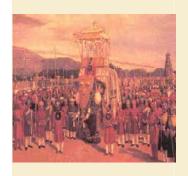


# MYSORE





# CITY DEVELOPMENT PLAN



**UNDER JNNURM SCHEME** 















# PREFACE TO THE CITY DEVELOPMENT PLAN OF MYSORE

This City Development Plan (CDP) document has been prepared by Mysore City in the context of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). The document has been prepared through a systematic consultation process with citizen groups, elected representatives, and Government departments/ agencies. Infrastructure Development Corporation (Karnataka) Ltd. (iDeCK)¹, which is an organization empanelled for the purposes of the JNNURM by the Ministry of Urban Development, Government of India, has assisted Mysore City in developing this CDP.

This CDP seeks to set in place the directions and principles, rather than aim at being a definitive and conclusive document. Primary emphasis is on principles, directions and reform, rather than on specific projects that the City needs to develop. Given the complex and consensual nature of the exercise, it is clear that while such a consultative process gives room for all the views to be articulated, it is certainly not possible to adopt every view point. The final vision will therefore reflect a preponderance of opinion, rather than be a unanimous view.

A two-phased approach has been adopted to chart the direction of the City's development. A consultative, normative approach to envision the future, complemented by a bottom-up approach of specific project interventions in the City.

It is also clear that the Vision articulated in this document will continue to evolve, even subsequently, with learning and feedback from various stakeholders. Mysore City recognizes this need for ongoing fine-tuning of the CDP, and proposes to incorporate any essential and crucial issues into a revision that will be brought out in periodic reviews.

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<sup>&</sup>lt;sup>1</sup> iDeCK is a joint venture of Government of Karnataka, Infrastructure Development Finance Company (IDFC), and Housing Development Finance Corporation (HDFC)

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### **ABBREVIATIONS**

ADB	Asian Development Bank	
ASI	Archaeological Society of India	
BMIC	Bangalore Mysore Infrastructure Corridor	
BOT/BOOT	Build-Own-(Operate)-Transfer	
BSUP	Basic Services to the Urban Poor	
CAGR	Compounded Annual Growth Rate	
CDP	City Development Plan	
CIP	City Investment Plan	
CITB	City Improvement Trust Board	
DMA	Directorate of Municipal Administration	
DSCR	Debt Service Coverage Ratio	
IT/BT	Information Technology/ Bio-technology	
FY	Financial Year (April to March)	
GoK	Government of Karnataka	
JNNURM	Jawaharlal Nehru National Urban Renewal Mission	
KSCB	Karnataka Slum Clearance Board	
KSRTC	Karnataka State Road Transport Corporation	
KTCP Act	Karnataka Town & Country Planning Act	
KTPP Act	Karnataka Transparency in Public Procurements Act	
	1999	
KUIDP	Karnataka Urban Infrastructure Development Project	
KUWASIP	Karnataka Urban Water Sector Improvement Project	
KUWSDB	Karnataka Urban Water Supply & Drainage Board	
LDA	Lake Development Authority	
MCC	Mysore City Corporation	
MGD/ MLD	Million gallons/ litres per day	
MUDA	Mysore Urban Development Authority	
NGO	Non-Governmental Organisation	
ODP	Outline Development Plan	
PPP	Public-Private Partnership	
PSP	Private Sector Participation	
PWD	Public Works Department	
RWA	Residents Welfare Association	
SHG	Self-Help Group(s)	
STP	Sewage Treatment Plant	
UFW	Unaccounted-for-Water	
ULB	Urban Local Body (and where the context admits in this document, MCC)	

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# CHAPTER 1: BACKGROUND OF MYSORE URBAN REGION

#### **MYSORE – The City**

ysore (Kannada: ) – the name evokes images of palaces, of tranquillity, of rich culture and heritage!

Mysore is a city in the Indian state of Karnataka, and the administrative seat of Mysore District, one of the largest districts in Karnataka. Mysore was the former capital of the Kingdom of Mysore. Mysore is located at 770 m above sea level at 12.18° N 76.42° E and is 135 km from Bangalore, the state capital. The city is

known for its palaces and proximity to several attractions. Mysore is also well known for its ten-day *Dasara* festival, a hallmark of the old Kingdom of Mysore, which usually occurs annually in early September-October.

Mysore is an educational, commercial and administrative centre and also an important tourist and heritage centre. It is well connected to the adjoining States of Kerala (Wynad, Calicut) and Tamil Nadu (Ooty, Coimbatore) through roads.

Mysore, the cultural capital of the State, was the home for many great musicians, music composers, dancers and Sanskrit scholars. Mysore University and many other academic and scientific institutions are situated here. This obviously led to the city boasting of great scholars, writers, and, in general, intellectuals. Post



independence, Bangalore became the State capital and later the economic hub of the State, and country. Mysore has however retained its heritage and charm. However, the economic growth Bangalore, and the 'push-effect' of its high-technology industrialization going to have a significant demographic and economic impact. The challenge for Mysore is to absorb and encourage growth, without compromising on its heritage, culture, and pleasant life-style.

#### Origin of Name

According to Hindu legend, the area around Mysore city was once the domain of the demon king Mahishasura, who grew almost invincible and wreaked havoc the world. The Goddess on Chamundeshwari vanquished the demon in a humungous struggle waged over a days. period of 10 Goddess Chamundeshwari is also known by the name Mahishasura Mardhini (Slayer of Mahisha). The battle became a festive

event, which the annual 10-day Dasara festival commemorates to this day. The name Mysore is anglicised the version Mahisūru which is derived from Mahisha. This legend, important in Hindu mythology, renders the



temple of the Goddess Chamundeshwari, located atop Chamundi Hills in Mysore, an important place of pilgrimage.

#### History

The history of Mysore has been closely linked with the history of the Kingdom of Mysore. References from the times of

Mahabharata and Asoka refer to Mahisha Nadu or Mahisha Mandala. References can also be found in Tamil literature about Ezimahi Nadu. The earliest documented evidence of the town is in the form of stone carvings (Saasanas) found in villages around Mysore, inscribed around 1021 AD. From 1499 the name Mahisūru has been recorded in inscriptions. Till the year 1610, when Srirangapatnam was acquired, Mysore was the centre of administration. It became the capital of the Kingdom of Mysore after the death of Tippu Sultan in 1799. The administrative centre was shifted to Bangalore in 1831, as the British moved their garrison from Srirangapatnam to Bangalore, thereby establishing the Bangalore Cantonment.

Mysore once again became the capital of the kingdom in 1881 with the rendition of power by the British to the Wodeyars. Most present day historical landmarks, and organisation of the city of Mysore were inspirations of the Wodeyar kings and their Dewans. Plans for organised development of the city exist as far back as 1904. Several structures were built around late 1800's and early 1900's.

#### Palaces in Mysore

Mysore is called the City of Palaces as a number of palaces are situated in the city, including the following:



#### **Prominent palaces**

- **#** Amba Vilas (Main Mysore Palace)
- # Rajendra Vilas (also called the summer palace, situated on top of the Chamundi hills)
- **#** Jaganmohana Palace
- Jayalakshmi Vilas (now in the University of Mysore premises)
- # Lalitha Mahal (now converted into a hotel).

#### Other palaces

- **#** Chittaranjan Palace (now the Green Hotel, was also the Premier Studios)
- **#** Cheluvamba Mansion (now in the CFTRI premises)
- **\*\*** Karanji Mansion (now the Postal Training Institute)
- **¼** Lokaranjan Mahal (next to the Mysore Zoo)
- # Crawford Hall (University Administrative Building).

The original main palace of Mysore was burnt down in 1897 and the present day structure was built over the same site. The present Palace exhibits a mixture of architectural styles, including the Dravidian, Indo-Sarcenic, Roman, and Oriental. The erstwhile Royal family continues to live in a portion of the Palace.

The Jayalakshhmi Vilas Mansion, was constructed by Sri Chamaraja Wodeyar for his daughter Jayalakshammanni. The Jayalakshmi Vilas is now a museum dedicated to folk culture. A new gallery is being added for artefacts and collections of the Wodeyars of Mysore.

#### Mysore Dasara

Dasara is the Nadahabba (State festival) of Karnataka State, and Mysore is well known for the festivities that take place during the Dasara period. Also termed as Navaratri (meaning nine-nights), it is a ten-day festival that usually falls in the months of September-October. During this period, various cultural and religious

programs highlighting the dance, music and culture of the State of Karnataka are performed. Musicians and dancers from other States are also invited to give performances. Mysore Palace is illuminated on all the ten days and



prominent cultural programs are held in the grounds surrounding the palace. The festivities commence with a pooia performed the Goddess to Chamundeshwari atop the Chamundi Hills in the presence of the Wodeyar royal couple, Ministers & high-ranking officials in the Government of Karnataka, and other invitees.

One of the main attractions of the festival is the *Dasara* exhibition which starts during the *Dasara* and continues for around two months. It is held in grounds opposite to the Mysore Palace, and contains stalls selling articles like clothing, plastic and glass ware, food stalls, stalls highlighting the various departments of Government of Karnataka, and also a play area where people can participate in games and amusement rides.

Another attraction is the wrestling tournament which is held in the Devraj Urs stadium adjoining the *Dasara* exhibition grounds. Wrestlers from around India participate in this tournament, which attracts a sizeable audience.



The conclusion of the festivities is marked colourful Dasara procession (popularly known as Jamboo Savari). The main attraction of the procession is the idol of Goddess Chamundeshwari which is carried in a Golden howdah on top of an elephant. Various tableaux created by different State organisations participate in the procession. Musical bands belonging to State Police lend music to the procession. The culminating program of the Dasara festivities is the torch-light parade (also known as Panjina Kavayatthu) held during the evening and night in the Bannimantap grounds on the outskirts of the city. It is followed by a dazzling display of fireworks. A Laser show has been added recently to the program.

Additional buses and trains are organised from Bangalore to Mysore during the *Dasara* Period.

#### Other Attractions of Mysore

Besides, the abovementioned Mysore offers a variety of other attractions, which have over the years attracted tourists from all over the world. These tourist destinations range from the religious to the museums and zoos in the city. These include the following:

#### Places of worship

- **#** The Chamundeshwari Temple
- \*\* Nandi the Bull (on the Chamundi Hills)

**St. Philomena's Church (smaller scale reproduction of the Cologne Cathedral)** 

#### **Lakes and Gardens**

- # Kukkarahalli Lake
- # Pushpakaashi (Flower garden)
- **#** Karanji Lake
- # Lingambudhi Lake
- **#** Dalvoy Lake
- # Bogadi Lake
- # Krishna Raja Sagara
- # Brindavan Gardens

#### **Museums and Zoos**

- **#** Railway Museum
- **\*** Chamarajendra Zoological Gardens known popularly as Mysore Zoo
- \*\* Natural History Museum (adjoins Karanji Lake)

#### **Locations and Theatres**

- # Manasagangotri (Mysore University Campus)
- **\*** Kalamandira & Rangayana (Adjoins Kalamandira)

#### **Commerce and Industry**

**♯** Mysore Silk Factory

#### **Nearby Locations**

Some nearby tourist locations also form a part of the Mysore tourist circuit. Some major ones are listed below:

- \* Krishna Raja Sagara (KRS) dam is located across the Kaveri River, in the Mandya District near Mysore. There is an ornamental garden attached to the dam, called Brindavan gardens, making it a popular tourist place and picnic location.
- ★ Srirangapatnam (Seringapatam), an island fortress-city that also served as the capital of the Kingdom of Mysore has been an urban center and place of pilgrimage. The town has been named after the celebrated temple of Sri Ranganathaswamy, which dominates the town, making Srirangapattana

- one of the most important Vaishnavite centers of pilgrimage in south India. The temple was built by the Ganga dynasty rulers of the area in the 9th century.
- # Melukote situated north east of Mysore city houses the famous and holy shrine of Sri Vaishnavites and a centre for learning Sanskrit. The town cultural and religious importance in the 12th century AD when the great South Indian philosopher and teacher, Sri Ramanuja lived in the town. The famous temples located here are Cheluvanarayanaswamy temple the township within and Yoganarasimhaswamy temple on the hill overlooking Melukote.
- Kabini River Resort, located around 80 kms from Mysore is rated among the top five wildlife resorts in the world by Tatler's Travel Guide. It is home to the Indian bison (locally "Gaur"), known as wild boar. elephants, leopards, chital, barking deer and the occasional tiger, the resort located on the side of the Nagarhole Wildlife Sanctuary is also famous for its birdlife.
- \*\* Bandipur National Park, a part of the Nilgiri Biosphere Reserve is one of India's best known sanctuaries, and is an important Project Tiger reserve. It is located in the Chamarajanagar district of southern Karnataka in south India. It is home to around seventy tigers and over three thousand Asian elephants (as per the 1997 census), along with leopards, dholes, gaur and sloth bears.
- Madumalai Forest is primarily a tiger reserve. Its wild life includes gaur, spotted deer, barking deer, sambar, flying squirrels, langur etc. and several species of bird life including migratory birds. The park, part of Niligiri biosphere reserve is close to and accessible from Ooty and Mysore.
- \*\* Nagarhole National Park is an all weather park located 96 km away

- from Mysore. The area contains the habitat of several rare and endangered species, notably the tiger.
- \*\* Rangantittu Bird Sanctuary is a Bird Sanctuary located on the Bangalore-Mysore Highway, close to the historic town of Srirangapatna in the Mysore District. It is a small sanctuary with an area of 67 sq. kms, and comprises six islets on the banks of the Kaveri River.
- Somanathapura, an ancient temple of historical and archaeological importance is home to one of the greatest examples of Hoysala architecture of the Hoysala Empire.
- # Balamuri and Edamuri (backwaters of the Kaveri River)

#### **Economy**

Tourism centred around numerous attractions and the *Dasara* Festival, contribute to the economy and fame of Mysore. The city is a host to an annual inflow of tourists to the tune of around 25 Lakhs annually. Around 95% of these are domestic tourists, while the rest are international tourists.

Table 1: Tourist Inflow - Major Tourist Centres in Mysore (lakhs)

	T	ı	1	ı	1
	2001	2002	2003	2004	2005
Mysore					
Palace	16.11	14.29	16.45	18.31	20.62
Art Gallery	2.33	1.97	2.14	2.29	2.42
Zoo	12.92	11.82	15.96	15.30	16.45
Brindavan					
Gardens	24.84	9.82	18.44	22.94	21.25
Chamundi					
Hills				35.03	70.74

Other industries in Mysore include, manufacturing Tyres (Vikrant Tyres), Textiles (K. R. Mills, now Atlantic Mills), Electronic Systems (L & T), Bharath Earth Movers Ltd. (BEML), TVS, Silk Factory (KSIC) and Information Technology (Infosys, Wipro). Articles made of silk, lacquer, and Sandalwood are some of the most famous products of Mysore, making

significant contributions towards commerce in Mysore.

The industry experienced reverses during the last few decades, as some of the major units like Ideal Jawa (Automobiles), K. R. Mills (Textiles) closed down and several people became unemployed. However some revival efforts, like those of K. R. Mills (Atlantic Mills) helped improve the situation.

Karnataka The Government of is promoting Mysore as an alternative destination for the Information Technology (IT) industry and developing it as a counter magnet city to Bangalore. As a result the city has become a new haven for the IT and Information **Technology** Enabled **Services** (ITeS) industry and is poised to play bigger role in the economy of the city. This is apparent from the fact that the software exports from the city grew at 26.8% to reach Rs.392 crores, in the year 2005-06.

As the divisional headquarters of Mysore Division and as the Railway Junction, railways is the other major employer in Mysore. Improvements in infrastructure, like doubling of Railway completion of the four lane State-highway. the Bangalore - Mysore Infrastructure Corridor (BMIC) between Mysore and Bangalore, upgradation and expansion of the Mysore Airport will bring significant growth to the economy of Mysore. The congestion in Bangalore, as well as its

proximity, are having a 'push effect' on IT/ITeS industry to Mysore.

The city's share in the State GDP at 7.09% (1996-97), has exhibited a marginal increase over the figure of 6.63 % (1980-81). However, with the IT companies establishing their bases in Mysore in the recent years, the city's share in the state GDP is expected to improve.

Table 2: Share of Mysore District in State **GDP** (%)

	1980- 81	1996- 97
Mysore's share in State		
GDP (as %)	6.63	7.09
Primary Sector	7.40	7.28
Secondary Sector	6.08	<i>7</i> .33
Tertiary Sector	5.97	6.80

Source: Department of Economics and Statistics, Government of Karnataka

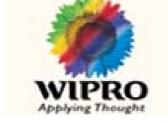
#### Connectivity

Mysore is the second biggest city in the state of Karnataka covering an area of 128 sq. kms. It is situated at 140 kms from Bangalore and is well connected by rail and road to all parts of the country. In order to improve air connectivity with the major cities of the country, upgradation and expansion of the existing airport is on the anvil.

#### **Highways**

The existing two-lane road linking Mysore











to the state capital Bangalore is being upgraded to a four-lane highway and is nearing completion. This would assist in reducing time taken to travel significantly. National Highway 212, and State Highways 17, 33, 88 pass through Mysore connecting it to nearby cities.

The expressway proposed under BMIC, when completed, would also reduce travel time considerably, as well as create new self-contained townships on the Bangalore – Mysore axis.

#### Inter-city

Mysore has inter-city and sub-urban public bus transportation, albeit not very robust. The system operates from the 'City Bus Stand' connecting to most major sections of the city. Traditional means of transport available in other Indian cities like auto-rickshaws and taxis are also available. *Tongas* (horse-drawn carriages) are also available, but are becoming rare.

#### Rail

Mysore is the railway junction for the district, and rail lines connect Mysore city to Bangalore to the northeast via Mandya, and to the rail junction at Hassan to the northwest, to Chamarajanagar via Nanjangud to the southeast.

#### Air

The lack of air connectivity could be a key the difference reason for in the development of Mysore, vis-à-vis Bangalore, which has one of the busiest airports in the country. The nearest accessible airport for Mysore is at Bangalore. The Mandkalli Airport, approximately 4 miles from the city, is currently inoperative, although paragliding and, occasionally, aeroplane rides are offered at this location.

A memorandum of understanding has been signed between the Government of Karnataka and the Airports Authority of India, proposing a redesign and extension of the airport. The redesign is expected to align the runway to run southeast to northwest. About 165 acres (approximately 0.7 km²) of land is expected to be acquired for extending the airport. This upgrade would allow planes with up to 50 seats to land and take off at the airport.

## Educational and research institutions



Mysore is a host to a number of educational & research institutions such as:

Table 3: Educational and Research Institutes in Mysore

Institutes	in Mysore
Universities	University of Mysore,
	Karnataka Open University
Research	Central Food Technological
Institutes	Research Institute, Central
	Institute of Indian Languages,
	Defence Food Research
	Laboratory, Rare Materials
	Project, All India Institute of
	Speech and Hearing
Engineering	Sri Jayachamarajendra College
Colleges	of Engineering, National
_	Institute of Engineering, Vidya
	Vikas Institute of Engineering
	and Technology,
	Vidyavardhaka College of
	Engineering
Medical	Mysore Medical College, JSS
Colleges	Medical College
Dental	JSS Dental College
Colleges	<u> </u>
Pharmacy	JSS College of Pharmacy
Colleges	·
Law Colleges	JSS Law College,
ŭ	Vidyavardhaka Law College,
	Sarada Vilas College

Arts, Commerce and Science Colleges	Maharaja's College, Maharani's College, Yuvaraja's College, Sarada Vilas College, Mahajana College, Marimallappa's College, JSS College, Teresian College, Regional College of Education
Management	SDM Institute for Management
Colleges	Development

#### Spiritual Tourism

Mysore is an important spiritual tourism destination Many Mysore yoga instructors draw international students for extended yoga programs, including Venkatesh Iyengar, and the well-known Pattabhi Jois. Renowned teachers of Sanskrit, kirtan (chant), Ayurveda and other yogic arts reside in Mysore. The Sri Ganapati Sachidananda Ashram welcomes visitors, as does the Indus Valley Ayurvedic Centre. In addition to traditional Hindu spiritual methods, courses are available in Osho meditations, the Art of Living, Sahaj Marg, Reiki, Brahma, and many other systems.



