

Multi-Level Parking Facility at Brindavan Gardens

Final Pre-Feasibility Report

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Limited**

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1. INTRODUCTION

1.1. Mysore

Mysore is the second biggest City in the State of Karnataka. It lies 130 kms from the State Headquarters, Bangalore. It is the erstwhile capital of the Mysore Maharajas, who ruled Mysore State from this royal city.

Known for its magnificent Palaces and Majestic buildings, sprawling gardens and tree lined boulevards, shimmering silks and sandalwood, the 'City Royale' always figures in the tourist's itinerary. It conjures up visions and memories of the resplendent glory of the illustrious Wodeyar Kings. This former state capital is a seamless blend of old-world charm and modernity. It retains its tradition in music and dance, art and literature. Mysore is the second biggest city in the state of Karnataka. It lies 130 km's from the State Headquarters, Bangalore.

It is the erstwhile capital of the Mysore Maharajas, who ruled Mysore State from this royal City. Mysore receives a good share of tourists because of its cultural heritage. The maximum influx of tourists is during the Dasara festival. Some of the well-known palaces in Mysore are the Ambavilas Palace (also known as Mysore Palace), Jaganmohana Palace, Rajendra Vilas, Jayalakshmi Vilas and Lalitha Mahal which have been constructed by the Wodeyars. Another popular tourist destination is the Chamundi Hill which has a Hindu temple of Goddess Chamundeshwari at its top. Other religious locations in Mysore include the Ganapathi Sachidananda Ashram and the St. Philomena's Church. The Krishna Raja Sagara dam across the river Cauvery and the adjoining Brindavan Gardens are places which receive a lot of tourists.



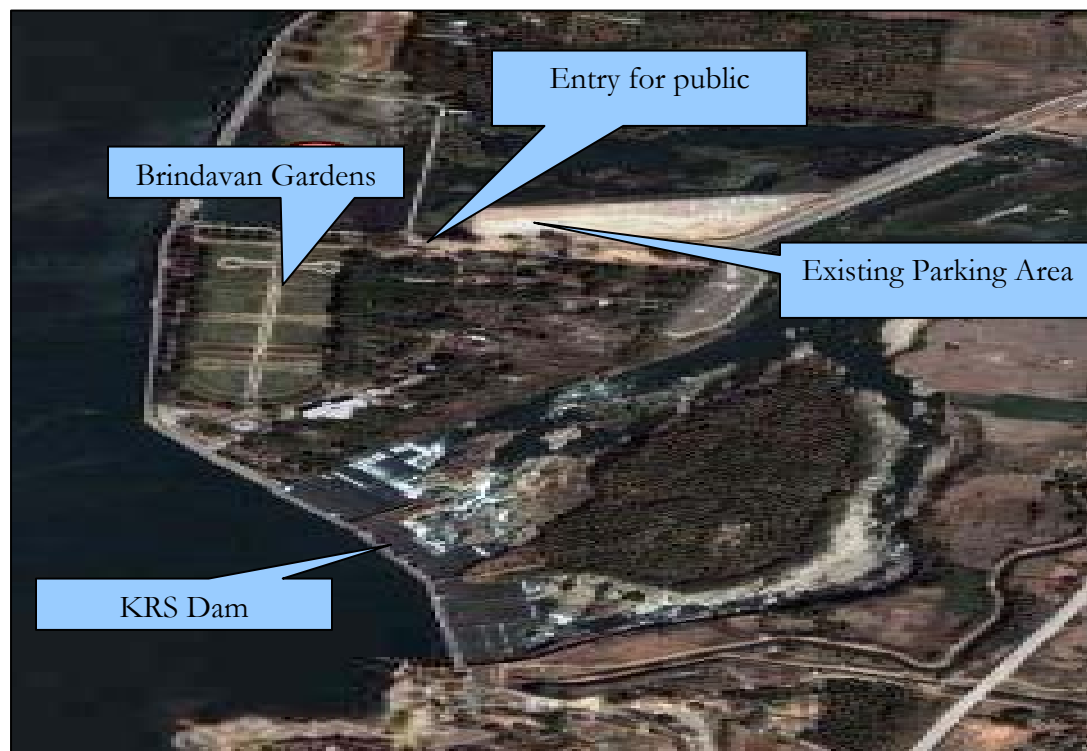
Night View of Mysore Palace

Considering the proximity of Mysore and the Brindavan Gardens, many of the tourists who visit Mysore also visit the Brindavan Gardens and vice versa.

1.2. Brindavan Gardens

The Brindavan Gardens is a garden located in the district of Mandya in Karnataka. It lies adjoining the Krishnarajasagara (KRS) dam which is built across the river Cauvery. Visited by over a million tourists per year, the garden is one of the major attractions near the city of Mysore.

The KRS dam was constructed under the guidance of Sir Mirza Ismail, the Dewan (chief financial officer) of Mysore. As a part of beautification of the dam site, Sir Mirza Ismail conceived a plan of developing a garden in Mughal style with a design similar to that of Shalimar Gardens in Kashmir. The work on this garden was started in 1927. It was constructed in a terraced fashion and named Krishnarajendra Terrace Garden. The main architect for the park was G.H. Krumbigal, then Superintendent of Parks and Gardens of the Mysore Government.



Aerial view of KRS Dam and Brindavan Gardens

The garden is maintained by the Cauvery Niravari Nigama (CNNL), a Government of Karnataka (GoK) enterprise. It is spread across an area of 60 acres (240,000 sq.m). Adjoining it is also a fruit orchard spread across 75 acres (300,000 sq.m) and 2 horticultural farms, Nagavana (30 acres) and Chandravana (5 acres). The garden is

laid out in 3 terraces which contain water fountains, Ficus trees, foliage plants such as *Duranta plumaria* and *Euphorbia* and flowering plants like *Celosia*, Marigold and *bougainvillea*. The garden is open to general public and an entry-fee is charged. The garden also has topiary works (sculptures of animals created by clipping shrubs), pergolas (shaded passageway covered by creepers) and gazebos. The main attraction of the park is the musical fountain in which bursts of water are synchronized to the music of songs. There is also a lake within the garden with boating facilities available for visitors.

The garden was renovated in 2005 with a cost of Rs. 5 crore. The renovation included sprucing up the musical fountain using a digitized system and repairs of dysfunctional fountains.

In 2007, a private company was appointed for collection of parking and entry fee at the Brindavan Gardens for a period of one year.

2. TOURISM SCENARIO

2.1. Tourism in Mysore

At a time when recession has affected the economy the latest statistics pertaining to tourism in Mysore comes as a study in contrast. The tourism sector in Mysore has bucked the recessionary trend fuelled by domestic travelers. There has been a 25 % increase in the number of tourists visiting the city during 2008 when compared to the previous year.

The figures are a broad estimate based on the actual number of tickets sold for entry to the Mysore Palace which gives a fair indication of the number of tourists visiting the city. The reasoning being the tourists may give other ticketed entry monuments such as the zoo or the Krishnarajasagar dam a miss.

Going by the sale of tickets, there were 25.70 lakh visitors to the Amba Vilas Palace between January and December 2008 as against 21.53 lakh tourists who visited the palace during the corresponding period in 2007.

The year 2006 saw a boom in the number of tourists visiting Mysore and there were 25.25 lakh visitors to the palace alone. But the 2008 figures surpasses the year 2006 figures of the number of tourists to the city by nearly 45,000 while Mysore, for the first time, crossed the two million mark in 2005 with the arrival of 20,62,994 tourists.

2.2. Tourists to Brindavan Gardens

The number of tourists to Brindavan Gardens currently stands at 1.5 million per year. The spread of visitors is as provided in the table below:

Particulars	Peak Season-per day	Week ends per day	Week days
No of visitors	12000	4000	2000

The peak season is the month of October which is also the month in which Dasara festival is celebrated. Incidentally, most of the tourist to Mysore also occurs in the month of October where visitors travel to witness the Dasara festival celebrations.

2.3. Parking at Brindavan Gardens

The vehicular traffic at the Brindavan Gardens is as provided in the table below:

Particulars	Peak Season-per day	Week ends per day	Week days
No of vehicles	2400	800 + 800	400

The above figures of the number of vehicles are inclusive of all kinds of vehicles such as buses, cars, two-wheelers etc. The break-up of the vehicles using the parking area will need to be sourced from the respective authority or company handling the parking area.

