the project:

The project was awarded to C&C constructions on the basis of highest upfront consideration of INR 57 Cr. (reserve price was INR 52 Cr.) for 20 years. Further following payments were made:

- INR 1.25 Cr was project development fee to GoP
- INR 2.85 Cr was annual concession fee with 15% escalation every 3 years

The concession period is 20 years for Bus terminal with “Right of First Refusal” for further extension and 90 years for commercial complexes including 18 months of construction period for Bus Terminal and 30 month construction period for commercial complexes. The private player shall earn revenue via “Adda fee” for private and public sector buses and also by collection of rentals from commercial and Hotel facilities, Parking fee for cars, two wheelers etc and by lease of advertisement rights on the terminal. The private player can also levy Helipad charges which would be developed as a part of the project.

Present Status & Issues:

- The project is yet to become operational and is presently under construction stage. The project is delayed due to collapse of a part of the building under construction
- The project had two bidders. The winning bidder later pulled out of the project because it could not pay INR 10 crore performance security and half of the quoted INR 201 crore upfront payment in time. PIDB later had to slash the minimum upfront consideration to just INR 52 crore. C&C Constructions which was the only other bidder won the project at an upfront payment of INR 57 crore

Key Learning:

- The project is significantly delayed, viability concerns have been raised, especially after the real estate market lost its sheen in 2010.
- The project is associated with several “firsts”, which helped make the project more attractive for the private sector
 - One of the 1st PPP projects where a standalone bus terminal was made attractive to private players by granting development rights of real estate
 - Separation of the Commercial and Bus Terminal Project with different concession and construction periods

4.6 Development Control regulations and other Planning considerations for the sites

Physical and land development activity in Bangalore and Mysore is governed by Bangalore Master Plan 2021, Zoning regulations prepared by Mysore Urban Development Authority for Mysore and Karnataka Town and Country Planning Act, 1961. This Chapter provides an analysis of Development Control Regulations which defines the development framework at the subject sites.

Permissible FAR and Ground Coverage

- The maximum permissible FAR for Kalasipalayam site is 2.50 and maximum permissible Ground Coverage is 45% of the plot area.
- The maximum permissible FAR for Yelahanka site is 2.25 and maximum permissible Ground Coverage is 50% of the plot area.
- The maximum permissible FAR for Vijaynagar Stage III site is 2.50 with a maximum permissible Ground Coverage of 60% of the plot area.
- The maximum permissible FAR for Vijaynagar Stage IV site is 2.75 with a permissible Ground Coverage of 55% of the plot area.

Permitted Activities

As per the Notification No: UDD 249 BcMaPra 2008 dated 12.02.2009 (amendments made by the Government of Karnataka to the Zoning Regulations, in the exercise of the power conferred

by the section 13-E of the Karnataka Town and Country Planning Act, 1961), uses that are permissible under special circumstances under the traffic and transportation use are as follows:

- Retail shops
- Restaurants and Hotels
- Showrooms
- Offices
- Boarding and lodging houses
- Banking counters
- Indoor recreational uses
- Multiplexes
- Clubs

The uses given above are permissible provided that total area for such ancillary uses **shall not exceed 45% of the allowable floor area ratio** of the project when taken up by Central and State government and Public undertakings.

Parking Norms:

The parking requirements for the proposed developments in Kalasipalayam and Yelahanka are taken from the Parking norms provided by Bangalore Development Authority (BDA) for Bangalore city (shown in table given below).

Table 4: Parking norms for Bangalore city

Sl no	Type of use	One car parking of 3 x 6 mts. each shall be provided for every
1.	Retail business	50 sq.mtrs of floor area.
2.	Restaurants, Establishments serving food and drinks and such other Establishments	25 sq.mts. of floor area.
3.	Lodging establishments & Tourist homes	4 rooms.
4.	Office buildings [Govt/semi-Govt & pvt]	50 sq.mts. of office floor space.
5.	Hostels	10 rooms.
6	Other public and semi-public buildings	100 sq.mts. of floor area.

Source: BDA norms

As per the UDPFI guidelines and general zoning regulations prepared by the Karnataka State Planning Board, it has stated that 25% of the parking should be provided for park and ride facilities.

The parking norms for the Vijaynagar sites are also same as mentioned above.

5 MARKET ASSESSMENT

Product mix for development for any land plot is derived based on its suitability for various kinds of development options available. A suitable product mix attracts potential buyers/takers and in turn generates good returns from land.

Following analysis presents a suitability analysis for Bus Terminal cum Commercial development in Tier 1 cities. Various factors which directly and indirectly govern the suitability and demand of possible or envisaged activities are discussed below for the three identified sites.

5.1 Kalasipalayam

Site's Location in the City

Location is traditionally considered as the single most critical parameter for deciding the best use of the land parcels, as it governs most important aspects like demand and attractiveness. Kalasipalayam site is located in central part of the city near the main market area of Bangalore, which makes the site suitable for all types of commercial development. It is located in a congested area with all roads leading to the main roads (the Mysore road).

Primary Catchment

Analysis of primary catchment gives the profile and estimation of user base, which will use the proposed development. It also gives an understanding of the surrounding area characteristics, which is a critical aspect impacting attractiveness of the land parcel for various uses. The primary catchment of Kalasipalayam site includes dense commercial developments with offices, hotels and wholesale market shops which makes the site suitable for commercial development. Other catchment includes wholesale market areas of the city and hospital complexes that include the Bangalore Medical College, Victoria Hospital and Vani-Vilas hospital. The main wholesale market is located along the Mysore road, which is one kilometer away from the proposed bus stand site. The primary catchments are shown in figure below:

Figure 10: Primary catchment of Kalasipalayam



Visibility from important movement corridors

Visibility is important as it directly impacts the prospective tenants as well as the end users. In case of some development types like retail and hospitality, this factor becomes more critical. The site in itself has major roads on all four sides of the plot. The site is fairly visible from Mysore road (elevated part of the highway, SH- 17), which is a major spine of city transport as well as inter-city transport. This attribute makes the site suitable for retail and hospitality related development.

Size of the Plot

The size of the development is a major criterion for deciding its possible usage. Larger sites permit more options to be explored. The area of subject land plot is approximately 4 acres 15 guntas, which is suitable for a mid-size bus terminal integrated with commercial development.

Movement pattern near the site

Traffic and movement pattern near the site is important as it impacts the overall environment and footfalls to the site. This is linked with parking and other infrastructure issues as well. Some development types like high end hospitality and institutional spaces desire less movement near the site, while retail and entertainment are suitable for high movement areas. Currently, the site area is a heavy movement area which is desired for retailing and transit oriented development. All the roads leading to the bus stand are congested during the peak hours. Buses, LCVs and cars are parked along the roads leading to more congestion and leaving only a narrow lane for the movement of buses. This is due to the mix of all type of commercial activities prevailing at the surrounding area. Budget hotels with few commercial office spaces may be suitable as part of development mix.

More importantly, any development on this site would require prior traffic planning along with Bangalore Traffic Police. This will ensure that the development will not cause any further traffic congestion in the area. With efficient planning of movement of buses and commercial vehicles, and also parking space for vehicles, we can ensure that this development creates a positive impact on easing congestion.

Demand supply scenario of various products in the surrounding areas

Demand supply scenario of various product typologies gives a precise understanding of suitability and attractiveness of the land parcel, which is primarily governed by the inherent characteristics of the area. Demand supply scenario for various products like restaurants, office spaces and budget hotels suggests that these products are in good demand near the areas of subject site. As per primary surveys conducted with the proprietors of travel agency offices in the area, it is found out that there is a shortage of office space in the vicinity. For most of the office spaces, the lease contracts had been extended several times and the offices are nearly seven to ten years old. Due to increasing demand, the rentals are collected and set out per day.

Consultants also found large presence of budget hotels in the vicinity. There are ~15 budget hotels which are located along the roads leading to proposed bus stand with each hotel having ~30 to 40 rooms. The occupancy of these hotels is also higher with an occupancy percent of 80%. During peak seasons, i.e, from March to May, most of the hotels have occupancy of 100%. Based on this, it can be concluded that demand of more budget hotels exists.

5.1.1.1 Rental

Commercial rental values for the shops and offices are in the range of INR 25 / sq.m / day to INR 55 / sq.m / day along the roads abutting bus stand and INR 14 / sq.m / day to INR 16 / sq.m / day which are away from the bus stand site. At this location the rent is independent of the type of activity and size of the shops. Average size of the shops is approximately 6m x 3m.

Rentals for hotels range from INR 350-1200 per day per person.. The details are provided in the site assessment data in Annexure 1

Synergy among the all activities

Synergy among activities at the bus terminal and the commercial complex at the terminal is very important for integrated development. Considering that bus terminal would be the primary activity at the site, it is very important to ensure that commercial activities do not conflict with the bus terminal operations.

SWOT Analysis for Kalasipalayam

Based on the above discussion under various heads, the SWOT analysis of the site has been done for determining the potential of the site in terms of real estate opportunity.



Minimum Development Obligations to be followed for the Kalasipalayam site:

The minimum development obligations set out by BMTC for the concessionaire during the design stage and for various stages of development of Bus Terminal cum commercial complex at Kalasipalayam are as follows;

- The concessionaire has to construct a Bus stand for the BMTC, KSRTC and private buses that operates from the existing Kalasipalayam bus stand.
- The basement (-1, one floor) and the ground floor shall be dedicated for the operation of BMTC buses only. The basement shall be used for parking while ground floor shall be the BMTC bus terminal.
- The first floor shall be for the use of the KSRTC buses and private buses. Of which, 50% of the first floor terminal area shall be for the KSRTC buses and balance for the private buses.
- There should be provision for 80 commercial shops within the commercial area that may be displaced due to the proposed construction activities

5.2 Yelahanka 5th Phase

Site's location in the city

Yelahanka 5th Phase is located in Northern suburbs of Bangalore city and is an upcoming high-end residential area; which makes the site suitable for commercial development. The location is near the Yelahanka air force station and is located at the new satellite town development area behind the BMTC depot no. 11 and 30.

Primary Catchment

The primary catchment of Yelahanka site includes high-end residential with MIG and HIG residential apartments for the central government and state government employees. There are a few commercial shops and retail shops on the connecting roads of the Yelahanka bus stand, which are within 1-2 km radius of the site. There are also a few educational institutions in the vicinity of the bus stand (Nursing College and an MBA school) which are just 500m away from the site. These make the site suitable for retail based commercial development as well as small shops.

Figure 11: Primary catchment of Yelahanka 5th phase



Visibility from important movement corridors

The site is not visible from any of the major roads; so the site may not be suitable for high end hospitality but may be suitable for service apartments and budget hotels.

Size of the plot

The area of subject land plot is approximately 1 acre, which is suitable for a small-size bus terminal integrated with commercial development.

Movement pattern near the site

Currently the site area has a low movement of traffic and may not be a suitable site for high-end office spaces but mid-size commercial developments can be explored. Buses also travel through the adjoining roads; but the traffic is generally on the lower side. Cars and two wheelers are also on the lower side, as the 5th phase of Yelahanka is located away from all main roads and most of the HIG and MIG housing have approach roads from the main roads.