# CHAPTER 2: Heritage Characteristics of Mysore

#### **Heritage Background**



A part of today's Karnataka was identified formerly as the Mysore kingdom. Mysore city, used to be the capital of Mysore kingdom. A reference to "Mysooru" is seen in an inscription of Kadalur dated 962 A.D. The Gangas built the Mahabala temple on the hill adjoining Mysore, in the year 950 A.D. and hence the hill came to be known as Mahabala Betta. The later rulers built a temple in honour of their deity goddess Chamundi and the hill came be known Chamundi Hill. Chalukyas, the Gangas, the Cholas, the Hoysalas and the Vijayanagara kings ruled over Mysore. The Wodeyars of Mysore, who were feudatories of Vijayanagara built a new fort in 1584 A.D. They have their indelible impression on the cultural legacy of the city. The benevolent kings and Administrators of Mysore promoted education and the all round development of society.

#### Heritage component

Mysore city, one of the prime heritage cities, in the country combines historical facts and anecdotes with a harmonious combination of both natural and built heritage. In spite of the causalities of the modern-day approach to urban planning and civic architecture owing to lack of building space the city continues to retain its special characteristics as a native princely city.

The most imposing and majestic building in Mysore is the Palace of the Wodeyars. It is built in the Indo-Sarcenic style with traces of other architectural features from the East and the West. There are several palatial buildings originally built for the royal family, which now house the art gallery, Museums, luxury hotels. educational and research institutions and Government offices. Mysore is also famous for temples. Within the palace complex there are a number of temples built by the Wodeyars.

There are a few churches in Mysore built by the Europeans and St. Philomena's Cathedral, built in gothic style is notable among them. Mysore also houses a few mosques. The Kutchi Moimen mosque built by the traders from Kutch (Gujarath) is a highly attractive structure.

The era of Sri.Krishnaraja Wodeyar and Sir.M.Visweswaraya, and Sir Mirza Ismail witnessed a new concept of urban planning and architectural conceptualization of civic structures and monuments. Vast extent of land as dictated by the aesthetics of the structure was assigned to each individual building.

# Architecture styles of Heritage buildings in Mysore

Based on their architectural features, the heritage buildings of Mysore can be classified as Indo — Sarcenic, traditional Hindu, Greco-Roman, Gothic and the European classical styles.

#### Indo – Sarcenic Buildings

Intricately executed multiple mouldings with a superb abundance of deeply sharpened fine carvings of scrolls, foliage, birds, animals and statuettes are the chief characteristics of the Hoysala/ Indo sarcenic style of architecture.



The double storied verandahs on either side of the building with arched openings and pilasters, a fine portico with Byzantine arches over slender columns and minarets and projecting trellis work balconies are the definitive characteristics of Sarcenic style.

The Ambavilas Palace is a classic example of the Indo – Sarcenic style, while the City Corporation building is a typical example of the Sarcenic style.

#### **Traditional Hindu Style**

All temples in Mysore exhibit the traditional Hindu style of architecture. Each temple has a Garbhagruha, Sukanasi, Navaranga and Mukhamantapa. The agrahara houses are another example of traditional style with a simple but functional structure placed shoulder to shoulder with shared masonry walls. The Jaganmohan Palace is another example of predominantly Hindu style.



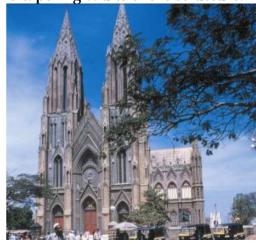
#### **Greco-Roman**

In these structures a Vatican dome rising on a drum (Circular, Octagonal etc.) dominates the elevation. The column styles could be Tuscan, Ionic and Corinthian: arched and plastered colonnades form the two wings. Greek deities define the tier and the balustraded parapet bends are an agreeable addition to rich composition. The **Deputy** Commissioner's Office (Dewan's Kacheri) Chaluvamba Park (CFTRI) and the Krishnaraja Hospital are classic examples of this style.



#### **Gothic**

Spires or long tapering roof-like elongated pyramids that are commonly found in churches are the typical characteristics of gothic style. The main hall or nave with multiple moulded columns culminates in stately arches which guide the eye to the vaults. The altar is set against arched screens of stone works which are in harmony with the arched vertical lines and tapering vaults of the structure.



St. Philomena's Cathedral and Hardwick church are good examples of this style.

#### **European Classical style**

These structures have vast garden settings with elegant approach on the front side. They usually consist of a central atrium leading to a banquet hall, with elegant rooms on either side. These structures have an elegant portico. The Government House and Yelval Residency are typical example of the restrained classicism devoid of external element.

#### Statutory & Legal Framework

"Heritage building" means a building possessing architectural, aesthetic, historic or cultural values, which is declared as heritage building by the Planning Authority/Heritage conservation committee or any other Competent Authority in whose jurisdiction such building is situated.







Historical significance, architectural style, design, technology and material usage and / or aesthetics are the main parameters to identify Heritage buildings / precincts.

Heritage can be environmental, architectural, and archaeological or culture and crafts related. It is not restricted to monuments alone.

- The study of heritage property begins with the clear understanding that it may be built or inbuilt, urban or rural, old or recent, exceptional or ordinary, dense or dispersed, homogeneous or heterogeneous.
- # It may or may not comprise a historical monument.
- **#** The identification of heritage is carried out by exploration, field

- survey and historical analysis of the area.
- # An appreciation of the spatial relations between buildings, public space, and private court yards, gardens, perspectives, views, surrounding landscapes etc., and the study of their inter-relationship is another important yard scale of measurement.

#### **Statutes**

Various statutes, which govern the heritage structures, include the following:

- **\*\*** Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Act 1961
- **\*\*** Karnataka Town and Country Planning Act 1961

There are ten heritage structures, which have been declared as monuments under the Karnataka Ancient and Historical Monuments and Archaeological Sites and Remains Act 1961. As per the section 2 of this Act any structure or monument, which has artistic, historic, aesthetic and value and which has been in cultural existence for not less than 100 years is being declared as monument. As per Section-4 of the Regulations the listed buildings, listed precincts are graded as I, II, III and as per Section-5 restrictions on development and repairs have been imposed on the heritage buildings.

No structure that would obstruct the harmony of the core-zone would be allowed to come-up. No existing structure will be allowed to be destroyed /dismantled without the approval of the sub-committee of Mysore Heritage Task Force.

 a. There is a provision to declare heritage buildings as monuments.
 This Act also has a provision to enter into a contract with the owners of the monuments as far as

- conservation and preservation of the monuments is concerned.
- b. It is the responsibility of the owner/occupier of the heritage building/ precincts to obtain necessary permission from heritage committee to demolish and/or reconstruct and/or make alterations/additions to heritage buildings/precincts or build a new building within the heritage precincts.
- c. Under this Act heritage monuments can be acquired. Depending upon the availability of funds heritage buildings can be acquired.

The other heritage buildings and precincts are brought under the Karnataka Town and Country Planning Act 1961 and its heritage regulations. As per this 232 Heritage structures, which are more than 50 years of age and having historical, artistic, aesthetic, and cultural importance have been listed as heritage structures by the Mysore Heritage Expert Committee. A list of the major buildings is provided in the annexure. The Urban Development Authorities and the Town Planning Authorities have been suitably instructed to incorporate these heritage buildings and precincts in the master plan / comprehensive development plan (MP/CDP).

# Regulations for conservation heritage sites including buildings, heritage precincts and natural features have been prepared accordingly and directions have been issued from the Director of the Town and Country Planning to all the Urban Development Authorities and **Planning Town Authorities** incorporate the same in the master plan / comprehensive development plan for their respective areas.

#### Institutional set-up

#### **Heritage Task Force**

The state government has accorded Mysore the status of 'Heritage City' and has constituted the Mysore Area Heritage Task Force (MAHTF) two years ago (2004) to focus on conservation efforts in Mysore and surrounding regions and appointed a Heritage Commissioner to head the task force.

The action plan of the task force envisages the steps to be taken to identify the heritage buildings and classify and grade them on the basis of their importance and historicity with the help of experts and NGOs.

An amendment was brought to The Karnataka Town and Country Planning Act 1961 and the Karnataka Town and Country Planning (Amendment) Act 2004 come into existence w.e.f. 14th February 2005. Within the locus of regulations amendment, for conservation of heritage sites including buildings, heritage precincts and natural features have been brought out. The Urban Development Authorities Town Planning Authorities are required to incorporate the same in the Master Plan and thev are in the process incorporating the same. Any development in the precincts/ into the facility of heritage buildings/ natural features will accordance with regulations incorporated in the master plan. The display of sign boards would strictly be in specifications. accordance with the Section 7 of the regulations clearly mentions the procedure to be adopted by the local authority (i.e. C.M.C. Mysore) before granting development permission in the form of commencement certificate.



#### Prior approval from the local authority in:

- **#** Undertaking new construction within the vicinity of heritage property.
- **#** Demolition of heritage building
- **#** Permission for repair-restoration of structure and interior; collapsed portion and any addition/alteration works of the heritage building.
- \* Change of land use if the new use is compatible with that of the existing heritage buildings.
- **\*** No interventions are permitted either on the exterior or interior of Heritage 1 buildings unless it is necessary in the interest of strengthening and prolonging the life of the building itself or its precincts. For purpose, absolutely essential minimal changes are allowed and they must be in accordance with the original plan of the heritage structure or area. Permission for development purposes is given by the Planning Authority on the advice of the Task force which is appointed by State Government.
- # All development in areas surrounding Heritage Grade I structures are regulated and controlled, ensuring that they do not mar its grandeur or view in any manner.
- # The task force decides which buildings go under which grade. Following this, the Corporation either accepts or rejects these. The state then, notifies the list and the buildings are officially listed.

#### Heritage strategy

The heritage strategy of Mysore city focuses on preservation and conservation of the structure/areas identified. The components of the strategy include the following:

- **#** Identification of heritage areas/zones
- **# SWOT analysis**
- **\*** Setting out objectives of Heritage strategy
- **\*** Selection, listing and grading of heritage structures
- **#** Valuation of heritage buildings
- **Setting out activities for tapping the potential**
- # Identification of specific infrastructure
- **#** Setting out the financial plan

The above are discussed in the following sections:

#### Identification of heritage zones

The distinct architectural and cultural heritage of Mysore is defined and identified through the following areas:

- **#** The Palace Complex
- **#** Royal Mansions of Mysore
- ♯ Sayyaji Rao Road
- # Devaraja Market
- **#** Church Precincts
- Town hall and Clock Tower Precincts
- **♯** KR Hospital Area
- # University Campus
- # Chamarajendra Zoo
- **♯** Agraharas of Mysore
- **#** Chamundi Hill

#### **SWOT Analysis**

The strengths, weaknesses, opportunities and threats are presented below:

#### Strengths:

- **#** The heritage city continues to attract increased number of visitors every year.
- The slow and measured way of life adds to the charm of this royal city.
- # Brindavan Gardens, Rangana Thittu Bird Sanctuary, Srirangapattana, Melkote, Somanathapura, Talakadu etc, located nearby are added tourist attractions.
- \* The traditional products of Mysore viz., Mysore Silk, Sandal oil, Handicrafts, Mysore Mallige (Jasmine) etc. are of great commercial importance.

#### Weaknesses:

- **\*** Land developments on all sides have encroached upon the lung space.
- # Huge commercial constructions are coming up pulling down the heritage structures.
- **#** IT and BT Sectors are demanding huge extent of open space.

#### **Opportunities:**

- **\*** City Development Plan (CDP) is expected to give a face-lift to the entire city of Mysore.
- # Improved tourist infrastructure would provide tremendous commercial opportunities.
- # IT and BT sectors would attract visitors from all over the globe.
- **#** There would be more market for the traditional products of Mysore.

#### **Threats:**

- **#** Large scale speculative land purchase will add to the existing suffocation.
- The existing facilities and civic amenities may not be sufficient for the increasing tourist inflow.

# Setting out objectives of Heritage Strategy

The objective of heritage planning for Mysore is to value and preserve the rich

heritage of the composite culture of Mysore and to drive home the value of the inherited environment and to preserve what is being lost through destruction and negligence.

The other associated objectives of the same include the following:

- **\*** To promote, stimulate and create awareness among the public for the conservation, restoration and protection of the cultural and natural heritage of Mysore.
- To undertake measures for the preservation, conservation, restoration and protection of the cultural, architectural and natural heritage of Mysore.
- To evolve a participatory method for conservation and development of Mysore involving various stakeholders of Mysore.
- **\*** To empower and enable the local people to take care of the heritage site.

## Selection, listing and grading of heritage structures

The criteria for selection, listing, grading and process for grading of the selected heritage buildings is as follows:

# Criteria for selection of heritage building

Any building depicting characteristics of historic, socio-cultural value, striking architectural or artistic significance in respect of style, design, use of construction material etc.





In the middle of the 19th century, the Public Works Department was organized in the Mysore State which had European engineers, and most of the State buildings naturally came to be constructed under their supervision. As they were conversant with the types of buildings based on the five classic orders viz., Tuscan, Doric, Ionic, Corinthian and Composite, these buildings were raised in manner of Italian or Renaissance with classic details. The Oriental Research Institute. Maharaja's College, the District Offices, the Law Court buildings, and the Javalakshmi Vilas Mansion are some specimen of Renaissance buildings.

Buildings with architectural significance and traditional values are considered for their preservation and conservation. These buildings/structures/monuments play an important side in the history of the Region as well as the State in general, which requires proper maintenance. Some buildings/ structures are in endangered condition; some require strengthening, while mere maintenance is sufficient for some buildings/ structures. For this purpose, an inventory of such buildings upon which the heritage status has been conferred is undertaken.

# Criteria for listing of heritage buildings

The following information is required in listing of a heritage building.

- Description of buildings / precincts and its architecture, technique and materials used in its construction, available inscriptions, sculptures, paintings, artefacts and other details
- # Period
- # Owner / user
- **#** Serial number
- **#** Building type
- **#** Past and Present use
- # Location
- **#** Significance
- # Drawings and photo documentation
- **#** Status
- **#** Proposal for restoration and conservation

## Criteria for grading of heritage building

The Criteria for grading of buildings, precincts and areas are made on the basis of the following.

- **\*** Value for architectural, historical or cultural reasons.
- \* Value for date, period, design or uniqueness of building.
- **#** Relevance to Social and Economic History.
- \* A building, group of buildings or area of distinct architectural design or style, historic period or way of life having sociological interest and or of community value.
- # Unique value of a building, architectural feature or artefact that is part of a chain of architectural development that would be lost if broken.
- # Its value as a part of a group of buildings.
- **\*** Representing forms of technological development.
- \* Vistas of natural scenic beauty or interest, waterfront areas, planned lines of sight, street lines, skylines or topography.
- \* Open spaces sometimes integrally planned with their associated areas often having a distinctive way of life, having potential or are areas for recreational purposes.

# Grading of the listed buildings/listed precincts

The heritage buildings and precincts of Mysore are classified into three categories viz. grade I, grade II and grade III. This grading shall be on the basis of the parameters as tabulated below:

#### Strategies for tapping heritage potential in Mysore

**Table 4: Grading in Heritage Buildings** 

GRADE-I	<b>GRADE-II</b>	GRADE-III
Heritage Grade-I		Heritage Grade-III
		comprises buildings and
		precincts of importance for
		townscape; they evoke
embodying excellence in	possessing special	architectural, aesthetic or
		sociological interest though
		not as much as in Heritage
	historic significance	
aesthetics; they may be	though of a lower scale	to determine the character
		of the locality and can be
		representative of lifestyle of
		a particular community or
		<u>region</u> and, may also be
		distinguished by setting on
prime landmark of the	work of master craftsmen	
region.	•	character of the facade and
All natural sites shall	1 1	v C
fall within Grade-I	ornamentation, or	and scale.
	designed to suit a	
	particular climate.	

All the heritage pockets are being viewed from the conservation and development perspective besides developing tourism related infrastructure.

- \*\* Restoration to be undertaken without damaging the architectural heritage of the structure.
- Providing amenities in public places, markets etc. to cater to the needs of all stakeholders without losing the heritage characteristics.
- Developing Chamundi hills and foothill environs on lines of Nehruloka Scheme
- \*\* Redesigning and restructuring core zone to meet the increasing tourist demand.
- **\*** Creating awareness among the public about these issues.
- \* Preparation of a well articulated maintenance and management plan for all the heritage properties identified and listed.
- # Evolving guidelines and a policy document for the protection, conservation and management of heritage properties and areas.
- Conducting heritage conservation programmes under public and private partnership.
- # Implementing the existing regulations and rules concerning heritage conservation through local authorities.
- # Involving the public, elected representatives, NGOs, educational institutions, environmentalists, industrialists etc., for decision

- making on conservation and implementation of projects.
- Providing incentives like property tax exemptions to the owners of private heritage properties.
- Heritage conservation under city development plan is an exercise to convert weaknesses into strengths and threats into opportunities.
- # Every year activities like heritage walks, tonga ride, heritage awareness competitions etc., are organized
- Leaflets, hand books, guide books etc, are being brought out for the benefit of visitors/tourists.
- The existing fee structure would be revised (Palace, Museum, Art gallery etc.,) and entrance fee etc could be collected from tourists for the visits to the heritage buildings.
- Sound and light programs are being introduced which would highlight the history and heritage of the city.
- # Events would be organized in the premises to attract more number of visitors.
- Special events would be organized to attract the elite customers' niche market.

#### Valuation of Heritage Buildings

buildings Heritage benefit businesses and residences in the neighbourhood. Many professional groups, including construction firms and skilled and unskilled workers are The benefits can benefited. determining estimated by the enhanced capital or rental values of the properties in the neighbourhood.

Heritage buildings recognised as World Heritage sites attract tourists from all over the world and help earn valuable foreign exchange.

The inflow of a large number of visitors will directly benefit the growth of many trades, and the economy in general. Such trades include tourist hotels and general business. This kind of development has a multiplier effect. The valuation to be adopted is the benefit approach method.

Methods of Valuation include Stated Preference method, Travel Cost method and Hedonic Property Value.

In the Stated Preference method, enquiry is made among the local people and the tourists on the amount they are willing to pay to get the building recognised as a heritage structure. This enquiry may be made without any guidance to a possible figure or inviting people to choose between nominated options, including a monetary element, or seeking the people's approval for a certain expenditure or policy like a one-time payment or instalments paid with the property tax. This process was reportedly followed in the valuation of the Royal Theatre at Copenhagen by contacting about 1,800 people.

The Travel Cost method is based on the number of persons visiting the site and the cost of transport. This method was used to estimate the demand for museums in Quebec in 1994.

In the Hedonic Property Value, the prices of buildings with different characteristics are compared to show how the prices change with variation in characteristics in terms of architectural style, location etc.

# Setting out activities for tapping the potential

Mysore is vibrant with all kinds of developmental activities excessive urbanization has become a bane to the city. Old heritage properties are being sold only for their land value. Like the city of Udaipur which has the complete harmony of heritage buildings, surroundings, lakes, hills in the background and water in forefront Mysore also has all these requires and similar attention.



In order to retain the heritage characteristics of the city of Mysore especially the core zone i.e., falling within a radius of 2 kms from Mysore Palace the following activities are being undertaken.

- Listing, inventory and documentation of Heritage Buildings
- **\*\*** Comprehensive Conservation Plan for Heritage Properties
- **#** Condition mapping and Conservation Plans
- **♯** Design of Heritage Guide Books
- **\*\*** Conservation Guidelines manual specific to the location

Listing, Inventorying and Location Documentation of Heritage Properties of Mysore have been taken up in the first phase out of State budget.

Digital documentation and Art Line Documentation of prominent heritage buildings, structures, and precincts is being taken up in the second phase out of departmental funds. Comprehensive conservation plans for the above prominent heritage buildings, structures, precincts is proposed to be taken up in the third phase under JNNURM.

A minimum of 2500 to 3000 visitors including overseas tourists visit Mysore everyday. These tourists visit heritages places viz. Mysore palace, Jaganmohan Art Gallery, Hammond Temple, Mysore Zoo, Jayalakshmi Vilas Mansion, Devaraj Market etc., they also visit a host of other heritage structures listed by Mysore Heritage Experts committee. During October -November (Dasara) and in summer season the number of visitors to Mysore is still more. In all it is estimated approximately 30 lakh visitors visit Mysore every year.

