



GOVERNMENT OF KARNATAKA

INFRASTRUCTURE
DEVELOPMENT
DEPARTMENT



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

FEEDBACK INFRA
Making Infrastructure Happen



Pre-feasibility Report

Development of Midway Plazas for KSRTC & NEKRTC

May 2012



Feedback Infrastructure Services Pvt. Ltd., India

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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 'Development of Midway Plazas'. 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:

- Neliyadi (Area- 1 Acre)
- Mannaekhalli (Area- 2 Acres)
- Hathigudur Cross (Area- 1.04 Acres)

The project idea is to utilize the existing land parcels, with various state transport undertakings, and develop them in the form of Midway Plazas.

Sector Profile:

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

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 structuring the projects for sustained commercial and financial viability
- A need for standardized bidding documents including concession agreement across all the state transport undertakings
- Flexibility in concession period and FAR restrictions for making projects more attractive

- Inter-departmental issues should be resolved before the project is bid out
- The distribution of risk between the private and public sector needs to be balanced
- 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 also be given

Project Details:

Midway Plazas are centers that provide amenities to travelers on the highways. The ultimate aim is to provide a Midway plaza after every 100 Km on major highways so that the travelers have access to refreshment facilities during their journey. It can also be a resting place for truck drivers as these facilities can also have dormitories at the project site. Facilities that shall be included in the mid-way plaza are as follows:

- Restaurants
- Commercial Shops
- Bus parking bays for state buses
- Parking for cars and bikes

Identified sites for Midway Plazas are:

- Neliyadi: Present on NH 75 on the Bangalore-Mangalore highway. It is a KSRTC site and is currently used as a small town bus terminal. The bus terminal was built by the municipality of Puttur and was handed over to KSRTC in 2000. At present, the land and the terminal is fully owned by the KSRTC. Situated midway between Mangalore and Shakleshpur (a tourist location), at a 2.5 hour drive from both the locations, it is an ideal location for a mid-way plaza. The travelers can rest before and after the hill road drive.
- Mannaekhalli: This is an NEKRTC site in Bidar district present along the Mumbai – Hyderabad highway (NH9). The site is presently used as a bus stand and a new bus terminal is under construction besides the existing one. The private buses plying between Gulbarga and Bidar also have stops outside the stand making it a high movement area. As it is at the intersection of Gulbarga – Bidar road (NH 213) and Mumbai – Hyderabad highway (NH 9) and also due to absence of any major eating joints on the Gulbarga – Bidar road, the site has a potential to be developed as Mid-way Plaza.
- Hathigudur Cross: This is a NEKRTC site in Gulbarga district. The site is abutting the Karnataka State Highways 15, 16 and 19 (SH 15 & SH 16). It is located at the intersection of Yadgir – Raichur road (SH 15), Sindhgi - Yadgir road (SH 16) and Gulbarga – Sindhanur road (SH 19). Due to absence of major eating and resting place for travelers between Gulbarga and Sindhanur and Yadgir – Raichur roads, the project site may be a potential site for the development of Mid-way Plaza.

Case Studies:

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

- Previous Experience for PPP in Midway Plazas in Karnataka
- Motorway Service Areas on M1 (Lusk, Castlebelligham) & M4 (Enfield), Ireland

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 was done for Midway Plaza development at all 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:

- Neliyadi

Product Mix	Percentage	Area (in Sq.m)
Retail Shopping	38%	150
Dormitory	26%	100
Restaurant	36%	139
Total	100%	389

- Mannaekhalli

Product Mix	Percentage	Area (in Sq.m)
Retail Shopping	34%	150
Dormitory	22%	100
Restaurant	44%	196
Total	100%	446

- Hathigudur Cross

Product Mix	Percentage	Area (in Sq.m)
Area for Bus Shelters	60%	526
Retail Shopping	17%	150
Dormitory	11%	100
Restaurant	12%	101
Total	100%	877

Project Financials:

Financial analysis of the projects is 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 are considered to analyse returns / risks for the Concessionaire and the Government.

Analysis was done for three payment models to the Government:

1. When the private player pays only the lease rental to the government, lease rental is taken to be the bid variable here
2. When the private player pays an upfront amount plus the lease rental to the government. Upfront payment is taken to be the bid variable here
3. When the private player pays an upfront amount, the lease rental and annual revenue share. Revenue share is considered as the bid variable here

It is to be noted that the values assumed for the bid variable components in each case is the maximum reserve prices/percentages for the respective components that the government can expect for the project to be attractive to private player.

The private player will generate revenue through rentals from commercial facilities like retail shops created under the project and operation of restaurant & dormitory.

The summary of the project financials is presented below:

- **Neliyadi:**

Lease rental model is the only model with a positive NPV. As per the model, the NPV of receivables to the government is INR 0.14 Cr. The private player is expected to observe a Project IRR of 13.8 %. The minimum DSCR, however, is less than 1, which means that the private player will have issues in retiring the debt taken for the project. .

Item	Only Lease Rental Paid by the Pvt Developer
Project Cost (INR Cr) including IDC and Upfront Payment	0.74
Equity (INR Cr) @ 30% of capital cost	0.22
Debt (INR Cr) @ 70% of capital cost	0.52
Project IRR (%)	13.8
Project NPV (INR Cr)	0.13
Equity IRR (%)	14.3
VFM (INR Cr)	0.53
Receivables to Govt	
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.02
NPV of Receivables to Govt (INR Cr)	0.14

- **Mannaekhalli:**

Lease rental model is the only model with a positive NPV. As per the model, the NPV of receivables to the government is INR 0.29 Cr. The private player is expected to observe a Project IRR of 13.5% and a Project NPV of INR 0.14 Cr. The minimum DSCR, however, is less than 1, which means that the private player will have issues in retiring the debt taken for the project.

Item	Only Lease Rental Paid by the Pvt Developer
Project Cost (INR Cr) including IDC and Upfront Payment	1.02
Equity (INR Cr) @ 30% of capital cost	0.30
Debt (INR Cr) @ 70% of capital cost	0.72
Project IRR (%)	13.5
Project NPV (INR Cr)	0.14
Equity IRR (%)	13.9
VFM (INR Cr)	0.70
Receivables to Govt	
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.04
<i>Upfront Payment (INR Cr)</i>	0.00
<i>Revenue Share (% of the Revenue)</i>	0.00
NPV of Receivables to Govt (INR Cr)	0.29

- **Hathigudur Cross:**

The project is not found viable even if only lease rental model considered. As per the model, the NPV of receivables to the government is INR 0.15 Cr. The private player is expected to observe a Project IRR of 11.1%. The minimum DSCR, however, is less than 1, which means that the private player will have issues in retiring the debt taken for the project.

Item	Only Lease Rental Paid by the Pvt Developer
Project Cost (INR Cr) including IDC and Upfront Payment	0.73
Equity (INR Cr) @ 30% of capital cost	0.22
Debt (INR Cr) @ 70% of capital cost	0.51
Project IRR (%)	11.1
Project NPV (INR Cr)	(0.08)
Equity IRR (%)	10.7
VFM (INR Cr)	0.44
Receivables to Govt	
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.02
<i>Upfront Payment (INR Cr)</i>	0.00
<i>Revenue Share (% of the Revenue)</i>	0.00

NPV of Receivables to Govt (INR Cr)	0.15
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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 Concessioneing Authority 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 Concessioneing Authority. • The private sector player recovers its investments over a period of time from revenues from property development created under the project as well as revenue generated through operation of restaurant and any other applicable sources.
Concession Period	30 years
Payment to Concessioneing Authority	Lease Rental only
Role of Concessioneing Authority	<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 developer • Provision of adequate rights to the developer for collection of user charges, parking fees and rentals from property development.
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

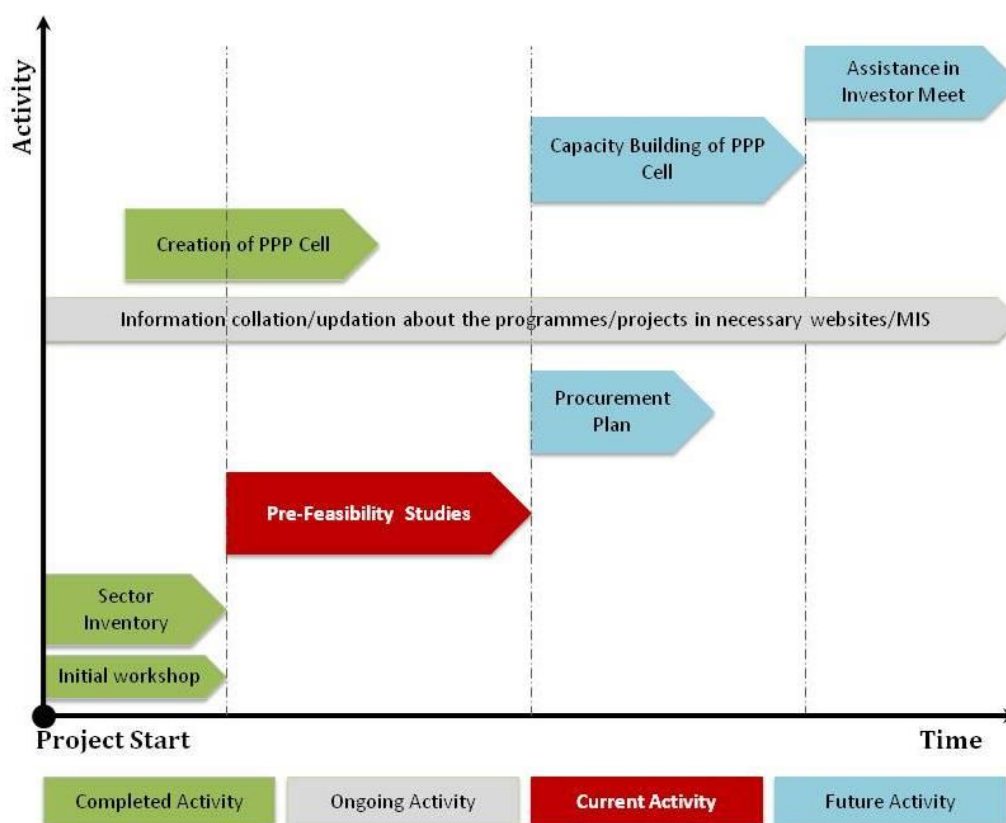
2.1 Project Background

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 of 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 'Development of Midway Plazas'. 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:

- Mannaekhalli (Area- 2 Acres)
- Neliyadi (Area- 1 Acre)
- Hathigudur Cross (Area- 1.04 Acres)

The project idea is to utilize the existing land parcels, with various state transport undertakings, and develop them in the form of Midway Plazas. Typically following facilities are provided in a Midway Plaza; however, the facilities will differ as per the requirement at each site, arrived at after detailed market assessment. The facilities are:-

- Restaurants
- Commercial Shops
- Bus parking bays for state buses
- Parking for cars and bikes
- Children play area