Demand supply scenario of various products in surrounding areas

Demand Supply scenario represents high-end residential developments near the subject site. From the preliminary assessment of the vicinity commercial shops such as convenience store, bakery, restaurants and office space for banks are in good demand here. There are a few commercial shops at the bus stand which are operational and contracted out by BMTC on 6

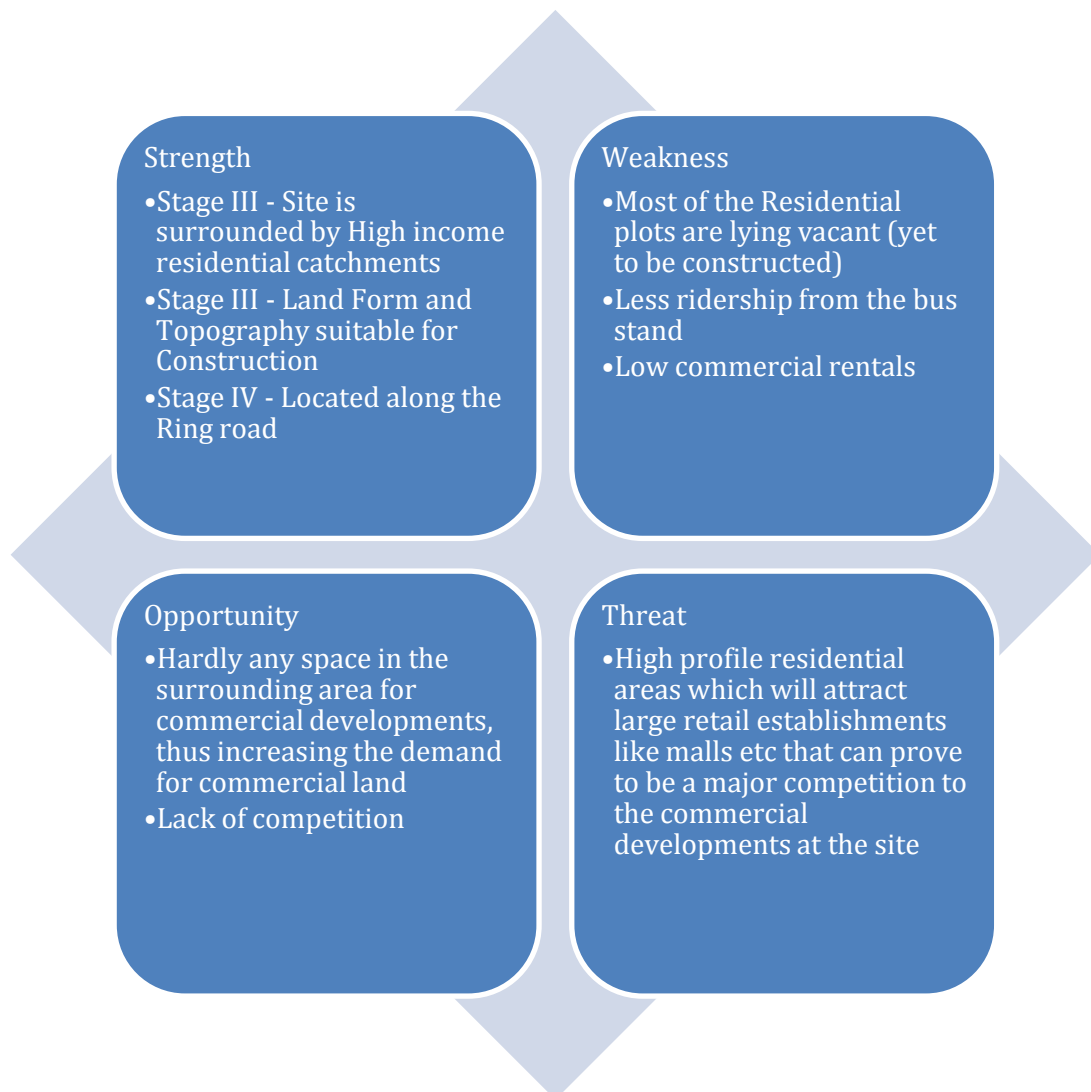
years contract with 10% escalation every three years. 4 shops have been contracted out which include a bakery, pharmacy and a restaurant. Average rentals being paid to BMTC are in the range of INR 214 / sqm / month to INR 267 / sqm / month. Average size of the shop is 160 sq.ft. The rentals for each shop are as follows:

- Bakery – Rs 3500 / month (5x3m)
- Pharmacy – Rs. 2000 / month (4x3m)
- Restaurant – Rs. 5000 / month (6x3m)

In the upper area of the Yelahanka new town area, the rentals are in the range of INR 321 / sq.ft / month to INR 481 / sq.ft / month.

SWOT Analysis for Yelahanka 5th Phase

Based on the above discussion under various heads, the SWOT analysis of the site has been done for determining the potential of the site in terms of real estate opportunity.



5.3 Vijaynagar Stage III & IV

Site's location in the city

Both the sites that are proposed to be taken for development under single package, are located in western part of the city near the ring road and residential area of Mysore, which makes the site suitable for retail based commercial development.

Primary Catchment

The primary catchment of Vijaynagar stage III site includes high end low rise residential developments; which makes the site suitable for retail based commercial development. For Vijaynagar stage IV, primary catchment is residential area with most of the plots being allotted but yet to be constructed. In this case, the suitability shall be assessed based on the proposed land use and density assigned for the area.

Figure 12: Primary catchment of Vijaynagar stage III & IV



Visibility from the important movement corridor

Vijaynagar stage IV site is abutting the ring road and is clearly visible from the road, so the site may be suitable for all types for high-end commercial developments. Vijaynagar stage III site is not visible from any major roads.

Size of the plot

The area of subject land plots are approximately 1.75 acres (stage III) and 39 gunta (stage IV), which is suitable for a mid-size bus terminal integrated with commercial development at stage III and a mid-size commercial development at stage IV.

Movement pattern near the site

Currently the site has low movement of traffic and may not be suitable for office spaces. But considering the future movement through the ring road, high-end hospitality and retail shops catering to residential areas may be suitable for stage IV site.

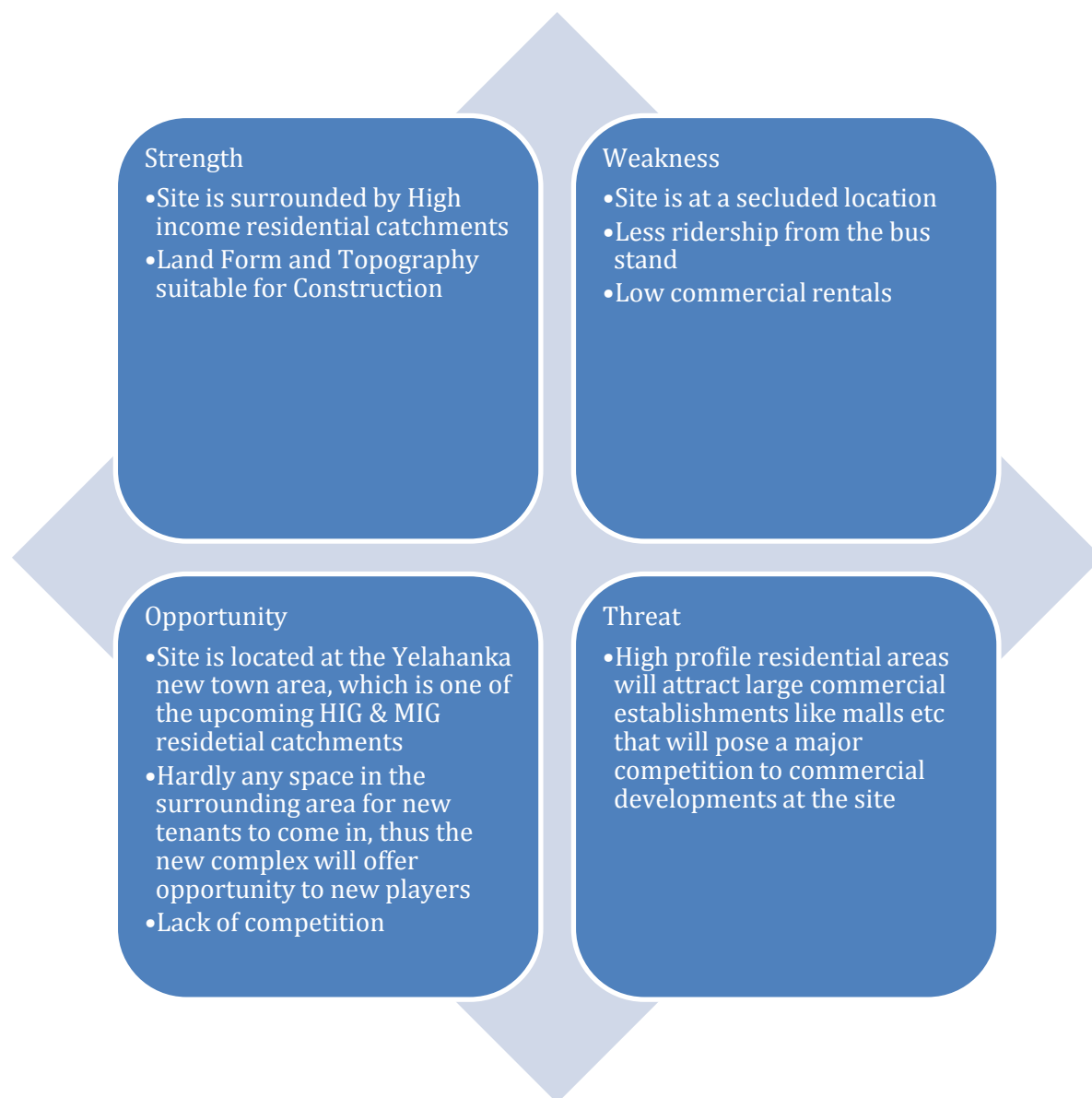
Demand supply scenario of various products in the surrounding areas

Due to high-end residential developments near the subject site, developments such as convenience store, bakery, restaurants and office space for banks would be in good demand near the areas of subject site.

At present, there are no commercial shops or development near the subject sites (within the range of two kilometers from the subject sites). A few convenience stores and bakeries are present about 2.5 to 3 Km away from the subject sites. The commercial rentals at those locations are in the range of INR 160 / sqm / month to INR 214 / sqm/ month.

SWOT Analysis for Vijaynagar Stage III & IV

Based on the above discussion under various heads, the SWOT analysis of the site has been done for determining the potential of the site in terms of real estate opportunity.



5.4 Product Mix Options

Retail & Entertainment space

Development of retail areas requires land parcels to be located amid residential areas with substantial disposable incomes, have high visibility and be located in high movement areas. Facilities like Multiplexes complement retail facilities as they generate extra footfalls, especially in malls. As the areas near the proposed sites do not have any malls, development of malls or mid size retailing / shopping complexes with entertainment can be a probable option. However, lack of adequate space may be a constraint for such development.

Commercial office

Development of commercial office requires land having good visibility and connectivity. In many cases, developers and tenants prefer to be located in prime locations of the city. Commercial offices in Bangalore and Mysore are primarily in form of shopping-cum-office complexes in close proximity to residential sectors which makes them highly attractive. These offices comprise financial institutions and small training institutes. Bangalore and Mysore have IT parks / city developed near the suburbs. The sites, such as Yelahanka and Vijaynagar are in the suburbs - hence only mid-size offices may be sufficient. Kalasipalayam, located at the centre of the city can be used for transit orient development.

Hospitality

Development of hospitality requires land parcels having good connectivity with transit hubs like airport, railway station and bus terminals. Star category hotels desire good habitat surroundings and scenic beauty around. Primary survey by the Consultants confirms that even though there are various hotels coming up in the city, there is still a good demand for hotel rooms.