Mysore is expected to receive more number of visitors in the ensuing years. In the next year alone it is expected that there would be an increase of 30 to 35 % visitors to Mysore. The increased number of visitors obviously demands more tourist infrastructure.

Some heritage structures that have been identified for renovation in the first phase of JNNURM include:

- # K R Hospital
- **#** Ayurveda Hospital buildings
- # CAVA
- # Devaraja Market
- **¥** Vani Vilas Market
- **#** Sitavilas Choultry
- # Mandi Mohalla Market.

#### Infrastructure

The infrastructure to meet heritage requirements has been identified and

following steps are been taken to achieve the same.

- # A systematic study is being undertaken to improve the existing pathways, widening the roads and to improve parking etc..
- # Beautification and landscaping of heritage properties is being undertaken.
- Private entrepreneurs would be encouraged to start new hotels/ add to the existing infrastructure including budget hotels (bed and breakfast) for the use of increasing number of visitors.
- # Wherever possible the owners of heritage buildings would be encouraged to start heritage hotels and incentives would be provided to such entrepreneurs.
- \* Adequate tourist conveniences /visitor conveniences would be provided by the Department of Tourism.

#### Financial Arrangements:

The State government is providing budget for the maintenance of heritage sites and to conduct heritage promotion activities. However, as the budget is limited, Government of India through schemes like heritage up gradation under the 12th finance commission funds etc. is providing funds for the purpose. JNNURM is another such platform for heritage conservation.

The respective owners of the building or the heritage property are also expected to do the proper up keep of their heritage property with hand holding from local authorities; efforts would be undertaken to create a separate fund for the repair and maintenance of heritage building vide section 13 of the regulations. The city corporation would arrange to provide infrastructure viz., improvement of roads, pathways, parking, water

supply, sanitation, garbage clearance etc. out of their budget under various schemes. The Department of Tourism would provide the required additional tourist facilities out of their budget under various schemes.

#### Financing Plan:

The Heritage buildings owned by the State Government, Central Government, City Municipal Corporation, Mysore University, Palace Trust, zoo Authority, Sports Club, Race club etc., are having own resources for day to day up keep and annual maintenance.

The following financial plan is envisaged for comprehensive conservation.

- # Apart from the regular budget special budget provision under the scheme of Suvarna Karnataka, the 12th finance funds commission Government of India etc. are available for the Heritage Conservation activities. JNNURM is another scheme under which these activities can be undertaken on a large scale basis.
- # Heritage Conservation activities can also be undertaken in collaboration with National Service Scheme. **Indian National Trust for Art** and Cultural Heritage and Dharmasthal Dharmothana Trust. the **Mysore** city corporation, Mysore University, Palace Trust etc., There is already an existing scheme under public private partnership for landscaping, beautification and conservation of etc.. monuments.

Soft Loans would be raised from Institutions like JBIC, and special assistance would be requested to State and Central Government.

#### Action Plan

All heritage buildings listed at Mysore require comprehensive conservation. In addition some heritage roads and boulevards in the core zone would also be considered renovation. Under cost conservation a sum of Rs 50 crores has been allocated per time period. phasing of conservation renovation work has been spread across time periods as follows:

Table 5: Percentage of Heritage Buildings renovated

Bundings renovated			
Time Percentage of			
Horizon	buildings renovated		
2007-12	21.7 %		
2013-17	21.7 %		
2018-22	21.7 %		
2023-27	21.7 %		
2028-31	13.2 %		

The plan proposes to take up the conservation of 44 heritage buildings during the time period of 2007-12.

# CHAPTER 3: ANALYSIS OF EXISTING URBAN SITUATION

For developing the CDP, it is important to carry out an assessment of the current state of urban parameters, and of delivery of urban services. This chapter sets out the key statistics of the urban infrastructure services in Mysore. A summary has been presented below:

#### **Summary Statistics**

1	Height (MSL)	770 meters
2	Latitude	12.18 North
3	Longitude	76.39 East
4	Population (2001 Census)	Male : 398730, Female : 387070 Total : 785800
5	Female Population per 1000 Male (1991 Census)	967.41
6	Population growth( 1991-2001)	20.48%
7	Density & Population (per sq. km)	6,129.72
8	Area	128.42 sq. km
9	Dwelling Families 2001 census	1,65,815
10	Average Members in the family	5.32
11	Rate of Literacy (2001 Census)	Male – 88.6%, Female – 80.2% Total – 84.5%
12	SC Population (2001 Census)	85,574
13	ST Population (2001 Census)	27,695
14	Labourers(1991 Census)	Male- 1,12,534, Female- 19,260,

		Total-1,31,794
15	Road Length (km)	Corporation – 1093 PWD – 57.78 NH – 5 University – 26 Total – 1181.78
16	No. of Street Lights	36,863
17	No. of sodium Lamps and High Mast lamps	9.962 8 Corporation 10 MUDA
18	Average street lights per Km	40
19	No. of Wards	65
20	Average rainfall	789.20 mm

#### **Demography**

According to the 2001 census of India, the population of Mysore is 7.86 lakhs, while the current population (2006E) is estimated to be around 8.9 lakhs (assuming growth of 2.5%).

The literacy rate of urban Mysore is considerably higher than that of the State average, at 82.8%. A majority of the city's population speaks Kannada, while other languages such as Tulu, Tamil and Hindi are also spoken.

The population has been increasing at a compounded annual rate of 2.5% in the last two decades, which is higher in comparison to the population growth for the state of Karnataka.

The population of Mysore has experienced a spike in the last 4 decades with the population increasing to 7.86 lakhs in 2001 (Census, 2001) from 2.54 lakhs in 1961 (Census, 1961). While the growth in the period up to 1971 is attributable to industrialization like automobile and engineering, the

growth in the period from 1971 to 1991 is due to the increase in heritage, culture, spiritual tourism and Mysore becoming a regular feature on the tourism circuit. Mysore has multiple industrial zones such as Hebbal, Metagalli, Belagola, Belavadi and Hootagalli industrial areas. The growth in the decade of 1991-2001 and in the last five years is largely due to the growth of IT and ITeS industry in the city. The table depicts the below historical population trends.

Table 6: Historical Population Trends

Table of Historical Population Trelius				
Population (lakh)	Average decadal Growth rate (%)			
0.68				
0.71	4%			
0.84	18%			
1.07	27%			
1.5	40%			
2.44	63%			
2.54	4%			
3.56	40%			
4.79	35%			
6.53	36%			
7.86	20%			
	Population (lakh)  0.68  0.71  0.84  1.07  1.5  2.44  2.54  3.56  4.79  6.53			

Source: MUDA, CDP and Census of India, 2001

The population of Mysore has been projected using the extrapolation method. This method extends the past population growth project the trend to population, assuming the historical rate of growth, as stated above. Assuming the historical rate of growth (2.5%), Mysore is forecasted to reach around 16.5 lakhs in the year 2030 (depicted in the table below).

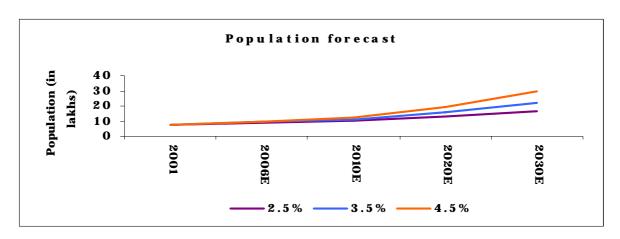
The increase in population predominantly from natural causes. There has been no increase in population due to jurisdictional composition changes. The population growth has been calculated assuming that the natural increase in population growth for Mysore has been identical to that for the entire state of Karnataka i.e. 17.25% for the period 1981-91 and 21.12% for the period 1991-01., and the balance is attributed to inmigration.

**Table 7: Composition of Growth** 

Composition of growth				
Population increase during				uring
Composition	1981 - % of 1991-01 % o			% of
	91	total	1991-01	total
Natural increase	1.01	58%	0.83	62%
In-migration	0.73	42%	0.50	38%
Total increase 1.74 1.328				

Source: Census 2001 and iDeCK estimates

#### **Population Forecast**



**Table 8: Population Forecast** 

Population forecast (in lakhs					(in lakhs)
Scenarios	2001	2006E	2010E	2020E	2030E
Base Case (2.5%)	7.9	8.9	10.1	12.9	16.5
Medium growth (3.5%)	7.9	9.3	11.1	15.7	22.1
High growth (4.5%)	7.9	9.8	12.2	19.0	29.5

Source: Census 2001 and iDeCk estimates

The chart and table above illustrate three growth scenarios, namely, base growth, medium growth and high growth scenario.

Base case Scenario: In the base case scenario, the population is envisaged to grow at the historical growth rate of 2.5%. This would imply that by the year 2030 the population would reach 16.5 lakhs.

In the medium growth scenario, the city's growth is assumed to be 3.5%, which would be slightly more than the historical growth rate owing to increasing urbanization. This would imply that the population would be around 22 lakhs by the year 2030.

In the high growth scenario the growth is assumed to be 4.5% because of Mysore's attractiveness as a business hub. This would mean that the population would increase to around 29.5 lakhs by the year 2030.

#### Land Use Pattern

The total area for Mysore city as per MUDA has shown an increase to 9221 hectares in 2001 from 7569 hectares in 1995, representing a growth of 22%. As per MUDA, the total area is further expected to increase to 15669 hectares by 2011, representing a significant increase of around 70 % over the total area in 2001. The city's growth in the recent years has been skewed towards southern Mysore i.e

the industrial areas located in Nanjangud. MUDA/ private developers developed have layouts in the area like, Vijayanagar and Nagar. Besides. the J.P. residential layouts the private developers have lined up an array of proposals to develop malls. convention centres and golf course.

#### Land use (1995)

Table 9: Landuse in 1995

Category	Area in hectares	% Area 1995
Residential	3,057.30	40.4
Commercial	182.23	2.41
Industrial	1021.01	13.4
Park and open spaces	415.77	5.49
Public and semi- public	856.45	11.32
Traffic and Transportation	1,530.73	20.22
Public utility	37.26	0.49
Water sheet	182.68	2.41
Agricultural	285.34	3.73
Total	7,568.77	100

MUDA has also proposed to develop few residential layouts in the north east part of Mysore, such as, those towards Bannur/T. Narsipura like Shastri Nagar.

#### Land use (2001)

Table 10: Landuse in 2001

Category	Area in	%
	hectares	Area
		2001
Residential	2,849.91	39.9
Commercial	215.95	3.02
Industrial	962.61	13.48
Park and open	981.7	13.74
spaces		
Public semi-	639.69	8.96
public		
Transportation	1,150.27	16.1
Public utility	36.48	0.51
Water sheet	143.99	2.02
Agricultural	162.33	2.27
	7,142.93	100
Nehru Loka	2,078.14	
Total	9,221.07	

The total area demarcated for parks, open spaces and Nehru Loka (green spaces) is expected to decrease marginally to 2690 hectares (2011) as per the proposed land use pattern for the year 2011. This is at present at present around 3060 hectares (2001). The area allocated to Nehru Loka is expected to help preserve the green spaces around the Chamundi Hills area.

The total area demarcated for residential purpose is expected to increase as new residential layouts are coming up. The residential area is estimated to be 6098 hectares in the proposed land use pattern for 2011. This would represent an increase of almost 114% over the area of 2850 hectares in the land use pattern for 2001.

The percentage of land for agricultural purpose is also expected to increase from 2.27% (162 hectares) in 2001 to 6.41% (899 hectares) in 2011.

However, the percentage of area for commercial, industrial and traffic/transportation purpose has not varied over the three periods, as is illustrated in the land use tables.

#### Land use (2011)

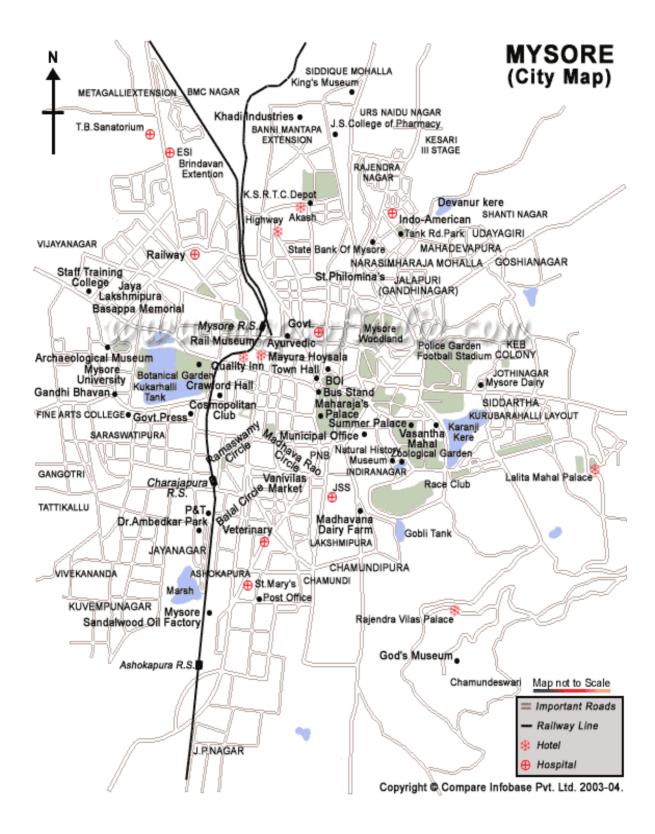
Table 11: Proposed landuse in 2011

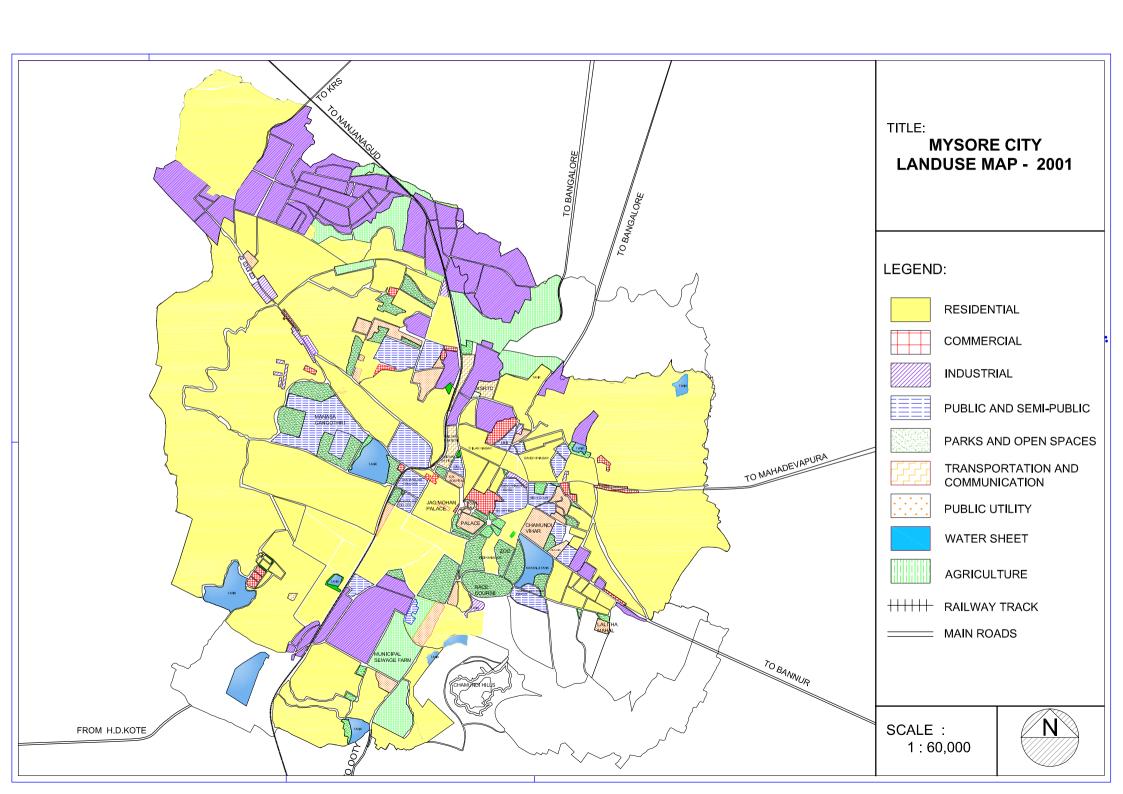
Category	Area in hectares	% Area 2011
Residential	6,097.87	43.45
Commercial	344.07	2.45
Industrial	1855.05	13.22
Park and open spaces	1055.05	7.52
Public and semi-public	1180.78	8.41
Traffic and Transportation	2,380.56	16.96
Public utility	43.35	0.31
Water sheet	178.95	1.27
Agricultural	898.99	6.41
Nehru Loka	1,634.82	-
Total	15669.49	100

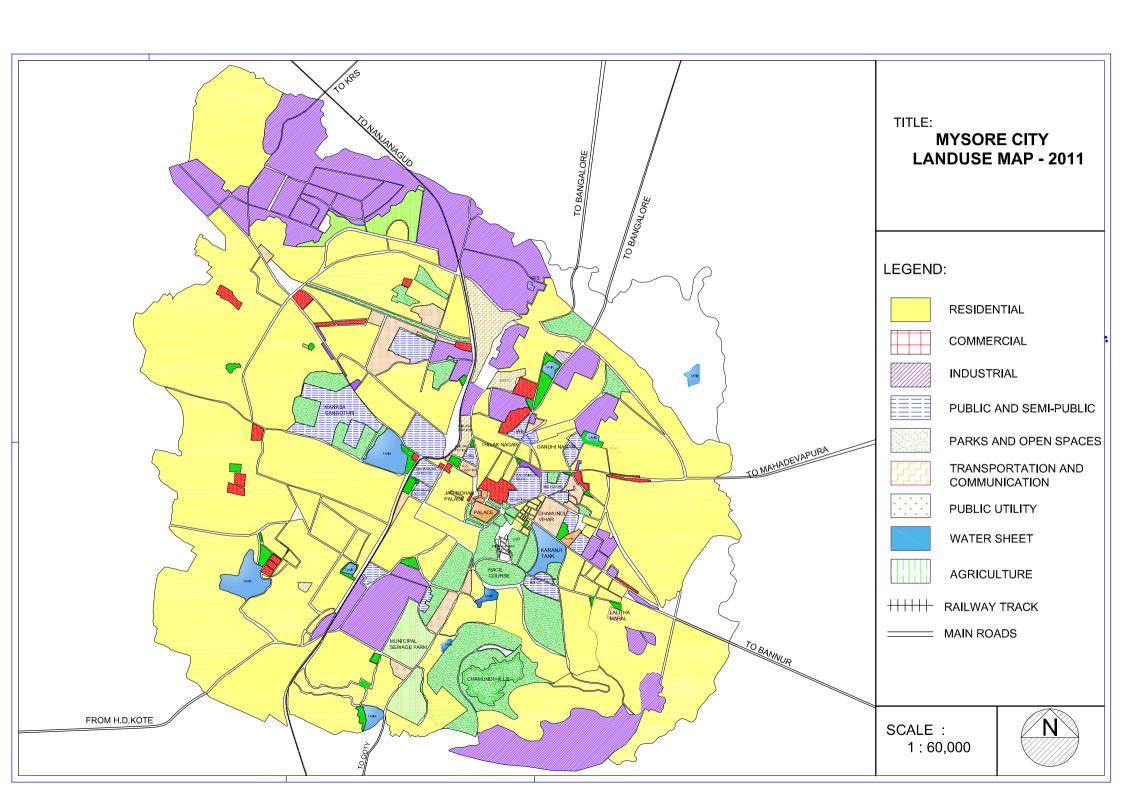
Currently, the city is undertaking GIS mapping to update land-use data and property details, and the Comprehensive Development Plan (master plan) is also being currently updated.

The following maps have been enclosed in pages below:

- 1. Mysore City Map indicating various colonies and localities (not to scale)
- 2. Land use map (2001) (to the scale)
- 3. Land use map (2011) (to the scale)







#### **Urban Poor**

There are a total of 80 slums (declared and undeclared) in Mysore, as per the survey conducted by KSCB. Out of these, 49 are declared (also referred as notified) slums. The number of declared slums in Mysore has increase compared to 2001, wherein the number of declared slums was 34 (Census 2001).