The parking area at Brindavan Gardens is indicated in the figure below:



Currently, an open area is used for parking purposes. The exact extent of the land is yet to be ascertained from the authority under whose purview the parking area falls viz. CNNL.

2.4. Project Idea

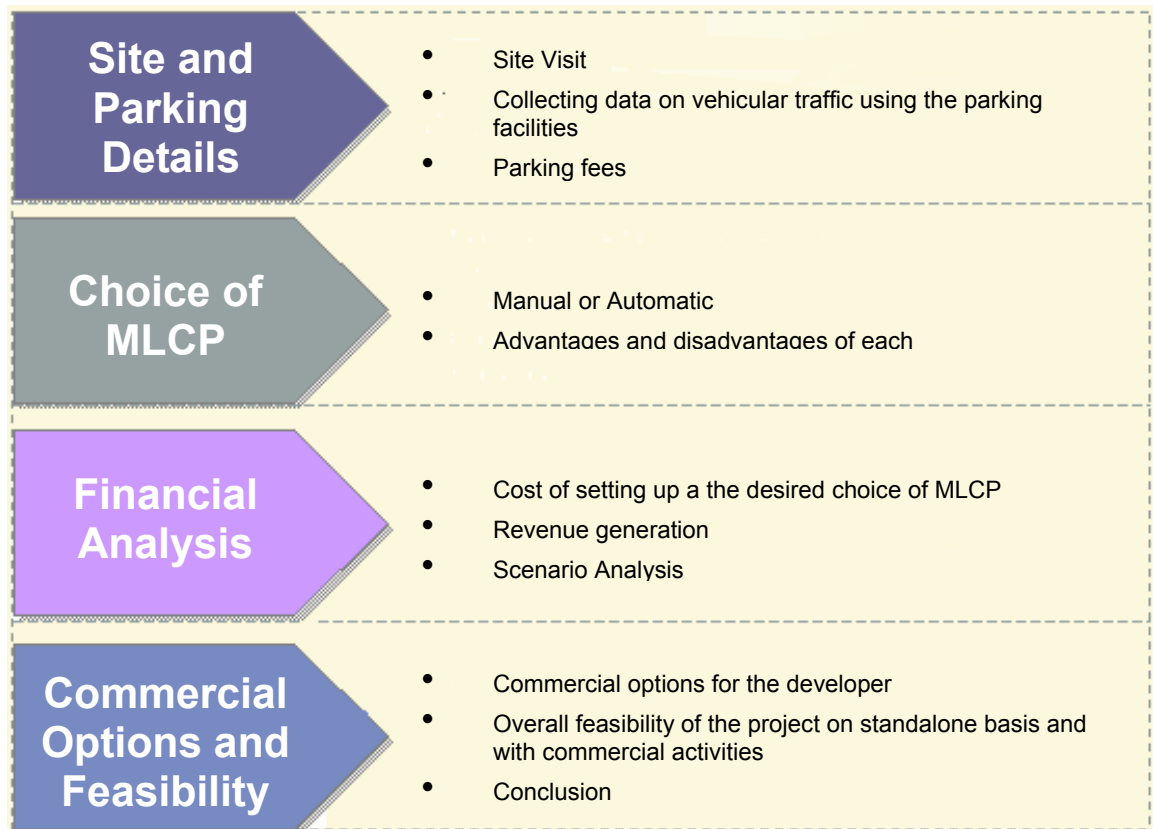
Brindavan gardens and the KRS dam receive over a million tourists a year and the number is growing at a steady rate of 5% every year. The vehicular traffic, however, is growing at a much higher rate of 20-25% year on year. The reason for this could be because of the general economic growth wherein more and more families are traveling in their own cars instead of traveling in a bus or a mini-bus.

Keeping the traffic growth in mind and the requirement for better facilities at the existing parking area, a feasibility study was desired to be carried out for developing a multi-level parking facility for all the vehicles that currently use the parking facility.

The facilities envisaged to be provided for passengers are eateries, toilets, etc.

2.5. Approach and Methodology

The approach adopted for undertaking the pre-feasibility study is as given in the figure below:



The methodology that will be adopted for undertaking the pre-feasibility study is as follows:

❖ **Desk Review-Secondary Research**

Data on tourists' profile, categories of vehicle entry, parking fees charged, connectivity to the site etc. have been collected and analyzed.

❖ **Site Visits**

Site visits to the project areas has been undertaken to:

- Study the site in terms of location, distance, access and connectivity
- Surrounding land use and scope of future land development patterns
- To obtain secondary data from the officials concerned.

❖ **Identification of key issues for project development**

Through secondary data analysis and discussions with officials the key issues for development of the MLCP has been identified.

❖ **Review of statutory and legal framework**

The various legislations/ Acts and Rules governing development of an MLCP in the desired site would be reviewed.

❖ **Preliminary Financial Feasibility**

A preliminary financial feasibility has been undertaken to assess the development potential of the site. The financial feasibility analysis consists of:

- Cost Estimation
- Revenue Streams
- Viability Assessment
- Scenario Analysis

❖ **Project structuring**

Based on the preliminary financial feasibility analysis the type of PPP frameworks best suited for development has been discussed. For the suitable PPP option, the risk analysis and mitigation measures would be studied. Indicative qualification and selection criteria for the private developer would be set out.

3. PROJECT CONCEPT

3.1. Project Concept

There has been a manifold increase in the number of tourists visiting Mysore and the places around in 2008, notwithstanding the economic slowdown in the country. The number of tourists increased by 25% in the January- December 2008 compared to the same period in 2007.

Brindavan Gardens is no exception to above mentioned facts. The number of tourists is increasing at the rate of 25% every year, while the number of vehicular traffic at Brindavan Gardens has been increasing at 5% every year. Currently, all the parking areas for the Brindavan Gardens are completely occupied during the peak season. This causes all the other vehicles to park on the road side or wherever they find the space.

In order to reduce the impact of the growing number of tourists and vehicles to Brindavan Gardens, it was thought that an organized parking area should be provided without the need to expand horizontally on the ground.

While land availability is a critical component to providing more parking space, the lack of it may cause unprecedented congestion in and around the Brindavan Gardens. Therefore, it was suggested that a **multi-level parking facility** be provided at Brindavan Gardens so that the existing area is utilized in a better and more efficient manner for cars and buses along with passenger amenities (“the Project”).

The project is to be carried out under a Public Private Partnership framework on Design, Built, Operate and Transfer (DBOT) basis.

3.2. Description of the Project

A pre-feasibility study was required to be carried out to develop a multi-level parking facility for cars and buses and also providing for passenger amenities.

3.3. Components of the Project

- ❖ Parking Facility for Cars
- ❖ Parking Facility for Mini-buses
- ❖ Parking Facility for Buses
- ❖ Amenities for passengers

The developer may also utilize the facility for additional revenue generating components such as advertisement etc.

4. SECTOR PROFILE

4.1. Need for Multi-Parking Facility

Car sales, close to 8 lakh units a year, are growing at an average rate of 10 per cent while two-wheeler sales at 5 million are expected to grow 14-15 per cent. In order to accommodate the large volume of vehicles, cities and towns must develop their infrastructure - roads, flyovers, car parks and other facilities.

One solution for such a growth is multi-level car parking system to maximise car parking capacity by utilising vertical space, rather than expand horizontally.

However, with land in metros and 'A' grade cities becoming scarce and dearer, and plots getting smaller, conventional parking is proving infeasible. In cases where soil conditions rule out excavation for multiple basements, multiple RCC parking slabs or it is found that the ramp or car lifts take up much parking area that no increase in parking capacity is possible, mechanised car parking systems make creation of extra parking capacity feasible.

So far three types of mechanised car parking systems -- puzzle, tower and mini -- have been operating in India. In each of these, the car is always parked or retrieved at one level only, and the stationary vehicle is carried to different levels in steel pallets. The number of vehicles in metros is fast increasing. Mumbai has over 13 lakh vehicles, and up to 200 are added everyday. Many of the buildings in Mumbai are equipped with multi-level car parking system. Even towns like Chittorgarh and Jaipur are interested in multi-level car parking.

Many State governments and civic bodies, and some Central government departments are aware of these systems and are expected to give them push. Some civic bodies have liberalized bylaws to enable builders to maximize parking capacity in their projects. Some civic bodies have also floated BoT tenders inviting private investment in maximizing public parking capacity.