5.5 Evaluation Matrix

An evaluation matrix has been prepared in order to gauge suitability of different product mix options in the light of site attributes, which are critical from the development point of view. The evaluation matrices for the sites are as follows:

Kalasipalayam

Table 5: Evaluation Matrix for Kalasipalayam

Parameters	Product Mix	Suitability of product mix options			Remarks
		High	Medium	Low	
Site's Location in the City	Retail	✓			Retail for middle income group needs to be provided along with requirements for passengers
	Commercial office		✓		The site lies in heart of the city with major commercial establishments in the vicinity that can pose competition for any new office space
	Hospitality	✓			Site suitable for Budget hotels.
Primary Catchment	Retail		✓		Medium Income group people present in the catchment visit the site either for shopping or as transit passengers. Thus, share of office space within the commercial area at the site should not be very high
	Commercial office		✓		
	Hospitality	✓			As the area is a high movement area and already a busy bus terminal, with large number of transit passengers, the place has potential for a Budget Hotel
Visibility from important movement corridors	Retail	✓			The plot is centrally located; connected by all major roads, hence good visibility for all kind of developments
	Commercial office	✓			
	Hospitality	✓			
Size of the plot	Retail	✓			Absorption of large development may be difficult, hence a suitable mix has to be derived for the site
	Commercial office	✓			
	Hospitality		✓		
Movement pattern near the site	Retail	✓			The surrounding roads have high traffic movement, so the site has high potential for Retail commercial and Hospitality (budget
	Commercial office	✓			
	Hospitality	✓			

Parameters	Product Mix	Suitability of product mix options			Remarks
		High	Medium	Low	
					hotels)
Demand supply scenario of various products in surrounding areas	Retail		✓		Moderate demand, moderate supply
	Commercial office		✓		High demand, High supply
	Hospitality		✓		High demand, high supply

Yelahanka 5th Phase

Table 6: Evaluation matrix for Yelahanka

Parameters	Product Mix	Suitability of product mix options			Remarks
		High	Medium	Low	
Site's Location in the City	Retail with Entertainment		✓		Retail & Entertainment facilities for high to medium income group can be provided as it is observed from primary survey that residents have to travel to the city centre for main shopping
	Commercial office		✓		Mid-size office spaces for financial institutions and training institutes can be provided.
	Hospitality			✓	Hospitality like Service apartments can be considered for the site due to dominance of residential activity in the vicinity.
Primary Catchment	Retail with Entertainment		✓		Retail with entertainment is not present in the vicinity and considering the residential catchment, it can be recommended.
	Commercial office			✓	
	Hospitality			✓	
Visibility from important movement corridors	Retail with Entertainment			✓	The plot is located away from the main roads and is not visible from any major roads
	Commercial office			✓	
	Hospitality			✓	
Size of the plot	Retail with Entertainment			✓	Absorption of large development may be difficult, hence a suitable mix has to be derived for the site
	Commercial office			✓	
	Hospitality			✓	

Parameters	Product Mix	Suitability of product mix options			Remarks
		High	Medium	Low	
Movement pattern near the site	Retail with Entertainment			✓	Movement of traffic near the site is very low. So it may be a good location for high-end Hospitality. But, looking into other factors such as catchment and site location, only mid size hospitality is recommended.
	Commercial office			✓	
	Hospitality			✓	
Demand supply scenario of various products in surroundings	Retail with Entertainment		✓		Moderate demand, less supply
	Commercial office			✓	Moderate demand, Less supply
	Hospitality			✓	Moderate demand, Less supply

Vijaynagar stage III & IV

Table 7: Evaluation matrix for sites in Vijaynagar stage III & IV

Parameters	Product Mix	Suitability of product mix options			Remarks
		High	Medium	Low	
Site's Location in the City	Retail with Entertainment		✓		Retail for High income group can be provided as it is observed from primary survey that residents travel to the city centre for main shopping
	Commercial office		✓		Can be considered for stage IV site
	Hospitality		✓		Can be considered for stage IV site
Primary Catchment	Retail with Entertainment		✓		High income group people in the catchment and they desire a peaceful neighbourhood Catchment not supportive
	Commercial office			✓	
	Hospitality			✓	
Visibility from important movement corridors	Retail with Entertainment		✓		Stage IV plot is located along the ring road but Stage III is away from the main roads and is not visible from any major roads
	Commercial office		✓		
	Hospitality		✓		
Size of the plot	Retail with Entertainment			✓	Absorption of large development may be difficult, hence a suitable mix have to be derive for the site
	Commercial office			✓	
	Hospitality			✓	
Movement pattern near	Retail with Entertainment			✓	Low movement corridor

Parameters	Product Mix	Suitability of product mix options			Remarks
		High	Medium	Low	
the site	Commercial office			✓	
	Hospitality			✓	
Demand supply scenario of various products in surrounding areas	Retail with Entertainment		✓		Moderate demand, less supply
	Commercial office		✓		Moderate demand, Less supply
	Hospitality			✓	Less demand, Less supply

5.6 Recommended Product mix options

Having analyzed the options of retail, commercial office and hospitality as presented in detail in the previous sections, the product mix options for the commercial development apart from bus terminal for different sites are given below:-

Table 8: Product mix for Kalasipalayam

Product Mix	Percentage	Area (in Sq.m)
Retail Shopping	40%	7,081
Commercial office space	40%	7,081
Budget Hotels	20%	3,540
Total	100%	17,701

Table 9: Product mix for Yelahanka 5th Phase

Product Mix	Percentage	Area (in Sq.m)
Retail Shopping	60%	2,466
Commercial office space	40%	1,644
Total	100%	4,110

Table 10: Product mix for Vijaynagar stage III & IV

Product Mix	Percentage	Area (in Sq.m)
Retail Shopping	40%	4,969
Commercial office space	30%	3,727
Budget Hotels	30%	3,727
Total	100%	12,422

5.7 Product Design

The following conceptual designs have been adopted for the respective sites, in order to carry out the financial viability analysis for the project.

**For the purposes of bus traffic projections, an annual growth rate of 3% has been considered, based upon its regression with the population growth rate for the city of Bangalore.*

Kalasipalayam:

Table 11: Product Design for Kalasipalayam Bus Terminal

Item	Value	Unit	Item	Value	Unit
Area Break-up			Terminal Operations		
Plot Area	17701	sqm	Total no of Trips (Current)	9700	
Built-up Area	33632	sqm	Max. no. of Bays	150	
No. of Floors	5 (+2 Basement)		Minimum Bus Parking Requirement		
Terminal Area (including commercial)	15931	sqm	KSRTC	100	Buses
Retail			BMTC	50	Buses
Area	7,081	sqm	Private	500	Buses
No. of Shops (25 sqm). This includes the 80 shops that are to be relocated	283		Bus Parking Provided @ 55 sqm for surface parking & @ 75 sqm for basement parking	44,689	sqm
Offices Area	7081	sqm	Surface	204	Buses
Budget Hotel			Basement	446	Buses
Area	3540	sqm	Car Parking Provided		
No. of Rooms (200 sqft)	95		Terminal	159	ECS*
			Commercial	354	ECS

*ECS: Equivalent Car Space

It is to be noted that with the above design the terminal is expected to operate at full capacity by the 10th year of the concession period. Further, part of the car parking in the basement is also to be used for parking buses in the night. The floor-wise plan for Kalasipalayam is detailed in Annexure 2

Yelahanka 5th Phase:

Table 12: Product Design for Yelahanka Bus Terminal

Item	Value	Unit	Item	Value	Unit
Area Break-up			Terminal Operation		
Plot Area	4248	sqm	Total no of Trips (Current)	205	
Built-up Area	6234	sqm	Max. no. of Bays	21	
No. of Floors	3		Car Parking Provided		
Terminal Area	1912	sqm	Terminal	21	ECS

Retail				Commercial	82	ECS
Area	2,466	sqm				
No. of Shops (25 sqm)	98					
Offices Area	1644	sqm				

Vijaynagar Phase III & IV:

Table 13: Product design for Vijaynagar Bus Terminal

Item	Value	Unit	Item	Value	Unit
Area Break-up			Terminal Operation		
Plot Area	11025	sqm	Total no of Trips (Current)	300	
Built-up Area	16671	sqm	Max. no. of Bays	42	
No. of Floors	3		Car Parking Provided		
Terminal Area	4248	sqm	Terminal	42	ECS
Retail			Commercial	248	ECS
Area	4,969	sqm			
No. of Shops (25 sqm)	198				
Offices Area	3727	sqm			
Budget Hotel					
Area	3727	sqm			
No. of Rooms (150 sqft)	134				

In the case of Vijaynagar, the terminal will be situated in Phase III, while the site in Phase IV will have only retail plus budget hotel.

In all the three cases, as per the development norms, 25% of the surface parking is to be used for park & ride facilities.

5.8 Key issues

Key issues pertaining to developmental aspects are provided for each site, so that, these limitations can be considered while making decisions for the development of bus terminal cum commercial complexes at the subject sites. However, Kalasipalayam is discussed in detail in this section as the site is located at a prime location, which is highly congested and has several issues including traffic blockages, illegal parking of buses and other vehicles etc.

Issues with the Kalasipalayam site:

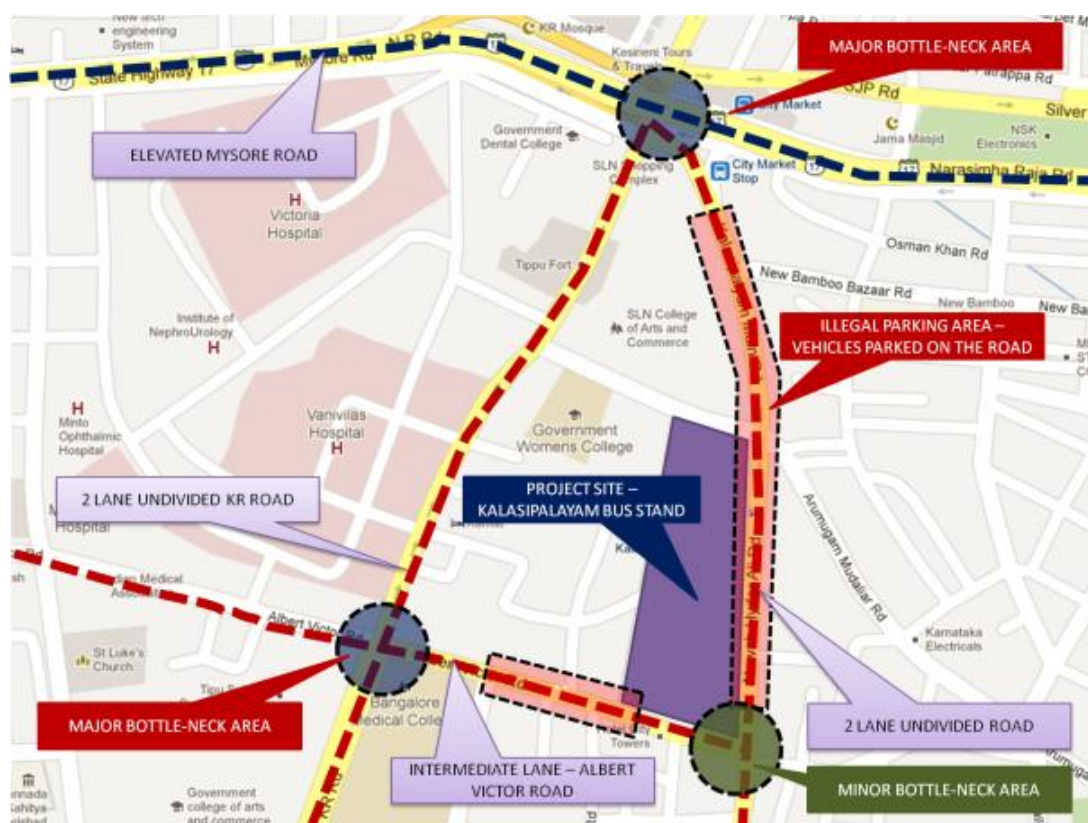
Issues with the location: The existing bus stand is located near the congested main market area of Bangalore. Due to its dense commercial activity, especially the wholesale market shops and offices, it attracts more population and thereby more traffic to the area. Presence of medical colleges, hospitals and entertainment centers, also add to the traffic in the area. So, the above mentioned activities along with the operation of private bus stand in an area with space constraints –has led to a highly congested and dense zone within the city of Bangalore. Construction in this area will require traffic diversion and may also disrupt activities in the region.