The current population of declared slums in Mysore is estimated at 81,000. As per the census of 2001, the population for these declared slums in Mysore was 71, 552.

Table 12: Mysore Slum Population

rabie 12: Mysore Sium Popi				
Mysore	(M	Corp)		
Slum Population				
	200	1		
Male	3596	67		
Female	3558	35		
Total	7155	2		

Source: Census of India, 2001

As per a survey undertaken by DMA and KSCB the number of BPL families and number of persons below BPL in Mysore are 31,196 and 1,55,980, respectively, as in the year 2001. The number of BPL persons in Mysore comprises 19% of the total population of Mysore, which as per the Census 2001 was around 7.85 lakhs.

The data on availability of basic services to urban poor has been estimated as per the National Sample Survey data for Karnataka, 2002. Some of these are:

**Sanitation access: 34% of slum** 

**Waste collection service:** 50%

# Access to pukka houses: 30%

# Easy access to water supply (within 50 metres): 40%

The percentage of declared slum population in Mysore is less but there has been a spurt in the number of slums in Mysore in the recent times due to increasing urbanization. This is visible from the increase in the number of slums declared by KSCB during the previous two decades to meet the infrastructure & services need of the urban poor of Mysore City.

Table 13: Number of Slums notified in past two decades

SI. No	Time period	Slums notified
1	Before 1985	3
2	1985-90	10
3	1990-95	2
4	1995-00	15
5	2000-05	19
	Total	49

Source: KSCB, 2006

Like other informal markets, the informal land and housing market is exploitative and has several negative impacts.

First and foremost, informal settlements are often located on marginal land (along storm water drains, railway lines, steep slopes and on or near garbage dumps) and are prone to natural and man-made

disasters. They are also often illegal and those living there do not have security of tenure.

Slum and squatter settlements in Mysore are growing at alarming rates. Rapid urbanisation and job opportunities in Mysore attract unskilled labour in large numbers to Mysore.

Visible disparities between slums and better-off neighbourhoods increase the social tensions in poorer areas.

Unplanned growth of settlements makes conventional service provision complicated

The thrust of the strategy for improving the quality of life for urban poor in Mysore has been to provide slum dwellers of the city with housing facilities, access to basic services such as, water, sanitation and waste collections service.

KSCB has been working towards providing basic housing facility to the slum dwellers in the city. Under the improvement scheme KSCB constructed 1390 tenements for the benefit of the following 11 slums:

- # Medar's block
- **Ashokapuram**
- **\*** Raja Soap factory
- # Doddakere Maidan
- # Govindrao Memorial Hall
- # Jyothinagar
- **¥** Visweswaranagar
- Slum between railway line and RMC premises
- **#** Chamundeswari block
- Janatha Saw Mill

#### # Durgamba temple

The KSCB has constructed houses in Bogadi, Satagally and Gokulam for rehabilitating the slum dwellers of the city.

Besides these, MUDA has constructed 107 EWS houses, 64 LIG houses, 21 MIG houses. Apart from this, MUDA has also developed 6714 houses under the "Ashamandira" scheme.

Karnataka Housing Board (KHB) has built 1000 houses for beedi workers and 500 houses under composite housing scheme in Kyatamaranahally. KHB has also undertaken a huge project to construct 3000 houses in Hootagally.

In addition to the above, Bharat Earth Movers Limited, Rare Material plant have completed industrial housing scheme for their employees. These total around 6000 houses.

There are 18, 404 slum houses in Mysore. The list of notified slums and the number of slum houses in each of these slums is provided below:

**Table 14: List of Notified Slum** 

Sl. No	Ward No	Location	Туре	Households
1	7	Madhuvana & behind St. Mary's School	Notified	140
2	10	Behind Sarvajanika Hostel	Notified	140
3	12	Nachanahalli Palya	Notified	360
4	12	Industrial suburb	Notified	120
5	12	Devaraja Urs colony	Notified	150
6	12	Dharma Singh colony	Notified	150
7	13	Dr. Ambedkar Colony, Ashok Puram	Notified	200
8	13	Nellur Shed	Notified	332
9	15	Jayanagar, Pampapathi Road	Notified	122
10	15	Chinnagiri Koppal	Notified	350
11	21	Kuduremala, behind Coffee board	Notified	130
12	31	RMC Yard	Notified	120
13	31	Medar Block	Notified	450
14	31	Yashwanth Nagar	Notified	110
15	31	Bamboo Bazar	Notified	110
16	32	Manjunathapura	Notified	300
17	33	Metagalli, Ambedkar colony	Notified	820
18	35	Behind P.K. sanitarium	Notified	150
19	40	B.B. Keri	Notified	820
20	44	Behind KSRTC	Notified	152
21	44	C.V. Road	Notified	415
22	46	Behind Jail	Notified	70
23	47	Kesare Slaughter House	Notified	291
24	47	Kesare, Belavatha Colony	Notified	130
25	47	Belavatha Janatha colony	Notified	150
26	52	Chamundeshwari Nagar	Notified	220
27	57	Ghousia Nagar	Notified	4400
28	57	Kyathamaranahalli, A.K. Colony	Notified	180
29	58	Kyathamaranahalli	Notified	965
30	60	Jyothi Nagar, P.K. Colony	Notified	200
31	63	Kurubarahalli	Notified	330
32	65	Ghousia Nagar, Beedi workers colony	Notified	150
33	45	Janata Sawmill	Notified	94
34	11	Vishweshwara Nagar	Notified	83
35	50	Gandhi Nagar, Chamundeshwari Road	Notified	113
36	19	Vasanthnagar	Notified	170
37	64	Girijabovi Palya	Notified	218
38	41	Kailasapuram	Notified	506

Sl. No	Ward No	Location	Туре	Households
39	52	Siddappaji Block	Notified	76
40	52	Durgamba Temple, Gandhi Nagar	Notified	86
41	31	Yadavagiri	Notified	62
42	36	Gokulam	Notified	80
43	7	Madhuvana	Notified	129
44	21	Bogadi Road	Notified	130
45	59	Ghousia Nagar, 2 <sup>nd</sup> Stage, 'B' Block	Notified	250
46	8	Elethotha	Notified	80
47	22	Kukkarahalli	Notified	150
48	46	Bade Makhan	Notified	450
49	56	Shanthinagar	Notified	3000
				18404

A brief of the current status, goals, vision, sector strategies and funding requirements discussed above is tabulated as below:

#### For the Mission Period (2007-12)

The table below sets out goals and visions for the mission period (2007-12) and also states the funds required to finance the achievement of these goals.

Table 15: Goals and Visions for the Mission period 2007-12

Sector	Parameters	Current Status	Goals and Vision 2012	Sector specific strategies	Total Required Funds (2007-12)	Required JNNURM Funds (2007-12)
Basic Services		30%	50%	-EWS Housing (including		
for the Urban	Slum dwellers with			infrastructure and O&M)		
Poor	houses			-Construction of public toilets fo		
	Water within 50	40%	50%	slums		
	metres of			-Provide employment	Rs 201 crores	Rs 155 crores
	inhabitation			opportunities, health and		
	Waste services	50%	60%	education facilities		
	collection			-Development of bus bay/shelters		
	Sanitation	34%	50%			

#### **For the Period (2013-31)**

The table below sets out goals and visions for the period (2013-31) and also states the funds required to finance the achievement of these goals.

Table 16: Goals and Visions for the Mission period 2013-31

Sector	Parameters	Goals and Vision 2017	Goals and Vision 2031	Sector specific strategies	Total Required Funds (2013-31)
<b>Basic Services</b>		60%	100%		
for the Urban	Slum dwellers with				
Poor	houses			-Slum rehabilitation	
	Water within 50 metres of inhabitation	60%	100%	-Provision of basic services, employment opportunities, healthcare and education facilities	Rs 1051 crores
	Waste services collection	60%	100%	nearthcare and education facilities	
	Sanitation	60%	100%	1	

# Institutional Responsibility

The city is governed by the Mysore City Corporation (forming the legislative branch), headed by a Mayor. The Corporation comprises 65 wards with an elected Corporator for each ward. The Commissioner, Health Officer, and Engineers in charge of health, water supply, & sanitation, form part of the executive branch.

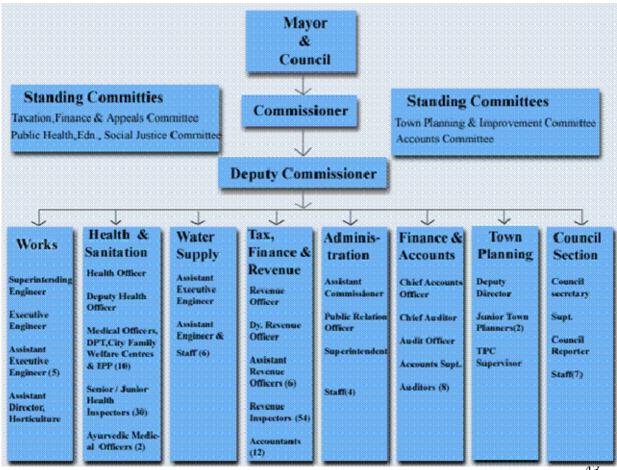
MUDA (Mysore Urban Development Authority) is responsible for creation of new sections (layouts), zoning and expansion of the city.

The Mysore Zilla Parishad is responsible for the rural sections of the taluk. Apart from these agencies, there are several others that play a very important role in the city's functioning and governance. These include:

- Karnataka Urban Water Supply and Drainage Board (KUWSDB)
- 2. Karnataka Public Works Department (PWD)
- 3. Karnataka State Road Transport Corporation (KSRTC)
- 4. Department of Archaeology and Museums
- 5. Lake Development Authority
- 6. Zoo Authority of India

# Mysore City Corporation (MCC)

The **Mysore** City Municipality celebrated its centenary in 1968. In July 1862, a Municipal Committee was established under a notification of the Government. Till 1871 the Municipal Committee had no statutory The basis. British



Commission, which administered the Mysore territory at that time gave serious consideration of the matter and promulgated a regulation in 1871 to give the Municipal Councils a statutory and legal basis. The Statute, which was a milestone in the history of local self-government institutions in the state was extended to the Mysore Municipality in 1888.

In pursuance of this policy, the Deputy Commissioner of the Mysore District was made the ex-Officio Commissioner of the Municipality. In a further landmark was achieved by the introduction of an elected element, which was one half of the total strength. Out of 24 Councillors 12 were elected on purely property qualification. In 1918 the strength was increased to 30. It was at this time whole time officer of the status of the Deputy Commissioner was appointed to manage the affairs of the Municipality. The Councillors were elected once in 3 years and the President and Vice President every Year.



The Mysore City Corporation is governed by the Karnataka Municipal Corporations Act 1976. It was converted as Mysore City Corporation on 10-06-1977. The area of Mysore City Corporation is 128.42 sq.km.

# Important Obligatory Functions of MCC

The important obligatory functions of MCC are as given below:

- # Watering and cleaning of all public streets and public places, and removal of all sweepings thereon;
- Collection, removal, treatment and disposal of sewage, offensive matter, and rubbish — and preparation of compost/ manure from such sewage, offensive matter, and rubbish;
- \*\* Construction, maintenance, and cleaning of drains and drainage works and of public toilets, urinals, water closets and similar conveniences;
- # Lighting of public streets, Municipal Markets, and places of resorts in the limits of the Corporations;
- # Maintenance of all Public Monuments, open spaces, and property vesting in the Corporation;
- ★ Regulation and abatement of offensive and dangerous trades or practices;
- # Maintenance of places for the cremation/ burial of the dead;
- # Maintenance and regulation of Public markets and slaughterhouses;
- # Maintenance of service for conveying dead bodies to crematoriums;
- **\*** Taking measures to meet any calamity affecting the public;
- # Control of epidemic deceases.

# Important Discretionary Functions of MCC

The important discretionary functions of MCC are as given below:

- \*\* Organization, maintenance of chemical or bacteriological laboratories for the examination or analysis of water and food for the detection of epidemic deceases;
- **Welfare** measures for Corporation employees;
- **#** Infant care programmes;
- \*\* Programmes relating to Improvement of Public Health.

# Functions transferred to MCC under 74<sup>th</sup> Constitutional Amendment

Subsequent to the 74th Amendment to the Constitution of India. in order to transfer the functions to the municipal corporations, the Karnataka Municipal Corporations 1976 amended Act was (vide Karnataka Act No. 35 of 1994) on October 5. 1994. The notable amendments include the following:

- Section 13 A of the principal Act was substituted to introduce the constitution of Wards Committee in a city with population of 3 lakhs or more.
- Under Section 58 of the principal Act, after clause 28, clause 28 A was introduced to include registration of births and deaths, clause 28 B on regulation of tanneries.
- Under Section 59 of the principal Act, after clause 21, clause 21 A was inserted on slum

improvements and upgradation, clause 21 B on urban forestry, protection of environment and promotion of ecological aspects, clause 21 C on urban poverty alleviation and clause 21 D on promotion of cultural, education and aesthetic aspects.

**#** Section 503 A of the principal was substituted, which provides that every Corporation shall prepare every year a development plan. Government will constitute a Metropolitan Planning Committee Bangalore Metropolitan Area (section 503 B), and the Finance Commission to review financial position of the **Corporations** make and recommendations to the Governor (503 C)

The transfer of functions has, in some cases, been accompanied by staff movement as well. For instance, in case of water supply, this activity is now being handled by MCC. The KUWSDB has deputed its staff for managing the system.

# Mysore Urban Development Authority (MUDA)

Mysore can boast of having the first City Improvement Trust Board (CITB), in the Country, set up in 1903. On account of this Act the City has better planned extensions and Under the Town housing. Country Planning Act 1961 regulation and planned growth of land-use, and development of Town Planning Schemes commenced from The Planning Authority prepared the O.D.P for Mysore City in 1972. The proposed Conurbation area was 58.38 sq.km for estimated population of 5 Lakhs by 1986.

The C.D.P prepared by the Planning Authority was approved in 1981 and the proposed Conurbation area was 92.21 sq.km for an estimated population of 7 Lakhs by 2001 AD. Subsequently Nanjangud Town Planning Area was amalgamated with Mysore Planning Area and called the 'Mysore Nanjangud Local Planning Area' in 1984 and in 1988 declared as local planning area for the 'Environs of Mysore-Nanjangud Local Planning Area' covering an extent of 495.32 sq.km.

The Government of Karnataka established the Urban Development **Authorities** for the planned development of major and important urban areas in the State and the area adjacent thereto and to matters connected therewith under Urban Karnataka Development Authorities Act 1987.

As per the said Act, the City Improvement Trust Board (C. I. T. B), Mysore and Local Planning Authority of Mysore was amalgamated and the present Mysore Urban Development Authority came into existence. MUDA was constituted on 16th May 1988.

Mysore Urban Development Authority (MUDA) combined in itself the Planning functions of the City Planning Authority and the development functions of the erstwhile MUDA.

The Comprehensive Development Plan of Mysore was revised in 1997 due to rapid industrialization, population growth, changed economic activities and land-use. Various industries including the IT industries form the chief economic base of the city and also the main contributors for the development of

the city. Mysore acts as an important Agricultural Products Market and a Commercial Centre for the neighbouring Settlements

As per the KUDA Act 1987, the Commissioner of the Authority is the Chief Administrator and Chief Executive of MUDA. The Chairman heads the MUDA.

Mysore is growing rapidly in all sectors. Housing to fulfil requirements of ever-increasing population and changes of land-use be envisaged. development needs to be planned accordingly. The supporting services - water supply, sanitation, electricity, transportation, etc, need to be planned. MUDA is in the process of Comprehensive revising the Development Plan.

MUDA has formed many layouts and distributed nearly 35,000 sites and 10,000 houses after it came into existence. It has also handed over the developed layouts to Mysore City Corporation for further maintenance. Vijayanagara Layout Ist, IInd, IIIrd and IVth Stage, formed by the Authority, is the biggest layout in South Asia, covering an area of nearly 2000 acres having 25,000 sites.

#### **Functions of MUDA**

The Mysore Urban Development Authority performs planning and development functions within the MUDA area.

#### **Planning**

The Mysore Urban Development Authority is designated as the Planning Authority under the Karnataka Town and Country Planning Act, 1961. The Planning functions in brief involve the following:

- Preparation of development plan for Mysore;
- **Preparation of Scheme Plans**;
- **\*** Approval of Development Plans for Group Housing and Layouts;
- **#** Approval of Building Plans;
- \* Other statutory functions under KTCP Act.

#### **Development**

In addition to the planning functions, the MUDA Act envisages the following development functions:

- **Planning and implementation of schemes to provide for** 
  - **Testidential** sites
  - **Tommercial sites**
  - Industrial sites
  - Civic Amenity sites, and
  - **Tarks and Playgrounds**
- **\*\*** Construction of Commercial Complexes
- \*\* Construction of houses for Economically Weaker Sections, Low Income Group, Middle Income Group, High Income Group
- Development of major infrastructure facilities

## **Organization**

The Authority has the following departments, viz.:

- # Engineering Department: The Engineering Department is primarily concerned with the execution of various developmental schemes in the layouts as also infrastructural works. This department also monitors the execution of water supply and underground drainage works of MUDA.
- Town Planning Department: The Town Planning Department is responsible for preparation and revision of the Comprehensive Development Plan for Mysore &

Nanjangud Area, preparation of Layout Plans, approval of Development Plans for Layouts and Group Housing Schemes and generally assists the Authority in its function as the planning Authority for Mysore.

- **#** Land Acquisition Department
- **#** Finance Department
- # Law Department: The Law Department advises the Authority on various legal issues, and handles litigation by and against the Authority in various courts, etc.
- General Administration
  Department & Site Section: The
  Administration Department
  handles all matters pertaining to
  allotment of sites, shops and
  houses, assessment of property
  tax, leases and shop rents. The
  department is also entrusted
  with the responsibility for all
  establishment and general
  administrative matters.
- \*\* Auction Department: Auction section deals with the auctioning of the Corner and Intermediate sites of the Authority as per the provisions of the KUDA Act.

# The Karnataka Urban Water Supply and Drainage Board (KUWSDB)

KUWSDB was established under Karnataka Act No.25 of 1994 (the Act) with a mandate to provide potable water and under ground drainage facilities in urban areas of Karnataka, other than Bangalore city.

KUWSDB's current operations include the following:

- 1. Planning, design and execution of Water Supply and Drainage schemes
- 2. Technical assistance to ULBs in implementation of schemes

- 3. Operation and maintenance of water supply schemes transferred to ULBs
- 4. Scarcity relief works, with financial assistance from GoK
- 5. Deposit contribution works at the request of ULBs

The water supply and underground drainage schemes in Karnataka are entirely managed by GoK and its agencies. The schemes are constructed by KUWSDB and on completion are handed over to the ULBs who carry out operations and maintenance. Cost of capital works is met by KUWSDB from sources raised as Government grants or loans from LIC and HUDCO.

# Karnataka State Road Transport Corporation (KSRTC)

KSRTC has an extensive service network in Karnataka and also to important destinations in neighbouring States, operating 4334 schedules covering 16.33 lakh km, and carrying 22.50 lakh passengers everyday.

KSRTC has one corporate office, 10 Divisional offices, 50 Depots, 2 Bus bodybuilding Workshops, 1 Printing Press, 103 bus stands and 4706 buses.

The management of the affairs and business of the Corporation is vested with the Board of Directors, with the Managing Director being appointed by the State Government, as the Chief Executive of the Corporation.

After the initial capital outlay, only a nominal amount of Rs.15.00 lakhs to Rs.20.00 lakhs were provided up to 1998-99 by the State Government towards capital, & State Govt.

stopped giving capital contribution completely to KSRTC from 1999-2000 onwards. Hence the Corporation is depending solely on external borrowings for its capital expenditure program.

KSRTC runs a variety of bus services to cater to its varied user base and destinations. Some of these are:

# Airavat: 'Fly-by-road' luxury buses;



- **#** *Mayura*: AC comfort buses;
- \* Rajahamsa: Semi-sleeper and executive buses;
- **#** Karnataka Sarige: Upgraded Mofussil buses;
- # Mini buses
- **#** Courtesy coaches
- **#** Pick-up-and-drop services

# **Public Works Department**

**Public** Works **Department** responsible for road works including maintenance on National Highways, State Highways, and Major District construction Roads and and maintenance of Government Buildings. It also undertakes construction on behalf of other department under the **Deposit** Contribution Works.