The demand for car parks is an integral part of a residential or commercial complex, rather than an independent commercial venture. It may take a long time before parking fees in India reach a level at which the investment in these systems and their maintenance cost can be recovered from parking fees alone. A multi-level car parking system will be a feasible in commercial layouts. It has to be clubbed with ad revenues or with some other alternatives like commercial activities so that the revenue keeps flowing to the owners who implement car parking systems.

4.2. Projects

❖ Delhi:

The Delhi Development Authority (DDA) has invited tenders for nine plots to build multi-level parking lots in the in New Delhi. These plots will be developed on a Public Private Partnership (PPP) basis. The parking lots, which will have anywhere between three to seven levels depending on size and location, will be built at community centres or district centres

The plots also include a commercial component. Those buying these plots can run restaurants, shops and other permitted commercial establishments. The development of these parking lots and the regulatory framework for the commercial complexes will be in keeping with the guidelines of the Masterplan 2021 for New Delhi.

The reserve price for these plots range between Rs 31.59 crore to Rs 365.68 crore

The first multi-level parking lot was developed by the DDA in 2006 at Nehru Place. The plot had provisions for 70 per cent parking and 30 per cent commercial space.

5. MULTI-LEVEL PARKING

5.1. Multi-level Parking Facility

For the purpose of providing better parking facilities to the visitors of Brindavan Gardens, it was proposed to study the feasibility of developing a multi-level parking facility (commonly known as Multi-level car park- MLCP) at the existing parking area of Brindavan Gardens.



In order to set up an MLCP at the existing site, there are numerous decision points which may eventually alter the feasibility of the project. Some of these points are discussed in this report. They will be further discussed in detail in the Feasibility Report.

5.2. Choice of MLCP

There are two kinds of MLCP technology available viz. automated and manual. These are briefly discussed below:

i. Automated MLCP



Automatic multi-storey car parks provide lower building cost per parking slot, as they typically requires less building volume and less ground area than a conventional facility with the same capacity. However, the cost of the mechanical equipment within the building that is needed to transport cars internally needs to be added to the lower building cost to determine the total costs. Other costs are usually lower too, for example there is no need for an energy intensive ventilating system, since cars are not driven inside and human cashiers or security personnel may not be needed.

Automated car parks rely on similar technology that is used for mechanical handling and document retrieval. The driver leaves the car in an entrance module. It is then transported to a parking slot by a robot trolley. For the driver, the process of parking is reduced to leaving the car inside an entrance module.

At peak periods a wait may be involved before entering or leaving. The wait is due to the fact that loading passengers and luggage occurs at the entrance and exit location rather than at the parked stall. This loading blocks the entrance or exit from being available to others.



Whether the retrieval of vehicles is faster in an automatic car park or a self park car park depends on the layout and number of exits.

ii. Manual MLCP

Manual MLCPs account for much higher building cost as compared to the automated MLCPs. Also, the cost of ventilating systems, security personnel etc. to be borne by the developer. In the case of manual MLCPs, the car is to be driven in and parked in available slots. Waiting period maybe limited to payments to the cashier as against loading and unloading of passengers as in automated system.



Although, the benefits may seem obvious between the automated and manual MLCPs, the pros and cons of each are significant and may help in deciding the technology to be implemented or the technology that may be feasible at the MLCP to be developed at Brindavan Gardens. These issues may be further discussed in the feasibility report.

5.3. Comparison- Automated Vs Manual Parking

Sl.No	Parameter	Automated	Manual
1.	Cost of setting up, cost per bay	High	Low
2.	Maintenance cost	High	Low
3.	Land Requirement	Low	High
4.	Wait Time	Low	High

The maintenance cost for an automated system is high as it will require power backup as well as fire extinguishing systems in place in case of power cuts or ignition due to the electrical systems which are constantly running.

Further, although wait time for an automated system may be zero, during loading and unloading of passengers and luggage, this could cause significant waiting for those in line as compared to a manual parking facility where the loading and unloading can take place at the bay.

5.4. Cost Comparison- Automated Vs Manual Parking

Sl.No	MLCP	Cost (Rs. Lakhs/bay)
1.	Automated	4.5-5.0*
2.	Manual	2.5-3.0

*DLF MLCP being developed in Delhi at a cost of approximately Rs. 35 crores for 800 cars.

5.5. Choice of Parking facility for Brindavan Gardens

The available land area at the proposed site for parking is 23,000 sq.m. Since automated parking facility would be ideal in case there is less land available. Therefore, a manual parking facility would suite the requirements of the Project. The feasibility, however, would be tested in the following sections.

6. CASE STUDIES

6.1. Royal Adelaide Hospital Park

The Royal Adelaide Hospital has one of the largest car parks in the Adelaide central business district.



Some of the features of the car park are listed below:

1. it is a manual MLCP
2. the structure can accommodate 1440 vehicles
3. covers an area of 32,000 sq.m
4. the entire structure was constructed in a period of 12 months
5. constructed with composite steel structures as against concrete
6. the composite steel option was \$1 million cheaper than the concrete alternative



6.2. Collie Street Car Park, Scotland

Another example of usage of steel structures instead of concrete for the car parks providing benefits in terms of faster erection schedule, lower construction costs, large spans providing column free parking areas etc.



Some of the features of this car park as listed below:

1. it is a manual MLCP
2. can accommodate 448 cars
3. built with composite steel structures
4. structure steel design achieves bright and friendly aesthetic
5. incorporated street level retail stores



6.3. Sambhaji Park, Pune

The first of its kind in India, it is a fully automated car parking facility providing parking space for 11 cars by utilizing ground space of only three cars.

There is also a proposal to develop a 20-storyed building to provide parking space for 80 cars by using ground space of only 4 cars. This, again, would also be fully automated.



6.4. Conclusion

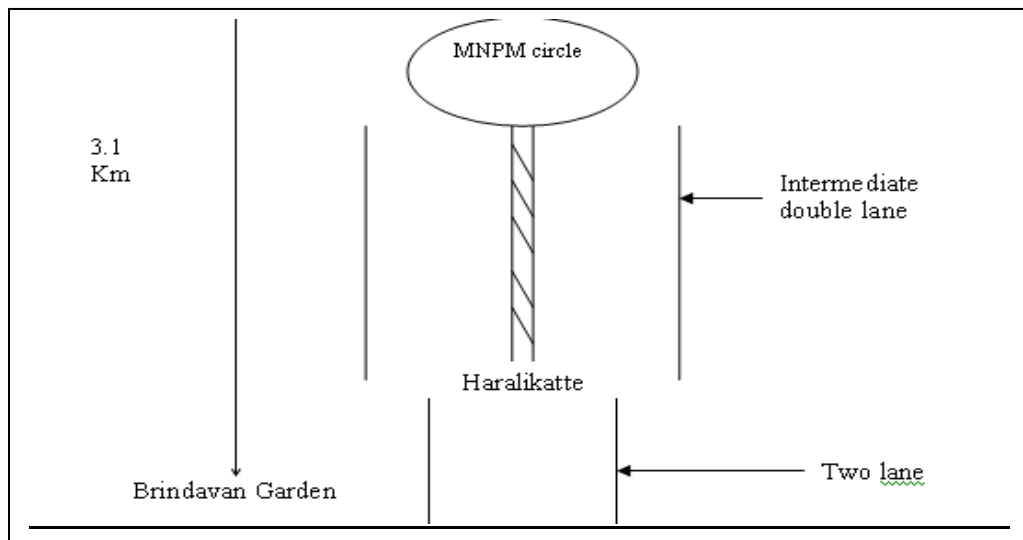
All the MLCPs considered for the case studies are not stand-alone facilities. They are all coupled with a commercial facility. A standalone MLCP will require a higher number of traffic per day to make it a financially viable venture compared to being coupled with a commercial complex.

The bare minimum requirements for a stand-alone MLCP to be financially viable is provided in the chapter on Financial Analysis.

7. SITE VISIT

7.1. Connectivity to the site

The only means of reaching the site is by road. The site is well connected by an approach road. The approach road is 3.1 km long from MNPM circle (“Mandya National Paper Mill”) up to the gardens is being developed. It is an intermediate lane with a 5.5 m carriage width until Haralikatte, from then on till the gardens it is a 7.5 m carriage width intermediate road. This road is the only means to reach the other side of Brindavan Gardens.



Approach road to the Brindavan Gardens

7.2. Parking Facilities at Brindavan Gardens

There is approximately 50,000 sq.m area available which is divided into many smaller sections as shown below. It is located in the beginning of approach road with an easy access.