2.2 Structure of the Report

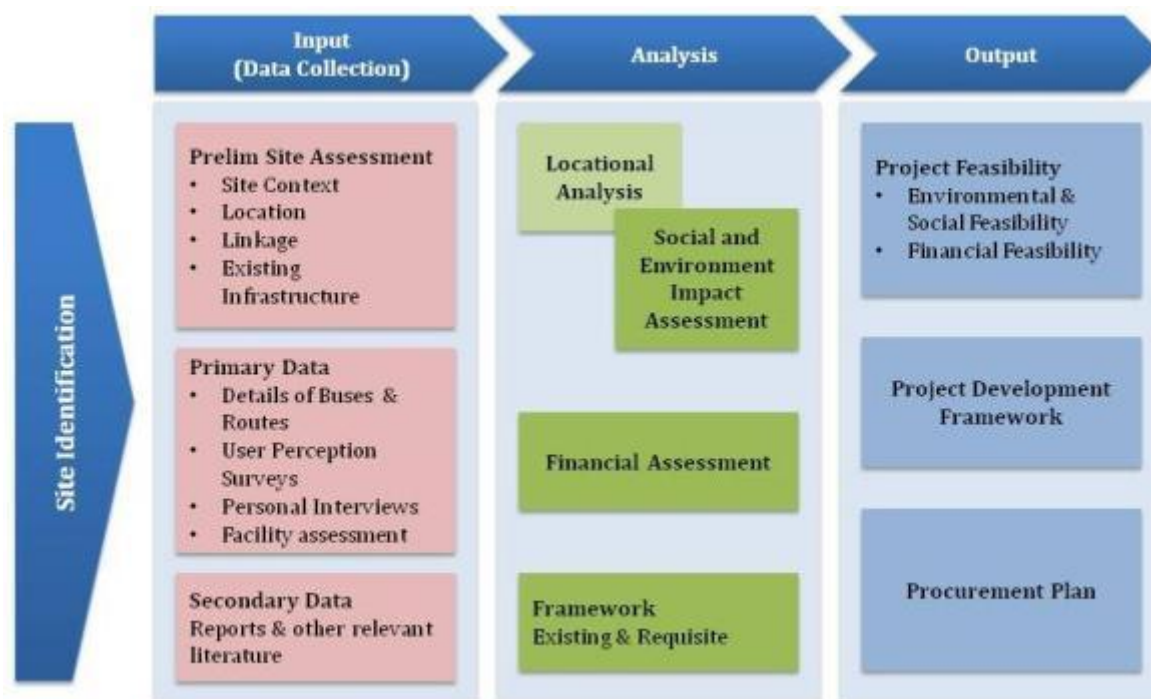
This Project Report has been structured along the following in a chapter-wise format.

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•Recommendations

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

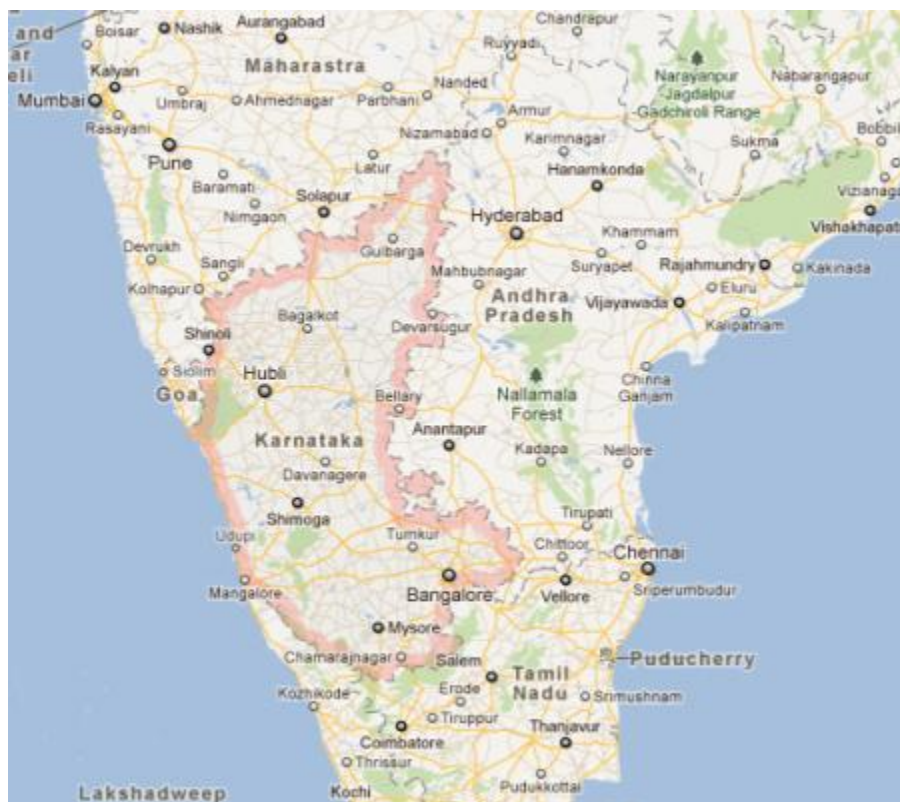
Based upon the results of the analysis, the framework and the procurement plan for further development of the project were finalised.

3 SECTOR PROFILE

3.1 Overview

Karnataka is the 8th largest state in India with an area of 191,791 sqkm, 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 of 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 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 and makes 79,445 trips.

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 4000 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 the above, 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 PPP initiatives for Midway Plaza in Karnataka

Karnataka has implemented midway plaza on the major highways on PPP basis in past. Two midway plazas have been awarded, one on the Bangalore – Mysore (SH 17) highway and another on the Bangalore – Hubli (NH 4) highway. Out of which, the one at Maddur (SH17) is operational for last one year and the one at Madukuriki (NH 4) is under construction. The major factor behind the successful implementation of midway plaza at these locations is the availability of land. The land was under KSRTC which made it easy for the KSRTC to implement the project on PPP mode.

At Maddur the Midway Plaza is operated by Kadamb Restaurant group on a 15 years lease from KSRTC. Nearly 1.2 acres of land was provided to the Kadamb group by KSRTC opposite the existing bus stand. The facilities at Maddur included a restaurant, 6 commercial shops, children play area, parking for car and motorcycles and also ~ 0.5 acre of land which is utilized for KSRTC bus operations with 8 bus parking bays.

At Madukuriki, the PPP structure followed is same as that of Maddur. It is also observed that the main revenue for the Kadamb group at Maddur is from the passengers traveling in buses that stop at this Midway plaza (when compared to other commuters on the route). KSRTC has made it mandatory for all the KSRTC buses to stop at this midway plaza as a part of the concession agreement.

3.6 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 structuring of projects for sustained financial viability
- A need for standardized tender documents including concession agreement across all the state transport undertakings
- Flexibility in concession period and FAR restrictions for making projects more attractive
- 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

Midway Plazas are centers that provide amenities to travelers on the highways. The ultimate aim is to provide a Midway plaza after every 100 Km on major highways so that the travelers have access to refreshment facilities during their journey. It can also be a resting place for truck drivers as these facilities can also have dormitories at the project site. KSRTC has already implemented this concept at Maddur and another at Madukuriki (which is under construction).

Facilities that shall be included in the mid-way plaza are as follows:

- Restaurants
- Commercial Shops
- Bus parking bays for state buses
- Parking for cars and bikes
- Children play area

The minimum area requirement is 2 acres as the project facility has to accommodate parking of buses and other private vehicles. The minimum investment is in the range of INR 5 to 15 Crore.

Identified sites for Midway Plazas are:

- Neliyadi: Present on NH 75 on the Bangalore-Mangalore highway. It is a KSRTC site and is currently used as a small town bus terminal. The bus terminal was built by the municipality of Puttur and was handed over to KSRTC in the 2000.. At present, the land and the terminal is fully owned by the KSRTC. State-owned buses-- Express buses (red bus) and Deluxe buses (Rajahamsa executive bus)—have stops at this bus stand but no stops for Premium buses (Volvo bus). Situated midway between Mangalore and Shakleshpur (a tourist location), at a 2.5 hour drive from both the locations, it is an ideal location for a mid-way plaza. The travelers can rest before and after the hill road drive.
- Mannaekhalli: This is an NEKRTC site in Bidar district present along the Mumbai – Hyderabad highway (NH9). The site is presently used as a bus stand and a new bus terminal is under construction besides the existing one. The private buses plying between Gulbarga and Bidar also have stops outside the stand making it a high movement area. As it is at the intersection of Gulbarga – Bidar road (NH 213) and Mumbai – Hyderabad highway (NH 9) and also due to absence of any major eating joints on the Gulbarga – Bidar road, the site has a potential to be developed as Mid-way Plaza.
- Hathigudur Cross: This is an NEKRTC site in Gulbarga district. The site is abutting the Karnataka State Highways 15, 16 and 19 (SH 15 & SH 16). It is located at the intersection of Yadgir – Raichur road (SH 15), Sindhgi - Yadgir road (SH 16) and Gulbarga – Sindhanur road (SH 19). Due to absence of major eating and resting place for travelers between Gulbarga and Sindhanur and Yadgir – Raichur roads, the project site may be a potential site for the development of Mid-way Plaza.

4.1 Neliyadi

4.1.1 Location

Neliyadi is a small town located along the Bangalore – Mangalore national highway (NH 75) in the Puttur taluk. It is just 40 Km away from the famous pilgrimage point, Dharmasthala. While travelling from Bangalore, it is located after crossing the Western Ghats and is two and half drive from the town of Shakleshpur. As mentioned earlier, the project site is an existing Neliyadi bus stand placed along the NH 75 with an area 1 acre, towards the eastern end of the Neliyadi town. The location of the Neliyadi site is provided in the figure given below.

Figure 4: Location & Connectivity map of Neliyadi site



Source: Google map

4.1.2 Connectivity

As the project site is situated along the NH 75, it enjoys a good connectivity with many major cities and towns of the South Karnataka such as Mangalore and BC road on the west and Shakleshpur, Hassan and Bangalore on the east. It is also one of the busiest highways in Karnataka with majority of passenger traffic (details of the traffic movement is provided in the next chapter) moving on the highway. This makes it a potential location for the development of Midway Plaza. It is also connected to the pilgrimage point, Dharmasthala on the north by the state highway number 37 (SH 37). The connectivity of Neliyadi with nearby town and cities are provided in the figure given above.