Private buses are spilling over to roads: Private buses are operating from outside the bus stand. More than operations, buses are parked outside the bus stand which leaves only a narrow lane for movement of general traffic. Also, many long haul private buses (inter-state buses) like Volvo buses are also being operated from outside the bus stand. While the proposed bus terminal will give space to private stage carrier buses to park, operations of other private buses from outside the terminal will need to be curbed by the concerned municipal authority

Issues with Parking: Many commercial & private vehicles park outside the bus stand making the existing site even more congested. The commercial activities in the vicinity attract large amount of traffic and most of them are parked on the roads, adjacent to their shops.

Circulation issues on immediate influence zones: With the development of Bus terminal and commercial activities within the subject site, there would considerable increase in the volume of traffic in the immediate influence areas. This shall be due to the induced traffic from the proposed development. The development may impact the existing circulation pattern on all the link roads / connectors. From the Consultants' preliminary observation on the circulation pattern, it is observed that, during peak period, all the link roads that connect the Mysore road and KR road such as Nawab Hyder Ali Road and Albert Victor Road have travel speed of less than 10 Km/hr. As per the Karnataka Road Development Corporation Limited (KRDCL) study on B-TRAC project and Bangalore Traffic Police department studies, almost all the roads have a Volume/Capacity ratio of more than 1; indicating that most of the roads require widening as they have reached capacity cap. The current width or facilities of the roads may not be able handle the existing traffic on the roads. Bottle necks are created at all the major and minor intersections. Even though the roads have 18m width, the movement of traffic during peak period is through a single lane. The traffic circulation and issues are provided in the figure shown below:

Figure 13: Circulation pattern around the immediate influence zones



Source: Google map

Given the fact that traffic bottleneck areas already exist at three points in the vicinity of the site, the concerned municipal authority will need to examine the possibility of coming up with a traffic circulation plan for the additional traffic being generated due to the proposed development

Traffic generation due to the proposed development

The Consultants have made a very preliminary assessment for additional traffic generation due to proposed commercial development. The assumptions for additional traffic generation due to the proposed commercial development at Kalasipalayam are based on the Consultants' experience and study of similar kind of developments elsewhere in India. These trips will add to the ADT (Average Daily Traffic) for the subject site. The data does not include the trips generated or attracted from the bus terminal area.

Table 14: Total daily trips generated from the commercial developments

Commercial Building	Area (sq.m)	Total Daily trips
Retail	7,081	2,793
Offices	7,081	649
Hotel	3,540	162
Total	17,701	3605

Source: Feedback's research

If we add the trips from the terminal area, there will be a significant impact on the overall circulation pattern within the immediate influence zone if the parking on the roads is not stopped. Proper enforcement of traffic rules is mandatory for the proper functioning of the traffic movement. One-way traffic solutions can also be adopted but only after a detailed traffic study is conducted for the influence area by the concerned authorities

6 PROJECT FINANCIALS

Financial Analysis of the projects has been done to get a perception of different scenarios from the concessioner's perspective and to then determine how much the concessioner can get from the developer while ensuring that the developer gets a reasonable IRR, and that the Project is Bankable from the perspective of DSCR (Debt Service Coverage Ratio) and Post Tax NPV.

6.1 Key Assumptions and Considerations

This section details out the main assumptions and considerations made for undertaking the financial analysis.

Kalasipalayam

- a) **Period of Analysis:** The period of analysis has been taken as 30 years inclusive of a 3 year construction and 27 years operations period for the developments.
- b) **Land Area Break-up & Built up area:** The Land Area Break-up and built up area for the site is as follows:

Description	Value	Unit
Plot Area	17,701	sq.m
F.A.R	2.5	
Ground Coverage	45	%
No. of Floors	5	
Max BUA on Ground	7,966	sq.m
Max BUA	44,253	sq.m
Max Permissible Commercial Space	45	%

The F.A.R and Ground coverage for the site have been taken in accordance with the Development Control Regulations, as defined. Besides the 6 floors, there are an additional 2 basement floors for parking, which are not considered as the part of FAR.

- c) **Project Construction Cost:** While calculating the project cost, the assumptions have been based on market feedback, as well as the Consultant's own experience of advisory and project management consultancy.

Construction Component	Value	Unit
Terminal Building	1,200	INR per sq. ft.
Commercial Area (Retail & Office)	1,200	INR per sq. ft.
Budget Hotel	1,400	INR per sq. ft.
Basement Parking	300	INR per sq. ft.
Ground Parking	100	INR per sq. ft.

- d) **Recurring Expenditure:** Recurring expenditures, in the form of O&M costs, are taken into consideration in order to define the total project cost. These assumptions are based upon market trends and the consultant's own past experience.

O&M Cost	Value	Unit
Terminal Building	3	INR/sqft/Month
O&M Commercial Building		
O&M Expenses	5	INR/sft
O&M Escalation	15%	every three years
Hotel		
O&M (Room, HR, F&B)	30%	of total receivables from Hotel

- e) **Revenue Assumptions:** Revenue assumptions for development options are based on site analysis and demand assessment already discussed in previous chapters. Sales phasing and occupancy has been taken considering prevailing demand supply scenario for comparable projects. Following is the detail of revenue related considerations:

Revenue Head	Value	Unit
Rental for Terminal Commercial Area		
Rental	80	INR/SFT
Commercial Building		
Retail	70	INR/SFT
Commercial Office	50	INR/SFT
Hotel	800	ARR/day
Retail & Commercial Office		
Security Deposits	6	months rental
Interest on Security Deposit	9%	pa
Escalation in Rentals	15%	every three years
Parking Charges	10	INR
Average Utilization of Car Park per day	2	
Price escalation	15%	every three years
Advertising Revenue	10%	of total revenue
Revenue from Private Buses		
Entry Fees	50	INR/day
Overnight Parking Charges	100	INR/day
Increase	5%	every 3 years
% of Pvt Buses using parking	50%	

- f) **Construction Cost and Schedule:** It has been assumed that the construction of all the developments will take three years to complete.
- g) **Debt Equity Ratio (DER):** A debt equity ratio of 70:30 has been considered.
- h) **Revenue & Expenditure increment Rates:** An inflation rate of 5% has been applied on the cost streams while revenue related escalations have been provided in the previous section
- i) **Interest Rate:** The rate of interest for the analysis has been assumed as 13% per annum.
- j) **Debt Tenure & Repayment:** 8 year debt tenure, including a moratorium period of 2 years, has been considered excluding construction period.
- k) **Pre-Operative Charges and Contingencies:** Preliminary and pre-operative expenses @ 5% have been considered for all the developments.
- l) **Taxation:** The tax rates have been taken as follows:

Tax Component	Rate	
Income tax	30%	on the profit before tax
Surcharge	5%	on the tax
Education Cess	3%	on the income tax and surcharge
Effective tax component @ 30.00%	32.45%	

m) **Depreciation:** The depreciation on the project components of Buildings has been taken as per the Company's Act through Straight line Method (SLM), @1.63%

Yelahanka 5th Phase

a) **Period of Analysis:** The period of analysis has been taken as 30 years inclusive of a 3 year construction and 27 years operations period for the developments.

b) **Land Area Break-up & Built up area:** The Land Area Break-up and built up area for the site is as follows:

Description	Value	Unit
Total Plot Area	4,248	sqm
Permissible FSI	2.25	
Maximum Permissible Built-up Area	9,559	sqm
Permissible Ground Coverage	50	%
Permissible Built-up Area on Ground Floor	2,124	sqm
Max. Permissible Commercial Area	45	%
No. Of Floors	3	

The F.A.R and Ground coverage for the site have been taken in accordance with the Development Control Regulations, as defined.

c) **Project Construction Cost:** While calculating the project cost, the assumptions have been based on market feedback, as well as the Consultant's own experience of advisory and project management consultancy.

Construction Component	Value	Unit
Terminal Building	900	INR per sq. ft.
Commercial Area (Retail & Office)	1,100	INR per sq. ft.
Basement Parking	250	INR per sq. ft.
Ground Parking	100	INR per sq. ft.

d) **Recurring Expenditure:** Recurring expenditures, in the form of O&M costs, are taken into consideration in order to define the total project cost. These assumptions are based upon market trends and the consultant's own past experience.

O&M Cost	Value	Unit
Terminal Building	3	INR/sqft/Month
O&M Commercial Building		
O&M Expenses	5	INR/sft
O&M Escalation	15%	every three years

- e) **Revenue Assumptions:** Revenue assumptions for development options are based on site analysis and demand assessment already discussed in previous chapters. Sales phasing and occupancy has been taken considering prevailing demand supply scenario for comparable projects. Following is the detail of revenue related considerations:

Revenue Head	Value	Unit
Rental for Terminal Commercial Area		
Rental	25	INR/SFT
Commercial Building		
Retail	25	INR/SFT
Commercial Office	20	INR/SFT
Retail & Commercial Office		
Security Deposits	6	months rental
Interest on Security Deposit	9%	pa
Escalation in Rentals	15%	every three years
Parking Charges	10	INR
Average Utilization of Car Park per day	2	
Price escalation	15%	every three years
Advertising Revenue	10%	of total revenue

- f) **Construction Cost and Schedule:** It has been assumed that the construction of all the developments will take three years to complete.
- g) **Debt Equity Ratio (DER):** A debt equity ratio of 70:30 has been considered.
- h) **Revenue & Expenditure increment Rates:** An inflation rate of 5% has been applied on the cost streams while revenue related escalations have been provided in the previous section
- i) **Interest Rate:** The rate of interest for the analysis has been assumed as 13% per annum.
- j) **Debt Tenure & Repayment:** 10 year debt tenure, including a moratorium period of 1 year, has been considered excluding construction period.
- k) **Pre-Operative Charges and Contingencies:** Preliminary and pre-operative expenses @ 5% have been considered for all the developments.
- l) **Taxation:** The tax rates have been taken as follows:

Tax Component	Rate	
Income tax	30%	on the profit before tax
Surcharge	5%	on the tax
Education Cess	3%	on the income tax and surcharge
Effective tax component @ 30.00%	32.45%	

- m) **Depreciation:** The depreciation on the project components of Buildings has been taken as per the Company's Act through Straight line Method (SLM), @1.63%

Vijaynagar Phase III & IV

- a) **Period of Analysis:** The period of analysis has been taken as 30 years inclusive of a 3 year construction and 27 years operations period for the developments.
- b) **Land Area Break-up & Built up area:** The Land Area Break-up and built up area for the site is as follows:

Phase III

Description	Value	Unit
Plot Area	7,081	sq.m
F.A.R	2.5	
Ground Coverage	60	%
No. of Floors	3	
Max BUA on Ground	4,248	sq.m
Max BUA	17,701	sq.m
Max Permissible Commercial Space	45	%

Phase IV

Description	Value	Unit
Plot Area	3,945	sq.m
F.A.R	2.75	
Ground Coverage	55	%
No. of Floors	3	
Max BUA on Ground	2170	sq.m
Max BUA	10848	sq.m
Max Permissible Commercial Space	45	%

The F.A.R and Ground coverage for the site have been taken in accordance with the Development Control Regulations, as defined.