The Public Works Department has three Zones, namely, Communication and Buildings — South Zone, North Zone and National Highways. Each Zone is headed by a Chief Engineer. The Zonal offices consist of 'Circles" and 'Divisions'. The Divisions are controlled by Circles, and Circles are under the control of Zones. Each Circle is headed by a Superintending Engineer. The Divisions are headed by Executive Engineers.

### **Zoo Authority**

The Wodeyar Kings had a vision to create a well laid-out city amidst the gardens, and founded the world-famous Sri Chamarajendra Zoological Gardens, Mysore.



Sri Chamarajendra Zoological Gardens, Mysore has a history of more than 110 years, and houses a variety of species not only of this country, but from over forty countries in the World. It has beautiful landscape with good vegetation cover resembling to that of natural environment.



In 1979, the Zoo Authority of Karnataka was established with its Governing Council to cater to the needs of its administration.

# Department of Archaeology

The Department of Archaeology and Museums came into existence during 1885 and it is one of the oldest Archaeological departments in the Country. B.L Rice, the first Director, published 9000 inscriptions in 12 volumes of "Epigraphia Carnatica".





# Lake Development Authority

The Lake Development Authority was created by a Government Order in July 2002, as a registered society under the Karnataka Societies Registration Act, 1959. It is a nonprofit. autonomous, regulatory, planning, and policy body for protection. conservation. reclamation, restoration. regeneration and integrated development of lakes, whether natural or man-made, in Karnataka,

#### **Role of Private Sector**

As of now, all functions are being carried by the governmental agencies mentioned in the table above. The private sector has not had a role to

play in urban infrastructure, and its role has been limited to commercial infrastructure.

The following table summarizes the role and responsibilities of various agencies

Table 17: Role and Responsibilities for different Agencies

Institutional responsibility					
Urban infrastructure	Planning and design	Construction	Operation and maintenance		
Water supply	KUWSDB	KUWSDB	MCC		
Sewerage	KUWSDB	KUWSDB	MCC		
Storm water drainage	MCC	MCC	MCC		
Solid waste disposal	MCC	MCC	MCC		
Municipal Roads (incl. Flyovers)	MCC	MCC	MCC		
Street lighting	MCC	MCC	MCC		

Apart from these agencies, MUDA is responsible for planning and development functions within the MUDA area, including development of layouts and townships. The city has two local agencies i.e MCC and MUDA, all other agencies in providing infrastructure services in the city are parastatal agencies like, KUWSDB and KSCB. MCC and MUDA have separate areas of jurisdiction, which helps in their independent functioning.

# **Urban Infrastructure Services**

The status of urban infrastructure services is presented in the following sections.

### **Service Indicators**

A study was conducted by Directorate of Municipal Administration (DMA) to assess the municipal service delivery in select towns. Among these towns, Mysore stands out with the highest level of average service delivery for various municipal services in Karnataka. A summary of the same is presented below:

7E 11	10	a	•	<b>a</b> •
Table	1 X •	COPOC	tor	Services

SCOR	RES FOR SERVICES		
Sl No.	Name of Service	Weight age	Score
1	Water Supply	10	5.8
2	<b>Solid Waste Management</b>	10	6.4
3	<b>Sewerage and Storm Water Drains</b>	10	6.7
4	<b>Public Health and Stray Animal</b> <b>Menace</b>	6	4.1
5	<b>Roads and Bridges</b>	10	7.7
6	Street Lighting	6	3.8
7	<b>Public Convenience</b>	4	2.1
8	Provision of Parks, Gardens and Urban forestry	4	3.0
9	Naming streets and numbering of houses	3	2.5
10	Provision of burial grounds, crematorium	3	1.3
11	Provision of parking lots and bus stops	4	2.3
12	Birth and Death Registration	10	6.7
13	<b>Property Register and issue of extracts</b>	10	6.7
14	Residential building licences	5	3.3
15	Trade Licence and renewals	5	2.2
	Total	100	64.4

Each of these services was given a weightage depending on its importance to the citizens. These services were then evaluated using the following five parameters — coverage, quality, quantity, frequency and responsiveness to customers. The table presented above is the end result of the study and actual service delivery levels have been included in the sector specific sections of this report. The detailed scoring system is set out in the annexure.

# Water Supply

The history of water supply to Mysore dates back to the time of Deewan Poornaiah. He had planned for a contour canal from Krishnarajasagar to Mysore through gravity to convey the Kaveri water to fulfil the water supply to Mysore. However, the scheme did not achieve the objective as the people during that period were dependent on tanks and wells. Later an arrangement was made to supply water from the Karanji tank. Subsequently, Kukkarahalli tank was constructed from which water was supplied through iron mains. Few statistics on the current status are as below.

**Table 19: Statistics for Current Status** in Water Supply

Parameters	Current Status
Coverage	85%
Frequency of water supply	3 hours daily supply
Metering	Not fully covered ( 85%)
Consumer redressal system	Adhoc system at present

Vanivilas Water works: During 1986 arrangements were made modernize the water supply arrangements to Mysore by adopting better techniques at Belagola. This arrangement enabled a supply of 2.27 million litres of water to the city amounting to 30.02 litres per capita per day. Due to the introduction of electrification at Belagola works in 1910, the water supply to the city was improved considerably and resulted in a supply of 6.82 million litres per day. This ensured water supply to a population of 75000 during that period.

During 1931 census the population of Mysore crossed the 1 lakh mark and by 1941 it was 150000. The supply of water to the city however, remained at 21.82 million litres per day. There was no improvement in water supply up to 1959. By this time, due to the steady increase in population the need was felt further improvement and better planned water supply to the city. A committee was formed to assess the necessary needs and improvements. It was estimated that about 63.64 million litres of water drawn to be from Krishnarajasagar reservoir for purification. The suggestions of the Committee were accepted and the 1st stage improvement was taken up in 1959.

The 2nd stage improvement was taken up during 1965. This 2nd stage improvement included the following schemes:

- Primary purification of water at Hongalli
- Provision of 375 mm diameter gravity mains to the eastern part of the city
- Construction of 10 million litres overhead tank at Jayalakshmipuram Extension

During 1961 the population of the city was 2, 53, 865 and in 1971 it became 3,55,636. This meant the augmentation of water supply became a necessity. With this effect in mind Rs.350 lakhs III stage development schemes were envisaged in 1970. After government approval and initial hurdles, the scheme was put into execution in 1979.

Mysore has adequate water supply resources due to the proximity of Rivers Kaveri and Kabini. The city has four sources of water located within a distance of 15 kms. All of these sources draw water from the Rivers Kaveri and Kabini. The names of these sources and the quantity of water drawn from each of them is given in the table below:

**Table 20: Sources for Water Supply** 

Table 20. Bources for Water Bupply			
Sl. No.	Sources	Quantity (in M.G.D)	
1	Hongally Water Supply Scheme (I & II stage)	8	
2	Hongally Water Supply Scheme (III stage)	12	
3	Belgola Water Supply Scheme	11.5	
4	Melapur Water Supply Scheme	11	
	Total	42.5	

Source: KUWSDB

In comparison to other corporations, Mysore fares well with an average per capita water supply of around 135 lpcd, but the distribution system is sub-optimally maintained, and needs to be replaced/ repaired, to improve delivery efficiency in supplying of water. Unaccounted for water (UFW) is estimated to range around 50%; and it is estimated that there are over 20.000 unauthorized connections.

In order to keep pace with the forecasted population growth, the City would need to augment its water supply for adequately servicing the incremental population base. An overview of the water supply services in Mysore is given in the table below:

Table 21: Overview of Water Supply

	Water				
Water	Installed				
availability	capacity	42.5			
	(mgd)				
	Released	31.5			
	/daily (mgd)	31.3			
Number of	Within 15 km				
water		4			
supply		4			
sources					
Water	Population				
coverage	covered by	85%			
	public water	03/0			
	supply %				
	Per capita	135			

supply (lpcd)	
Supply	2.5-6 hours
duration	based on
(range)	location

Source: KUWSDB

Key statistics related to water supply service in Mysore are as follows:

- # 85% of the households are covered (and metered) by piped water supply system
- **#** Quantum of water supplied by the Corporation is about 135 lpcd
- Water quality checks are made regularly to ascertain potability & suitable measures are being taken whenever occurrences of water borne diseases have been reported.
- **Water** is supplied daily but the duration of supply is inadequate in a few localities.
- \*\* New residential localities necessitate provision of additional sources.

Rehabilitation of existing water supply system is also needed to cut down the UFW, which ranges around 50% at present. Main reasons for the sub-optimal functioning of existing water supply system in Mysore city is <u>inappropriate</u> augmentation of source, inadequate storage facility, aged and leaking pipeline network, illegal tapping of transmission water supply pipelines, unauthorized house connections, faulty metering, lack of operation & maintenance of system components, adoption of inappropriate design methodology etc.

Due to the above reasons, there is an adverse effect on development of the city. Certain parts of the city are experiencing severe water supply crisis and level of services offered by service providers has reduced drastically. Therefore, there is an urgent need to take remedial

measures to alleviate the problems faced by the citizens due to inappropriate water supply system, and prevent potential health hazard. This would help in achieving integrated development of the city and protect city's environs.

The city needs to refurbish its existing water supply distribution system as there are instances of rust deposition and silting, which has reduced the diameter of the pipes and consequently, has affected the pressure of water supply. Further, these pipes are not as per hydraulic design prescribed for the current population density.

#### **Proposed activities**

The activities proposed to be undertaken for improvement in water services are as follows:

\*\* Rehabilitation/creation of water extraction facilities at source of water including replacement of raw water pumps, installation of flow meters as required.

- \* Rehabilitation/setting up of raw water treatment plant including modification of aerator, repairs to alum dosing system, flocculator, valves, flow meters as required.
- \*\* Rehabilitation/setting up of bulk water supply lines from treatment plant
- Rehabilitation/creation of existing distribution network and piped water supply connections
- Provision of water supply connections to uncovered areas
- # Development and management of testing facilities and customer service
- # Billing and collection activities of water connection and consumption charges
- **#** Operation and maintenance of the water supply system
- **\*** Redressal of complaints and repair of any defects
- # Development and updation of the database and mapping of the system from time to time

A brief of the current status, goals, vision and sector strategies for water supply is tabulated below:

#### For the Mission Period (2007-12)

The table below sets out goals and visions for the mission period (2007-12) and also states the funds required to finance the achievement of these goals.

Table 22: Funds required for goals and Mission period (2007-12) for Water Supply

Sector	Parameters	Current Status	Goals and Vision 2012	Sector specific strategies	Total Required Funds (2007-12)	Required JNNURM Funds (2007-12)
Water supply	Coverage	85%	100%			
	Frequency of water supply	3 hours daily supply	6 hrs	-Rehabilitation of existing water supply distribution system -Bulk water source	Rs 306 crores	D. 945
	Metering	Not fully covered	100%	augmentation -Conservation of water and	RS 506 Crores	RS 245 Crores
	Consumer redressal system	Adhoc system at present	Develop consumer redressal system	waste water recycling		

# **For the Period (2013-31)**

The table below sets out goals and visions for the period (2013-31) and also states the funds required to finance the achievement of these goals.

Table 23: Funds required for goals and Mission period (2013-31) for Water Supply

Sector	Param eters	Goals and Vision 2017	Goals and Vision 2031	Sector specific strategies	T otal Required Funds (2013-31)
Water supply	Coverage	100%	100%	-The city would ensure that all its citizens have better access to drinking water and sewerage	
	Frequency of water supply	6 hrs	Continuous	facilities and also at the same time aim to conserve the water	Rs 823 crores
	Metering	100%	100%	resources	
	Consumer redressal system	Develop consumer redressal system	Response time of less than 2 days		

### Sewerage

Mysore was one of the earliest cities in India to have underground drainage. In old parts of the city, underground drainage completed in 1904. At present a major part of the city is provided with the underground drainage system. Since the old sewerage lines were incapable of taking the increased load and some parts of the old city were not provided with underground drainage, a comprehensive scheme was undertaken in 1955. Under this scheme some of the important areas of the old city were provided with underground drainage. After this another duplicate line was laid behind King Convent from Krishnamurthy Puram Road.

Under the national water Supply and sanitation Scheme, the Government sanctioned a sum of Rs.11.3 lakhs in the year 1955, which was spent for sewering the Ashokapuram, Mandi Mohalla, Narasimharaja Extension, Gandhinagar, Vanivilas Puram and Paduvarahally. But still the areas like Kumbarakoppal, Railway colony in Vontikoppal has been provided with drainage pipes. The mains connecting Yadavagiri, Narasimharaja Mohalla, Eeranagere and Mandi Mohalla to Northern outfall is not yet completed.

The topography of the city is such that the entire city drains into three valleys viz., northern outfall into Kesare Valley, and other outfalls to the south one into Dalvai tank feeder valley and another to Malalavadi tank valley. The northern outfall drains the area of Narasimharaja Mohalla, Jalapuri, Eeranagere and part of Mandi Mohalla, Medar's block and Yadavagiri Railway colony, art of Vanivilasa Puram and Kumbarakoppal. A mechanical plant with a capacity of 3 MG of sewerage

is constructed at a cost of Rs.7.43 lakhs for treating the sewerage collected from the above areas. But all the areas mentioned above are vet to be connected to the main drain even though the drainage work of each area is completed. The sewerage is let into the storm water drains and natural valleys at present. The owners of the gardens and other lands adjacent to the main line are blocking the manholes on the way to divert the water for irrigation. Thereby, the mechanical plant is not getting all the sewerage of the area for which it has been designed. The treated effluent is let into the RBL canal of the Krishnarajasagar reservoir.

The second outfall draining the a part Nazarabad Chamaraja, Lashkar Mohallas and the entire area of Fort Mohalla and Krishnaraja Mohalla is utilized by the sewerage farm after treatment. The sewerage farm is situated along the Mysore-Nanjangud Road occupies an area of about 146 hectares and is maintained by the city corporation. The sewerage is collected in two septic tanks of capacity of 18 lakh litres and after preliminary treatment it is utilized for growing grass, vegetables, fruits, flowers etcetera in the sewerage farm. The sludge collected is utilized for manufacturing compost.

The third outfall draining the portions of Devaraja and Chamaraja Mohallas joins the Malalavadi tank valley without any treatment. The new areas on the western part of Kuvempunagar flow towards southwest of Lingambudi tank.

The fourth outfall drains towards Belavatha village and covers the area such as Yadavagiri, Hebbal layout, Metagalli, Brindavan extension, part of Gokulam and Bannimantap layout. The present sewerage system in Mysore city caters to around 100 sq.km and comprises of five drainage districts based on the topography of the city, namely, A, B, C, D and E. The following tables indicate the key statistics:

**Table 24: Waste Water Disposal** 

Waste water disposal				
Waste water generated daily				
(mld)	128			
Households connected to				
underground sewerage %	57%			
STP capacity(mld)	157.65			
	Facultative			
	aerated			
STP Type	lagoons			

Source: KUWSDB

Source: KUWSDB

The districts A&D make up for the largest drainage zone Mysorecovering of area an approximately, 41 sq. kms. In some areas of these districts sewer lines are missing. These areas are Quarters, Aravind Nagar in district A and V Mohalla, Janatha Nagar in district D. The length of sewer line in these districts is 17.75 kms. The district A&D are serviced by a common sewerage treatment plant (STP) located in Rayanakere. The capacity of this STP is around 60 mld.

Table 25: Details of Sewerage Capacity for Drainage Districts

Drainage district	Sewerage capacity (mld)	Area covered (Sq km)	Length of sewer (In km)
A&D	60	41	17.75
В	67.65	25	6.5
С	30	2	6.5
	22 (propose		
E	d) '	16	NA

The drainage district B covers an area of around 25 sq. kms with a sewer length of 6.5 kms. This district also has some areas in which sewer lines

are missing. These areas are surrounding areas of Kabeer road, Ashokpuram, Dhanavanthri Road, CFTRI, Chamaraja Double Road, JSS, Kanakagirinagar and Gundu Rao Nagar.

The drainage district C covers an area of around 2 sq. kms. In this area also some missing sewer lines have been identified. These areas surrounding areas of Yadavagiri, Kumbara Koppalu, B.M.Shree Nagar, Metagalli,, Pulikeshi road, C.V Road, Subash Nagar, Kesare, Hebbal 1st stage, Adhidravada Paurakarmika Colony, CFTRI Quarters, Rajivnangar 3rd stage, V.V.Mohalla, Gokulam, Gandhinagar, Sathyanagar and Hebbal.

The fifth drainage district in the city E covers an area of around 16 sq. kms. At present, this district does not sewerage system. have a drainage district E includes the private layouts and MUDA layouts formed in Alanahalli, Sathagally and Yaraganahally and all along the T.N. Pura Road and Bannur Road. In addition to the population from the above-mentioned a part of the Mysore population has been considered.

The missing sewer lines identified in the abovementioned drainage districts are of varying diameters varying from 150 mm to 900 mm. The total length of missing sewer line identified as of 2002-03 is about 22135 metre. The missing sewer lines were identified in the area, as tabulated below:

Table 26: Areas covered in various Drainage Districts

Drainage district	Areas
A	RMP Quarters and Aravind Nagar
D	VV Mohalla and Janatha Nagar
В	Surrounding areas of Kabeer road, Ashokpuram, Dhanavanthri Road, CFTRI, Chamaraja Double Road, JSS, Kanakagirinagar and Gundu Rao Nagar
С	Surrounding areas of Yadavagiri, Kumbara Koppalu, B.M.Shree Nagar, Metagalli,, Pulikeshi road, C.V Road, Subash Nagar, Kesare, Hebbal 1st stage, Adhidravada Paurakarmika Colony, CFTRI Quarters, Rajivnangar 3rd stage, V.V.Mohalla, Gokulam, Gandhinagar, Sathyanagar, Hebbal

Source: KUWSDB

The city has three (STPs), all of which, are facultative aerated lagoons with sedimentation basins located at:

- Rayanakere for district A&D
- Vidyaranyapuram for district B
- Kesare for district C

The present sewerage capacity of the STPs is ~157.65 mld. This is designed as per the requirements of the city in the year 2011. In addition a STP with a capacity of 22 mld has been proposed for drainage district E, which covers an area of 16 sq.km.

The total sewerage inflow treated by the three STPs is around 90 mld. The expected inflow of sewerage to the plant is expected to increase after all the missing sewer line links are connected. Another reason for mismatch in the current sewerage capacity and actual inflow of

sewerage is the excess capacity of the STP at district B, which has been designed for 2036. The STPs in other districts also need to be redesigned in keeping with the estimated population for year 2030.

The drainage district E includes the private layouts and MUDA layouts formed in Alanahalli, Sathagally and Yaraganahally and all along the T.N. Pura Road and Bannur Road. In addition to the population from the above-mentioned a part of the Mysore population has been considered. Thus, the development of proposed STP should expedited.

Currently, the effluents from the various STPs are let out for irrigation purpose. It is being proposed that treated effluent from the STPs could be used for maintenance of parks.

#### **Proposed activities**

Activities proposed for refurbishing the sewerage are as follows:

- Construction/ rehabilitation/ expansion of underground drainage system including service connections to all the households
- **\*\*** Rehabilitation of sewage treatment plant (STP) for treatment of raw sewage
- **Safe** disposal of treated effluent at specified locations
- **#** Operation and maintenance of underground drainage system and STP as per specifications
- # Development, operation and maintenance of public conveniences

A brief of the current status, goals, vision and sector strategies discussed for the sewerage services is tabulated, as below:

#### For the Mission Period (2007-12)

The table below sets out goals and visions for the mission period (2007-12) and also states the funds required to finance the achievement of these goals.

Table 27: Funds required for goals and Mission period (2007-12) for Drainage

Sector	Parameters	Current Status	Goals and Vision 2012	Sector specific strategies	Total Required Funds (2007-12)	Required JNNURM Funds (2007-12)
Sewerage	Sewerage Coverage	57% of households of the city	75%	Develop an efficient sewerage	Rs.228	
	STP capacity	157.65 MLd	179.65 MLD	'	crores	Rs.178 crores
	STP type	Facultative aerated lagoon	Tertiary treatment envisaged	system	crores	

#### **For the Period (2013-31)**

The table below sets out goals and visions for the period (2013-31) and also states the funds required to finance the achievement of these goals.