4.1.3 Key issues

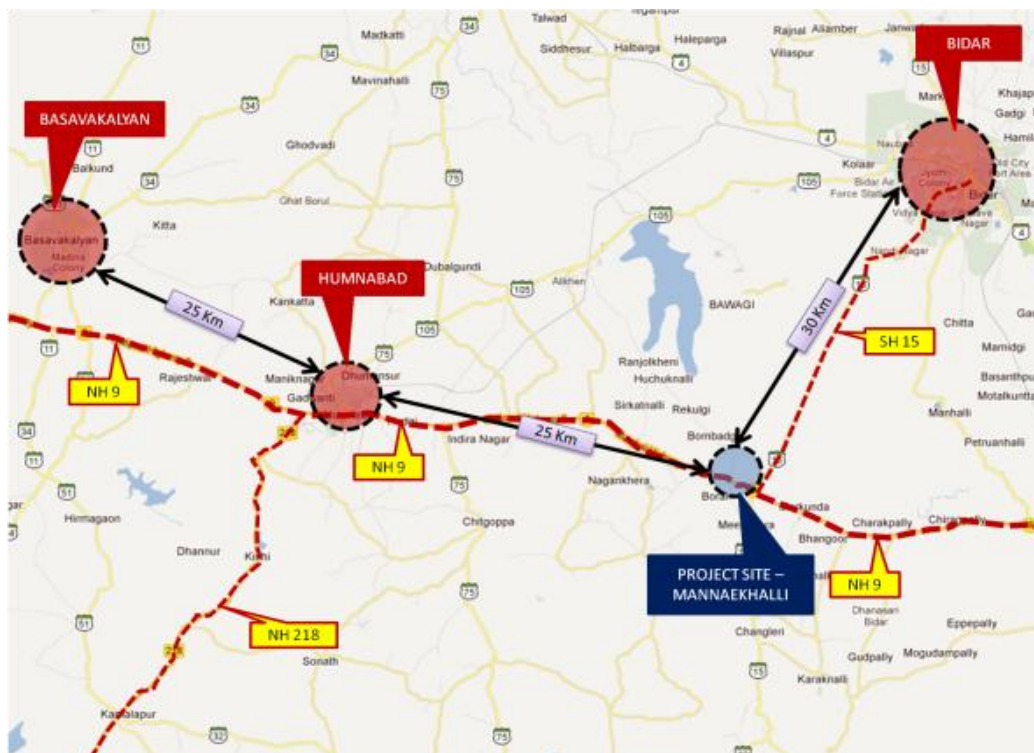
- As per NHAI regulation, for any development abutting highway in a village area, for 40m from the centre of carriageway is a no-development zone. So, as the project site is located in a village area and along the highway, there shall be an offset of 40m in the front. The existing structure for the bus stand has to be demolished to construct the proposed midway plaza. So, the land available for the midway plaza development shall be less. These concerns have been addressed while making the project design.
- Many KSRTC Express buses (red bus) stops at those restaurants in the town which are outside the bus stand and Volvo buses stop at the Uppangadi which is 20 Km away from the project site. So, the footfall at the existing bus stand or the project site is at present very low and can affect the viability of the project.

4.2 Mannaekhalli

4.2.1 Location

Mannaekhalli is a small town located in the south of Bidar district. The town is located along the Pune – Hyderabad national highway (NH 9). The project site is the existing bus stand with an area of 2 acres. The site has two structures, one the existing bus stand and other is the new bus stand beside the existing bus stand which is under construction. The site is also located along the Gulbarga – Bidar road sections of SH 15 and NH 9. The location of Mannaekhalli is provided in the figure given below.

Figure 5: Location & connectivity map of Mannaekhalli site



Source: Google map

4.2.2 Connectivity

As the project site is located along NH 9, it is well connected to major cities and towns on the east and west of Mannekhalli (such as Humnabad, Basavakalyan, Solapur & Pune on the west and Hyderabad on the east). Mannaekhali is connected to Bidar via SH 15 and Gulbarga via NH 9 and NH 218. The connectivity of Mannaekhali with other major towns and cities are provided in the figure given above.

4.2.3 Key issues

- Private buses (plying between Gulbarga and Bidar) are also operated from Mannaekhali, which has stops outside the bus stand and is often crowded. This may hamper the visibility of the proposed midway plaza. So, it is necessary to streamline the private bus operations before implementation of Midway plaza at Mannaekhali.

4.3 Hathigudur cross

4.3.1 Location

Hathigudur is a small town located in Yadgir district with main the economic activity being agriculture. The site is located at the intersection of three main state highways such as the SH 15, SH 16 & SH 19. These state highways connect Gulbarga with Raichur; Yadgir with Sindgi and Gulbarga; and Yadgir with Lingsugur. On the basis of reconnaissance survey, it is observed that there are no proper eating / resting joints for travelers between Bidar to Bellary, making it a potential site for the development of the Midway plaza. The site is with the NEKRTC with an extent of ~ 1.0 acres and is presently used as bus stand. The location of the Hathigudur is provided in the figure given below.

- Project Cost including land – INR 50 Lakhs-INR 1 crore
- Minimum 3 acres of land was to be procured by the bidder for which KSRTC would bear the cost
 - Land to be registered under the name of KSRTC
- Successful bidder to operate the facility for 15 years
- Concept plan was provided by KSRTC
- 10% of the building construction cost was to be borne by KSRTC
- KSRTC would guarantee that its buses will stop at these Midway plaza

Issues with the 2005 PPP initiative:

Lack of interest from private players as they were not ready to bear the responsibility of acquiring land, change of land use, getting various clearances etc

4.4.2 Case study: Motorway Service Areas on M1 (Lusk, Castlebelligham) & M4 (Enfield), Ireland

Project Overview:

The National Roads Authority (NRA), Ireland awarded PPP contract (DBFMO basis) for the first three Motorway Service Areas (MSAs) in Ireland to the Superstop Consortium which started the operations in 2010

Underlying principles:

- The primary objective of a service area should be to cater to the refueling, rest and refreshment needs of drivers and passengers
- MSAs do not directly compete with existing fuel and other retail facilities in the immediate locality
- MSAs to follow standardized design specifications

Location & size of MSAs:

- Broad objective to have service areas at intervals of ~ 50 – 60 km
- Other considerations were traffic volumes and related potential road user demand for service area facilities, as well as the overall length of the route between the terminal points/cities
- Each MSA to have an area of around 10 acres

PPP structure of the project:

The lease period was 25 years for which the concessionaire shall construct, maintain and operate the facilities. The NRA gave a grant equivalent to 40% of the total cost of the facility (construction cost) for which the private player in turns share its revenue with the NRA. The three sites were clustered as one single project (Tranche 1) and were awarded to one single player.

Project Facilities:

The facility included a 24 hours operation MSAs with following facilities:-

- Parking for Cars, Motorbikes, Coaches & HGVs
- Food outlets
- Playground / Children play area
- Public toilets

Key Learning

- NRA ensured necessary approvals and clearances for project development.
- On-time delivery of upfront grant and land on lease.
- Appropriate signage policy informing road users of the location of the facilities concerned.

4.5 Development Control regulations and other Planning considerations for the site

Physical and land development activity in Neliyadi, Mannaekhalli and Hathigudur cross; land development activities are based on the zoning regulations prepared by respective Municipal Corporation for the towns on the basis of 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.

4.5.1 Permissible FAR and Ground Coverage

All the projects sites are under the Transportation use and the relevant FAR and ground coverage for the transportation use is applied for the subject sites. The permissible FAR and ground coverage for Neliyadi, Mannaekhalli and Hathigudur cross, the FAR and ground coverage is derived from building regulations prepared by the respective Municipal Corporations.

Neliyadi

- The maximum permissible FAR for the site is 1.5 and maximum permissible ground coverage is 55% of the plot area.

Mannaekhalli

- The maximum permissible FAR for the site is 1.75 with a maximum permissible ground coverage of 50% of the plot area.

Hathigudur Cross

- The maximum permissible FAR for the site is 1.75 with a permissible ground coverage of 50% of the plot area.

4.5.2 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.

4.5.3 Parking Norms:

The parking requirements for the proposed developments in Neliyadi, Mannaekhalli and Hathigudur sites are found to be similar, so similar parking requirement shall be considered for all the sites. The adopted parking regulations are provided below (the parking requirements are adopted as per the zoning regulations prepared by Karnataka State Planning Board for towns in Karnataka).

Table 4: Adopted parking norms for Mid-way Plaza

Sl no	Type of use	Minimum one parking space for every
1.	Retail business	50 sq.mt of floor area.
2.	Restaurants serving food & beverage	100 sq.mt of floor area.
3.	Lodging establishments & Tourist homes	100 sq.m of floor area.

5 MARKET ASSESSMENT

Various factors which directly and indirectly govern the suitability and demand of possible or envisaged activities are discussed below for the three identified sites. The findings of the market assessment are based on site visits, primary interviews with passengers, commercial establishments in the vicinity, hotels and the users of commercial facilities.

5.1 Neliyadi

5.1.1 Sites location on the Highway

Location is traditionally considered as the single most critical parameter for deciding best use of land parcels, as it governs most important aspects like demand and attractiveness. The site is located along the Bangalore-Mangalore highway (NH 75) and is just 70Km away from Mangalore and 60 Km from Shakleshpur which makes it an ideal location for providing way side facilities for passengers as well as drivers. So, in terms of location, it is a potential site for Midway Plaza.

5.1.2 Movement pattern near the site

Traffic and its circulation pattern near the site are important as they affect the overall environment and footfalls at the site. To understand the traffic movement on the NH 75, the traffic data based on the traffic survey conducted by the consultants near the site is analyzed. The traffic on the NH 75 is provided in the table below:

Table 5: Traffic data on NH 75 for the year 2008 & 2012

Survey location chainage	km 327.100	km 323.500
Year	2008	2012
Car / Jeep / Van	3340	4514
Mini Bus	89	182
Std Bus	1260	1203
LCV	611	1084
2 Axle	1819	952
3 Axle	812	710
MAV (4 - 6 Axles)	114	589
MAV (7++ Axles)	0	0
2 Wheeler	691	783
3 Wheeler	2432	3932
Agri. Tractor	1	0
Tractor trailer	2	1
Cycle	61	6
Total Vehicles	11232	13956

Source: Feedback's Survey

For the analysis, following assumptions have been considered:

- For calculating the footfall, only car and bus traffic has been considered.
- Annual growth rate for car has been taken as 5% and for bus it is 3%. This is based on the Consultant's previous experience on similar assignments.
- Only KSRTC buses will have stops at the Midway Plaza (80 red buses & 20 Rajahamsa; accounting for 100 buses per day).

Based on the traffic data and assumptions, the projected traffic on the NH 75 is as follows:-

Table 6: Projected traffic on NH 75

Year	2012 (Base Year)	2015	2020	2025	2030	2035	2040	2042
Car	4514	5226	6669	8511	10863	13864	17694	19508
Bus	100	109	126	146	170	197	228	242