Particulars	Dimension (sq m)	Capacity
Car park	23000	700
Bus parking on road	4000	80
Bus parking area	8000	150
Mini bus	2000	100
Bikes	2000	500
Autos	4000	250



Existing car parking area

The parking slot shown above is the one that is proposed for the development of MLCP. This is spread across a area of 23000 sqm and is located in the beginning of the approach road. At present this is used only for four wheeler parking and has a well planned entry and exit patterns but is restricted to only one level of parking.



Existing car parking area



Bus parking on the road



Bus parking area



Mini-bus parking area



2-wheeler parking area



Auto parking area

7.3. Land Use

The land surrounding the parking area has a water bed just 6 m below the surface- which is suitable for erecting any commercial complexes only if they are mounted on pillars extending under the rock below the water bed.

Since Brindavan Gardens have a huge flow of tourists, this is definitely a potential land for future developments. The land surrounding the garden is been occupied by private occupants which could be used later for the purpose of developing many commercial complexes, Heritage centers, water front amusement parks, theme parks etc.

8. SECONDARY RESEARCH

8.1. Tourists

The number of tourists visiting the Brindavan Gardens for the year January - December 2008 is as provided in the table below:

Period of Tourists	Off Season			Peak season- Oct, Nov , Dec		
	Week days	Saturdays	Sundays	Weekdays	Saturdays	Sundays
	4000	6000	7000	20000	30000	30000

From the above details it could be analyzed that the tourists visit is more during the months of October, November and December .Number of visitors during the off season is also appreciable. It Is noticed that the tourists visit during evening hours that is between 1600 hrs to 2100 hrs. After discussing with the officials , it was noticed that there was an increase in the tourists flow by 20 % to 25% in 2008-2009 compared to previous year.

8.2. Category of vehicles

The categories of the vehicles entering were identified to be as follows.

Vehicle	Off season			Peak season		
	Weekdays	Saturdays	Sundays	Weekdays	Saturdays	Sundays
Cars	200	400	450	1000	2000	3000
Two wheelers	150	100	100	500	800	800
Autos	100	100	50	500	500	500
Mini Buses	100	100	100	1000	1000	1000
Buses	150	150	200	1000	1700	1700

From the above details collected regarding the vehicle category it can be noticed that the number of cars are maximum which needs to be provided with suitable parking facility. The buses have couple of parking areas allotted which is sufficient according to the officials posted there in Brindavan gardens. The number of vehicles being parked has shown an increase of 5%.

8.3. Parking fees

The parking fees are charged as per the details provided below.

Particulars	Parking Fee
Auto rickshaw and two-wheelers	5
Four-wheelers	10
Mini Buses	20
Buses	25

Since the approach road where the parking fees is collected is the only means of reaching the other side of Brindavan gardens the toll is also collected at the same counter at present. The parking fees was fixed in the year 2002 which continues to be the same till today, there has been no changes. From the above details it could be analyzed that the four wheelers such as car, jeep van Tata Sumo, Toyota Qualis are the major revenue generators, due to the fact that they are more in numbers.

9. KEY ISSUES

There are certain key issues that are to be considered for the development of the parking facility in Brindavan gardens. They are as follows:

1. Parking Fees

The parking fees currently charged has been unchanged since 2002. Therefore, certain intervention may be required to hike the parking fess to commensurate the cost of construction of the parking facility and providing passenger amenities.

2. Other benefits available for the developer for commercial activities

At present the area surrounding Brindavan gardens is free from any commercial activities. The nearest shopping set up is at least 15km away from the approach road. There could be scope for setting up a commercial complex in the vicinity later which would be beneficial to the developer and the general public too. The developer can also include some units for shopping complex in the same building as the parking facility.

10. STATUTORY AND LEGAL FRAMEWORK

10.1. Legislative Framework

The statutory and legal framework guiding the development of a multilevel parking facility for the tourists visiting Brindavan Gardens are divided as follows:

- ❖ State Legislations,
- ❖ Central Legislations, and
- ❖ Policies and Guidelines.

The Acts and Rules under the State and Central Legislations are provided below:

State Legislations		Central Legislations	
Acts	Rules	Acts	Rules
1. Karnataka Municipal Corporations Act, 1976.	1. Karnataka Motor Vehicle Rules.	1. Motor Vehicles Act, 1988	1. The Noise Pollution (Regulation and Control) Rules, 2000.
2. The Karnataka Traffic Control Act, 1960.		2. Environment (Protection) Act, 1986.	
3. The Motor Vehicles (Karnataka Amendment) Act, 1996.			

The Policies and Guidelines applicable to the project are:

- ❖ Karnataka Infrastructure Policy, and
- ❖ Karnataka Tourism Policy.

10.2. Regulatory Framework for Public Private Partnership

10.2.1. Karnataka Town and Country Planning Act, 1961

The objective of this Act is to regulate planned growth of land use and development by preventing unequal and chaotic growth of towns and cities in Karnataka. The Act gives power to the state government to declare any area to be a local planning Area through notification and may constitute a planning authority for such area. The Planning Authority so notified shall be responsible for the implementations of Act within such declared local planning areas. Such Authority shall initially be responsible for providing the Master Plan outlining the development and improvement plan for the entire local planning area. The Planning Authority may formulate one or more town planning scheme in order to implement such Master Plan. The Act confers ample power in the hands of Town Planning Authority for the purpose execution of Master Plan.

10.2.2. Preparation of Master Plan and its contents

Master Plan shall consist of maps and documents indicating the manner in which the development and improvement of planning area to be carried out and regulated.

Master Plan shall generally include the following details

- a. Zoning of land use for residential, commercial, educational, recreational and other purpose;
- b. Complete street pattern, indicating major and minor road, National Highway and State Highway for immediate and further requirements with improvement proposals;
- c. Areas reserved for parks, playgrounds and other recreational uses and area reserved for new civic developments;
- d. Areas earmarked for future development and expansion;
- e. Reservation of land for the purpose of Central Government, State Government, Planning Authority and any other Authority established by law for acquisition of land for Public Purpose, in the manner provided under this Act;
- f. Declaring certain areas, as special control area and development in such areas being subjected to such regulation in regard to Building line, Floor Area Ratio (FAR), Architectural Structures and such other particulars as may be prescribed;
- g. Stages by which the plan is to be carried out.

10.2.3. Power to make town planning scheme

Section 26 of the Act authorizes the Planning Authority to formulate one or more town planning scheme in order to implement Master Plan. Such schemes formulated by the Planning Authority may make provision including provision for;

- a. laying out or re-laying out of land, either vacant or already built upon;

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- b. the filling up or reclamation of low-lying, swamp or unhealthy areas or levelling up of land;
- c. lay-out of new streets or roads; construction, diversion, extension, alteration, improvement and stopping up of streets, roads and communications;
- d. the construction, alteration and removal of buildings, bridges and other structures;
- e. the allotment or reservation of land for roads, open spaces, gardens, recreation grounds, schools, markets, green belts and dairies, transport facilities and public purposes of all kinds;
- f. drainage inclusive of sewerage, surface or sub-soil drainage and sewage disposal;
- g. lighting and water supply;
- h. the preservation of objects of historical or national interest or natural beauty and of buildings actually used for religious purposes;
- i. the suspension, so far as may be necessary for the proper carrying out of the scheme, of any rule, bye-law, regulation, notification or order, made or issued under any Act of the State Legislature or any of the Acts which the State Legislature is competent to amend;

10.2.4. Power to make Agreements

Section 66 of the Act empowers the Planning Authority to enter an agreement with any person in respect of any matter relating to implementation of town planning scheme. This Section thus, provides scope for seeking private sector participation in implementation of the town planning scheme by making suitable agreement in this regard.

10.2.5. Power to acquire land required to implement the Master Plan

Under Section 69 of the Act, the power is vested with the Planning Authority to acquire land for the purpose of implementing the Master Plan and Town Planning Schemes formulated thereunder. The land for these purposes may be acquired by the Planning Authority either in agreement with the land owner or as per the provision of Land Acquisition Act, 1894 and the land so required thereunder, is construed as, the land required for the public purpose under the Land Acquisition Act, 1894.

¹ Section 70 of the Karnataka Town and Country Planning Act, 1961.