Table 28: Funds required for goals and Mission period (2013-31) for Drainage

Sector	Sector Parameters		Goals and Vision 2031	Sector specific strategies	Total Required Funds (2013-31)
Sewerage	Sewerage Coverage	90%	100%	Develop an efficient sewerage	Rs 540
	STP capacity	220 MLD	350 MLD	system	crores
	STP type	Tertiary	Tertiary		

# Solid Waste Management

The total quantity of municipal sold waste generated in Mysore city ranges around 220 tonnes per day. All 65 wards in the corporation are covered by solid waste management program but in a few localities waste is not collected from households on a daily basis. The collection efficiency is estimated to be 80%. MCC has installed 3131 Public dustbins, which adequately cover all the wards. Few statistics on the current status are as below.

Table 29: Current Status for Solid Waste Management

vi uste miningement				
Parameters	Current Status			
Coverage	75%			
Collection Efficiency	80%			
Segregation	10%			
Treatment and Disposal Facilities	Not in place			
Recovery of Costs	Practised in select few wards			

A compost plant has been set up under the KUIDP for treating the Municipal Solid Waste (MSW) and further sale of compost. However, the city does not have a scientific landfill conforming to the MSW Rules, 2000.

#### **Primary Collection**

Presently 90 pushcarts have been deployed for primary collection of MSW from the wards. All main roads in each ward are swept daily by pourakarmikas(sanitary workers) as these roads have high traffic & commercial activities. Some roads are swept two times a week, while others are swept three times a week. Typically in each ward, where door-to-door collection is prevalent about

3000 houses are covered. The service charges levied are in the range of Rs.10-15/ month/house.

door collection door-to proposed to be organised ward wise. It is proposed that for each of the ward a coordinating agency for the door-to-door collection would identified. This agency would be constituted from all the RWA in the area, a ward committee or a Nongovernment organisation who would take the overall responsibility of the primary collection operation. These agencies would in turn employ selfhelp groups for door-to-door collection. This approach would involve the local self-groups in an income earning activity. Further this approach would reduce the number of agencies with which the city corporation has to interact.

At present based on the interest evinced from the various wards and the discussion held, the type of coordinating agency, which would operate in each of the ward, has been identified. In some of the wards the specific agency that would coordinate has also been identified. In each ward it is proposed that 3 self-help groups would operate for door-to-door collection. A collection zone is identified for each of the agencies. Efforts have been undertaken to identify the RWA's and SHG's.

#### **Secondary storage**

There are 20 secondary storage bins in Mysore City Corporation placed at commercial areas and bulk waste generation points. Secondary storage bins (Dumper bins) are transferred using dumper placers to the compost plant.

#### **Transportation**

Types of vehicular fleet available with the ULB include the following:

- Tractor-trailer: 21; Carrying capacity: 3 tonnes
- Truck: 4 MCC & 25 Contractors; Carrying capacity: 5 tonnes; Number of trips by each vehicles: 3 no.
- **Dumper Placers: 2**;

Waste from the Community bins are manually loaded to tractor- trailers & trucks by 5-6 Pourakarmikas. Each vehicle does 2 to 3 trips normally. The contractor has 25 trucks with uncovered top.

It is proposed to have twin bin dumper placers for transporting the waste to the processing facility. Each dumper placer can make 5 trips to the processing facility and back. Thus each dumper placer would handle 10 containers. 17 such dumper placers are required. There are 2 existing dumper placers. It is proposed to procure 15 more twin bin dumper placers.

#### **Treatment and Disposal**

There is an existing decentralised processing facility waste Kumbarakoppal handling about 2 tons of waste per day. There is also a vermi composting small facility the city. operational in centralised compost plant has a capacity of handling 200 tons of waste per day.

The organic content of the 220 tonnes waste generated in the city is estimated at about 110-130 tonnes

per day. Thus there is already adequate facility available for processing the organic waste being generated in the city. With the introduction of separate sweeping and segregation of waste at doorstep it is expected that the inorganic solid wastes which are now mixing with the waste would be avoided.

It is also proposed that some of the wards, which are away from the centralised compost facility, be linked to decentralised composting units. This would improve the viability of some of the door-to-door collection units and reduce the transportation costs of wastes. The lands for these decentralised facilities are being identified. These wards and the balance of wards would be linked to centralised plant till decentralised facilities are set up. The centralised plant would be made functioning to accept the wastes. Municipal Solid Waste is collected from various generators and is transported using tractor-trailers and trucks to the compost plant. Three sites are used for the disposal of waste in the ULB. The types of disposal are:

- 1. Windrow Composting plant at Vidyaranyapuram: Waste is collected and allowed to decompose (2 months) with aeration and watering. It is then spread and screened by machine.
- 2. Vermi Composting plant at Kesare: Worms are used on partially decomposed waste to convert it into manure
- 3. Decentralized Composting Kumbarakoppal: Stacks are used for decomposition.

The list of ward, which could access the centralised facility and those which would access decentralised facilities, is provided as below:

Table 30: List of wards with access to centralized and decentralized facilities

Sl. No	Proposed waste processing	Wards accessing facility
1	Decentralised facility 1: at Kumbarakoppal	35, (Already existing facility)
2	Decentralised facility 2: at Hebbal	34, (work started)
3	Decentralised facility 3: at Gokulam	36,33,32, (work started)
4	Decentralised facility 4: at D Agrahara	62,7,1
5	Decentralised facility 5: at Metagalli	33
6	Decentralised facility 6: at Kurimandi	47,48, 54(P)
7	Decentralised facility 7: at OD Block	45, 46, 49
8	Decentralised facility 8: at Paduvarahally Smashana	37,38
9	Decentralised facility 9: near Kukkarahally bund	22,23,39
10	Decentralised facility 10: at ward no. 19	19.21,20
12	Decentralised facility 12: at Satyanagar	53, 54(P), 55,56
13	Existing centralised facility at Vidyaranyapuram	Remaining wards

#### **Issues**

The issues affecting the efficient execution of the current solid waste management system are as follows:

- <u>Lack of manpower and</u> infrastructure
- **Lack of community awareness.**
- **Staff requires proper training**
- Lack of residents' interest and support
- **Lack of planning**

The projects suggested for establishing an efficient municipal solid waste management system in Mysore are as follows:

- \* Achieving 100% efficiency in collection of municipal waste
- # Implementation of source segregation
- # Development of an efficient treatment and disposal system.

These activities would be implemented in consonance with the MSW (Management & Handling Rules, 2000) and the Integrated Municipal Solid Waste Management Plan of Government of Karnataka.

The ward wise waste generators are as below:

**Table 31: Ward Wise Waste Generators** 

Ward No.	Shops	Choultries	Hotels	Industries	Meat Shops	Hospitals and Clinics	Temples
1	360	9	15	-	-	6	5
2	446	-	4	1	1	8	7
3	167	-	3	-	6	1	8
4	172	2	5	-	-	3	6
5	109	3	6	-	1	5	5
6	159	-	5	-	6	4	5
7	270	1	4	-	-	12	6
8	160	1	1	-	2	1	5
9	331	1	3	-	3	16	1
10	255	1	2	-	2	18	4
11	320	8	5	20	3	3	1
12	314	2	1	13	10	10	11
13	75	-	-	-	6	5	6
14	73	3	1	-	4	2	2
15	63	-	2	-	3	7	3
16	247	4	16	-	8	42	17
17	212	-	13	-	12	36	15
18	230	3	4	-	10	20	10
19	326	1	4	-	10	21	17
20	178	3	2	1	12	15	-
21	159	-	5	-	-	2	-
22	374	-	4	-	-	5	-
23	202	-	2	-	7	5	5
24	253	2	5	-	-	16	13
25	1543	2	18	-	-	9	8
26	1728	5	16	-	-	15	10
27	1763	-	52	-	1	15	-
28	1080	7	28	-	6	9	10
29	665	4	5	-	14	28	9
30	235	1	10	-	-	10	6
31	197	2	6	-	6	14	7
32	32	5	4	40	-	9	6
33	191	1	-	-	18	11	-
34	360	-	21	-	36	26	-
35	228	2	3	-	11	5	9
36	149	-	2	-	-	3	1

Ward No.	Shops	Choultries	Hotels	Industries	Meat Shops	Hospitals and Clinics	Temples
37	302	5	7	-	11	14	-
38	376	1	2	-	9	12	-
39	217	1	17	-	21	20	-
40	115	-	6	-	2	3	6
41	425	2	6	-	6	5	3
42	500	-	11	-	15	9	3
43	135	2	4	-	3	6	7
44	385	4	13	31	2	2	7
45	221	4	10	28	7	13	12
46	75	2	-	-	1	2	2
47	132	1	-	-	2	1	8
48	146	-	1	-	4	5	8
49	152	9	3	-	2	7	6
50	220	-	2	-	12	2	7
51	138	-	-	-	-	4	5
52	31	-	-	-	1	-	6
53	72	2	2	-	2	2	8
54	95	2	1	-	5	3	5
55	210	-	1	-	6	2	9
56	166	-	-	-	4	14	19
57	125	-	2	-	5	3	8
58	105	-	3	-	2	8	10
59	203	-	-	-	7	4	7
60	239	1	-	-	6	7	12
61	452	7	20	-	9	10	12
62	385	3	8	-	2	4	10
63	257	2	6	-	4	6	5
64	289	3	4	-	15	9	14
65	273	2	10	-	14	5	13
Total	20067	124	410	133	387	599	430

## **Proposed activities**

A slew of activities have been proposed in order to achieve efficiency with respect to the various aspects of solid waste management. All these would aim to align the solid waste management system in Mysore with the Municipal Solid Waste Rules, 2000 (Management & Handling). The activities are set out in the table below: Table 32: Proposed activities to achieve efficiency in Solid Waste Management

		Achieve efficiency in Solid Waste Management  Proposed Strategy		
Action	MSW Rules 2000	Present Status	Proposed Strategy	
Segregation	1. Organizing awareness	1. Segregation only in some part of	1. Segregation of waste into wet,	
	programs	the ward	dry/recyclables and	
	2. Promoting	2. Awareness	household hazardous	
	recycling or	campaign in	waste	
	reuse of	schools and	2. Conducting awareness	
	segregated	community	campaigns every	
	materials	-	month	
	3. Phased		3. Familiarizing people	
	program to		about solid waste	
	ensure		management system	
	community		adopted in their ULB	
	participation in		4. Training program for	
	waste		retrievers regarding	
	segregation		importance of	
			segregation, proper	
			handling of waste and	
			its hazards due to	
			improper handling.	
			5. Littering of waste to be	
			banned, levying of fine	
			if segregation is not	
			practiced	
			6. Levying fine for	
			disposal of garbage in	
			open space.	
			7. Conducting awareness	
			campaigns for schools,	
			colleges and institutes.	
			J	
Primary	1. Door to door	1. Door to door	1. Door to door waste	
collection	waste	collection using 90	collection system	
	Collection	pushcarts through	2. Systematic street	
	2. Slums, bulk	RWAs in different	sweeping	
	generators,	parts of the city	3. Separate collection	
	agricultural waste should	2. Composting the	system for bulk	
	waste should have separate	Biodegradable waste.	generators and construction waste	
	collection	wasic.	4. User charges will be	
	system		levied for households,	
	3. MSW should		commercial	
	not mix with		establishment and other	
	hospital and		waste generators.	
	industrial		_	
	waste			
	4. No burning of			
	waste			

Action	MSW Rules 2000	Present Status	Proposed Strategy	
	5. Recycling biodegradable waste			
Secondary storage	1. Adequate number of covered storage bins 2. Colorization of the bins. Bio- degradable wastes - green; Recyclable wastes - white. Other wastes - black. 3. Avoid manual handling of waste	Only 20 secondary storage bins	Totally 170 secondary storage bins are required Closed metal secondary storage containers Manual handling of waste is minimized	
Transportatio n	1. Covered transportatio n vehicles 2. Avoid multiple handling of waste 3. No open dumping 4. Regular clearance frequency	25 MCC vehicles without covering	Twin container dumper placer for transportation Waste will be transported to landfill site	
Processing	Recycling of biodegradable wastes Inert for landfill	Plastic recycling unit is in operation	The wet waste is proposed for preparing compost The dry waste is proposed for landfill and the Recyclables will be sold by the pourakarmikas in market.	
Disposal	Sanitary landfill		Wet waste: composting Recyclables: sold in market	
Financial Arrangement		No separate accounting for Nirmala Nagar Program	The expenditure under SWM head should be maintained separately	
Institutional Arrangement		The supervising is done by the health department of the ULB	transportation: Ward committees, RWA's, SHGs or management contract (BOT) Treatment & disposal: The treatment and disposal facilities would also be developed through PSP in a BOT framework.	

A brief of the current status, goals, vision and sector strategies discussed above is tabulated as below:

### For the Mission Period (2007-12)

The table below sets out goals and visions for the mission period (2007-12) and also states the funds required to finance the achievement of these goals.

Table 33: Funds required for goals and Mission period (2007-12) for solid waste management

Sector	Parameters	Current Status	Goals and Vision 2012	Sector specific strategies	Total Required Funds (2007-12)	Required JNNURM Funds (2007-12)
Solid waste management	Coverage	75%	80%	-Achieving 100% efficiency in collection of municipal wastes -Implementation of source		
	Collection Efficiency	80%	100%	segregation -Development of an efficient	Rs 42 crores	Rs 27 crores
	Segregation	10%	25%	treatment and disposal system		
	Treatment and Disposal Facilities	Not in place	100%	- Recovery of costs would be evolved over a time period -Development of treatment &		
	Recovery of Costs	Practised in select few wards	35%	disposal facility by PSP through BOT framework is envisaged		

# **For the Period (2013-31)**

The table below sets out goals and visions for the period (2013-31) and also states the funds required to finance the achievement of these goals.

Table 34: Funds required for goals and Mission period (2013-31) for solid waste management

Sector	Parameters	Goals and Vision 2017	Goals and Vision 2031	Sector specific strategies	Total Required Funds (2013-31)
Solid waste management	Coverage	90%	100%	The city aims to provide a clean and hygenic	
_	Collection Efficiency	100%	100%	environment and also stresses on energy conservation	
	Segregation	35%	100%	1	Rs 254 crores
	Treatment and Disposal Facilities	100%	100%		ns 234 crores
	Recovery of Costs	50%	100%		

# Roads and transportation

The network of roads and streets in Mysore follows a hub and spoke mechanism with arterial roads originating from the centre of the city i.e., the Palace area. Arterial roads start from the Palace area and run radially leading to towns and cities outside. This arrangement also means that all commercial activities converge to the centre of the city causing congestion.

The arterial roads flow from the centre of the city i.e the palace area. There are four main arterial roads, namely, highway connecting Bangalore-Ooty, highway connecting Kanakpura with Mysore (Bannur road), the highway connecting Mysore with Mangalore (Hunsur road) and the highway connecting Mysore with Mananthody in Kerala.

Mysore city is the divisional headquarters of Southern Railways and has railway lines passing through the city with Mysore-Arasikere line connecting Bangalore-Poona main line at Arasikere and Bangalore-Chamarajanagar line ending at Chamarajanagar.

Most of the roads in the city are broad and straight with regular footpaths either sides. on Narasimharaja Boulevard and Mirza Road are notable examples. As the city grows with increase in per capita income, the ownership of the vehicles has increased and the burden of traffic on roads is increasing. The number of motor vehicles has increased almost 25 times in the period from 1970-96. The following table indicates the growth of vehicles in the district from 1970 onwards:

The total road network in the city was 335 kilometers in 1971. it increased to

432 kilometers in 1981, which accounts for 29% of increase over a decade. There are 48 main roads in the city covering a total length of around 58 kms. The share of concrete/ tar roads in the city is approximately 90% of the total road length. There are road dividers, pavements and street lights on the main road and these are present on almost the entire length of the road.

The key road related data is tabulated below:

Table 35: Details for key roads in Mysore

Roads and road transport					
Municipal roads (km.) 1093					
State-level roads (km.)	5				
Public transport					
-Buses (number)	767				
-Bus capacity/passengers	255				
-Private registered vehicles 2892					

As a number of layouts have been developed between 1981-991 the total road network exceeds 600 kilometers. The road capacity in older part of the city has remained same while the quantum of traffic has increased significantly. Few statistics on the current status are as below.

**Table 36: Current status of Roads** 

Parameters	Current Status	
Length of good quality roads	90% tarred	
Pavements	Only in main roads	
Signages and markings on main roads	Needs to be in conformity with the standards for tourism cities	

A survey by Transport Operation Planning and Informatics Centre, Bangalore has revealed the following findings:

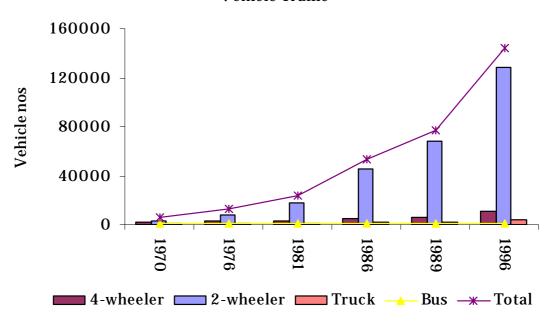
- The vehicular and passenger traffic volumes are very heavy on the following roads during peak hours:
  - Visweswaraya circle in Sayyaji Road
  - Corporation Circle in Sayyaji Road
  - Srinivasa Circle in Mananthody Road
- # The survey indicates about 25% of households have no vehicles, 28% cycles, 48% have two wheelers and cars are limited to 4%. The mobility of household members increased with ownership the vehicles. motorized The household trip rates increased to 9.4 per day among the households which have all the three modes of transport. The per capita trip by males is 1.53 and 1.48 in females of age group of 0-15, the per capita trips by males and females is 1.66 and 0.81, in the age group 15-24 years. The per capita trip by males and females is 1.87 and 0.36 in the age group of 24-58 years. The per capita trip by males and females is
- 0.87 and 0.09 respectively, in age group above 58 years. It is estimated that about 5.7 lakh passenger trips are generated each day within urban limits. Home to work trips constitute 23.2%, home to education trips 19.5%, home to shopping trips 2%, other home based trip (including return home trip) 49.9% and non home base trips 5.4%.
- ★ Survey indicates that 21.72% of intercity trips are conducted by motorized two wheelers followed by 16.925 by cycle and other slow vehicle owners and 12.72% by bus. Intercity passenger trips indicate nearly two thirds of travellers on a work trip, while tourist and recreation trips constitute 12%. Nearly 36, 000 tourists travel in and out of the city each day.

Some statistics on vehicular growth are given below. As is observe the number of vehicles gas increase almost 25 times to 1,45,000 in 1996 from around 6000 in 1970.

Table 37	· Statistics	on vehicul	ar growth
Table 57	: Mailsin's	on venicui	ar growiii

Types of vehicles	1970	1976	1981	1986	1989	1996
4-wheeler	2099	2843	3323	4829	5717	11291
2-wheeler	2602	8219	17978	45125	68060	128336
Truck	866	1161	1351	2145	2310	3712
Bus	499	651	659	1021	1318	955
Total	6066	12874	23311	53120	77405	144294

#### Vehicle Traffic



### **Ring Roads**

The road network of the city includes three ring roads viz. outer ring road, intermediate ring road and inner ring road and also arterials roads, subarterial roads, collector roads and others. The three ring roads not only collect traffic from other roads but also act as by-pass roads at their respective locations in order to avoid congestion especially at the core of the city. The details are as follows:

#### **Outer Ring road (ORR)**

The proposed road width of this road is 45 m. The alignment of the proposed ORR has been specified in the Comprehensive development Plan for Mysore. It is necessary to implement this concept as it would help in decongesting the city.

The ring road should have service roads on either sides to prevent traffic access into this important road.