Source: Feedback's Research

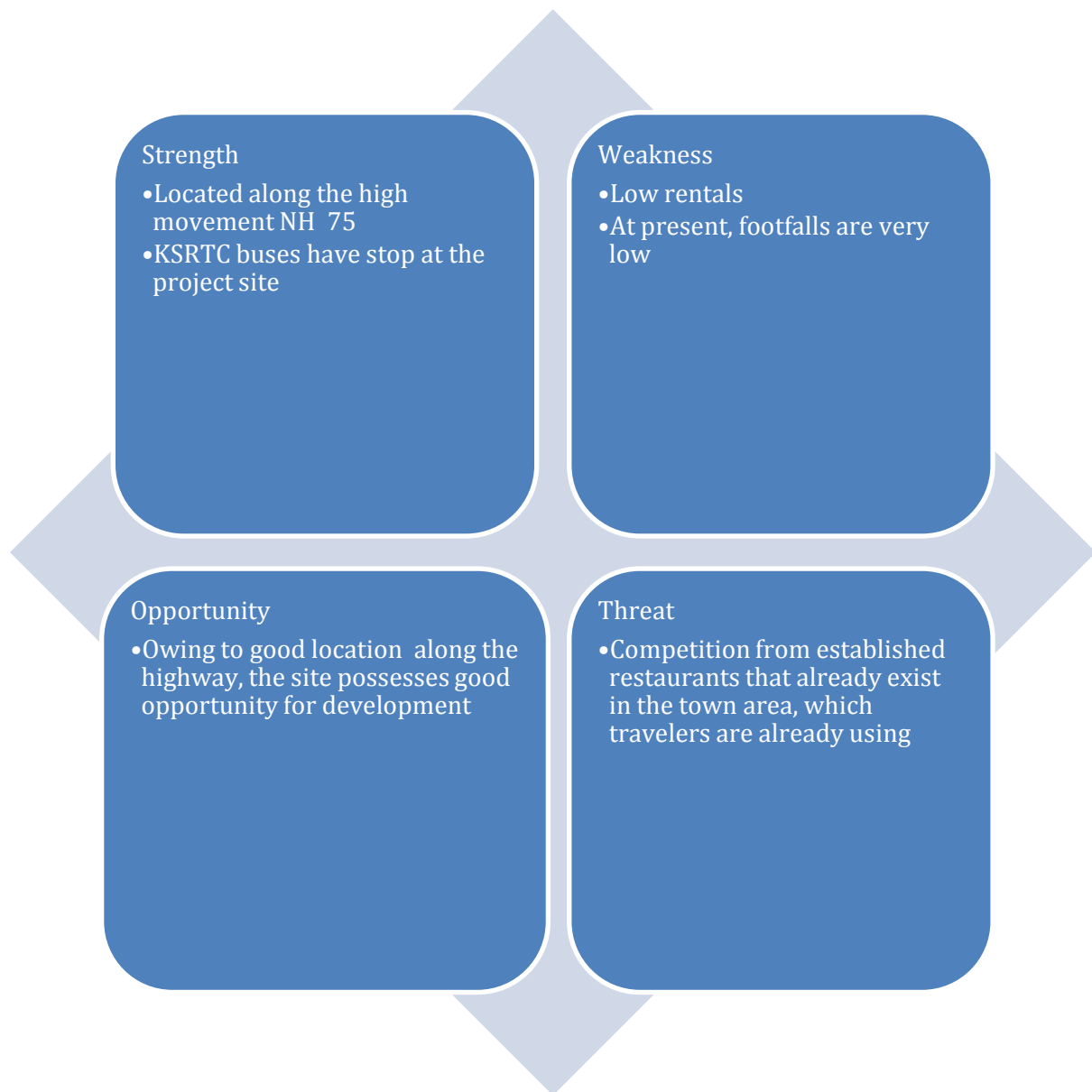
The above table clearly indicates that there shall be good traffic movement along the project site in the future. But, footfall at the site requires to be analyzed to find out the viability of the project site for midway plaza.

5.1.3 Demand Supply scenario of various other 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. At present, there are two commercial shops within the bus stand, out of which only one is operational. There is also a canteen which provides meals and tiffin to the travelers. The rentals are in the range of INR 7-8 / sq.ft /month for the commercial, while for commercial shops in the town area is INR 10 -12 / sq.ft /month. for the restaurants, the rentals are in the range of INR 5 – 6 / sq.ft / month within the bus stand and near the town are it is in the range of INR 10 -15 /sq.ft / month. There are ~2-3 restaurants operating in the town area. These restaurants can pose a threat to the proposed Midway Plaza as they are competing restaurants and presently, the KSRTC buses stops at these restaurants; lowering the demand for a restaurant at the Midway Plaza at the project site.

5.1.4 SWOT analysis for the Neliyadi site

Based on above discussion under various heads, a SWOT analysis of the site is done to determine the potential of the site in terms of real estate opportunity.



5.2 Mannaekhalli

5.2.1 Sites location along the Highway

The site is located along the Mumbai – Hyderabad highway (NH 9), near the SH 15 that connects Bidar to NH 9. As it is located along a major highway, it is a good location for development of Midway plaza. Competition exists in form of Dhabas near the site (10 to 20 Km away from the site).

5.2.2 Movement pattern near the site

To understand the traffic movement on the NH 9, the traffic data based on the traffic survey conducted by the consultants near the site (at chainage Km 403) has been analyzed. The traffic on the NH 9 is provided in the table below:

Table 7: Traffic data on NH 9 for the year 2012

Mode of vehicle	NH 9: km 407.500
Car / Jeep / Van (private)	1171
Car / Jeep / (Taxi)	106
Local Shared Taxi / Chakda	33
Mini Bus	193
School. Bus	11
Govt. Bus	347
Pvt. Bus	262
LCV (4 Wheels)	234
LCV (6 Wheels)	456
2 Axle	1304
3 Axle	1688
MAV (4 to 6 Axles)	486
MAV (> 6 Axles)	7
2 Wheeler	1379
3 Wheeler (Goods)	205
3 Wheeler (Passenger)	357
Agricultural tractor	62
Tractor with trailer	64
Cycle	360
Cycle rick.	8
Animal Drawn	39
Toll exempted fast vehicles	32
Total Vehicles	8802
Total PCUs	17909

Source: Feedback's research

For the analysis, following assumptions have been considered:

- For calculating the footfall, only car and bus traffic has been considered.
- Annual growth rate for car has been taken as 5% and for bus it is 3%. This is based on the Consultant's previous experience on similar assignments.
- Only NEKRTC buses will have stops at the Midway Plaza but footfall from private buses is also considered (160 NEKRTC buses and 78 private buses; accounting for 238 buses per day).

Based on the traffic data and assumptions, the projected traffic on the NH 9 is as follows:-

Table 8: Projected traffic on NH 9

Concession Year	Base Year (2012)	2015	2020	2025	2030	2035	2040	2042
Car	1277	1478	1888	2409	3073	3922	5005	5518
Bus	238	260	302	350	406	471	546	579

Source: Feedback's Research

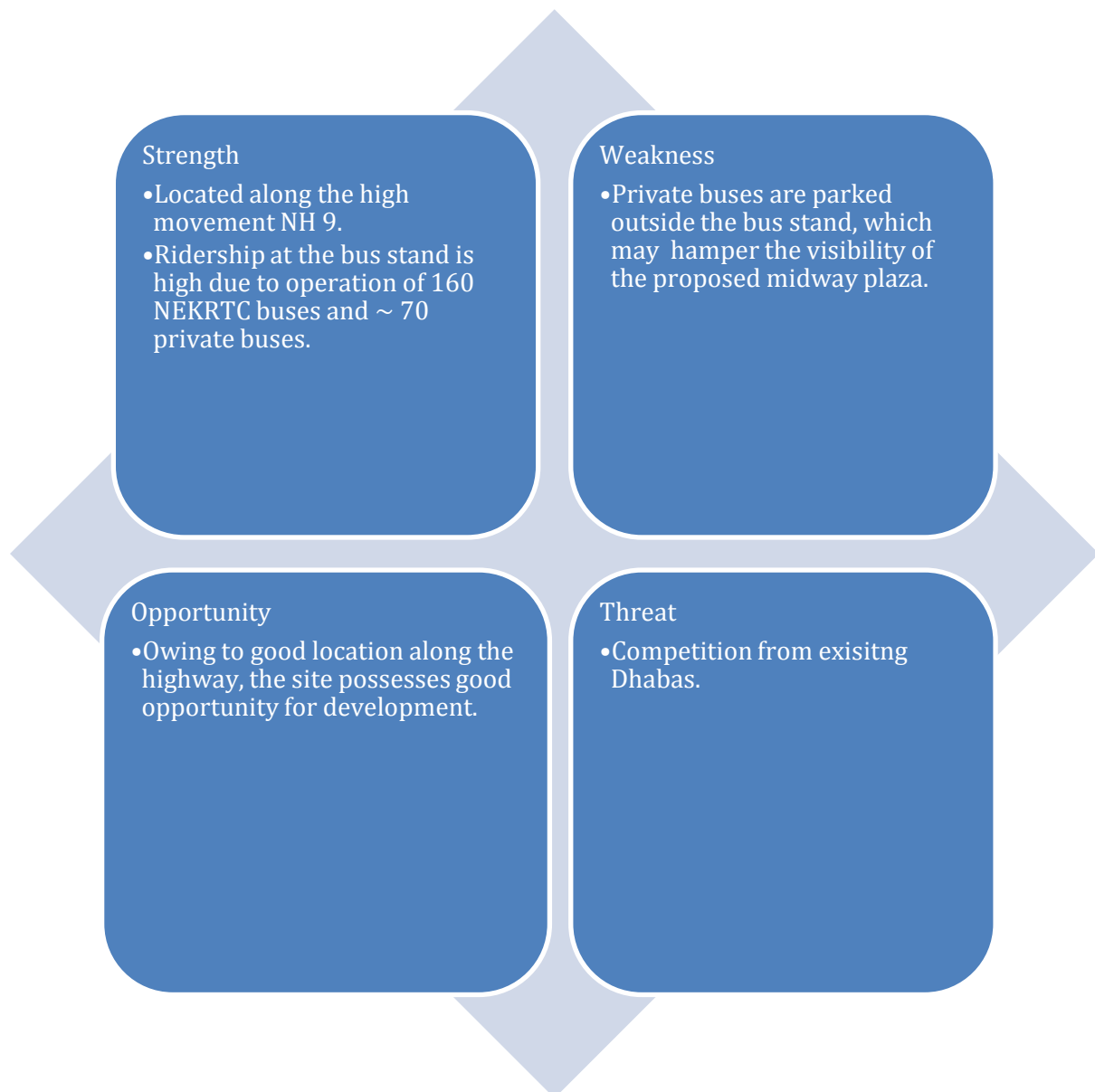
The above tables indicate that, commercial vehicles are on the higher side on the highway and passenger vehicles on the lower side. Otherwise, the traffic movement is moderate and provision of Midway plaza may be a probable option at the site especially for the commercial vehicles.

5.2.3 Demand Supply scenario of various other products in the surrounding areas

At present, there are no major restaurants within the vicinity. But, there are ~4-5 *Dhabas* within the 10 to 20 Km catchments along the NH 9. This can pose competition for the Midway Plaza. However, as the midway plaza will provide facilities of better quality than the '*Dhabas*', it is expected that the competition posed will not be very serious, especially for travelers in cars. There are also ~ 20-25 illegal and petty fruit juice shops and stationery shops within the bus stand premises and opposite the bus stand. So, these commercial shops can be legalized by the provision of more commercial shops within the Midway Plaza. The rentals for these existing shops are in the range of INR 20 – INR 25 / sq.ft / month. Most of the *Dhabas* are operated on their own land, so rentals were not available for restaurants. The famous Noor *Dhaba* along the NH 9 is located 12 Km away from the site and is under the expansion stage (~3000 sq.ft of area is under construction). The *Dhaba* has got a footfall of around 2500-3000 persons per day. This shows that, there is demand for eating joints along the highway.

5.2.4 SWOT analysis for the Mannaekhalli site

Based on above discussion under various heads, a SWOT analysis of the site is done to determine the potential of the site in terms of real estate opportunity.



5.3 Hathigudur Cross

5.3.1 Sites location along the highway

The project site is located at the intersection of three main state highways; SH 15, 16 & 19. As mentioned earlier, reconnaissance survey conducted by the consultants indicate absence of major eating joints are observed from Gulbarga to Raichur road. This makes the site a potential location for the development of Midway Plaza at the project site. But the expected footfalls shall be less as it is located along the state highway (have lower traffic volumes when compared to the corresponding National Highways).