Section 71 provides an overriding power to the State Government as against Planning Authority. As per the Section, if the State Government is of any opinion that, the land included in the town planning scheme is required for any public purpose other than that for which it is included in the scheme, it may acquire such land for such other purpose under Land Acquisition Act and on such declaration, the Planning Authority shall be deemed to be an interested Party in respect of such land for the purpose of Land Acquisition Act and as such will be eligible for compensation if any under the Land Acquisition Act.

10.3. Karnataka Urban Development Authorities Act, 1981

Objective of this Act is to establish the Urban Development Authorities in the state of Karnataka for the purpose of providing planned development of major and important urban areas in the State.

10.3.1. Development Authority under the Act

A Development Authority constituted under this Act shall be a body corporate having perpetual succession and a common seal and power to enter into contracts and sue and be sued in its own name.

The Authority constituted consists of a Chairman, an Assistant Director of Town Planning, an Executive Engineer, Members of Karnataka Legislative Assembly and other representatives including certain Ex-officio members.

Section 9 of the Act empowers the Authority to appoint various committees for the purposes of the Act.

The State shall also appoint a Commissioner who shall be the Chief Executive and Administrative officer of the Authority. The commissioner has certain powers and duties which includes the power to carry into effect the resolutions of the Authority.

10.3.2. Power of Authorities to take Developmental Works²

Under Section 15 of the Act, the Authority has the power to undertake works and incur expenditure for development and in execution of that power, the Authority has the power to draw up detailed Schemes for the development of the urban area and also for the framing and execution of development schemes.

The Authority may also take up any new or additional development schemes.

² Section 15 of Karnataka Urban Development Authority Act

10.3.3. Authority to have power to acquire land by agreement³:

Section 35 of the Act empowers the Authority to enter into agreement with owner of any land or any interest therein, situated within the urban area for the purchase of such land. Further land may also be acquired under the provision of the Land Acquisition Act, 1894.

10.3.4. Power of the Authority to levy of betterment tax

Where, as a consequence of execution of any development scheme, the market value of any land in the area comprised in the scheme which is not required for the execution thereof has, in the opinion of the Authority, increased or will increase, the Authority shall be entitled to levy on the owner of the land or any person having an interest therein a betterment tax in respect of the increase in value of the land resulting from the execution of such scheme.

10.4. Karnataka Municipalities Act, 1964

Main objective of this Act is to consolidate the law relating to the management of municipal affairs in towns and cities other than cities for which municipal corporation are established in the state of Karnataka.

10.4.1. Obligations and Functions of the Municipal Council⁴

Chapter V of this Act deals with the obligatory and discretionary functions of Municipal Councils which includes obligations relating to provision of civic amenities like, lighting public streets, places and buildings, cleansing public streets, places and sewers etc.

10.4.2. Power of Municipality in relation to acquiring and holding properties⁵

Municipal council can acquire and hold property situated within or without the limits of the municipal area. The property so vested with the municipal council may be utilized for any purposes or for achieving any of the obligations of the municipality. This provision thus enables the municipality to hold land required for providing civic amenities.

Further under Section 72(1) of the Act, municipal council has competency to lease, sell or otherwise transfer the property belonging to it for the purpose of implementing any provisions of the Act. Further the same section also empowers the municipal council to enter into any kind of contracts which it considers necessary, to carry out any of its obligations under the Act. As such under this section, the municipal council can transfer interest in the land belonging to it in favour of any

³ Section 35 of Karnataka Development Authority Act

⁴ Section 87(c) of the Karnataka Municipalities Act

⁵ Section 81 of Karnataka Municipalities Act

private sector for the purpose of providing civic amenities including facilities like car parking and can also enter into a necessary agreement in this respect.

10.4.3. Competency of municipal council to lease, sell and contract⁶

Municipal council has competency to lease, sell or otherwise transfer the property belonging to it for the purpose of implementing any provisions of the Act. Further the same section also empowers the municipal council to enter into any kind of contracts which it considers necessary, to carry out any of its obligations under the Act.

10.4.4. Power to undertake works and incur expenditure for improvements⁷

Municipal council may draw improvement scheme and expansion scheme for the areas within its jurisdiction and can undertake any works and incur any expenditure in respect thereof.

10.5. Ministry of Urban Development (Urban Transport) 37th Report 2008-09

Urban Transport is a critical component of urban infrastructure and the lifeline of the city. At the same time, the rapidly growing urban population coupled with increased economic activities and increased city size have resulted in mounting pressure on the urban transportation system leading to some undesirable trends, for instance, severe congestion on the roads, rapid deterioration in the air quality, noise pollution, no space for vehicle parking in major business areas. Considering this trend, Ministry of Urban Development has set-up a Standing Committee to study the status of urban transport in India and to recommend steps for improving the same.

The Standing Committee so constituted has in its 37th report recommends several steps one may take to improve the urban transport status in India under Public Private Partnership (PPP) framework. Report suggested for providing tax concession to encourage private sector participation in provision of better services in the field of transport, parking lots etc. under a well structured contracts and thereby introduce inter-modal public transport, cleaner technologies, modern parking facilities and Intelligent Transport Systems with the assistance of private sectors.

10.6. Karnataka Tourism Policy 2002

One of the objectives of Karnataka Tourism Policy includes encouraging private sector participation for the development of infrastructural facilities in Karnataka by providing certain incentives and concession like relaxation in stamp duty, exemption in entry tax, waiver of conversion fee ect. to the private sectors involved in promotion of tourism related activities.

The policy has identified certain areas in Karnataka that need rapid development. Among the places so identified includes Brindavan Garden in Mysore. The policy

⁶ Section 72 ibid

⁷ Section 155 ibid

offers certain incentives and concession to private sector for undertaking works relating to enhancement of tourism potential in the area. The Department of Tourism is given a task of providing world-class facilities in Brindavan Gardens under private sector participation.

10.7. Conclusion

Increasing urban growth, accompanied by change in life-style has led to greater consumption of resources. The last two decades has seen meteoric raise in traffic in the urban area, particularly in metropolitan cities and the tourist's places. Raise in traffic has in-turn raised the problem relating to parking of vehicle. Apart from this, inadequacy of space required for parking and poor regulation of the existing parking space especially in the tourist places has contributed in their own way to enhance the problem.

Existing legal framework though do not provide explicit provisions in relation to development of parking places, the general legislations like Town and Country Planning Act, Municipalities and Municipal Corporation Act etc. addresses the problem broadly and gives scope to improve the existing situations. However, apart from the Karnataka Tourism Policy passed in recent years no other legislations give scope for addressing the issue under private sector participation framework. Various incentives and concessions provided under the Karnataka Tourism Policy to private sector in setting up tourism facilities can be utilized in development of car parking facilities in places like Brindavan Garden in Mysore.

11. ENVIRONMENT AND SOCIAL IMPACTS

This section sets out the environment management plan for the Project.

11.1. Environmental Impact Assessment

- a. With rapid urbanization and growth of industry & business more and more households are buying cars and using them for travel to nearby places. As Bangalore is the nearest metropolitan city, most tourists from Bangalore prefer to use their personal transport to visit places in and around Mysore. This has led to increased need for parking space and management. Paucity of land for such parking space for the number of vehicles visiting Brindavan Gardens is found. Therefore, leading to parking on road side etc.
- b. General environmental impacts like air pollution due number of vehicles moving in and out of Brindavan gardens, dust and noise generated by construction activities will always be associated with any site development project. Adopting proper mitigative measures during construction and operation of the parking facility could mitigate these impacts.

Table below presents the general impacts during construction and operation phases of the multi-level parking facility and suggested mitigation measures:

Activity	Possible Environmental Impact	Suggested Mitigative Measure
Pre construction stage		
Cutting of trees, clearing of shrubs	No vegetation and trees existing on the site currently as it is already paved with concrete.	Nil
Construction stage		
Construction activities for development of multi-level parking facility	<ol style="list-style-type: none"> 1. Deterioration of air quality due to earth work excavation 2. Disturbance to the natural drainage 3. Soil contamination 	<ol style="list-style-type: none"> 1. Frequent watering of construction sites to suppress dust emission and transport of earth in covered vehicles 2. Any construction activity should restore the natural course of the drainage 3. No spillage of oil/ diesel from the construction equipments

Activity	Possible Environmental Impact	Suggested Mitigative Measure
	4. Water contamination 5. Disposal of excess earth. 6. Disturbance to other services 7. Safety of tourists and road users in the implementation area. 8. Noise pollution due to the use of machinery and movement of traffic	4. Any construction activity should ensure that the water bodies are not contaminated 5. The excess earth should be transported to designated place and shall be used for filling and covers 6. Any shifting of cable / utility lines should be attended with minimum period of disturbance. 7. Provision of temporary crossings/bridges wherever necessary to facilitate normal movement. 8. Use of less noise generating equipment and avoiding activities during night.
Operation and Maintenance		
O&M activities of the multi-level parking facility	No potential environmental impact during the operations phase	Nil

11.2. Environmental Management Plan

A number of environmental impacts are identified that may arise during construction of parking facility. These impacts were analyzed and mitigative measures for the same are proposed. These mitigative measures should be implemented during construction phase.