#### **Intermediate Ring road**

The intermediate ring road is not a new road. It is proposed along with the existing roads only. But it is proposed to increase its width to 30 m. It starts from new Kantharaja Urs road and passes through Vishwamanava Double Road, Bogadi Road, Open Air theatre Road, Hunsur Road, Gokulam Road. The existing road in Manjunatha pura and in front of Ideal Jawa up to Highway Circle passes and then through Bannimanatapa, old Bangalore-Mysore Road, Hydarali road, Karanji

Tank Bund Road, Race Course road, Bangalore —Nilgiri Road, J.L.B Road and joins Kantharaje Urs road. The width of this intermediate ring road along Kantharaje Urs road has been retained at 24 m, as many structures have come up on either sides of this road.

#### **Inner Ring road**

This inner ring road is also not a new road but its alignment is proposed along the existing roads and its exiting width is proposed to be widened to 30 m. It width within the reach of Shesadri Iyer road and Sawday road are kept as 24 m whereas in other reaches it has been proposed as 30 m. The inner ring road starts from Sawday Road and Bangalore-Nilgiri through passes Road. Chamaraia Double road. J.L.B. Road, Shesadri Iyer road and then joins Sawday Road.

KSRTC operates a fleet of 767 buses in Mysore city, number of schedules being 580. The total number of kilometres covered per day is 1.97 lakhs. The arrivals and departures per day in the two bus terminals i.e Mofussil bus terminus and City central bus terminus are 1900 and 2080, respectively. About one lakh persons use the Mofussil bus terminus in a day, whereas 1.5 lakh persons use the City Central bus terminus. There are about 4.62 lakh commuters per day in Mysore city.

Table 38: Status of Street Lighting

Table 56; Status of Str	eet Lighting			
Street lighting				
Number	36863			
Average streetlight per km	40			

Source: MCC

Some key issues in road maintenance are as follows:

- # There are potholes/
  depressions at some locations
  on the main road and other
  important roads in the City,
  reflecting a need for upgrading
  of road infrastructure.
- Signage is put up on the roads to indicate schools, hospitals and other important places. However, there is a need to upgrade the tourism-related signage systems, to make them standardised, and pervasive.
- \*\* Radial roads are required to connect the outer ring road with the CBD for efficient traffic flow. This needs upgrading the Inner Ring Road and the 8 main radial roads connecting the ORR and the IRR.
- Further, there is a need for constructing an outer peripheral road to divert heavy traffic and through traffic away from the ORR. The length of this peripheral road would be almost 70 km.
- # Integrated rapid transport system for servicing the requirements of the citizens and tourists is needed.
- The city does not have a bus rapid transport system, which is necessary as Mysore is growing at a fast pace
- # All the through traffic passes the city in the absence of a bypass for diverting such traffic. The through traffic is increasing the traffic problems in the city and especially in the central areas.
- **\*** The lack of parking places in commercial centres leads to indiscriminate parking on the main road causing congestion
- # The private buses do not have an organized bus stand and they indiscriminately stand near Wesley Church and this

should be relocated to a more appropriate location.

#### **Proposed activities**

The administration of the city proposes to encourage development of local commercial areas (Kalidasa Road, Kuvempunagar), which would serve as counter magnets and help in reducing the congestion in the City Centre. The activities proposed for developing the network of roads and developing an efficient transportation system is as indicated below:

- \*\* Completion and expansion of ring road in phases:
  - Completing the 2 lanes, expansion of 2 lanes to 4 lanes.
  - Development of outer ring roads in sync with the growth of the city
- \* Strengthening/ improvement of the roads including resurfacing
- # Maintaining the roads and related infrastructure to prescribed standards
- \*\* Construction and/or widening of road bridges/ culverts etc.
- \*\* Construction and maintenance of radial roads & inner ring road

- **\*** Construction and maintenance of footpaths
- **\*** Construction and maintenance of storm water drains
- Maintenance (erection of street lights as required) of street lights to prescribed specifications
- Junction improvements and installation of road markings and signage
- # Provision of vehicle parking facilities at bus stand and railway station and provision for auto stands etc.
- # Hop in hop off tourist shuttles are also proposed for better mobility.
- # More emphasis would be placed on safety related maintenance and upgrades on congested roads.
- # At some point in the vision period, the City would also need to examine the feasibility of providing mass transport systems such as Bus Rapid Transit, Electric Trolley Buses, or light rail systems.
- # Congestion on main roads will be managed by a combination of traffic engineering, capital work projects and controls (zoning etc)

A brief of the current status, goals, vision and sector strategies discussed above is tabulated as below:

#### For the Mission Period (2007-12)

The table below sets out goals and visions for the mission period (2007-12) and also states the funds required to finance the achievement of these goals.

Table 39: Funds required for goals and Mission period (2007-12) for Roads

Sector	Parameters	Current Status	Goals and Vision 2012	Strategy 2007-2012	Total Required Funds (2007-12)	Required JNNURM Funds (2007-12)
Roads & related infrastructure	Length of good quality roads	90% tarred	All			
	Pavements	Only in main roads	All	Asset Maintenance of	Rs 329 crores	Rs 249 crores
	Absence of potholes, depressions and waves		70% of the roads	existing roads ina timely and systematic manner, development of outer ring		
	Signages and markings on main roads	Needs to be in conformity with the standards for tourism cities	All	road and radial roads		
Transportation	Congestion free city with affordable transport for citizens			-Provision of low cost transport to citizens, construction of truck/bus terminals, bus shelters -Improve air connectivity of the city	Rs 482 crores	Rs 342 crores

## **For the Period (2013-31)**

The table below sets out goals and visions for the period (2013-31) and also states the funds required to finance the achievement of these goals.

Table 40: Funds required for goals and Mission period (2013-31) for Roads

Sector	Parameters	Goals and Vision 2017		General strategies sector specific	Total Required Funds (2013-31)
Roads & related infrastructure	Length of good quality roads	All		The city aims at providing a good intra-city and	
	Pavements	All		intercity network of roads which would improve	Rs 3922 crores
	Absence of potholes, depressions and waves	Potholes free	Potholes free	connectivity with neighbouring cities and also help in smooth flow of traffic	
	Signages and markings on main	All			
Transportation	Cheap transportation and reducing congestion	Congestion free city with affordable transport for citizens	Congestion free city with affordable transport for citizens	The city intends to decongest the inner city areas, beautify the city and provide a mass transport system for citizens to prevent future congestion	Rs 4686 crores

### Storm Water Drainage

The total length of storm water drainage (SWD) network in Mysore is 1200 kms. Out of this, 500 kms of length of SWD is covered.

While there is an inspection mechanism for monitoring the cleanliness of the SWDs. silt deposition is a major issue. This silt deposition causes overflowing of the SWDs.

Flooding is common during heavy rains in Devraj Urs Road, Agrahara, Chamundi hills area. However, the southern part of Mysore is better off and does not experience any flooding.

The topography of the city is such that the waste water drains into three valleys viz., northern onel into Kesare Valley, and others into the south one into Dalvai tank feeder valley and another to Malalavadi tank valley.

The northern ones drains the area of Narasimharaja Mohalla, Jalapuri, Eeranagere and part of Mandi Mohalla, Medar's block and Yadavagiri Railway colony, art of Vanivilasa Puram and Kumbarakoppal.

But all the areas mentioned above are yet to be connected to the main drain even though the drainage work of each area is completed. The sewerage from these areas is let into the storm water drains and natural valleys at present. The owners of the gardens and other lands adjacent to the main line are blocking the manholes on the way to divert the water for irrigation.

The city has three big drains, all of which are 4-5 metres wide. These are as follows:

- ☆ One stretching from the entrance of Brindavan gardens to the Kukrahalli,
- # Another stretches from Saraswatipuram
- **♯** The third one stretches from the Siddhartha layout.

All of these are partly covered with silt depositions. Few areas have road side drains, majority of which are 1-2 m wide.

In the core areas, the coverage of storm water drains is better. Presently, sewerage is released into these storm water drains, thus reducing their effectiveness.

The present cleaning mechanism is not perceived to be adequate as there have been complaints of overflowing of drains.

Some of the projects, which have been proposed, are as follows:

- # Bhogadi road
- # Janatha Nagar
- # Paduvana Road Ramakrishna
- # Ramakrishna Nagar
- # Ring Road
- # Hunsur Road
- **#** Mettagalli
- **¥** Vijaya nagar 3rd Stage

The projects include remodelling of storm water drains, increasing the coverage of storm water drainage network, delinking the sewerage system from the storm water drainage system by completing missing sewer links and desilting to clean up the storm water drains.

### Public Health & Stray Animals

Insecticides are sprayed in all the wards at regular intervals and food adulteration checks are carried out in all the hotels.

There are a few wards with significant population of stray animals.

#### **Public Conveniences**

The city has 32 public conveniences managed by the MCC. These public toilets have been located by MCC in market places, bus stands and residential localities. The citizens regularly use majority of the public toilets. An inspection mechanism has been set up for upkeep of the facilities. However, there is a great need for public conveniences of high quality for use by the tourists, public, and conveniences for service providers (such as, auto-rickshaw and Tonga drivers).

Tourism department, Government of Karnataka, is considering provision of such amenities in tourist places.

# Parks, Gardens & Water bodies

There are 180 parks in Mysore covering approximately 9 sq. kms of the ULB. Another 8 sq. kms is covered by urban forestry Adequate area is covered by parks and gardens, and trees have been planted on the roadside on the important roads of all the wards. However, parks are in need of improved upkeep and maintenance, and only about a half of the available ones are used by the citizens.

With the increasing urbanization, there is also a strong need to develop and maintain more green spaces, parks & water-bodies, on a priority.

It is mooted to develop a master plan for an area of about 500 acres around Chamundi Hills on the lines of Lal Bagh and Cubbon Park in Bangalore to preserve the environment and heritage of the city.

Mysore urban region lying between Kaveri and Kabini rivers is one of the most attractive tourist places in the country. In the past, under the patronage of then Mysore Maharaja, over 1400 tanks and lakes were created to meet the domestic and agricultural water requirements of the area. With passage of time, these lakes / water bodies got silted and found entry of polluted domestic wastewater. Also the encroachment around some of the water bodies started eating the foreshore area. To protect further degradation, the most affected lakes - Kukrahalli Karanji, were taken for up rehabilitation and improvement studies.

In the Karanji Lake, various components have been executed: prominent ones are - Butter Flies Park, Bird Aviary, Bird Watch Tower and Boating Facilities. Presently Karanji Lake has become important and attractive place for tourists and a good source of income for Zoo Authority, who owns this lake.

In case of Kukrahalli Lake, a bund has been created along the periphery of the lake, which has become the morning walkers' tracks. University of Mysore, owner of this lake, is contemplating to charge the users to meet the maintenance cost of the lake.

# Naming of Streets & Numbering of Houses

All the streets in Mysore have been named. However, the signage needs improvement, and there are no boards/ location markers to indicate the same.

# Burial grounds & Crematoriums

There are three burial grounds in Mysore. Facilities like proper approach road, adequate lighting, posting of caretaker and fencing are provided. Water supply is however inadequate and the natural vegetation is not cleared regularly.

There is a clear need to provide more facilities to keep pace with urbanization, improve upkeep of these facilities.

### Parking lots

There are 6 parking lots in the city. All of these are located on the main roads of the city, where the traffic congestion is higher.

Parking lots are maintained in market places and bus stands and all the parking lots have attendants. Only one third of the total bus stops on the main road and other important roads have shelters and traffic congestion occurs when buses stop on these roads.

There is a clear need to provide more parking lots, with amenities and public conveniences, especially near tourist areas and to provide bus-bays and bus shelters in greater number. This would also involve some road widening.

### Birth & Death Registration

Records of births and deaths are computerized, and certificates are issued within the timeframe stipulated by the MCC.

### **Property Registers**

Records of all the transactions in the MCC are computerised, and extracts are issued within the time frame stipulated by the MCC.

A complaint register is maintained in the Public Grievance Cell, headed by a PRO, to record the problems faced by the citizens.

#### **Environmental Services**

Pollution levels are reportedly low, however vehicular congestion is noticed in N.R Mohalla. KUWSDB carries out periodic water-quality tests. For wastewater, there are secondary treatment plants available. An aerobic compost plant is available to treat the solid waste.

The investment proposals for all these services is presented in the later sections.

# Mysore – A Competitive IT Destination

In 2004, an in-depth research was conducted in 27 cities of India, to assess their competitiveness as IT/ **ITeS** destinations. Four kev competitiveness factors were evaluated: people, catalysts, infrastructure and financials. Multiple dimensions within these four key competitiveness areas were scored on a scale of 1 - 5. The total rating for each factor was determined by the sum of the individual ranking of each dimension. Weight was then assigned to each of the four factors to determine the ultimate competitiveness score for each city.

The normalized score was calculated by assuming the highest score as 100. This normalized score indicated the Offshore City Competitiveness Index, the OCC Index, for the city.



Source: Research Summary: India: Comparison of Cities by neoIT. Volume 2, Issue 11

### Key Observations:

Mysore emerged as one of the top-ten attractive cites in the country.

- Mysore, as a Generation III alternative, offers significant advantages in financial impact towards cost of living and real estate prices.
- \* Mysore, as a Generation III city, has all the right things in place to emerge as an attractive choice. However, there is a need to package and market it properly.

#### Citizen Charter

The MCC has a publicized 'Citizens Charter, which is furnished in the Annexures.

# Infrastructure Investment in Mysore – KUIDP

MCC and other stakeholders have been investing in upgrading

municipal infrastructure over the years. While most of the investments have been made through budgetary resources, a need was felt to give a fillip to the growth of the city.

Government of Karnataka (GoK), through Government of India (GoI), approached the Asian Development Bank (ADB) for assistance formulating an integrated urban development strategy for Bangalore Sub-Region by developing selected counter magnet towns. The project was named as "Karnataka Urban Infrastructure Development Project (KUIDP)". As the urbanisation is expected in the Bangalore – Mysore corridor, GoK chose towns from this corridor for KUIDP. Package comprising Mysore city, received most of the investments of KUIDP. Karnataka Urban Infrastructure and Development Finance Corporation (KUIDFC) authorised as nodal agency for implementation of KUIDP. **Project** development activities commenced in 1995-96. The activities include:

- a. Evaluation of sub sectors including water supply, solid management, waste sanitation, sewerage, transportation, communication, social infrastructure. commercial/ industrial development, development. housing/ land urban environment and management.
- b. Ongoing and proposed projects were also assessed with an aim to avoid any potential duplication in project selection and identify possible sub-projects, which would complement ongoing or proposed projects being implemented.

- c. The existing situation in the with regard city infrastructure. services and environment was studied thoroughly and was found that the city was suffering from inadequate sanitation other waste disposal systems, unsatisfactory transportation options; and poor housing and social infrastructure.
- d. Various surveys and dialogues with local officials, citizens and other stakeholders were carried out to assess the infrastructure requirements perceived and service priorities in the city. Emerging from these interactions and analyses, a set of structural non-structural and interventions was formulated in the environment sanitation. transportation. communication, poverty

alleviation/ housing, industrial and commercial development.

The summary of investments in these sectors is presented below:

**Table 41: Summary of investments in various sectors** 

	various sectors	
Sl No.	Sector	Investment (Rs Cr)
	Water Supply and	
1	Drainage	39
2	Sewerage	40
3	SWM	4
	Storm water	
4	Drainage	4
	Road and Truck	
5	Terminal	72
6	Poverty Alleviation	5
7	Restoration of Lake	1
8	Slum Development	8
	Total	173

KUIDFC had established a Project Management Unit (PMU) within itself and appointed the Managing Director of KUIDFC as Project Director to head the PMU. The PMU has been responsible for coordination

and management of the project activities, including project design, implementation. budgeting planning, financial benefit monitoring & evaluation activities, socio-economic surveys, environmental assessment protection. institutional policy development, community participation activities. and coordinating the works of all the Consultants under this project.

To support the PMU in discharging their functions. **Project** Implementation Units (PIU) were established project towns in including Mysore. The PIU was responsible for effective planning and coordination for implementation of the project components, while actual implementation of the respective project components was responsibility **MCC** of the Karnataka Urban Water Supply and Sewerage Board / Karnataka Slum Clearance Board, etc.

#### **Best Practices**

In KUIDP (Package-1), various urban infrastructure sub-projects were taken up for construction to provide the better civic amenities and infrastructure to the citizens. While execution of the sub-projects, certain designs, implementation and related procedures, have been extraordinary which could be termed as 'Best Practices'.

#### Slum Improvement

Implementation of this sub-project, improved the living conditions of the slum dwellers and subsequent decrease in water borne diseases in these areas.

# Improvement of Water Supply & Sewerage Networks

By implementation of water interconnections, water pressure was restored in low water pressure pockets, and certain water un-served areas were covered.

There were some missing links in sewer network along the trunk sewers; new areas, which were added in the limit of city, were not able to convey their sewage to the proposed STPs. Also in some of the pockets, sewage was being discharged into the storm water drains. By implementation of sewer interconnection, these deficiencies/problems were eliminated.

#### **Outer Ring Road**

Outer Ring Road (ORR) around the Mysore City was conceived to divert the traffic from the city area, which are crossing through the city, and minimize the congestion within the city. The entire length of ORR (21 km) takes off from Bangalore -**Mysore** (SH-17) Road and circumferences Mysore City on the western side crossing KRS Road, Hunsur Road, Bogadi Road, HD Kote Road and joins the Ooty Road near the Regulated Market; and in the

eastern side crossing Mahadevpura Road and Joins Bannur Road near Star Poultry Farm. ORR also includes the construction of four number of railway under passes. ORR has been constructed with total crust thickness of 515 mm with the top portion comprising 40 mm Bituminous Concrete. There are 40 curves with design speed of 80 km/h; however in certain stretches design speed has been restricted to 65 km/h due to sharp curves and steep gradient.

#### **Project Coding**

The whole project was divided into various sub-projects and contract packages. This was done to speed up the project implementation as well as for effective monitoring.

An alphanumeric system was adopted - the first three letters represent the sub-project such as WSS for water supply, URI for urban road improvement; the subsequent two represents the contract package number in that sub-project such as 01, 02, etc.; and the last letter(s) represents the city/ town such as M for Mysore, MN for Mandya and MD for Maddur. These codes were of immense help in tracking, monitoring, reporting, etc.

### **Financial Profile of MCC**

The following tables summarize the financial situation of MCC. More detailed assessment of the financial situation is dealt with in Chapter 7.

### Municipal Revenue Income

As illustrated below, the revenue account receipts for MCC on account of taxation revenues have exhibited a growth of 61%, increasing to Rs.1389 lakhs (FY05) from Rs.862 lakhs (FY02). However, the total revenues have remained around the same level. The following table set out the revenues of MCC over a period:

Table 42: Revenues of MCC over a period

	Revenue account receipts (Rs. Lakh)					
Year	Tax	Non-tax	Transfers including grants	Total		
FY02	861.5	3286.2	3601.3	7749.0		
FY03	813.1	3072.7	3247.2	7133.0		
FY04	1195.8	2543.9	3244.5	6984.3		
Fy05	1389.2	2946.4	3201.8	7537.3		

### Municipal Revenue Expenditure

The MCC revenue expenditure from various heads has remained stagnant exhibiting a marginal growth of 3% over the period of FY02 to FY05. The revenue account expenditure is set out below:

**Table 43: Revenue and Expenditure** 

	Revenue account Expenditure (Rs. Lakhs)					
Year	Establishment (wages and salaries)	Operation and maintenance	Interest payment	Others	Total	
FY02	3867.2	2352.7	0.3	1625.2	7845.4	
FY03	2956.5	2652.8	0.3	1746.6	7356.3	
FY04	2952.5	2406.6	0.3	1689.0	7048.5	
Fy05	3948.1	2486.8	0.3	1675.4	8110.6	

### Municipal Capital Receipts and Expenditure

The Capital receipts for MCC are from two sources, namely, state government and financing institutions. The share of state government in the total capital receipts for MCC has exhibited a declining trend, decreasing to Rs.1643 lakhs (FY05) from Rs.2830 lakhs (FY02). On the other hand, share of financing institutions has increased to Rs.1558 lakhs (FY05) from Rs.771 lakhs (FY02). The state government share and financial institutions borrowing are set out below:

**Table 44: Share of State Government and Financial Institutions** 

37	Capital Receipts (Rs. Lakh)				
Year	State Government (Rs. Lakh)	Financing institutions	Market	Total	
	Grants & Loans				
FY02	2830	771	0	3601	
FY03	2115	1132	0	3247	
FY04	1539	1706	0	3245	
Fy05	1643	1558	0	3202	

The Capital expenditure for MCC has remained largely constant in the period between FY02 and FY05, as illustrated in the table below.