5.3.2 Movement pattern near the project site

To understand the traffic movement on the state highways, the traffic data provided in the Karnataka State road census has been used to analyze the future traffic on the highways. The traffic on the state highways is provided in the table below:

Table 9: Combined Traffic data on SH 15, 16 & 19 for the year 2010

Mode of vehicle	No. of Vehicles
2 wheeler	1687
Auto	1100
Cars & Jeeps	719
Vans	462
Mini buses	62
buses	141
LCV	95
2 axle	215
3 axle	128
Multi axle	86
Tractors	207
pedal cycles	137
cycle rickshaw	24
horse drawn	1
wooden wheel	1
Total vehicles	5065
PCU	6259

Source: Traffic census, Karnataka roads (2010)

For the analysis, following assumptions have been considered:

- For calculating the footfall, only car and bus traffic has been considered.
- Annual growth rate for car has been taken as 5% and for bus it is 3%. This is based on the Consultant's previous experience on similar assignments.
- Only NEKRTC buses will have stops at the Midway Plaza but footfall from private buses is also considered (accounting for 533 buses per day).

Based on the traffic data and assumptions, the projected traffic on the State highways is as follows:-

Table 10: Projected traffic on State highway

Concession Year	2012	2015	2020	2025	2030	2035	2040	2042
Car	719	833	1064	1359	1735	2214	2826	3115
Bus	533	582	675	782	906	1051	1217	1292

Source: Feedback's Research

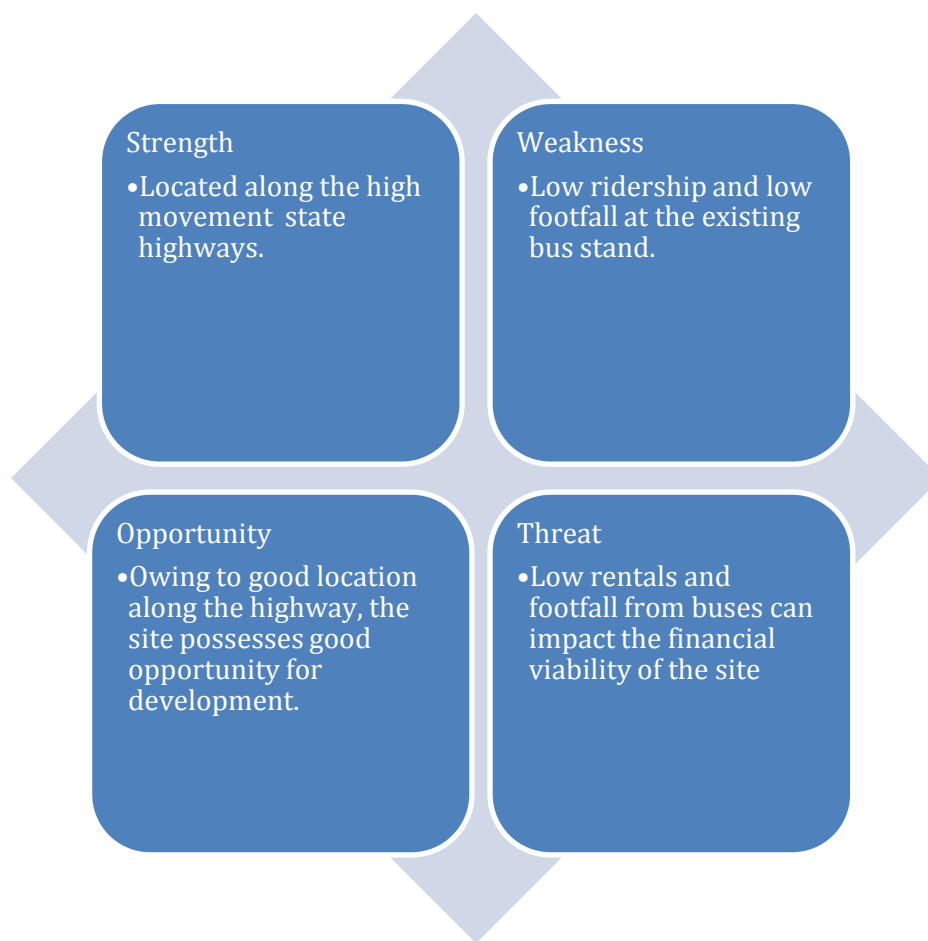
The above tables indicate that, the state highway with passenger vehicular traffic of ~4,000 vehicles is much higher than the average seen on state highways. (As per Karnataka Road Census - 2010; on an average, state highways has a total ADT of 5805 vehicles in which ADT of passenger vehicles is 2220 in number), the traffic movement on the SH 15, 16 & 19 are high. However, it is observed that despite high bus traffic the ridership is low. . This can impact the overall footfalls at the site, as the passengers from bus traffic are a major source of revenue (evident from the examination of operations of the existing Midway Plaza at Maddur in Karnataka,).

5.3.3 Demand Supply scenario of various other products in the surrounding areas

At present, there is a canteen operating at the bus stand site which serves only tea and tiffin to the drivers and commuters. The rental for the canteen is in the range INR 10 – INR 12 / sq.ft / month with 10% escalation every year. There are also few petty tea stalls besides the bus stand. The commercial shops comprise cement shops, fertilizer shops and stationery shops which have a rental of INR 10-15 / sq.ft / month. The number of commercial shops with proper RCC structure is very less (only 3 in number) while most of the commercial shops are small semi-permanent structures (~ 7 in number).

5.3.4 SWOT analysis for the Hathigudur site

Based on above discussion under various heads, a SWOT analysis of the site is done to determine the potential of the site in terms of real estate opportunity.



5.4 Recommended Product Mix Options

Having analyzed the demand supply scenario and traffic movement along the highways, options of retail and dormitories may be a probable option in the Midway Plaza at various sites. The major portion shall be utilised for the provision of Restaurant and rest of the allowable commercial area for the retail and dormitories. The product mix options for the Midway Plaza development for the different sites are given below:-

Table 11: Product mix option for the Neliyadi site

Product Mix	Percentage	Area (in Sq.m)
Restaurant	36%	139
Retail	38%	150
Dormitory	26%	100
Total	100%	389

Table 12: Product mix option for the Mannaekhalli site

Product Mix	Percentage	Area (in Sq.m)
Restaurant	44%	196
Retail	34%	150
Dormitory	22%	100

Total	100%	446
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Table 13: Product mix option for the Hathigudur site

Product Mix	Percentage	Area (in Sq.m)
Restaurant	29%	101
Retail	43%	150
Dormitory	28%	100
Total	100%	351

Further, for the purposes of financial analysis, it is being assumed that the private developer will operate the restaurant and the dormitory himself, while the retail component of commercial will be given out on rent. Detailed assumptions related to the same are given in the next chapter.

5.5 Product Design

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

Neliyadi:

Table 14: Product design for Neliyadi Midway Plaza

Item	Value	Unit
Area Break-up		
Total Plot Area	4,046	sqm
Built-up Area	319	sqm
No. of Floors	1	
Retail Area	150	sqm
No. of Shops	10	
Dormitory	100	sqm
No. of Beds	20	
Restaurant	139	sqm
Car Parking Provided	36	ECS

*ECS: Equivalent Car Space

Mannaekhalli:

Table 15: Product design for Mannaekhalli Midway Plaza

Item	Value	Unit
Area Break-up		
Total Plot Area	8,096	sqm
Built-up Area	511	sqm

Item	Value	Unit
No. of Floors	1	
Retail Area	150	sqm
No. of Shops	10	
Dormitory	100	sqm
No. of Beds	20	
Restaurant	196	sqm
Car Parking Provided	85	ECS

*ECS: Equivalent Car Space

Hathigudur Cross:

Table 16: Product design for Hathigudur Cross Midway Plaza

Item	Value	Unit
Area Break-up		
Total Plot Area	4,208	sqm
Built-up Area	910	sqm
No. of Floors	1	
Area for Bus Shelters	526	sqm
Retail Area	150	sqm
No. of Shops	10	
Dormitory	100	sqm
No. of Beds	20	
Restaurant	101	sqm
Car Parking Provided	55	ECS

*ECS: Equivalent Car Space

6 PROJECT FINANCIALS

Financial Analysis of the projects is done to get a perception of different scenarios from the Concessioning Authority's perspective and to then determine how much the Concessioning Authority 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

6.1.1 Neliyadi

- a) **Period of Analysis:** The period of analysis has been taken as 30 years inclusive of a 1 year construction and 29 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	4,046	sq.m
F.A.R	1.50	
Ground Coverage	55	%
No. of Floors	1	
Max BUA on Ground	2,225	sq.m
Max BUA	6,069	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) **Restaurant related assumptions:** For calculation of revenue from restaurant, the following assumptions have been taken.

Description	Value	Unit
Vehicular Growth rate		
Car	5*	%
Bus	3*	%
Vehicle to Footfall Conversion Factor		
Car	3	Persons/vehicle
Bus	13	Persons/vehicle
Average Daily Footfall		
Actual (in the restaurant at the site)	100	Persons per day
Adopted for the base year	100	Persons per day

*Growth rates are adopted on the basis of previous traffic studies done by the consultant

The footfall for the proposed restaurant in the base year is considered to be same as that of the current restaurant because the latter is expected to be replaced by the facilities proposed at the

Midway Plaza. Further, the share of the actual footfall in maximum possible footfalls at the site from the traffic on the highway is assumed to be same throughout the concession period.

- d) 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
Commercial Area (Retail)	1,200	INR per sq. ft.
Restaurant	2,000	INR per sq. ft.
Dormitory	800	INR per sq. ft.
Ground Parking	100	INR per sq. ft.

- e) 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
O&M Commercial Building		
O&M Expenses	5	INR/sft
O&M Escalation	15%	every three years
Dormitory		
O&M (Rooms, HR)	20%	of total receivables from Hotel
Restaurant		
Maintenance	5%	of Construction Cost
Operations	40%	of F&B Revenue

- f) 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
Commercial		
Retail	15*	INR/Sft
Dormitory	75*	INR/Bed/Day
Restaurant		
Snacks	10*	INR
Tea & Snacks	20*	INR
Meal	30*	INR
Escalation in Rentals	15%	every three years
Advertising Revenue	10%	of total revenue

*As per primary surveys done in the project vicinity

- g) Construction Cost and Schedule:** It has been assumed that the construction of all the developments will complete in one year.
- h) Debt Equity Ratio (DER):** A debt equity ratio of 70:30 has been considered.

- i) **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
- j) **Interest Rate:** The rate of interest for the analysis has been assumed as 13% per annum.
- k) **Debt Tenure & Repayment:** 10 years debt tenure, including a moratorium period of 2 years, has been considered excluding construction period.
- l) **Pre-Operative Charges and Contingencies:** Preliminary and pre-operative expenses @ 5% have been considered for all the developments.
- m) **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%	

- n) **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%

6.1.2 Mannaekhalli

- a) **Period of Analysis:** The period of analysis has been taken as 30 years inclusive of a 1 year construction and 29 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	8,092	sq.m
F.A.R	1.75	
Ground Coverage	50	%
No. of Floors	1	
Max BUA on Ground	4,046	sq.m
Max BUA	14,161	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) **Restaurant related assumptions:** For calculation of revenue from restaurant, the following assumptions have been taken.