- c) **Project Construction Cost:** While calculating the project cost, the assumptions have been based on market feedback, as well as the Consultant’s own experience of advisory and project management consultancy.

Construction Component	Value	Unit
Terminal Building	900	INR per sq. ft.
Commercial Area (Retail & Office)	1,100	INR per sq. ft.
Budget Hotel	1,400	INR per sq. ft.
Basement Parking	250	INR per sq. ft.
Ground Parking	100	INR per sq. ft.

- d) **Recurring Expenditure:** Recurring expenditures, in the form of O&M costs, are taken into consideration in order to define the total project cost. These assumptions are based upon market trends and the consultant’s own past experience.

O&M Cost	Value	Unit
Terminal Building	3	INR/sqft/Month
O&M Commercial Building		
O&M Expenses	5	INR/sft
O&M Escalation	15%	every three years
Hotel		
O&M (Room, HR, F&B)	30%	of total receivables from Hotel

- e) **Revenue Assumptions:** Revenue assumptions for development options are based on site analysis and demand assessment already discussed in previous chapters. Sales phasing and occupancy has been taken considering prevailing demand supply scenario for comparable projects. Following is the detail of revenue related considerations:

Revenue Head	Value	Unit
Rental for Terminal Commercial Area		
Rental	20	INR/SFT
Commercial Building		
Retail	20	INR/SFT
Commercial Office	18	INR/SFT
Hotel	700	ARR/day
Retail & Commercial Office		
Security Deposits	6	months rental
Interest on Security Deposit	9%	pa
Escalation in Rentals	15%	every three years
Parking Charges	10	INR
Average Utilization of Car Park per day	2	
Price escalation	15%	every three years
Advertising Revenue	10%	of total revenue

- f) **Construction Cost and Schedule:** It has been assumed that the construction of all the developments will take three years to complete.
- g) **Debt Equity Ratio (DER):** A debt equity ratio of 70:30 has been considered.
- h) **Revenue & Expenditure increment Rates:** An inflation rate of 5% has been applied on the cost streams while revenue related escalations have been provided in the previous section
- i) **Interest Rate:** The rate of interest for the analysis has been assumed as 13% per annum.
- j) **Debt Tenure & Repayment:** 10 year debt tenure, including a moratorium period of 1 year, has been considered excluding construction period.
- k) **Pre-Operative Charges and Contingencies:** Preliminary and pre-operative expenses @ 5% have been considered for all the developments.
- l) **Taxation:** The tax rates have been taken as follows:

Tax Component	Rate	
Income tax	30%	on the profit before tax
Surcharge	5%	on the tax
Education Cess	3%	on the income tax and surcharge
Effective tax component @ 30.00%	32.45%	

- m) **Depreciation:** The depreciation on the project components of Buildings has been taken as per the Company's Act through Straight line Method (SLM), @1.63%

6.2 Key Project Financials

Based on the above stated inputs, the exercise of financial analysis has been carried out for the proposed project. The upfront payment potential; either one time or staggered over years;

depends on the returns to the investor after making the upfront payment. Three models of PPP are considered:

1. When the private player only pays the lease rental to the government
2. When the private player pays an upfront amount plus the lease rental to the government. The Upfront Payment is the bid variable in this model
3. When the private player pays an upfront amount, the lease rental and an annual revenue share subject to a minimum payment every year. Revenue share is the bid variable here.

The consultants have also carried out Value for Money (VFM) analysis to recommend the most suitable mode of project procurement. Value for Money (VFM) analysis is essentially a cost-benefit analysis, where it is examined if the benefits of the project are positive as compared to alternative procurement method. A PPP project is said to achieve value for money if it costs less than the best realistic public sector project alternative which would deliver the same services. Thus, a positive Value for Money for the government means that the project will generate enough value to be taken up on PPP basis.

A detailed explanation for VFM is given in Annexure 3.

A summary of the project financials estimated in the process are presented below:

Kalasipalayam

Table 15: Key financials for Kalasipalayam Bus Terminal

Item	Value	Unit
1. Only Lease Rental Paid by the Pvt Developer		
Project Cost (INR Cr) including IDC and Upfront Payment	59.63	INR Cr
Equity (INR Cr) @ 30% of capital cost	17.89	INR Cr
Debt (INR Cr) @70% of capital cost	41.74	INR Cr
Project IRR (%) for the Concessionaire	21.20	%
Project NPV (INR Cr) for the Concessionaire	51.21	INR Cr
Equity IRR (%)for the Concessionaire	26.60	%
VFM (INR Cr)	66.93	INR Cr
Receivables to Govt		
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.10	INR Cr/Yr
NPV of the Receivables to the Govt.	0.85	INR Cr
2. Upfront Payment plus Lease Rental		
Project Cost (INR Cr) including IDC and Upfront Payment	79.55	INR Cr
Equity (INR Cr) @ 30% of capital cost	23.86	INR Cr
Debt (INR Cr) @70% of capital cost	55.68	INR Cr
Project IRR (%) for the Concessionaire	17.10	%
Project NPV (INR Cr) for the Concessionaire	35.79	INR Cr
Equity IRR (%)for the Concessionaire	20.10	%
VFM (INR Cr)	51.51	INR Cr

Item	Value	Unit
Receivables to Govt		
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.10	INR Cr/Yr
<i>Upfront Payment (INR Cr)</i>	17.00	INR Cr
NPV of Receivables to Govt	14.47	INR Cr
3. Upfront Payment, Lease Rental and Revenue Share Subject to a Minimum Annual Payment to the Government		
Project Cost (INR Cr) including IDC and Upfront Payment	69.00	INR Cr
Equity (INR Cr) @ 30% of capital cost	20.70	INR Cr
Debt (INR Cr) @70% of capital cost	48.30	INR Cr
Project IRR (%) for the Concessionaire	17.40	%
Project NPV (INR Cr) for the Concessionaire	32.28	INR Cr
Equity IRR (%)for the Concessionaire	20.4	%
VFM (INR Cr)	48.00	INR Cr
Receivables to Govt		
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.10	INR Cr/Yr
<i>Upfront Payment (INR Cr)</i>	8.00	INR Cr
<i>Revenue Share (INR cr @ assumed 5% of the Revenue)</i>	5.00	%
<i>Minimum Annual Payment to the Govt.</i>	1.00	INR Cr/Yr
NPV of Receivables to Govt	22.49	INR Cr

It can be seen from the above results that, while the NPV of receivables to the government is highest in the third model where the government gets upfront fee and a revenue share (subject to a minimum annual payment), the private player earns lower returns here. For balanced returns to the private and government parties, **an upfront payment plus lease rental model is suggested**. The Value for Money for the government is positive in all the models hence the project is expected to create value for all stakeholders if awarded on PPP basis.

Yelahanka 5th Phase

Table 16: Key financials for Yelahanka Bus Terminal

Item	Value	Unit
1. Only Lease Rental Paid by the Pvt Developer		
Project Cost (INR Cr) including IDC and Upfront Payment	9.06	INR Cr
Equity (INR Cr) @ 30% of capital cost	2.72	INR Cr
Debt (INR Cr) @70% of capital cost	6.34	INR Cr
Project IRR (%) for the Concessionaire	8.70	%
Project NPV (INR Cr) for the Concessionaire	(2.18)	INR Cr
Equity IRR (%)for the Concessionaire	7.90	%
VFM (INR Cr)	(1.91)	INR Cr
Receivables to Govt	3.62	INR Cr
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>		
NPV of the Receivables to the Govt.	0.025	INR Cr/Yr

Item	Value	Unit
NPV of Receivables to Govt	0.21	INR Cr
2. Upfront Payment plus Lease Rental		
Project Cost (INR Cr) including IDC and Upfront Payment	12.58	INR Cr
Equity (INR Cr) @ 30% of capital cost	3.78	INR Cr
Debt (INR Cr) @70% of capital cost	8.81	INR Cr
Project IRR (%) for the Concessionaire	6.10	%
Project NPV (INR Cr) for the Concessionaire	-4.98	INR Cr
Equity IRR (%)for the Concessionaire	4.50	%
VFM (INR Cr)	0.81	INR Cr
Receivables to Govt		
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.025	INR Cr/Yr
<i>Upfront Payment (INR Cr)</i>	3.00	INR Cr
NPV of Receivables to Govt	2.62	INR Cr
3. Upfront Payment, Lease Rental & Revenue Share subject to an Minimum Annual Payment to the Govt.		
Project Cost (INR Cr) including IDC and Upfront Payment	10.23	INR Cr
Equity (INR Cr) @ 30% of capital cost	3.07	INR Cr
Debt (INR Cr) @70% of capital cost	7.16	INR Cr
Project IRR (%) for the Concessionaire	4.40	%
Project NPV (INR Cr) for the Concessionaire	(4.90)	INR Cr
Equity IRR (%)for the Concessionaire	2.40	%
VFM (INR Cr)	0.90	INR Cr
Receivables to Govt		
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.025	INR Cr/Yr
<i>Upfront Payment (INR Cr)</i>	1.00	INR Cr
<i>Revenue Share (INR cr @ assumed 5% of the Revenue)</i>	5.00	%
<i>Minimum Annual Payment to the Govt.</i>	0.20	INR Cr/Yr
NPV of Receivables to Govt	3.13	INR Cr

It can be seen from the results of the financial analysis that the site is not found to be feasible from the private investor's point of view even in the case when only lease rentals are paid to the government. Even though the Value for Money is positive in all three cases, the project is not expected to find private investors. The private player can only earn revenues through commercial activities on the site. However this site is very small; further, the commercial activities are restricted only to 45% of the FAR. Hence the space left for commercial exploitation is very less.