Potential Impact	Mitigative Measure
Dust generation due to vehicle movement carrying construction material	<ul style="list-style-type: none"> • Provision of green cover • Use covered vehicles • Water the construction site regularly
Impact due to noise	<ul style="list-style-type: none"> • Provision of green cover

11.3. Project specific impacts and mitigative measures

a. Dust generation due to vehicle movement

Impact Statement: Movement of vehicles, placement of construction material, bulldozing, etc. are the major dust generation activities at the site. The impacts would be significant only during the construction phase.

Mitigative Measures: The impacts could be minimised by using covered vehicles and watering the construction site regularly. Construction of pucca (meta / BT) roads, providing vegetative cover around the site, providing protective gear to the workers and ensuring that the site surroundings are isolated from any major developments.

b. Impact due to Vehicle Exhaust Emissions

Impact Statement: A number of vehicles would ply every day to site.

Mitigative Measures: Construction of pucca (meta / BT) roads, providing vegetative cover around the site, etc. will reduce the SPM levels and further helps in decrease of exhaust emissions.

c. Impact due to Noise

Impact Statement: The sources of noise impacts will be during construction phase. During construction phase due to operation of heavy equipment and machinery like trucks, JCB, bulldozers, tracked dozers, generators, etc. noise levels are expected to be high.

Mitigative Measures: To mitigate the noise impacts on labour and employees working in site earplugs should be provided. Vegetative cover around site will reduce the noise levels during operation phase.

12. FINANCIAL ANALYSIS

The financial feasibility analysis is carried out on the premise that the parking facility is being developed on a PPP basis. The analysis considers the projected incomes and expenditures to the developer, pertaining to the operation.

12.1. Proposed Parking Area:

The site for the proposed multi-level parking facility has been identified at the existing 4-wheeler parking area of 23,000 sq.m.



Existing car parking area

The proposed facility is also proposed for mini-buses on the ground floor and buses in the basement area. The cars parking area will be on the 1st through 3rd floors of the facility.

During off-peak season, the facility could also be used for 2-wheeler parking as the car parking will not be used to full capacity.

12.2. Proposed Design Capacity

The design capacity details of the proposed multi-level parking are as provided below:

Particulars	Design Capacity (in numbers)
4-wheelers	1500
Buses	185

Mini-bus	285
----------	-----

Currently the 23,000 sq.m area can accommodate **only 700 PCUs**. The proposed multi-level parking facility can accommodate **about 2350 PCUs** on a ground coverage area of only 18,550 sq.m after meeting mandatory requirement of setbacks of 6m all around the building.

12.3. Project Cost

Broadly the components proposed to be implemented are as follows:

- Parking bays for Cars, Mini buses and Buses
- Passenger amenities like toilets, benches etc.
- Elevators, Landscaping etc.

The details of the cost as estimated for the Project are as given below:

Table 1: Estimated Project Cost

Sl No	Cost Heads	Units	Cost (in Rs. Crores)
1.	MLCP Structure		
	a. Basement, Ground Floor + 5 Floors	748,765 sq.ft	71.4
2.	Pre-operative Expenses		
	a. Site surveys, PMC, etc.	6%	4.0
3.	Contingency Costs	5%	3.6
4.	Financing Charges	1%	0.7
5.	IDC		8.2
	Estimated Total Project Cost		83.9

Pre-operative expenses may also be included such as consultancy charges, technical studies etc.

12.4. Parking Area

The break-up of area inside the MLCP is as provided below:

S.No	Name	Area (in sq.ft)
1.	MLCP Structure	748,765

a.	Basement – For Buses	149,753
b.	Ground Floor – For Mini Buses	149,753
c.	1 st Floor- 3 rd Floor- For Cars	449,258
2.	Landscape	47,899

The rentals accrued from the parking area are provided in details under revenue assumptions.

12.5. Sources of Finance

The capital structure assumed for the project is as given below:

Parameter	Value
Debt : Equity ratio	70:30
Cost of Debt	14%
Debt Repayment Period	6 years
Cost of Equity	20%

12.6. Tax Assumptions

Income tax (including surcharge & cess) is taken at the prevailing rate of 33.66%.

Minimum Alternate Tax (including surcharge & cess) is taken at prevailing rate of 11.33%.

12.7. Depreciation Assumptions

The following are the Depreciation rates assumed for the analysis of the Project financials:

Schedule rates assumed for calculation of depreciation of assets as per Company's Act are as provided below:

Fixed Assets (Buildings)	3.33%
Furniture, Fixtures, others	6.67%
Others- Equipments	10.00%

Depreciation Schedule rate as per the IT Act:

Fixed Assets (Buildings)	10%
Furniture, Fixtures, others	10%
Others- Equipments	15%

12.8. Other Assumptions

The other important assumptions related to Project are as follows:

S.No	Item	Value
1.	Concession Period	30 years
2.	Construction Period	12 months

12.9. Project Revenues

The revenue sources for the parking facility are summarized as follows:

- Parking Fees – with an escalation of 10% every three years
- Advertising Charges – with an annual increase of 5%

It has been assumed that during the off season period (which lasts for 9 months in a year), the car parking space could also be used by two-wheelers as well, as the facility is not used to full capacity.

Project Revenues

Concession Year	2	6	11	21	30
Operation Year	1 st Year	5 th Year	10 th Year	20 th Year	29 th Year
Revenue Component					
Parking					
1. Peak Season	0.43	0.61	0.98	2.55	6.01
2. Off-Peak Season	0.51	0.88	1.65	6.0	17.25
Total	0.9	1.5	3.0	8.5	23.3
Advertising	0.1	0.1	0.1	0.2	0.4
Total Income (in Rs. lakhs)	1.0	1.6	3.1	8.7	23.7

12.10. Operating Costs

The table below presents the assumptions on operating expenses for the airport.

Operating expenses – Assumptions

Expenses	Basis
Insurance	1% of Construction Cost
Maintenance of equipment	3% of operating revenues

Operating expenses (in Rs. lakhs) from the Project during the concession year starting from 1st commercial year of operation is as given below:

Project Operating Expenses

Concession Year	2	6	11	21	30
Operation Year	1 st Year	5 th Year	10 th Year	20 th Year	29 th Year
Operating Components					
Insurance Costs	0.7	0.7	0.7	0.7	0.7
Maintenance	0.0	0.0	0.1	0.3	0.7
Total Expenses	0.7	0.7	0.8	1.0	1.4

12.11. Capital structuring

A maximum debt equity ratio of 70:30 has been assumed for the project. For debt taken for the project, no moratorium has been assumed. Debt repayment is over a 6-year repayment cycle. Debt is assumed to cost 14%.

12.12. Key Project Details

Key project details are given as below:

Table 2: Key Project Details

S.No	Details	Value
1.	Total Area Available	23,000 sq.m
2.	Estimated Total Project Cost	Rs. 83.9 crores
3.	Debt: Equity Ratio	70:30

4.	Cost of Debt	14%
5.	Weighted Average Cost of Capital (WACC)	13.7%
6.	Debt Repayment Years	6 years
7.	Agreement Period	30 years

12.13. Key financial Indicators

The key financial indicators for the base case which is described in above sections are summarized in table below.