Description	Value	Unit
Vehicular Growth rate		
Car	5*	%
Bus	3*	%
Vehicle to Footfall Conversion Factor		
Car	3	Persons/vehicle
Bus	13	Persons/vehicle

Description	Value	Unit
Average Daily Footfall		
Actual (in neighbouring restaurant @ 1-2 km from the site)	225	Persons/day
Adopted for the base year	169 [#]	Persons/day

**Growth rates have been adopted on the basis of previous traffic studies done by the consultant*

#The footfalls in the base year is assumed to be 75% of that in the existing restaurants in the vicinity of the site. This is based upon the observations made during primary surveys and interactions with customers.

The quality of service being provided in the existing restaurants, in the project vicinity, is low, as these are just small Dhabas. Therefore, the assumption of 75% of the footfalls at the existing restaurant in the base year is a conservative estimate. Further, it is assumed that the share of actual footfall in maximum possible footfalls due to vehicular traffic remains the same throughout the concession period.

d) 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
Commercial Area (Retail)	1,200	INR per sq. ft.
Restaurant	2,000	INR per sq. ft.
Dormitory	800	INR per sq. ft.
Ground Parking	100	INR per sq. ft.

e) 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
O&M Commercial Building		
O&M Expenses	5	INR/sft
O&M Escalation	15%	every three years
Dormitory		
O&M (Rooms, HR)	20%	of total receivables from Hotel
Restaurant		
Maintenance	5%	of Construction Cost
Operations	40%	of F&B Revenue

f) 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
Commercial		
Retail	25*	INR/Sft

Dormitory	75*	INR/Bed/Day
Restaurant		
Snacks	10*	INR
Tea & Snacks	20*	INR
Meal	30*	INR
Escalation in Rentals	15%	every three years
Advertising Revenue	10%	of total revenue

*As per primary surveys done in the project vicinity

- g) Construction Cost and Schedule:** It has been assumed that the construction of all the developments will complete in one year.
- h) Debt Equity Ratio (DER):** A debt equity ratio of 70:30 has been considered.
- i) 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
- j) Interest Rate:** The rate of interest for the analysis has been assumed as 13% per annum.
- k) Debt Tenure & Repayment:** 10 years debt tenure, including a moratorium period of 2 years, has been considered excluding construction period.
- l) Pre-Operative Charges and Contingencies:** Preliminary and pre-operative expenses @ 5% have been considered for all the developments.
- m) 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%	

- n) 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%

6.1.3 Hathigudur Cross

- a) Period of Analysis:** The period of analysis has been taken as 30 years inclusive of a 1 year construction and 29 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	4,208	sq.m
F.A.R	1.75	
Ground Coverage	50	%
No. of Floors	1	
Max BUA on Ground	2,104	sq.m
Max BUA	7,364	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) Restaurant related assumptions:** For calculation of revenue from restaurant, the following assumptions have been taken.

Description	Value	Unit
Vehicular Growth rate		
Car	5*	%
Bus	3*	%
Vehicle to Footfall Conversion Factor		
Car	3	Persons/vehicle
Bus	13	Persons/vehicle
Average Daily Footfall		
Actual (in neighbouring restaurant @ 3 km from the site)	150	Persons
Adopted for the base year	113#	Persons

*Growth rates have been adopted on the basis of previous traffic studies done by the consultant

#The base year footfall is assumed to be at 75% of that in the restaurants in the vicinity of the site. This is based upon the observations made during primary surveys and interactions with customers.

The level of service being provided in the existing restaurants, in the project vicinity, is low, as these are very small dhabas providing just tea and snack services. As the proposed midway plaza is expected to provide much better facilities, hence base year assumption of the footfalls being 75% of that at these *dhabas* is on a conservative side. Further, it is assumed that the share of the actual restaurant footfalls in the maximum possible footfalls due to vehicular traffic remains the same throughout the concession period.

- d) 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
Bus Shelters	50	INR per sq. ft.
Commercial Area (Retail)	1,200	INR per sq. ft.
Restaurant	2,000	INR per sq. ft.
Dormitory	800	INR per sq. ft.
Ground Parking	100	INR per sq. ft.

- e) 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
O&M Bus Terminal	3	INR/sqft/Month
O&M Commercial Building		

O&M Expenses	5	INR/sqft/Month
O&M Escalation	15%	every three years
Dormitory		
O&M (Rooms, HR)	20%	of total receivables from Hotel
Restaurant		
Maintenance	5%	of Construction Cost
Operations	40%	of F&B Revenue

- f) **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
Commercial		
Retail	13*	INR/Sft
Dormitory	75*	INR/Bed/Day
Restaurant		
Snacks	10*	INR
Tea & Snacks	20*	INR
Meal	30*	INR
Escalation in Rentals	15%	every three years
Advertising Revenue	10%	of total revenue

*As per primary surveys done in the project vicinity

- g) **Construction Cost and Schedule:** It has been assumed that the construction of all the developments will complete in one year.
- h) **Debt Equity Ratio (DER):** A debt equity ratio of 70:30 has been considered.
- i) **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
- j) **Interest Rate:** The rate of interest for the analysis has been assumed as 13% per annum.
- k) **Debt Tenure & Repayment:** 10 years debt tenure, including a moratorium period of 2 years, has been considered excluding construction period.
- l) **Pre-Operative Charges and Contingencies:** Preliminary and pre-operative expenses @ 5% have been considered for all the developments.
- m) **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%	

- n) **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 pays only the Lease Rental to the government. In this case, the Lease Rental will become the bid variable and the private player will quote in terms of the annual lease rental payable to the Authority.
2. When the private player pays an upfront amount plus the lease rental to the government. In this case, the Lease Rental shall be a fixed at a minimal amount and shall be kept so that the Developer can't claim ownership right in case of any dispute. The bid variable will be the Upfront Amount payable in pre-decided installments, as defined in the Bid Document.
3. When the private player pays an upfront amount, the lease rental and annual revenue share. In this case, the Lease Rental shall be a fixed at a minimal amount and shall be kept so that the Developer can't claim ownership right in case of any dispute. Further, an Upfront Amount shall also be fixed and payable as per the installments defined in the Bid Document. In this model, Revenue Share shall be the bid variable and the Bidder will quote the revenue share (in percentage terms of the Gross Revenue) that the Bidder intends to share with the Authority. In this particular model, the revenue risk is shared between the Developer and the Authority to the extent of the Revenue Share percentage. Both the upside / downside of the revenue is captured in this model. Further, an important point to note in this particular model is that the Authority will need to develop a strong mechanism to keep a check on the total annual gross revenues of the project.

It is to be noted that the values assumed/derived at for the bid variable components in each case is the recommended maximum reserve prices/percentages for the respective components. The government/bidders may want to consider lower quotes for the variable components in order to improve the project IRR and, consequently, project viability, wherever required.

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 2.

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

Neliyadi

Table 17: Detailed project cost for Neliyadi

Cost Component \ Construction Year	Year 1
Construction Cost of Commercial Built-Up Area (Retail+Restaurant+Dormitory)	0.58
Pre-operative Expenses	0.03
Parking	0.10
IDC	0.03
Upfront Payment	-
Landed Cost	0.74

Table 18: Key project financials for Neliyadi

Item	Only Lease Rental Paid by the Pvt Developer
Project Cost (INR Cr) including IDC and Upfront Payment	0.74
Equity (INR Cr) @ 30% of capital cost	0.22
Debt (INR Cr) @ 70% of capital cost	0.52
Project IRR (%)	13.8
Project NPV (INR Cr)	0.13
Equity IRR (%)	14.3
VFM (INR Cr)	0.53
Receivables to Govt	
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.02
<i>Upfront Payment (INR Cr)</i>	0.00
<i>Revenue Share (% of the Revenue)</i>	0.00
NPV of Receivables to Govt (INR Cr)	0.14

It can be seen that the project has a positive Project NPV along with relatively lower IRR values. Further, it has a minimum DSCR of less than 1, which means that it will have issues in retiring the debt taken for the project. It, therefore, is a borderline case and may have issues in attracting large private interest. The Value for Money for the government is positive; thus the project will create value for all stakeholders if it is awarded on PPP basis.

Mannaekhalli

Table 19: Detailed project cost for Mannaekhalli

Cost Component \ Construction Year	Year 1
Construction Cost of Commercial Built-Up Area (Retail+Restaurant+Dormitory)	0.70
Pre-operative Expenses	0.04
Parking	0.24
IDC	0.05
Upfront Payment	-
Landed Cost	1.02

Table 20: Key project financials for Mannaekhalli

Item	Only Lease Rental Paid by the Pvt Developer
Project Cost (INR Cr) including IDC and Upfront Payment	1.02
Equity (INR Cr) @ 30% of capital cost	0.31
Debt (INR Cr) @ 70% of capital cost	0.72
Project IRR (%)	13.5
Project NPV (INR Cr)	0.14
Equity IRR (%)	13.9
VFM (INR Cr)	0.70
Receivables to Govt	
Lease Rental (INR cr/Year @ INR 5 per sqft/year)	0.04
Upfront Payment (INR Cr)	0.00
Revenue Share (% of the Revenue)	0.00
NPV of Receivables to Govt (INR Cr)	0.29

It can be seen from the findings of the financial analysis that the site has a positive Project NPV. However, the minimum DSCR is less than 1, which means that the investor will have issues in retiring the debt taken for the project. Thus, despite a positive project NPV may have issues in attracting large private interest. The Value for Money for the government is positive; thus the project will create value for all stakeholders if it is awarded on PPP basis.

Hathigudur Cross

Table 21: Detailed project cost for Hathigudur Cross

Cost Component \ Construction Year	Year 1
Construction Cost of Bus Shelters	0.03
Construction Cost of Commercial Built-Up Area (Retail+Restaurant+Dormitory)	0.50
Pre-operative Expenses	0.03
Parking	0.15
IDC	0.02
Upfront Payment	-
Landed Cost	0.73

Table 22: Key project financials for Hathigudur Cross

Item	Only Lease Rental Paid by the Pvt Developer
Project Cost (INR Cr) including IDC and Upfront Payment	0.73
Equity (INR Cr) @ 30% of capital cost	0.22
Debt (INR Cr) @ 70% of capital cost	0.51
Project IRR (%)	11.1
Project NPV (INR Cr)	(0.08)
Equity IRR (%)	10.7
VFM (INR Cr)	0.44

Receivables to Govt	
<i>Lease Rental (INR cr/Year @ INR 5 per sqft/year)</i>	0.02
<i>Upfront Payment (INR Cr)</i>	0.00
<i>Revenue Share (% of the Revenue)</i>	0.00
NPV of Receivables to Govt (INR Cr)	0.15

The project is not viable due to low prevailing rentals in the vicinity.

It is to be noted that although three models for financial structuring have been considered, only the first case (Lease Rental as bid variable) has been discussed here. This is because for other two scenarios, all three sites were financially unviable, with negative Project NPV and extremely low IRRs.