Vijaynagar Phase III & IV

Table 17: Key financials for Vijaynagar Bus Terminal

Item	Value	Unit
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Item	Value	Unit
1. Only Lease Rental Paid by the Pvt Developer		
Project Cost (INR Cr) including IDC and Upfront Payment	25.99	INR Cr
Equity (INR Cr) @ 30% of capital cost	7.80	INR Cr
Debt (INR Cr) @70% of capital cost	18.19	INR Cr
Project IRR (%) for the Concessionaire	14.20	%
Project NPV (INR Cr) for the Concessionaire	4.21	INR Cr
Equity IRR (%)for the Concessionaire	15.70	%
VFM (INR Cr)	4.99	INR Cr
Receivables to Govt	18.49	INR Cr
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>		
NPV of the Receivables to the Govt.	0.06	INR Cr/Yr
NPV of Receivables to Govt	0.51	INR Cr
2. Upfront Payment plus Lease Rental		
Project Cost (INR Cr) including IDC and Upfront Payment	30.67	INR Cr
Equity (INR Cr) @ 30% of capital cost	9.20	INR Cr
Debt (INR Cr) @70% of capital cost	21.47	INR Cr
Project IRR (%) for the Concessionaire	12.30	%
Project NPV (INR Cr) for the Concessionaire	0.46	INR Cr
Equity IRR (%)for the Concessionaire	13.10	%
VFM (INR Cr)	1.49	INR Cr
Receivables to Govt	14.74	INR Cr
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>		
<i>Upfront Payment (INR Cr)</i>	0.06	INR Cr/Yr
NPV of Receivables to Govt	4.00	INR Cr
NPV of Receivables to Govt	3.71	INR Cr
3. Upfront Payment, Lease Rental and Revenue Share subject to a Minimum Annual Payment to the Govt.		
Project Cost (INR Cr) including IDC and Upfront Payment	27.16	INR Cr
Equity (INR Cr) @ 30% of capital cost	8.15	INR Cr
Debt (INR Cr) @70% of capital cost	19.01	INR Cr
Project IRR (%) for the Concessionaire	12.30	%
Project NPV (INR Cr) for the Concessionaire	0.36	INR Cr
Equity IRR (%)for the Concessionaire	13.00	%
VFM (INR Cr)	1.20	INR Cr
Receivables to Govt	14.64	INR Cr
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>		
<i>Upfront Payment (INR Cr)</i>	0.06	INR Cr/Yr
<i>Revenue Share (INR cr @ assumed 5% of the</i>	1.00	INR Cr

Item	Value	Unit
<i>Revenue)</i>		
<i>Minimum Annual Payment to the Govt.</i>	5.00	%
NPV of Receivables to Govt	0.20	INR Cr/Yr
NPV of Receivables to Govt	5.12	INR Cr

It can be seen from the findings of the financial analysis that this site has a positive Project NPV in all the three cases. The project, however, is a borderline case and despite a positive project NPV may have issues in attracting large private interest. While the government has the largest receivables in the third model, it will also have to bear a part of revenue risk with the private player. Thus, **upfront payment plus lease rental model is recommended**. The Value for Money for the government is positive in all the three cases; thus the project will create value for all stakeholders if it is awarded on PPP basis.

Conclusions of the Financial Analysis

1. Kalasipalayam: For Kalasipalayam, an upfront plus lease rental model is recommended as it balances the returns to government and the private player. As per the model, the NPV of receivables to the government is INR 14.5 crore. The private player is expected to observe a Project IRR of 17.1% and a Project NPV of INR 36 crore.
2. Yelahanka Phase-V: The site is not found financially feasible due to very less commercial area available for exploitation
3. Vijaynagar-Phase-III &IV: For this project also, an upfront plus lease rental model is recommended as it balances the returns to government and the private player. As per the model, the NPV of receivables to the government is INR 3.71 crore. The private player is expected to observe a Project IRR of 12.3% and a Project NPV of INR 0.36 crore. This is a borderline project and may have difficulties in attracting substantial private sector interest.

6.3 Sensitivity Analysis

Sensitivity analysis is done for the recommended models of the financially viable projects to understand the sensitivity of the project returns to changes in crucial parameters of the project like capital costs, operating costs and revenues.

Kalasipalayam

- a. **Change in Construction Cost:** The project is sensitive to changes in construction costs, and hence the private player will have to ensure that there is no delay in the project that will lead to cost overruns. A 25% higher construction cost will lead to nearly 30% decline in the Project NPV. Changes in project and equity IRR corresponding to changes in construction cost is given in the table below

Table 18: Sensitivity of Returns to Kalasipalayam Project Returns to changes in Construction Cost

Change in Construction Cost	Post Tax Project NPV (INR cr)	Project IRR	Equity IRR
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Change in Construction Cost	Post Tax Project NPV (INR cr)	Project IRR	Equity IRR
25%	25.92	15.4%	17.4%
15%	30.09	16.0%	18.4%
10%	32.18	16.4%	19.0%
5%	33.77	16.7%	19.5%
0%	35.79	17.1%	20.1%
-5%	37.81	17.6%	20.8%
-10%	39.83	18.0%	21.5%
-15%	41.85	18.5%	22.2%
-25%	45.86	19.5%	23.9%

- b. **Changes in Operational Costs:** Compared to changes in construction costs, the project is less sensitive to changes in operational costs. A 25% higher operational cost will lead to an 11% drop in the Project NPV. The project proponent will need to take steps to ensure that its operational expenses are kept in check. The changes in project and equity IRR in response to changes in Operational Expenses is given in the table below:

Table 19: Sensitivity of the Kalasipalayam Project Returns to Changes in Operational Expenses

Change in Opex	Post Tax NPV (INR Cr)	Project IRR	Equity IRR
25%	31.8	16.6%	19.3%
15%	33.4	16.8%	19.6%
10%	34.2	16.9%	19.8%
5%	35.0	17.0%	20.0%
0%	35.8	17.1%	20.1%
-5%	36.6	17.2%	20.3%
-10%	37.4	17.3%	20.4%
-15%	38.2	17.4%	20.6%
-25%	39.8	17.6%	20.9%

- c. **Changes in Revenue:** Lower than forecasted revenues can impact the project viability substantially. A 25% lower revenue will reduce the project NPV by almost 75%. Thus, the project proponent will have to ensure that the project gets operational on time so that it does not lose on its revenue earning years and also ensure that it does adequate marketing to bring about maximum capacity utilization of its commercial facilities. The following table gives the changes in the project returns in response to changes in revenue streams realized for the Kalasipalayam project.

Table 20: Sensitivity of the Kalasipalayam Project Returns to Changes in Revenue

Change in Revenue	Post Tax NPV (INR Crore)	Project IRR	Equity IRR
25%	62.5	20.3%	25.1%
15%	51.9	19.1%	23.2%
10%	46.5	18.4%	22.2%

5%	41.2	17.8%	21.2%
0%	35.8	17.1%	20.1%
-5%	30.4	16.5%	19.1%
-10%	25.3	15.8%	18.1%
-15%	19.8	15.1%	16.9%
-25%	9.4	13.6%	14.8%

Vijaynagar Phase-III & IV

- a. Changes in Construction Cost:** The project is highly sensitive to changes in the construction cost. Even a 5 % increase in construction cost is expected to make the project unviable. The project proponent will have to look at ways to reducing its construction costs by sourcing its materials competitively and avoiding project delays that lead to cost overruns. Following table gives the changes in returns to the project in response to changes in the construction cost:

Table 21: Sensitivity of the Vijaynagar Phase-III & IV Project Returns to Changes in Construction Cost

Changes in Construction Cost	Post Tax NPV (INR Cr)	Project IRR	Equity IRR
25%	-4.04	10.7%	10.7%
15%	-2.11	11.3%	11.6%
10%	-1.14	11.7%	12.1%
5%	-0.49	11.9%	12.5%
0%	0.46	12.3%	13.1%
-5%	1.41	12.8%	13.7%
-10%	2.35	13.2%	14.3%
-15%	3.04	13.5%	14.8%
-25%	4.89	14.6%	16.4%

- b. Changes in Operating Expenses:** Even though the project is comparatively less sensitive to the changes in the operating expenses, as compared to changes in construction cost, even a 5% increase is expected to make the project unviable. The project proponent will need to keep a tight rein on its expenses to keep its project viable.

Table 22: Sensitivity of the Vijaynagar Phase-III & IV Project Returns to changes in Operational Expenses

Changes in Opex	Post Tax NPV (INR Cr)	Project IRR	Equity IRR
25%	-2.32	11.1%	11.3%
15%	-1.08	11.7%	12.1%
10%	-0.75	11.8%	12.3%
5%	-0.15	12.1%	12.7%
0%	0.46	12.3%	13.1%
-5%	1.07	12.6%	13.4%
-10%	1.67	12.8%	13.8%

-15%	2.28	13.1%	14.2%
-25%	3.20	13.4%	14.7%

- c. Changes in Revenue:** Even a 5% lower revenue will make the project unviable. The project proponent will be required to make all efforts to ensure that it markets its project in a way to bring about maximum capacity utilization of its commercial facilities. Following table gives the response of project returns to changes in revenues:

Table 23: Sensitivity of the Vijaynagar Phase-III & IV Project Returns to changes in Revenue

Change in Revenue	Post Tax NPV (INR Crore)	Project IRR	Equity IRR
25%	8.8	15.5%	17.9%
15%	5.4	14.3%	15.9%
10%	3.7	13.6%	15.0%
5%	2.2	13.1%	14.1%
0%	0.5	12.3%	13.1%
-5%	-1.0	11.7%	12.2%
-10%	-2.8	10.9%	11.0%
-15%	-4.5	10.1%	9.9%
-25%	-7.9	8.4%	7.6%

7 STATUTORY & LEGAL FRAMEWORK

As per the amendments done to Infrastructure policy, 1997 in 2007 (Government Order No.IDD 32 IDM 2003 Bangalore dated 16th July 2007); Government of Karnataka has introduced the concept of involvement of private players through public private partnerships (PPP) for the implementation of major infrastructure projects. The projects would be implemented through open competitive bidding for the upgradation, expansion and development of new infrastructure projects.

The policy comprises different sectors and their rules and legislations including The Indian Tolls Act of 1851, The Land Acquisition (Karnataka) Amendment Act of 1988, Dispute Settlement Act of 1940, National Highways Act of 1965, Motor Vehicles Act of 1988, National Highways Authority of India Act of 1988 and the Central Road Fund Act of 2000.

Karnataka Infrastructure Development and Regulatory Bill of 2011 was also drafted with a purpose of providing a legal framework for infrastructure through Public Private Partnerships, 'incorporating contractual arrangements to design, finance, construct, operate and maintain Infrastructure Projects, provide for a fair and transparent selection process, set out rights and obligations of the Government and private sector in the implementation of Infrastructure Projects, reduce administrative and procedural delays, set out incentives, specify project delivery process, establish an Infrastructure Authority with a view to present bankable projects to the private sector and generally to improve the delivery of public services in the state of Karnataka and for matters connected therein or incidental thereto'.

8 INDICATIVE ENVIRONMENT & SOCIAL IMPACTS

Preliminary environmental and social screening of study has been carried out to identify critical issues and areas that would require to be studied in detail for impact assessment, mitigation measures and management plan. Further a detailed study will be required to be done by the Concessionaire in the subsequent stages of the project.

8.1 Environmental Impacts

Description of Environment

The state enjoys three main types of climates. For meteorological purposes, the state has been divided into three sub-divisions namely,

- Coastal Karnataka (Dakshina Kannada and Uttara Kannada districts),
- North Interior Karnataka (Belgaum, Bidar, Bijapur, Dharwad, Gulbarga and Raichur districts) and
- South Interior Karnataka (the remaining districts of Bangalore Rural, Bangalore, Bellary, Chikmagalur, Chitradurga, Kodagu, Hassan, Kolar, Mysore, Mandya, Shimoga and Tumkur districts)

The Tropical Monsoon climate covers the entire coastal belt and adjoining areas. The climate in this region is hot with excessive rainfall during the monsoon season i.e., June to September. The Southern half of the state experiences hot, seasonally dry tropical savana climate; while most of the northern half experiences hot, semi-arid, tropical steppe type of climate.