Key financials

Indicator	Value
Project IRR (30 years)	2.85%
Project NPV(@ 13%)	Rs. -63.7 crores

12.14. Scenario Analysis

Various Scenarios have been assumed to analyse the feasibility of the project. These scenarios are provided below:

1. Variation in the Project Construction Cost:

Key financials – Variation in the Project Construction Cost

Indicator	+10%	-10%
Project Cost (Rs. Crores)	Rs. 93.3 crores	Rs. 74.6 crores
Project IRR – 30 years	2.29%	3.50%
Project NPV (@ 13%)	Rs. -72.4 crores	Rs. -54.9 crores

2. Variation in the Traffic:

Key financials – Variation in Traffic

Indicator	+10%	+20%	+30%
Project IRR – 30 years	4.02%	4.18%	4.24%
Project NPV (@ 13%)	Rs. -59.5crores	Rs. -58.3 crores	Rs. -57.7 crores

3. Parking fees

Key financials – Variation in Traffic

Indicator	100% increase in Parking fees
Project IRR – 30 years	6.83%
Project NPV (@ 13%)	Rs. -48.9crores

12.15. Viability Analysis for Stand-alone MLCP

To understand the minimum traffic requirements to make an MLCP project viable only the basis of the parking fees collected, a case was considered for an MLCP in a metro city like Bangalore.

It was assumed that each car bay is rotated 4 times a day (4 cycles), each for a maximum of 2 hours. In case a car is parked for longer than 2 hours, the charge payable will be a product of the number of cycles and the charge per cycle.

An analysis was carried out to arrive at the number of car required to be parked per day for a stand-alone MLCP to be a financially viable project.

The brief details of the MLCP assumed are provided in the table below:

S.No	Details	Value
1	Number of car bays- design capacity	1000
2	Total Built up Area Required	25,000 sq.m 269,100 sq.ft
2	Estimated Total Project Cost	Rs.35 crores
3	Agreement Period	30 years
4	Number of cycles per day	4
6	Parking Charges	Upto 2 hrs- Rs. 20 2-4 hrs- Rs. 40 4-6 hrs- Rs. 60 >6 hrs- Rs. 80

For an MLCP of 1000 bay design capacity, it will require **2250 cars (i.e approx. 1 million a year)** to be parked per day to achieve a target Project IRR of 15%.

At Brindavan gardens, there are approximately 550 cars parked per day i.e approximately 2, 00,000 per year. As the required number of car parks per day is much higher, it is imperative to have other interventions to make the project viable for the developer.

12.16. Commercial Intervention

As the parking facility is not financially viable for the developer on the basis of parking fees alone, it may be required to provide the developer with land to develop a commercial complex in order to make the combined project (multi-level parking at Brindavan gardens and Commercial complex) viable.

To check for the viability of the project, a scenario analysis has been carried out to arrive at the built-up area required for the developer to develop a commercial complex along with the parking facility at Brindavan Gardens so to compensate for the insufficiency of returns from the parking facility alone.

Key financials – With Commercial Intervention

Indicator	Values
Project Cost (Rs. Crores) – including commercial complex	Rs. 140 crores
Built-up Commercial are required	3,00,000 sq.ft
Project IRR – 30 years	15%
Project NPV (@ 13%)	Rs. 21 crores

For the combined project to be viable (target Project IRR of 15%) for the developer, a built-up commercial space of 3,00,000 sq.ft will be required. This space may be provided around the project site or in the city of Mysore.

12.17. Scenario Analysis

1. Variation in the Project Construction Cost:

The commercial interventions required in case of variations in the construction cost of the parking facility is provided in the table below:

Key financials – Commercial Intervention along with variation in the Project Construction Cost

Indicator	Variation in Construction cost of the parking facility at Brindavan Gardens	
	+10%	-10%
Project Cost (Rs. Crores)- including the commercial complex	Rs. 156.8 crores	Rs. 123.2 crores
Built-up Commercial are required in sq.ft	3,40,000	2,60,000
Project IRR – 30 years	15%	15%
Project NPV (@ 13%)	Rs. 23.6 crores	Rs. 18.4crores

2. Variation in Parking fee

The commercial interventions required in case of 100% increase in the parking fee is provided in the table below:

Key financials – 100% in Parking Fee

Indicator	Values
Project Cost (Rs. Crores)- including the commercial complex	Rs. 128.8 crores
Built-up Commercial are required in sq.ft	2,40,000
Project IRR – 30 years	15%
Project NPV (@ 13%)	Rs. 18.4crores

3. Variation in Parking fee

The commercial interventions required in case of variation in the rentals in the commercial complex is provided in the table below:

Key financials – Commercial Intervention along with variation in the Rentals

Indicator	Variation in rentals of the commercial complex	
	+10%	-10%
Project Cost (Rs. Crores)- including the commercial complex	Rs. 130.7 crores	Rs. 153.1 crores
Built-up Commercial are required in sq.ft	2,50,000	3,70,000
Project IRR – 30 years	15%	15%
Project NPV (@ 13%)	Rs. 19.1 crores	Rs. 22.7 crores

12.18. Comparison with MLCP at Garuda Mall, Bangalore

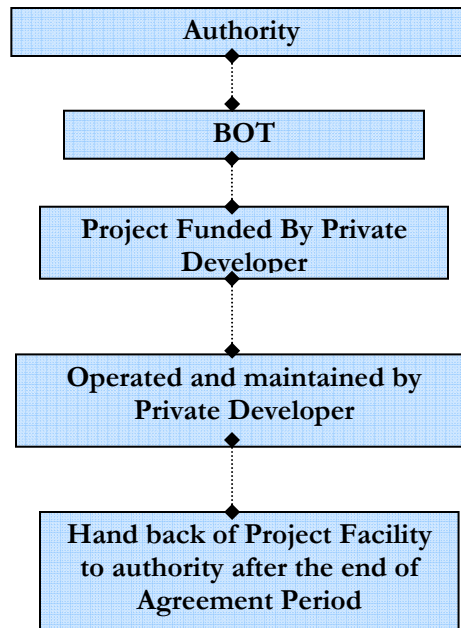
A comparison was made to a well known multi-level parking facility in Bangalore viz. Garuda Mall. The facility is coupled with a commercial complex as well.

The comparison of the proposed parking facility at Brindavan Gardens with that of Garuda Mall on various aspects is provided below.

Indicator	Garuda Mall	Brindavan Gardens
Number of PCUs	1000	3950
Cost of Construction-approximately	Rs. 20 crores	Rs. 136 crores
Parking Fee	Rs. 20 for every two hours to a maximum of Rs. 200	One time fee Rs. 20 for four wheelers Rs.30 for mini buses Rs. 50 for buses
Full Capacity	All weekends and public holidays	Only during peak season- October, November and December

13. OPERATIONAL FRAMEWORK

The options for the operational framework that could be adopted for developing the MLCP is as provided below:



In case of a BOT basis:-

- The Authority will hand over the site to developer on Build, Operate and Transfer (BOT) basis.
- The Developer will develop the MLCP within the estimated completion period- not greater than 1 year.
- The Developer is required to maintain the MLCP during the agreement period.
- Finally the Developer will hand back the project facility to the Authority after the end of agreement period on an as- is- where- is basis.

13.1. Selection of Private Developer- Bid Parameter

The Bid Parameter for the Project shall be any of the following:

- ❖ Lowest Commercial Land Area required
- ❖ Revenue Share :
 - Highest percentage of Gross revenue, or
 - Highest year on year payment to the concerned Authority

14. KEY ISSUES

There are certain key issues that are to be considered for the development of the parking facility in Brindavan gardens. They are as follows:

1. Agency/Authority

It is to be decided which Agency/Authority would implement the project. The site under consideration, however, is under the purview of Cauvery Niravari Nigama Limited (CNNL). Therefore, a proposal should be submitted to CNNL.

2. Commercial Area

In order to make the project financially viable for the private developer, a commercial space with a built-up area of 3,00,000 sq/ft is required, i.e a land area of about 3.5 acres.

Whether the land can be provided around the site area for the parking facility or any other suitable location shall be decided by the agency implementing the project. It should be noted, however, that currently the area surrounding Brindavan gardens is free from any commercial activities. The nearest shopping set up is at least 15km away from the approach road.

3. Parking Fees

The parking fees currently charged has been unchanged since 2002. The fees to be charged for using the proposed parking facility at Brindavan Gardens should be regulated by the private developer so that he may charge appropriate fees to make the project viable.

15. WAY FORWARD

15.1. Concerned Agency

This proposal should be discussed along with the concerned agency i.e Cauvery Niravari Nigama Limited (CNNL), Irrigation Department to finalise the key issues.

Once the proposal is discussed with CNNL officials, the same may be required to discuss with the Principal Secretary, Irrigation Department to take it forward for implementation.

15.2. Interventions

Government of Karnataka may suggest and provide opinion on the commercial intervention that is required to make the required arrangements for the land, either next to the Project Site (parking facility) or in the city of Mysore.