6.2.1 Conclusions of the Financial Analysis

- Neliyadi: For Neliyadi, only the lease rental model has a positive NPV. As per the model, the NPV of receivables to the government is INR 0.14 Cr. The private player is expected to observe a Project IRR of 13.8% and a Project NPV of INR 0.13 Cr.
- Mannaekhalli: For Mannaekhalli, again, only the lease rental model has a positive NPV. As per the model, the NPV of receivables to the government is INR 0.29 Cr. The private player is expected to observe a Project IRR of 13.5% and a Project NPV of INR 0.14 Cr.
- Hathigudur Cross: The project site does not have positive NPV in any case. As per the model, the NPV of receivables to the government is INR 0.15 Cr. The private player is expected to observe a Project IRR of 11.1% and a Project NPV of INR (0.08) Cr, making it unviable.

Detailed cash flow tables for the projects are given in Annexure 3.

6.3 Sensitivity Analysis

Sensitivity analysis is done for the best case 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.

Neliyadi

- 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% increase in construction cost will result in a negative project NPV. Changes in project and equity IRR corresponding to changes in construction cost is given in the table below

Table 23: Sensitivity of Neliyadi Plaza Project returns to changes in Construction Cost

Change in Construction Cost	Post Tax NPV (INR Cr)	P IRR	E IRR
25%	-0.05	11.6%	11.4%
15%	0.02	12.4%	12.4%
10%	0.06	12.8%	13.0%
5%	0.10	13.3%	13.7%
0%	0.13	13.8%	14.3%
-5%	0.16	14.3%	15.1%
-10%	0.20	14.9%	15.9%
-15%	0.23	15.5%	16.9%
-25%	0.30	17.0%	19.1%

- b. **Changes in Operational Costs:** Compared to changes in construction costs, the project shows similar sensitivity to changes in operational costs. A 25% higher operational cost will lead to a negative 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 24: Sensitivity of the Neliyadi Plaza Project Returns to Changes in Opex

Change in Opex	Post Tax NPV (INR Cr)	P IRR	E IRR
25%	-0.1	11.1%	10.8%
15%	0.0	12.3%	12.3%
10%	0.0	12.7%	12.9%
5%	0.1	13.3%	13.7%
0%	0.1	13.8%	14.3%
-5%	0.2	14.3%	15.1%
-10%	0.2	14.7%	15.8%
-15%	0.2	15.3%	16.5%
-25%	0.3	16.2%	18.0%

- c. **Changes in Revenue:** Lower than forecasted revenues can impact the project viability substantially. A 15% lower revenue returns will result in a negative project NPV, thus making the project unviable. 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 project.

Table 25: Sensitivity of the Neliyadi Plaza Project Returns to Changes in Revenue

Change in Revenue	Post Tax NPV (INR Cr)	P IRR	E IRR
25%	0.5	18.1%	21.0%
15%	0.4	16.4%	18.4%
10%	0.3	15.6%	17.0%
5%	0.2	14.8%	15.8%
0%	0.1	13.8%	14.3%
-5%	0.1	12.8%	13.0%
-10%	0.0	11.8%	11.7%
-15%	-0.1	10.7%	10.2%
-25%	-0.3	8.3%	7.3%

Mannaekhalli

- 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 15% increase in construction cost will result in a negative project NPV. Changes in project and equity IRR corresponding to changes in construction cost is given in the table below

Table 26: Sensitivity of Mannaekhalli Plaza Project returns to changes in Construction Cost

Construction Cost	Post Tax NPV (INR Cr)	P IRR	E IRR
25%	-0.11	11.3%	11.0%
15%	-0.01	12.1%	12.0%
10%	0.05	12.6%	12.7%
5%	0.09	12.9%	13.2%
0%	0.14	13.5%	13.9%
-5%	0.19	14.0%	14.7%
-10%	0.24	14.6%	15.5%
-15%	0.29	15.2%	16.5%
-25%	0.38	16.6%	18.5%

- b. **Changes in Operational Costs:** Compared to changes in construction costs, the project shows relatively lower sensitivity to changes in operational costs. A 25% higher operational cost will lead to a negative 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 27: Sensitivity of the Mannaekhalli Plaza Project Returns to Changes in Opex

Change in Opex	Post Tax NPV	P IRR	E IRR
25%	-0.2	10.5%	10.0%
15%	0.0	11.8%	11.6%
10%	0.0	12.3%	12.4%
5%	0.1	13.0%	13.2%
0%	0.1	13.5%	13.9%
-5%	0.2	14.1%	14.8%
-10%	0.3	14.6%	15.5%
-15%	0.3	15.1%	16.3%
-25%	0.4	16.2%	18.0%

- c. **Changes in Revenue:** Lower than forecasted revenues can impact the project viability substantially. A 10% lower revenue returns will result in a negative project NPV, thus making the project unviable. 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 project.

Table 28: Sensitivity of the Mannaekhalli Plaza Project Returns to Changes in Revenue

Change in Revenue	Post Tax NPV (INR Cr)	P IRR	E IRR
25%	0.7	18.0%	20.9%
15%	0.5	16.3%	18.1%
10%	0.4	15.4%	16.7%
5%	0.2	14.4%	15.3%
0%	0.1	13.5%	13.9%
-5%	0.0	12.5%	12.6%
-10%	-0.1	11.4%	11.1%
-15%	-0.2	10.2%	9.6%
-25%	-0.4	7.6%	6.4%

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

8.1.1 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.

8.1.2 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 29: 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
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 social infrastructure in the form of midway plazas. These plazas will help to improve the available facilities, therefore, resulting in the benefit of the commuters.

2. No major displacement seen due to land acquisition:

This is mainly because the land, in all three cases, is already acquired. The table below summarizes the current status of land ownership for the project sites and corresponding acquisition, if any, required.

Table 30: Status of land ownership for project sites

S.No.	Site	Current Ownership of Land	Remarks
1	Neliyadi	Karnataka State Transport Corporation (KSRTC)	Land already acquired
2	Mannaekhalli	North East Karnataka Road Transport Corporation (NEKRTC)	
3	Hathigudur Cross	North East Karnataka Road Transport Corporation (NEKRTC)	

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.

3. Externalities like impact on traffic flow

All the three sites already have operational bus terminals in their immediate vicinity. The upcoming facilities will be designed so as to provide sufficient circulation and parking space for any vehicular traffic that will associate with it. Therefore, it is unlikely that the upcoming Midway Plazas will result in any negative impact on the traffic flow in respective areas.

9 OPERATING FRAMEWORK

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:

9.1.1 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.

9.1.2 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.

9.1.3 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 Concessions Authority at the end of the same.

Further, as previously discussed, the Concessions Authority 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. Lease rental is the bid variable here.
- **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/concessions 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 fixed 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/concessions authority and follows it with either Quarterly/Annual recurring Payment. In addition, the developer also shares a fixed percentage of the revenue with the authority. The bid variable in this case is the Revenue Share.

In this 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.

As already discussed previously, all the three project sites have a positive Project NPV in the base case (Lease Rental as bid variable) only. Therefore, financials for the remaining two models have not been discussed.

9.2.1 Project Structure

The projects are proposed to be structured as under:

Table 31: 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 Concessioning Authority. • The private sector player recovers its investments over a period of time from revenues from property development created under the project as well as revenue generated through operation of restaurant and any other applicable sources.
Concession Period	30 years
Payment to Concessioning Authority	Lease Rental only
Role of Concessioning Authority	<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 developer • Provision of adequate rights to the developer for collection of user charges, parking fees and rentals from property development.
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

Tender documents will be prepared for selection of Transaction Advisors which would include the following:

- Detailed Scope of Work including deliverables and timelines for submission.
- Outlining the minimum eligibility criteria, which the bidders would necessarily have to meet before their bids are evaluated in detail.
- Description of 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
 - Progress Reporting Mechanism
 - 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.

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.

10.2 Key Recommendations

- For Neliyadi and Mannaekhalli, the projects are viable only in the base case (Lease rental as bid variable) while in the case of Hathigudur Cross, the project is unviable in all cases.
- For Neliyadi, the private player is expected to observe a Project IRR of 13.8% and a Project NPV of INR 0.13 Cr. This is a borderline project and may have difficulties in attracting substantial private sector interest.

As per the model, the NPV of receivables to the government is INR 0.14 Cr. The recommend annual lease rental is INR 0.02 Cr.

- For Mannaekhalli, the private player is expected to observe a Project IRR of 13.5% and a Project NPV of INR 0.14 crore.

As per the model, the NPV of receivables to the government is INR 0.29 Cr. The recommend annual lease rental is INR 0.04 Cr.

- In cases where the projects are borderline, the government may consider relaxations in FAR and commercial permissibility norms, in order to make them more attractive for private players.

11 ANNEXURE

11.1 Annexure 1: Site Assessment Data

Location: Neliyadi

Date: 27 – 03 - 2012

Interviewed Person: 1) Mr. Nagarajiah (AEE, KSRTC); 0776099984

Project Idea: Midway Plaza

Area: 1 Acres (including Bus stand)

Plot Location: the proposed site is the existing Neliyadi bus stand, located along the Bangalore – Mangalore highway (NH 48).



Potential: High

Abstract:

- Already KSRTC buses and travelers stop for food
- Dharmasthala is 42 Km away from Uppanaagadi and 30 Km from Nellyyadi; both places are the nearest towns before reaching the tourist place
- Even though Dharmasthala is very nearby, there are only few hotels and restaurants
- It is 2.5 hours from Mangalore and 2.5 hours from Shakleshpur and is an ideal location for pit stop for buses

About the plot: Rectangular plot with no encroachment and the land is with KSRTC. Neliyadi is a small town situated in the village talluk of Puttur in Dakshin Kannada district.

Surrounding Area:

- One canteen within the bus stand
- Commercial shops and restaurants along the Bangalore-Mangalore highway

Rentals:

- Commercial shop size (5x3 m) within bus stand
 - Shop 1 = Rs 1100 / month
 - Shop 2 = Not operational
 - Maintenance is done by themselves – 20-25% of the cost
- Restaurant (10x12m); within the bus stand
 - Rental – Rs. 1800 / month
 - 5 year contract with KSRTC
 - 10% escalation every year
 - Footfall – 100 persons / day
- Commercial shops (town area) – Rs. 10 – 12 / sq.ft / month

Bus operational data

- Volvo – 24 buses
- Red bus – 80 buses
- Rajahamsa – 20 buses
- Volvo buses does not have stoppage at Neliyadi, they stop at Uppanangadi which is 20 Km away from the project site
- Other buses stop for tea and snacks for 15 to 20 min

Land price:

- As per JEE – Rs 500-750 / sq.ft

Traffic on the state highways:

- Data is available (road dept. report)

Location: Manna-ek-halli (Bidar)

Date: 06 – 03 - 2012

Interviewed Person: 1) Mr. Divakar Errugappa (AEE, NWKRTC); 07760992203

2) Mr. Ayub Khan (in charge of Planning section & electrical, Bidar division)

Project Idea: Midway Plaza

Area: 2 Acres (including Bus stand)

Plot Location: the proposed site is the existing Mannaekhalli bus stand, located on the NH 9 near to the Mannaekhalli town.



Potential: High

Abstract:

- The plot is located along the Mumbai – Hyderabad highway (NH 9) and is a major bus stop for both public and private buses moving towards Bidar and Gulbarga.
- Many petty shops are present on almost all the sides of the existing bus stand. All the shops are illegal at present.
- A new bus stand is under construction besides the existing bus stand and the surroundings building are just one floor commercial shops.
- The surrounding area is congested because of the presence of private buses being parked outside bus stand and also due to presence of shops (for juices, condiments, food stalls etc.)
- As per AEE, Divakar, space for canteen / restaurant is already proposed with the new bus stand and can be replaced to a waiting hall for long haul buses if midway plaza is developed inside the plot.