Bangalore lies in the southeast of the South Indian state of Karnataka. It is in the heart of the Mysore Plateau (a region of the larger Precambrian Deccan Plateau) at an average elevation of 1010 m (3,448 ft). Bangalore has a handful of freshwater lakes and water tanks, the largest of which are Madivala tank, Hebbal lake, Ulsoor lake and Sankey Tank. Vegetation in the city is primarily in the form of large deciduous canopy and minority coconut trees. Due to its elevation, Bangalore enjoys a pleasant and equable climate throughout the year. It receives about 1300 mm of rain annually, the wettest months being August, September, October and in that order.

According to an 'Environment Impact Analysis' done by the Bangalore Mass Rapid Transport Ltd. in 2003, Bangalore was found to be suffering from heavy to severe air pollution around areas of traffic concentration. Major pollutants contributing to Bangalore's high Air Quality Index (AQI) score include nitrogen oxide, Suspended Particulate Matter (SPM) and carbon monoxide.

Table 24: Environment Impact Assessment Indicators - Bangalore

Component	PIU "ideal" Index	Average Score
Air Quality	395	180
Water Quality	130	121
Land	40	37
Terrestrial Ecosystem	150	143

Component	PIU "ideal" Index	Average Score
Aquatic ecosystem	15	12.5
Socio-economic (traffic, quality of life, etc.)	270	49.5
Total	1000	542

Source: "Environment Impact Analysis" (2003), Bangalore Mass Rapid Transport Ltd.

Mysore is located in the southern region of the state of Karnataka, at the base of the Chamundi Hills and has an average altitude of 770 metres (2,526 ft); it is spread across an area of 128.42 sqm. Mysore has several lakes such as the Kukkarahalli, the Karanji and the Lingambudhi lakes. Mysore is subject to a semi-arid climate. The main seasons are as follows—the summer season is from March to June, followed by the monsoon season from July to November; the winter season lasts from December to February. The average annual rainfall received by the city is 798.2 mm (31 in).

Environmental Impact Assessment Study for the Proposed Sites

As per the Environmental Impact Assessment Notification 2006, large projects in specified sectors and projects lying in environmentally sensitive areas will require Environmental Clearance from the centre. This would involve preparing an Environment Impact Assessment Report and conducting public hearings. Smaller projects in the specified sectors do not require EIA report but still will require clearance at the state level.

However, the proposed project does not fall under any project category as specified under the EIA, 2006 notification. Further, as per the preliminary assessment, the proposed sites do not lie in any environmentally sensitive area, hence the Consultants do not see any need for detailed EIA study for this project. Applicable Acts or Legislation

The Government of India has formulated various policy guidelines; acts and regulations aimed at protection and enhancement of environmental resources. The following table summarizes the existing legislations pertaining to the project, depending upon which various environmental clearances may be required.

Table 25: Relevant Environmental Laws & Regulation

Sl. No.	Law / Regulation / Guidelines	Relevance	Implementing / Responsible Agency
1	The Environmental (Protection) Act, 1986, and the Environmental (Protection) Rules, 1987-2002 (various amendments)	Umbrella Act. Protection and improvement of the environment. Establishes the standards for emission of noise in the atmosphere.	MoEF, State Department of Environment & Forest, CPCB and SPCB

Sl. No.	Law / Regulation / Guidelines	Relevance	Implementing / Responsible Agency
2	The EIA Notification, 14th September 2006 & subsequent amendments	Identifies expansion of National highways greater than 30 Km involving additional ROW greater than 20m involving Land Acquisition and all state highways (item 7 (f) of schedule) as one of the projects requiring prior clearance.	MoEF / SEIAA
3	The Water (Prevention and Control of Pollution) Act, 1974	Central and State Pollution Control Board to establish/enforce water quality and effluent standards, monitor water quality, prosecute offenders, and issue licenses for construction/operation of certain facilities.	State Pollution Control Board
4	The Air (Prevention and Control of Pollution) Act. 1981	Empowers SPCB to set and monitor air quality standards and to prosecute offenders, excluding vehicular air and noise emission.	State Pollution Control Board
5	Noise Pollution (Regulation And Control) Act, 1990	Standards for noise emission for various land uses	State Pollution Control Board
6	Ancient Monuments and Archaeological sites and Remains Act 1958	To protect and conserve cultural and historical remains found.	Archaeological Survey of India, State Dept. of Archaeology
7	The Motor Vehicle Act. 1988	Empowers State Transport Authority to enforce standards for vehicular pollution. From August 1997 the "Pollution Under Control Certificate is issued to reduce vehicular emissions.	State Motor Vehicles Department

8.2 Social Impacts

1. Better Infrastructure for Public Use

The central idea of the project is to provide and, in some cases, improve upon the existing social infrastructure in the form of modernized bus terminals. These terminals will help to improve the connectivity and accessibility of the area as a whole, therefore, resulting in the benefit of the commuters.

2. No major displacement seen due to land acquisition:

This is mainly because, most of the land is already acquired. Further, in cases any establishments have been displaced, they are being rehabilitated, as in case of Kalasipalayam.

The table below summarizes the current status of land ownership for the project sites and corresponding acquisition, if any, required.

Table 26: Status of land ownership for project sites

S.No.	Site	Current Ownership of Land	Remarks
1	Kalasipalayam	Bruhat Bengaluru Mahanagara Palike (BBMP)	Criteria for transfer of land yet to be finalised.
2	Yelahanka Satellite Town	Bangalore Metropolitan Transport Corporation (BMTTC)	
3	Vijaynagar Phase III & IV	Karnataka State Transport Corporation (KSRTC)	

In all the three cases, as the land is already owned by government agencies, there will be no issues related to shifting or disruption of activities taking place on the site, due to acquisition of private land.

However, in the case of Kalasipalayam, there is already a court order requiring the provision of space and adequate facilities for 80 commercial units, displaced during an earlier setting up of the bus terminal at the site. This has been incorporated into the project design and development.

3. Externalities like impact on traffic flow

Yelahanka Satellite Town, already have operational bus terminals on the site and the traffic flow seen at the site is low. Therefore the probability of possible change in traffic movement pattern and corresponding likelihood of congestion is low.

The bus terminal at Vijaynagar Phase III & IV will be a Greenfield project. The identified site lies in the middle of a residential area. Buses, previously running through the area, will stop at the new bus terminal, resulting in possible traffic congestions. Increased bus traffic flows will also result in rise in pollution levels, both noise as well as air. Moreover, over a period of time, a bus terminal will attract various associated commercial activities, thus further negatively affecting the residential area.

Kalasipalayam is the only site, which is at the centre of a highly congested commercial area. While a modern Bus Terminal will resolve the issue of congestion due to buses parked on roads and picking up passengers from the road, there is expected to higher flow of traffic due to additional commercial development in the area. Even though the consultants have provided for adequate parking spaces for cars and two-wheelers at the site, coordination with respective municipalities will be required for a detailed assessment of impact on traffic movement due to new development at Kalasipalayam.

9 OPERATING FRAMEWORK

9.1 Risks & Mitigation

Appropriate risk mitigation structures have to be evolved for effective implementation of the Project. Various risks associated with the Project and their broad mitigation measures are explained below:

Construction Risk

Construction risk can be in the form of Design Risk, Cost Overrun and/or Time Overrun.

Design Risk:

The concessionaire will be responsible for any defects and/or deficiency in the design and shall rectify the same at his/ her own cost. By transferring the design risk to private party there is scope for innovation leading to efficiency in cost and services.

Cost Overrun:

Concessionaire to be made responsible for any cost over runs. Termination payments, specified in the Agreement, linked to Total Project Cost which shall be lowest of (i) Total Project Cost as per financing documents, (ii) actual capital cost as certified by auditor (iii) project cost defined by Client in the agreement.

Time Overrun:

This leads to delay in completion. Construction period to remain fixed. Effective clauses to be provided in the Agreement to be signed between the Client and the Developer. Timely clearances and handing over of site for the project should be ensured.

Commercial Risk/ Revenue Risk

This risk arises from existing demand and future competition, effectiveness in utilizing space and management of facilities. With the involvement of Private Sector in marketing, O&M and management and attractive incentive structures linked with Project success, risk would be transferred to the Concessionaire. The Concessionaire also has the right to decide the lease rental tariff for the property development and other applicable charges / fees for the project components under the facility.

Operational Risk

The Concessionaire to operate and maintain the facility for an agreed lease period. Effective clauses addressing the above should be incorporated in the Agreement. Increase in the O & M costs, except in cases due to change in Specification & Standards and Change in Law, shall be borne by Developer. The Developer may transfer operational rights to another party subject to approval from Client.

9.2 Indicative Project Structure & Operating framework

The projects are proposed to be implemented on Public-Private Partnership (PPP) format under Design, Finance, Build, Operate and Transfer (DBFOT) basis.

Under this structure, Private Developer / Private Sector Player (PSP) shall finance, design, engineer, construct, market, operate, maintain and manage the projects during the concession period and transfer the project facilities to the concessioner at the end of the same.

Further, the Concessioner also has the option to adopt one of the following payment structures under the structure:

- **Recurring Rental only** – This is the option where the developer gives a recurring rental in consideration for the lease/concession rights.
- **A combination of Upfront and Recurring Rental** – This mechanism is used mainly in the lease type model of commercial projects. The developer gives an upfront amount to the leasing/concessioning authority and follows it with either Quarterly / Annual Recurring Payment. In such an option, bid variable is the upfront amount paid by the concessionaire. There is an inbuilt provision for annual escalation in the recurring payment to take care of the inflation or upside.
- **A combination of Upfront, Recurring Rental and Revenue Share** - This mechanism is also used mainly in the lease type model of commercial projects, where a recurring source of revenue is available to the developer. The developer gives an upfront amount to the leasing/concessioning authority and follows it with either Quarterly / Annual recurring Payment. In addition, the developer also shares a part of its revenue with the authority. The bid variable in this case is the Revenue Share. In order to minimize the revenue risk for the government, in many cases revenue share is subject to a minimum annual payment to the government.

In both this and the previous form of payment structure Escrow Account Mechanism is used to protect the recurring revenue apart from bank guarantee to protect at least one year revenue. In practice, irrevocable bank guarantee has been found to work better as the Escrow Account system requires stringent monitoring and there are practical fault lines in the same. However, it has been seen in many cases that due to administrative and audit hassles involved, a very small percentage of revenue sharing is not worth the attendant administrative issues.