ANNEXURES

Final Pre-feasibility Report	
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Profit and Loss Statement- Base Case Scenario

Concession Years		Year 2	Year 6	Year 11	Year 16	Year 21	Year 26	Year 30
Operation Years		Year 1	Year 5	Year 10	Year 15	Year 20	Year 25	Year 29
A	Revenues - Operations							
1	Advertising Rentals	0.1	0.1	0.1	0.2	0.2	0.3	0.4
2	Parking	0.9	1.5	2.6	4.7	8.5	15.1	23.3
	Total Revenues	1.0	1.6	2.8	4.9	8.8	15.4	23.6
B	Expenses - Operations	-	-	-	-	-	-	-
1	Insurance	0.7	0.7	0.7	0.7	0.7	0.7	0.7
2	Other Expenses	0.0	0.0	0.1	0.1	0.3	0.5	0.7
	Total Expenses	0.7	0.7	0.8	0.8	0.9	1.1	1.4
C	EBITDA	0.3	0.9	2.0	4.1	7.8	14.3	22.2
1	Interest	-	3.4	-	-	-	-	-
2	Depreciation	2.3	2.3	2.3	2.3	2.3	2.3	2.3
E	EBT	(2.0)	(4.8)	(0.3)	1.8	5.5	12.0	19.9
F	Tax	-	-	-	0.2	0.6	1.4	2.3
G	PAT	(2.0)	(4.8)	(0.3)	1.6	4.9	10.6	17.7

Balance Sheet- Base Case Scenario

Concession Year		2	6	11	16	21	26	30
Year of Operation		1	5	10	15	20	25	29
A	Liabilities							
1	Grants	-	-	-	-	-	-	-
	Internal Accruals/Others	-	-	-	-	-	-	-
2	Equity Share Capital	25.2	25.2	25.2	25.2	25.2	25.2	25.2
3	Reserves and Surplus	-	(25.7)	(36.9)	(35.0)	(21.2)	13.8	65.8
4	Term Loans	58.8	29.4	-	-	-	-	-
5	Current Liabilities	-	45.9	75.0	61.6	36.3	-	-
	Total	83.9	74.8	63.3	51.8	40.3	38.9	91.0
B	Assets							
1	Gross Fixed assets	83.9	83.9	83.9	83.9	83.9	83.9	83.9
2	Depreciation	-	9.2	20.7	32.2	43.7	55.2	64.4
3	Net Fixed Assets	83.9	74.8	63.3	51.8	40.3	28.8	19.6
4	Current Assets	-	-	-	-	-	-	-
5	Cash and Bank Balance	-	-	-	-	-	10.2	71.4
	Total	83.9	74.8	63.3	51.8	40.3	38.9	91.0

Cashflow Statement- Base Case Scenario

Year of Operation		1	5	10	15	20	25	29
A	Sources of Funds							
1	Net Cash Accruals	-	(4.1)	1.7	3.4	6.4	11.5	17.9
2	Grants	-	-	-	-	-	-	-
3	Internal Accruals/Others	-	-	-	-	-	-	-
4	Equity	25.2		-	-	-	-	-
5	Increase in Borrowings (Term Loan)	58.8	-	-	-	-	-	-
	Total	83.9	(4.1)	1.7	3.4	6.4	11.5	17.9
B	Use of Funds							
1	Capital expenditure	83.9	-	-	-	-	-	-
2	Increase in current Assets	-	-	-	-	-	-	-
3	Decrease in Current Liabilities	-	-	-	-	-	-	-
4	Decrease in Term Loan	-	9.8	-	-	-	-	-
5	Repayment of Equity	-	-	-	-	-	-	-
	Total	83.9	9.8	-	-	-	-	-
	Opening cash & bank balance	-	(32.0)	(76.7)	(65.0)	(42.7)	(1.4)	53.5
	Surplus/deficit	-	(13.9)	1.7	3.4	6.4	11.5	17.9
	Closing balance	-	(45.9)	(75.0)	(61.6)	(36.3)	10.2	71.4

Traffic Estimates

Season	Vehicles	Base Traffic	Year of Operation									
			1	2	3	4	5	6	7	8	9	10
Peak Season-Weekday	Cars	1000.0	1050	1103	1158	1216	1276	1340	1407	1477	1500	1500
	Two-wheelers	500.0	525	551	579	569	447	320	186	45	0	0
	Mini Buses	1000.0	285	285	285	285	285	285	285	285	285	285
	Buses	1000.0	185	185	185	185	185	185	185	185	185	185
Peak Season-Saturday	Cars	2000.0	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	800.0	0	0	0	0	0	0	0	0	0	0
	Mini Buses	1000.0	285	285	285	285	285	285	285	285	285	285
	Buses	1700.0	185	185	185	185	185	185	185	185	185	185
Peak Season-Sunday	Cars	3000.0	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	800.0	0	0	0	0	0	0	0	0	0	0
	Mini Buses	1000.0	285	285	285	285	285	285	285	285	285	285
	Buses	1700.0	185	185	185	185	185	185	185	185	185	185
Off Season-Weekday	Cars	200.0	210	221	232	243	255	268	281	295	310	326
	Two-wheelers	150.0	158	165	174	182	191	201	211	222	233	244
	Mini Buses	100.0	105	110	116	122	128	134	141	148	155	163
	Buses	150.0	158	165	174	182	185	185	185	185	185	185
Off Season-Saturday	Cars	400.0	420	441	463	486	511	536	563	591	621	652
	Two-wheelers	100.0	105	110	116	122	128	134	141	148	155	163
	Mini Buses	100.0	105	110	116	122	128	134	141	148	155	163
	Buses	150.0	158	165	174	182	185	185	185	185	185	185
Off Season-Sunday	Cars	450.0	473	496	521	547	574	603	633	665	698	733
	Two-wheelers	100.0	105	110	116	122	128	134	141	148	155	163
	Mini Buses	100.0	105	110	116	122	128	134	141	148	155	163
	Buses	200.0	185	185	185	185	185	185	185	185	185	185

Season	Vehicles	Year of Operation									
		11	12	13	14	15	16	17	18	19	20
Peak Season-Weekday	Cars	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	0	0	0	0	0	0	0	0	0	0
	Mini Buses	285	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Peak Season-Saturday	Cars	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	0	0	0	0	0	0	0	0	0	0
	Mini Buses	285	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Peak Season-Sunday	Cars	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	0	0	0	0	0	0	0	0	0	0
	Mini Buses	285	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Off Season-Weekday	Cars	342	359	377	396	416	437	458	481	505	531
	Two-wheelers	257	269	283	297	312	327	344	361	379	398
	Mini Buses	171	180	189	198	208	218	229	241	253	265
	Buses	185	185	185	185	185	185	185	185	185	185
Off Season-Saturday	Cars	684	718	754	792	832	873	917	963	1011	1061
	Two-wheelers	171	180	189	198	208	218	229	241	253	265
	Mini Buses	171	180	189	198	208	218	229	241	253	265
	Buses	185	185	185	185	185	185	185	185	185	185
Off Season-Sunday	Cars	770	808	849	891	936	982	1031	1083	1137	1194
	Two-wheelers	171	180	189	198	208	218	229	241	253	265
	Mini Buses	171	180	189	198	208	218	229	241	253	265
	Buses	185	185	185	185	185	185	185	185	185	185

Season	Vehicles	Year of Operation									
		21	22	23	24	25	26	27	28	29	30
Peak Season- Weekday	Cars	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	0	0	0	0	0	0	0	0	0	0
	Mini Buses	285	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Peak Season- Saturday	Cars	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	0	0	0	0	0	0	0	0	0	0
	Mini Buses	285	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Peak Season- Sunday	Cars	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
	Two-wheelers	0	0	0	0	0	0	0	0	0	0
	Mini Buses	285	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Off Season- Weekday	Cars	557	585	614	645	677	711	747	784	823	864
	Two-wheelers	418	439	461	484	508	533	560	588	617	648
	Mini Buses	279	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Off Season- Saturday	Cars	1114	1170	1229	1290	1355	1422	1493	1500	1500	1500
	Two-wheelers	279	293	307	323	291	155	13	0	0	0
	Mini Buses	279	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185
Off Season- Sunday	Cars	1254	1316	1382	1451	1500	1500	1500	1500	1500	1500
	Two-wheelers	279	293	236	97	0	0	0	0	0	0
	Mini Buses	279	285	285	285	285	285	285	285	285	285
	Buses	185	185	185	185	185	185	185	185	185	185