About the plot: Rectangular plot with encroachment by petty shops for stationeries, juice shops etc (in-front and sides of the bus stand). At present the land is with NEKRTC and new bus stand is under construction. New plan / design of bus stand have been adopted by NEKRTC in such a way that the encroachment would be minimized by planning / proposing building on all three sides.

Surrounding Area:

- Restaurants (opposite & sides)
- Small shops on all three sides of the bus stand
- New bus stand under construction
- Bus stop for private buses
- Town area is just 1 Km from the bus stand

Rentals:

- Commercial shops size (10x10 ft)
 - Shop 1 (cement shop) = Rs 3000 / month
 - Shop 2 (juice shop) = Rs 25,000 / year
 - Shop 3 (shoe shop) = Rs 3000 / month
 - Shop 4 (stationary shop) = Rs. 2500 / month
 - Maintenance is done by themselves – 20-25% of the cost
- Restaurant (12x7m)
 - Rental – Rs. 13000 / month
 - Footfall – 200-250 persons / day

Land price:

- Circle rate – Rs. 90,000-1 lakhs / acre
- From a recent private transaction – Rs. 1 Cr. for 60x40 m plot along the NH 9
- As per AEE – Rs 1000 / sq.ft

Potential developments

- Restaurants
- Shops – Condiments, juice shops, stationary shops

Site Plan:

- Collected from Mr Divakar (in AutoCAD format)

Bus Operational Data:

- NEKRTC
 - Total schedules – 160 arrivals and 160 departures
 - Bus schedules is provided in hard copy
- Private buses (operating from outside NEKRTC bus stand)

- Total buses – 26 buses
- 3 trips per day
- Total – 78 trips / day

Location: Hathigudur Cross

Date: 07 – 03 - 2012

Interviewed Person: 1) Mr. Manoj Joshi (JEE, NWKRTC); 09886418623

Project Idea: Midway Plaza

Area: 1 Acres (including Bus stand)

Plot Location: the proposed site is the existing Hathigudur Cross bus stand, located along the SH 19 & SH 16.



Potential: High

Abstract:

- The plot is located at the intersection of Shapur - Raichur state highway (SH 19) and Yadgir – Surpur state highway (SH 16). The proposed site is located at a major intersection. Buses towards north-south direction and west to Hyderabad (inter-state buses) stops at this bus stand.

- From Gulbarga to Raichur, there are no proper eating place on the highway (only small dabas are present)
- It has been proposed to demolish the existing bus stand build a new one.
- Few Many petty shops are present in front of the bus stand mostly of food and juice stalls (not permanent structures)

About the plot: Rectangular plot with no encroachment and the land is with NEKRTC. Hathigudur is a small town / village mostly of agrarian nature. It is mainly of low rise low dense developments with residential and agriculture plots. There are few shops opposite of the bus stand which basically for cement shops and fertilizer shops.

Surrounding Area:

- Small Restaurants - tea stalls (opposite & sides)
- Dhabas – 3 no.s; 2 km away at the intersection of Raichur road and Yadgir-Surpur road.
- Juice stalls and condiments stalls (not permanent structures) – opposite bus stand
- There is a small canteen at the bus stand
- Bus stop for private buses (no structure)

Rentals:

- Commercial shops size (5x3 m)
 - Shop 1 (cement shop) = Rs 2000 / month
 - Shop 2 (fertilizer shop) = Rs 1500 / month
 - Shop 3 (store) = Rs 1000 / month
 - Maintenance is done by themselves – 20-25% of the cost
- Restaurant (6x4m); within the bus stand
 - Rental – Rs. 1500 / month
 - Three year contract with NEKRTC
 - 10% escalation every year
 - Footfall – 100-150 persons / day
 - Serves only tea and tiffin
 - It is a three year contract because of the proposal for demolishing the existing bus stand and rebuilding a new one

Land price:

- As per JEE – Rs 500-750 / sq.ft

Potential developments

- Restaurants
- Shops – Condiments, juice shops, stationary shops

Site Plan:

- To be collected from Mr Manoj (will send to FISPL as fax)

Bus Operational Data:

- NEKRTC
 - From devdurg – 35 trips / day
 - Surpur – Hathigudur – 154 trips by red bus and 54 trips by local bus
 - Yadgir – Hathigudur – 49 trips
 - Gulbarga - Hathigudur – 88 red bus and 58 local bus
 - Others 20
 - Premium buses – 10-12 Volvo; 10 Rajahamsa; 5 sleeper coaches
- Private buses (operating from outside NEKRTC bus stand)
 - Total trips – 60 trips / day
 - Towards Gulbarga

Traffic on the state highways:

- Data is available (road dept. report)

11.2 Annexure 2: 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 Mannaekhalli (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
			4	5			
1	2	3	4	5	6	7	8
			Concessi onaire	Authority			
Constructi on Phase	Constructi on Cost Overrun	Cost overrun of 15%	100%	0%	-0.1	0.0	0.0
	Constructi on Time Overrun	Time overrun by 50% of the constructi on period (Loss of	100%	0%	-0.6	-0.4	0.0

		revenue of 6 quarters)					
Operation Phase	Revenue Risk (Due to traffic shortfall)	Decrease in Revenue by 20%	100%	0%	-0.1	0.0	0.0
	Opex risk	Increase in O&M Cost by 15%	100%	0%	-0.1	0.0	0.0
	Total					-0.4	0.0
VFM (INR Cr)	0.70						

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

11.3 Project Cashflow Statements

Neliyadi (Lease Rental only)

Concession Year	5	10	15	20	25	30
Inflows						
Equity	-	-	-	-	-	-
Debt	-	-	-	-	-	-
Total income	0.18	0.30	0.40	0.63	0.99	1.38
Total (A)	0.18	0.30	0.40	0.63	0.99	1.38
Outflows						
Capital Expenditure	-	-	-	-	-	-
Principle repayment	0.06	0.06	-	-	-	-
Interest repayment	0.05	0.01	-	-	-	-
Taxation	-	0.04	0.06	0.10	0.17	0.24
OPEX	0.10	0.15	0.21	0.30	0.45	0.63
Total (B)	0.22	0.27	0.27	0.41	0.63	0.87
Free Cashflow						
Opening Balance	(0.1)	(0.2)	0.2	1.1	2.4	4.5
Net Surplus/Deficit (A-B)	(0.0)	0.0	0.1	0.2	0.4	0.5
Closing Balance	(0.2)	(0.2)	0.4	1.3	2.8	5.0
Project IRR						
Capex	-	-	-	-	-	-
PBT	0.01	0.13	0.19	0.32	0.53	0.74
Depreciation	0.00	0.00	0.00	0.00	0.00	0.00
Interest	0.05	0.01	-	-	-	-
tax	-	0.04	0.06	0.10	0.17	0.24
Pre Tax Project Cash Flow	0.07	0.14	0.19	0.32	0.53	0.75
Post tax project Cash flow	0.07	0.11	0.13	0.22	0.36	0.51
Equity IRR						
Equity	-	-	-	-	-	-
Profit after tax (PAT)	0.01	0.09	0.13	0.22	0.36	0.50
Book Depreciation	0.00	0.00	0.00	0.00	0.00	0.00
Principle repayment	0.06	0.06	-	-	-	-
Equity Cash flow	(0.05)	0.03	0.13	0.22	0.36	0.51

Mannaekhalli (Lease Rental only)

Concession Year	5	10	15	20	25	30
Inflows						
Equity	-	-	-	-	-	-
Debt	-	-	-	-	-	-
Total income	0.26	0.43	0.58	0.89	1.38	1.89
Total (A)	0.26	0.43	0.58	0.89	1.38	1.89
Outflows						
Capital Expenditure	-	-	-	-	-	-
Principle repayment	0.09	0.09	-	-	-	-
Interest repayment	0.08	0.02	0.00	0.00	0.00	0.00
Taxation	-	0.06	0.08	0.14	0.23	0.32
OPEX	0.16	0.24	0.31	0.45	0.67	0.91
Total (B)	0.33	0.40	0.40	0.59	0.90	1.23
Free Cashflow						
Opening Balance	(0.1)	(0.3)	0.3	1.4	3.2	6.0
Net Surplus/Deficit (A-B)	(0.1)	0.0	0.2	0.3	0.5	0.7
Closing Balance	(0.2)	(0.2)	0.5	1.7	3.7	6.6
Project IRR						
Capex	-	-	-	-	-	-
PBT	0.02	0.17	0.26	0.43	0.71	0.98
Depreciation	0.00	0.00	0.00	0.00	0.00	0.00
Interest	0.08	0.02	0.00	0.00	0.00	0.00
tax	-	0.06	0.08	0.14	0.23	0.32
Pre Tax Project Cash Flow	0.10	0.20	0.26	0.43	0.72	0.99
Post tax project Cash flow	0.10	0.14	0.18	0.29	0.48	0.67
Equity IRR						
Equity	-	-	-	-	-	-
Profit after tax (PAT)	0.02	0.12	0.17	0.29	0.48	0.66
Book Depreciation	0.00	0.00	0.00	0.00	0.00	0.00
Principle repayment	0.09	0.09	-	-	-	-
Equity Cash flow	(0.07)	0.03	0.18	0.29	0.48	0.67

Hathigudur Cross (Lease Rental only)

Concession Year	5	10	15	20	25	30
Inflows						
Equity	-	-	-	-	-	-
Debt	-	-	-	-	-	-
Total income	0.18	0.29	0.37	0.54	0.81	1.06
Total (A)	0.18	0.29	0.37	0.54	0.81	1.06
Outflows						
Capital Expenditure	-	-	-	-	-	-
Principle repayment	0.06	0.06	-	-	-	-
Interest repayment	0.05	0.01	-	-	-	-
Taxation	-	0.03	0.04	0.07	0.12	0.15
OPEX	0.13	0.18	0.23	0.32	0.45	0.59
Total (B)	0.25	0.28	0.27	0.39	0.56	0.74
Free Cashflow						
Opening Balance	(0.2)	(0.3)	(0.0)	0.6	1.5	2.9
Net Surplus/Deficit (A-B)	(0.1)	0.0	0.1	0.2	0.2	0.3
Closing Balance	(0.2)	(0.3)	0.1	0.8	1.7	3.2
Project IRR						
Capex	-	-	-	-	-	-
PBT	(0.01)	0.09	0.13	0.22	0.36	0.47
Depreciation	0.01	0.01	0.01	0.01	0.01	0.01
Interest	0.05	0.01	-	-	-	-
tax	-	0.03	0.04	0.07	0.12	0.15
Pre Tax Project Cash Flow	0.05	0.11	0.14	0.22	0.36	0.47
Post tax project Cash flow	0.05	0.08	0.10	0.15	0.25	0.32
Equity IRR						
Equity	-	-	-	-	-	-
Profit after tax (PAT)	(0.01)	0.06	0.09	0.15	0.24	0.31
Book Depreciation	0.01	0.01	0.01	0.01	0.01	0.01
Principle repayment	0.06	0.06	-	-	-	-
Equity Cash flow	(0.07)	0.00	0.10	0.15	0.25	0.32