Project Structure

The projects are proposed to be structured as under:

Table 27: Proposed Project Structure

Component	Description
Structure	<ul style="list-style-type: none"> The project is to be developed under DBFOT model of PPP The project is structured for capital investment to be brought in by the selected private sector player and land is provided by Concessionaire. The private sector player recovers its investments over a period of time from revenues from property development created under the project and any other applicable sources.
Concession Period	30 years including a construction period of 3 years
Payment to Concessionaire	<ul style="list-style-type: none"> Kalasaipalayam: Combination of Upfront & Recurring Rental Yelahanka: Project not viable financially Vijaynagar: Combination of Upfront & Recurring Rental
Role of Concessioner	<ul style="list-style-type: none"> Provision of identified land for the Project, free from all encumbrances Grant of lease hold rights of the project site to the concessionaire Provision of adequate rights to the concessionaire for collection of user charges, parking fees and rentals from property development. Provide assistance in getting all the required clearances
Role of Private Sector Developer	<ul style="list-style-type: none"> Detailing and placement of the Project components Detailed designing and Engineering of facilities based on Concept Achieving financial closure and making the necessary capital investment Construction, Marketing, Operating, Maintaining and Managing (Utilities, Facilities, Equipments etc) the Project during the Authorization Period Obtaining all clearances/approvals from the concerned Govt. Department, handling legal issues etc

10 WAY AHEAD

10.1 Key Milestones

1. Key Milestone for the Project

- i. **Preparation of Tender Documents for Selection of Transaction Advisor for the Project: A model RFP document for selection of Transaction Advisors is already submitted.**

Tender documents for selection of Transaction Advisors includes the following

- Detailed Scope of Work including deliverables and timelines for submission.
 - Minimum eligibility criteria, which the bidders would necessarily have to meet before their bids are evaluated in detail.
 - Evaluation process elaborating the various evaluation parameters and their respective weightages.
 - A draft Agreement which would spell out the following:
 - The Obligations and Scope of Work for the consultant
 - Dispute Resolution Mechanisms
 - Termination of Contracts by either of the parties
 - Defining conditions and events leading up to a default in obligations
 - Conditions construing Force Majeure
 - Conditions leading up to a termination of Contract and invoking of the Performance Guarantee.
- ii. Selection of Transaction Advisory: By the end of May 2012
 - iii. Selection of Project Developer: By October 2012
 - iv. Project Construction to start by January 2013
 - v. Project Operations to start by 2015-16

2. Capacity Building of PPP Cell Personnel

Capacity Building Workshops will be conducted for officials who are identified as PPP Cell personnel by the department. These workshops will be conducted in order to enable these personnel in understanding the concept of PPP, model procedures and documents related to implementation of PPP projects, key issues related to PPP etc. Three training sessions will be organised as a part of capacity building. Various techniques of effective communication like audio-visual media in form of PowerPoint presentations, videos, notes, interaction dialogues etc will be used for these capacity building sessions.

11 ANNEXURE

11.1 Annexure 1: Site Assessment data

Site: Kalasipalayam

Area: 4 Acre 15 Gunta

Plot Location: Kalasipalayam Bus stand

Potential: High

Abstract:

- This shall be a brownfield project
- Kalasipalayam Bus stand is located in the congested market area of Bangalore.
- Existing Bus stand is used for BMTC buses and private buses. No terminal or bus bays are built within the bus stand.
- There are numerous travel agency offices and budget hotels located on the surrounding roads.
- Private buses are spilling over to roads.
- Large no. of long haul private buses (inter-state buses) like Volvo is being parked outside the bus stand.
- There are also issues with illegal parking outside bus stand making the existing site area more congested.

About the plot:

- Rectangular plot with little encroachment (slum-like developments on one side of the plot).
- The Land is with BBMP

Surrounding Area:

- Travel agency offices
- Commercial shops (on all three side abutting roads)
- Hotels
- Movie Theatre (2 nos – within 1 Km radius)[Condition – Old]

Bus Stand:

- Police outpost
- Horse cart association office / land
- Temple
- BMTC office + RMS office
- Toilets

Rentals:

- Shops near proposed site: Travel agency office / shops
 - Rentals: opposite to entry / exit gates (6x3 m)
 - ~ Rs. 400 / day to Rs. 1000 / day
 - ~Rs 12000 / month to 30,000 / month
 - Rentals: Opposite to temple side (5x3 m)
 - ~Rs 250 / day to Rs. 500 / day
 - Shop size: 6 x 3 m
 - The business are good at each shops
 - Maintenance / cleaning – done by self or done by BBMP - Rs. 25 to 50 / month
- Lodges
 - Rooms – ~ 30 to 40
 - Rent – Rs 400 to 1500 / day
 - Occupancy –70%

Site: Yelahanka 5th Phase

Area: 1 Acre 2 Gunta

Plot Location: Within the Yelahanka New town residential area

Potential: Medium

Abstract:

- This shall be a brownfield project.
- The project site consists of newly built Bus Terminal and commercial shops that are operational.
- It is entirely a MIG & HIG residential area (Central Government apartments) with no commercial pockets.
- The site has good potential for commercial shops as the area lacks any kind of commercial developments.

About the plot:

- Rectangular plot with no encroachment.
- The land is with BMTC.

Surrounding Area:

- Residential buildings (3 sides)
- 2 Colleges (Miranda college of Nursing – right next to bus stand & SB management school – within 500m radius)
- School – within 0.5 Km radius

- Sector Park (on the back side)

Bus Stand:

- Bus Terminal with 4 commercial shops and restaurants
- BMTC & Traffic control office

Rentals:

- Commercial Shops within Bus Stand:
 - Bakery – Rs 3500 / month (5x3m)
 - Pharmacy – Rs. 2000 / month (4x3m)
 - Restaurant – Rs. 5000 / month (6x3m)
 - All the shops are on 6 years contract with BMTC with 10% escalation every year
 - Rentals: Average Rs. 15 -20 / sq.ft
- Shops near Yelahanka upper area

Rentals: ~ Rs. 4000 – 7000 / month

Site: Vijaynagar Stage III

Area: 1.75 Acres

Plot Location: Within the residential areas of Vijaynagar stage III

Potential: Medium

Abstract:

- This shall be a green field project
- Vijaynagar is on the outskirts of main city but near to ring road and Infosys & L&T campuses roads and has a population of about 1 lakhs (approx.).
- Divisional office of the KSRTC, Mysore is planning to build a bus terminal exclusively for the Vijaynagar stage I, II & III.
- It is entirely a MIG & HIG residential area with no commercial pockets.
- It is one of the posh colonies of Mysore.
- The site has good potential for commercial shops as the area lacks any kind of commercial developments.
- KSRTC is proposing to shift the Vijaynagar buses to the proposed bus stand at Vijaynagar Stage III.

About the plot:

- Rectangular plot with no encroachment.
- The land is with KSRTC.
- The site is ready for construction

Surrounding Area:

- Residential buildings (3 sides)
- There are local roads (3.5m ROW) on three sides of the plot.
- Sector Park (on the back side)

Bus Stand: No existing developments

Rentals: (Within Vijaynagar Stage I, II & III): (As per Mr. BC Kumar)

- Commercial Shops:
 - Rentals: Average Rs. 15 -20 / sq.ft
- Residential
 - Rentals: Rs. 10 / Sq.ft

Land Price:

In Vijaynagar Stage III – ~ Rs. 2000 / Sq.ft

Site: Vijaynagar Stage IV a Workshop on the back side (3 Acre land).

- Almost all the plot nearby proposed site is lying vacant
- The site has good potential for commercial shops / malls as the area lacks any kind of commercial developments.
- Can lease it to private developers for commercial development

About the plot:

- Rectangular plot with no encroachment abutting ring road.
- The land is with KSRTC.
- The site is ready for construction

Surrounding Area:

- MIG & HIG Residential buildings (3 sides)

Bus Stand: No existing developments

Rentals: (Within Vijaynagar Stage I, II & III): (As per Mr. BC Kumar)

- Commercial Shops:
 - Rentals: Average Rs. 15 -20 / sq.ft
- Residential
 - Rentals: Rs. 10 / Sq.ft

Land Price: In Vijaynagar Stage IV – ~ Rs. 2500 - 3000 / Sq.ft

11.2 Annexure-2: Detailed Floor Wise Plan for Kalasipalayam

The ground and first floor shall be used for terminal area for BMTC, KSRTC and private buses with one floor of basement for idle parking of buses.

The second basement (-2 floor), shall be reserved for parking of cars and two wheelers which are for the commercial development. The allotment of parking space shall be according to the Bangalore Development Authority (BDA) norms for parking set out for Bangalore city. The ground floor shall also be utilized for provision of parking for the park and ride facility (cars and two wheelers parking for terminal area). As per development control regulations for Bangalore city, these parking spaces shall be exempted from the FAR.

The second & third floor of the terminal building shall be utilized for development of Commercial offices and retail shops and fourth shall be developed as budget hotels.

Floor	Proposed Activity	Area
Basement 1: (G-2)	Parking for Commercial area	17,701 sqm
Basement 2: (G-1)	Parking for buses	17,701 sqm
Ground floor	Terminal area for BMTC	7,966 sqm
First floor (G+1)	Terminal area for KSRTC & private buses	7,966 sqm
Second floor (G+2)	Commercial offices and retail shops	7,081 sqm
Third floor (G+3)	Commercial offices and retail shops	7,081 sqm
Fourth floor (G+4)	Budget hotels	3,540 sqm

**The areas mentioned above have been derived from the proposed product design*

11.3 Annexure 3: Value For Money Analysis

Value for Money (VFM) analysis is essentially a cost-benefit analysis, where it is examined if the benefits of the project are positive as compared to alternative procurement method. A PPP project is said to achieve value for money if it costs less than the best realistic public sector project alternative which would deliver the same services.

The VFM analysis basically takes into account the Project NPV achieved by alternative means of implementation and compares it with the NPV achieved through PPP. Private partnership brings in several efficiencies in cost control, reining in operating expenses and ensuring adequate marketing measures which makes the implementation of the project more efficient. A PPP project typically allocates risks due to increases in costs and incidence of lower than forecasted revenue onto the private partner.

For VFM analysis, the consultants have identified risks at construction and operation stage.

Risks at Project Construction Stage:

1. Higher Construction Cost: Risks due to higher construction costs substantially impact the Project NPV adversely.
2. Time Overrun: Delays in projects lead to loss of revenue, as lesser number of operational years are available during the concession period to earn revenues

Risks at Project Operation Stage:

1. Revenue Risk: Risk emanating due to lower than anticipated revenues, which can be due to traffic shortfall
2. Operational Expenses Risk: Risk of higher than anticipated operational expenses

Following table illustrates the VFM calculation for Kalasipalayam (Upfront Plus Lease Rental Model). VFM for all other sites are also calculated in a similar way.

Risks		Financial Impact	Risk Allocation (%) as per PPP Model		NPV at Risk	NPV of Risk to be added back	NPV of retained risks
1	2	3	4	5	6	7	8
			Concessionaire	Concessio ning Authority			
Construction Phase	Construction Cost Overrun	Cost overrun of 15%	100%	0%	5.0	-5.7	0.0
	Construction Time Overrun	Time overrun by 50% of the construction period (Loss of revenue of	100%	0%	2.2	-8.5	0.0

		6 quarters)					
Operation Phase	Revenue Risk (Due to traffic shortfall)	Decrease in Revenue by 20%	100%	0%	-0.3	-11.0	0.0
	Opex risk	Increase in O&M Cost by 15%	100%	0%	9.6	-1.2	0.0
Total						-26.5	0.0
VFM (INR Cr)	51.56						

1. Column 2 defines the risks while the Column 3 defines the financial impact of the risks. The average value of these risks and their probabilities are taken from PPP Toolkit for Roads and Highway Sector
2. Column 4 & 5 gives the risk allocation to Concessionaire and Authority as per the PPP model that has been selected
3. Column 6 or NPV at Risk gives the Project NPV if the state government had implemented the project, and the project bears the financial impact described in Column 3.
4. Column 7 or NPV of Risk to be Added is the change in the Project NPV of the government due to financial impact of the specific risk weighted by the risk allocated to the private concessionaire. Adding this to the Base Project NPV for the government gives a risk adjusted NPV for the government.
5. Column 8 is the NPV of retained risks is the change in the Project NPV of the government due to financial impact of the specified risks, weighted by the risk allocated to the government. Adding this to the Base Project NPV of the private concessionaire gives Risk Adjusted NPV for PPP project.
6. The difference between the Risk Adjusted NPV for the Private Player and Risk Adjusted NPV for the government gives the Value for Money for the project.