**Table 45: Municipal Capital Expenditure** 

I	Municipal Capital Expenditure			
Year	Year Capital expenditure (Rs. Lakh)			
FY02	3441			
FY03	4105			
FY04	4009			
Fy05	3657			

### Water-supply & Sewerage Expenditure & Income

The income from water supply and sewerage services has surged to Rs.2441 lakhs (FY05) from Rs. 1193 lakhs (FY02), exhibiting a growth of 105%. Income and expenditure relating to water supply and sewerage is tabulated below:

Table 46: Income and Expenditure from Water Supply and Sewerage Services

Year	Expenditure (Rs. Lakh)	Income (Rs. lakh)
FY02	370	1193
FY03	300	1118.2
FY04	325	1819.9
FyO5	350	2441.2

The income has increased owing to the following reasons:

- Revision in water tariff (details have been provided below)
- # Increase in area and number of connections under the ADB scheme (KUIDP).

The tariff increase in the domestic sector ranges from 20% to 65%. The 20% increase is in the lowest consumption category, while the other categories had an increase ranging from 40% to 65%. The increase in commercial category ranged from 40% to 65%.

In addition, water supply system coverage has increased by more than 25% under the KUIDP. (Connections increased from approximately 90000 to about 115000). These factors have resulted in increase in the water charges receipts.

The expenditure mentioned accounts for establishment charges, which have largely remained unchanged.

Expenditure on power (The estimated electricity charges are of the order of Rs. 16 crores in FYO3), which constitutes a major component of O&M, is being deducted by the Urban Development Department, GoK (from the SFC grants due to the MCC) and remitted directly to the electricity utility. The amounts paid to the electricity utility also include those relating to street lighting. This practice is being adopted across the state. These amounts towards energy charges are not included in the expenditure stated.

Given the higher increase in receipts, and non-inclusion of power charges, coupled with static establishment charges, the surplus from water and sewerage seems large. However, the same would translate into a deficit in case the electricity charges are being considered.

**Table 47: Water Tariffs for Domestic and Non-Domestic Connections** 

Items	Tariff in 2001 (Rs. Per 1000 litre)	Revised Tariffs as on 31/03/2006 (Rs per 1000 litre)
<b>Domestic connection (slabs</b>		
based on consumption)		
0-25,000 litres	1.65	2.00
25-50,000 litres	2.65	3.75
50-75,000 litres	3.65	6.00
75-100,000 litres	5.15	8.00
>100,000 litres	6.15	10.00
Non Domestic		
0-25,000 litres	3.30	5.25
25-50,000 litres	4.30	7.00
50-75,000 litres	5.30	8.50
75-100,000 litres	6.70	10.00
>100,000 litres	7.30	11.00

**Table 48: Water Tariffs for Commercial Connections** 

Commercial	Treated water (Rs. Per 1000 litre)	Raw water (Rs. Per 1000 litre)	Treated water (Rs. Per 1000 litre)	Raw water (Rs. per 1000 litre)
	8.65	8.65		
	(flat rate)	(flat rate)		
0-50,000 litres	-	-	14.00	13.00
50-100,000 litres	-	-	15.00	14.00
>100,000 litres	-	-	19.00	18.00

### Cost-recovery in Urban Infrastructure

Currently, water supply and sewerage services only generate any revenues towards cost recovery. However, the MCC plans to levy fees for waste collection as well. The cost recovery in various urban infrastructure services is presented below:

Table 49: Cost recovery in various Urban Infrastructure Services

Infrastructure	Cost incurred in service provision (Rs. Lakh)		Direct recoveries (Rs. lakh)			
	FYo3	FY04	FY05	FYo3	FY04	FY05
Water supply	300	325	350	1118.2	1819.9	2441.2
Sewerage and sanitation	105	185	26	Nil	Nil	Nil
Solid waste collection	20	0	70	Nil	Nil	Nil
Public bus services	Managed by KSRTC: separate accounts are not available					

#### Investments in Urban Infrastructure

There has been no private investment in Mysore city urban infrastructure. The public investment details are presented as below:

Table 50: Aggregate Investment in Urban Infrastructure between FY02 and FY05

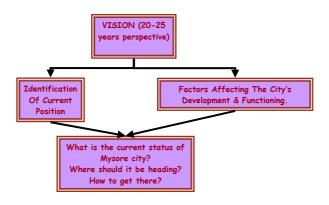
	Public	Private
Infrastructure	investment	investment
	(Rs. Crore)	(Rs. Crore)
Water supply	1345	Nil
Sewerage and drainage	347.5	Nil
Solid waste	172	Nil
Roads (municipal)	255	Nil
Street lighting	325	Nil
Storm water drainage	75	Nil

# CHAPTER 4: DEVELOPMENT OF A VISION FOR MYSORE

#### The Consultation Process

A vision document for the City can be prepared only through a consultative ensuring process. that interactions amongst occur stakeholders, including Citizen Groups/ NGOs. Elected Representatives, and Government agencies. The consultation process aims to place on record details of the existing situation, discuss possible options to go forward, and seek participative and critical feedback on where the city aims to be at the end of a certain time-period, and set out the directive principles of this vision.

Given the complex and consensual nature of the exercise, it is clear that while such a consultative process gives room for all the views to be articulated, it is certainly not possible to adopt every viewpoint. The final vision will therefore reflect a preponderance of opinion, rather than be a unanimous view.



### Stakeholder Meetings

To facilitate the process of stakeholder interactions, twenty five meetings/ workshops were organized in the period from December 2005 April 2006 with various stakeholders, **NGOs** and elected representatives. More than *five* hundred people participated in these discussions.

A table of consolidated prioritized responses is enclosed in the next page. The details of these interactions, workshops and the minutes of some of them are given as Annexure 1, 2, and 3.

The CDP was then presented to the Council Members of Mysore City Corporation, and the MLA/ MLC of the region, on 01/04/2006. This meeting was conducted under the Chairmanship of the Deputy Commissioner, Mysore District.

The State Level Steering Committee (SLSC) met on 06/04/2006, under the Chairmanship of the Hon'ble Chief Minister of Karnataka and after due discussion, approved the CDP the prepared by Mysore City Corporation. The elected representatives of the region, and senior Government officers attended the meeting.

Inputs from all these meetings/interactions have been factored into this CDP document.

A. **Consolidated response of stakeholders** – The key responses & priority accorded by stakeholders to different infrastructure needs of the City, have been categorized sector wise and are summarized in the table below

Table 51: Key Responses and Priorities by Stakeholders for different Infrastructure needs

	Sector / Area	Priority
Water	Supply & Drainage	
•	Improvement of water distribution system	
•	Conservation of ground water sources	
•	Identification of different sources of water from the sustainability	
	point of view — like Kabini	
•	Re-designing of water supply system	I
•	Rainwater harvesting	
•	Waste water re-cycling	
•	Improvement of UGD	
•	Protection of natural valleys	
•	Flood Management	
Roads	s & Transport	
•	Focus on local public transport	
•	Improvement of roads – tarring	
•	Outer ring road connection	
•	Improvement of Mysore-Malavalli Junction (can be declared as national highway).	
•	Development of national airport for connectivity.	
•	Underground parking spaces near Town Hall, Makkaji Chowk	II
•	Completion of existing ring road, Dasappa to Bommahalli to be	
	improved	
•	Railway to be integrated in public transport system.	
•	Pedestrian facilities to be provided.	
•	North south railway corridor	
•	Introduction of footpaths, cycle tracks, flyovers	
•	Multistoried buildings to be shifted to the outskirts of the city	
Beaut	ification	III
•	Development of Parks	
•	277 Parks to be conserved	
•	Plans for development of individual areas - Ashok Nagar, Padavanahalli	
•	Conservation of water bodies	
Slums		
•	Improvement of Slums	IV
•	Relocation / rehabilitation of Slums	1
•	NR Muhalla to be developed	
	sm & Heritage	
•	Declare Mysore as Heritage City	
•	Restoration of Heritage Buildings	17
•	Preparation of a Tourism plan	V
•	Local artisans to be promoted	
•	Provision of information kiosks	<u> </u>
Conge		VI
Indus	Development of satellite towns to cater to the influx of people.	
indus	Make land available for industries	VII
	พลก เลเน ลงสเเลยเร เบเ เนเนเรนาเร	

#### Others

- Auto Nagar to be developed
- Devaraja market to be redeveloped
- IT/BT should be linked to an outside body and not to MCC
- There should be an implementing officer apart from DC single point decision authority required.
- Regulations implemented by Maharashtra government to be included
- Improvement in collection and disposal of garbage

# VIII

# Coverage for the CDP

The definition of the area as per the CDP would be the Mysore urban agglomeration, which consists of the following:

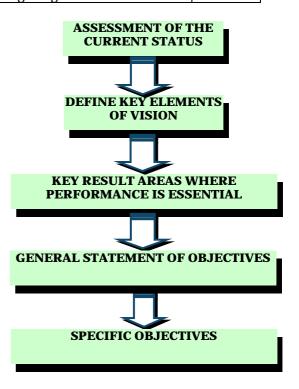
Table 52: Area as per CDP for Mysore Urban Agglomeration

Myso	Mysore Urban Agglomeration				
a)	Mysore	773889			
i)	Mysore	742261			
ii)	Hinakal	12077			
iii)	Hutagalli	6438			
iv)	Metagalli	508			
v)	Satagalli	600			
vi)	Alanahalli	3682			
vii)	Kurubarahalli				
viii)	Mysore Kasaba				
ix)	Chamundibetta	1393			
x)	Sriramapura	6084			
xi)	Datagalli	188			
xii)	Lingambudi	658			
b)	Hebbalu	1471			
c)	Belvata	5627			
d)	Bhogadi	4813			
	Total (a+b+c+d)	785800			

Source: Census of India, 2001

The area covered under the JNNURM scheme would essentially be the MUDA area, excluding Nanjangud, which is a separate ULB.

The process adopted for the development of the Vision Statement for the area under coverage, is schematically shown in the following flow-chart:



# Strengths and Weakness Strengths

The strengths of the City are encapsulated in the following:

- **\*\*** Old-world charm and confluence of heritage and culture
- **#** Salubrious climate
- # Planned city, having one of the oldest plan authorities in the country
- # High standard of education
- \*\* City growth (till recently) has been gradual and well-managed
- **#** Low slum population (< 10%)
- **#** Room to grow
- # Good linkages with Bangalore, Tamil Nadu, Kerala
- # The City benefiting from its proximity to Bangalore, and the

'push-effect' on industry seeking to expand out of Bangalore.

#### Weakness

The challenges that the city faces are:

- **Tourism industry in a status-quo** for the past many years
- \* Not much development beyond the 'sight seeing' circuit
- \*\* No attempt to convert into better public amenities, longer stays, and 'experiential tourism'
- \*\* Or to convert Mysore into a heritage, culture, and tourism 'hub'
- # Inadequate transportation infrastructure
- \*\* No proper airport, which could be a key reason why Mysore's development has been so different from that of Bangalore
- # Inadequate urban transport system
- **#** Inadequate bus system
- \*\* No local tourist shuttles, which are very important in a tourist city
- \*\* Rail connectivity with Bangalore is poor & doubling still not on the fast-track
- \* Can the city cope with increased growth of industry?
- # Bangalore's congestion is forcing companies to look at alternatives, but can Mysore absorb such investment, and still retain its heritage and culture?
  - **#** Housing
  - **#** Congestion
  - # Pollution
  - Services (Water, Power...)

#### **Vision Statement**

# Key Elements of Vision

The key elements of vision as borne out in the stakeholder consultations include the following.

#### **#** Urban Space

Clean air/ noise free environment, demarcated areas for pedestrians and vehicles, community creations, promotion of neighbourhood and community ownership, clear CBD demarcation, adequate open space

#### # Economy

- Provision of balanced economic options, cultural vibrancy of city, heritage tourism based
- Sustainable economic growth based on nonpolluting, hightechnology industry and services

#### # Heritage

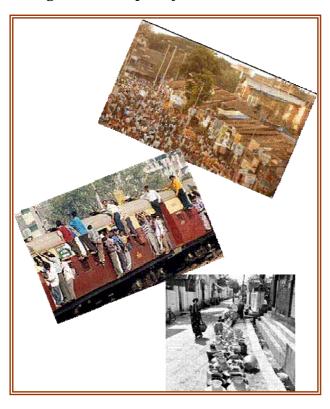
- Unique resources that need to be preserved
- Historical architecture and buildings
- Cultural vibrancy which is the source of tourist attraction
- Local art, handicrafts, silk

#### **#** Governance

- Decentralization and People's Participation
- Efficiency,
  Transparency and
  Accountability
- E-government or other equivalent systems for efficient and sustainable delivery of services to improve responsiveness
- Computerization of information systems

# And What The Vision DOES NOT Envisage...

It is of interest to define what Mysore DOES NOT want to become, and what are the trade-offs between growth and quality of life.



Too many cities have courted growth, or had growth thrust on them by circumstances, and have been unable to cope with the stress that growth has caused on the city's infrastructure, its society, and its culture.

- # Unplanned and haphazard growth that lays stress on city's infrastructure, impacting quality of life, leading to:
  - **Congestion**
  - Constructions in the core and heritage areas, that spoil the city image, including numerous fly-overs or elevated roads that detract from the City's heritage

#### **Urban sprawl**

- # Unplanned industrialization that places large stress on urban environment & burden transport, roads, water, power
  - Industrial townships would be developed OUTSIDE the city peripheries, with requisite infrastructure.

### Key Result Areas

The Key result areas that the vision seeks to address are:

- 1. Maintenance and preservation of the unique heritage and culture of Mysore;
- 2. Establishing the city in a sustainable environment comprising green spaces (parks & gardens), and waterbodies:
- 3. Improved quality of urban services, such as water supply & sewerage, solid waste management, and ensuring universal access to an adequate level of these urban services:
- 4. Establishing a transparent, participative, accountable & efficient city-wide framework for planning and governance;
- 5. Introduction of e-Governance in the core functions;
- 6. Promotion of the following important economic sectors
  - a. Tourism
  - b. Non-polluting, hightechnology services & industries
- 7. Promotion of the following sectors as social imperatives, as well as economy drivers
  - a. Education
  - b. Wellness

### General Statement of Objectives - The Vision Statement

Enhancing the glory of Mysore, and enabling it to forge ahead as the Cultural, Tourism, Educational, Information Technology, Information Technology enabled Services and Wellness Hub.

Furthering the cause of the Citizens and improving their quality of life by

- toproviding improved urban services;
- tatering to the needs of the urban poor;
- tesustaining the environment & greenery;
- \*preserving the charm and culture of the city, and
- timprovement of human resource quality

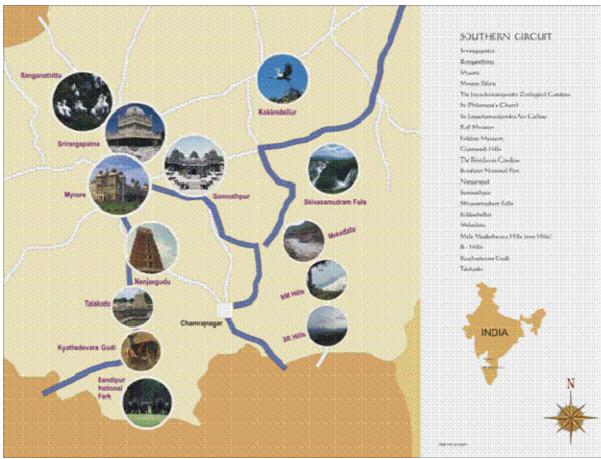
### Specific Objectives

#### **Tourism**

The objective is to go to the next level of tourist activity, and give the tourist an 'experience,' thus moving away from "sight-seeing" the same set of landmarks. 'Experiences' shall be based on the heritage and monuments/ palaces in Mysore, and capitalize on its proximity to a number of nature sanctuaries and habitats.

operators. Similar 'view-experienceenjoy-buy' circuits would be created as 1-2 day trips around Mysore, such as Coorg, for Plantation experience.

- **#** Experiential Tourism
  - Create other events, beyond Dasara
  - **"Royal"** Experience
  - **Type 1** Yoga and Wellness experience
  - Hub for-
    - **#** Plantation experience
    - **#** Wildlife experience
    - **Silk** experience
    - # Arts & Crafts experience...



For instance, a "Royal Experience" could be a visit to the palaces in an around Mysore and Srirangapatnam, enlivened by a light-and-sound show, a historical narration, photo-ops in traditional royal costumes, cuisines purchase of the past, and opportunities of gems, jewellery, and The whole antiques. experience would be packaged by efficient tour

It is envisaged that the City will only plan for the basic infrastructure and planning requirements, and the actual specific finances for each subproject will come from the private sector. There are certain facilitation measures and backup infrastructure requirements, for taking tourism to the next level. These are enumerated below:

- **Budget and upmarket hotels** 
  - **Bed-and-breakfast facilities**
  - Hub-and-spoke hotel chains, with some inventory at Mysore, and some at the 'experience' locations such as Madikeri
  - **†** Public amenities
    - **#** Toilets
    - **#** Parking
    - **#** Information kiosks
    - **#** Event management
    - **#** Local shuttle buses
    - \* Proper linkages to Bangalore...
- # Encourage the private sector, to look beyond rooms and F&B
  - Organize events/ experiences
    - \*A costume gallery showing replicas of royal costumes, where visitors can wear them & get photographed
    - Silk loom visits and purchase trips
    - **\*** Craft experience & purchase trips
    - \* Spiritual/ musical events

Though the involvement of the private sector will reduce the onus and financial burden on the City, still it is a fact that to undertake the facilitation and creation of base infrastructure, the City would endeavour to allocate more financial resources.

- Current funds do not accrue to the City, but to the monument (managers/ owners)
- Dasara funds from State are marginal
- Consider "impact fee" from monuments/ managers/ owners

#### Wellness

Mysore's salubrious climate, its charm, and aura of culture have resulted in a naturally developed yoga and spiritual tourism base. The City would build upon this base, and focus on wellness and spiritual tourism. Some of the possible developments are enumerated here:

- **#** Pollution less environment
- **#** Green and open public spaces, parks, and gardens
- \*\* Revival of lakes and water bodies and using parks and heritage areas for recreation
- # Healthcare tourism
- "Celebrate Life" in a holistic manner, instead of being called a "pensioner's paradise"...
- # Focus on developing special areas/facilities
  - Mysore as a yoga hub
  - Therapy through music
  - **†** Organic farming

Here again, the City would play a facilitator's role by setting the base infrastructure and planning/zoning. The private sector would be encouraged to invest in the actual projects/facilities.

To make Mysore a centre for Wellness, there are certain imperatives

- **#** Affordable medical facilities
- **Promotion** of Alternate therapies
- # High quality ambience
- # High quality infrastructure amenities
- # Emergence of Budget Accommodation
  - **t** Low rentals
  - Availability of rental transportation

The City's focus would be on getting the foregoing environment in place.

#### Handicrafts/ Sericulture

Mysore enjoys unique branding in handicrafts and sericulture, with 'Mysore Silk,' sandalwood articles and other handicrafts and local art being well recognized household words associated with the City. However, there is a need to value-add to the existing cachet, and thereby increase revenues and recognition.



This would be done in the following manner:

- **Strengthening** of local economy
- Merging with theme entertainment/ experiential tourism
  - Interactive workshops would be conducted for tourists to familiarize them with vernacular art and culture
    - **See**, experience and purchase

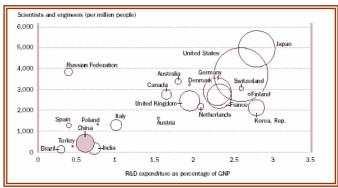
**Spaces** like "haats" and ethnic getaways would be developed for more lively experiences.



is an ethnic village resort with an exquisite Rajasthani touch that has been positioned as a perfect place for a weekend, from where one can experience Rajasthan, staying in the ethnic huts, eating delicious food in traditional style, enjoying the folk music and dance performances.

#### **Education**

Developing human capital is the key to improving standards of living and economic growth.



Enough emphasis has not been given on this aspect in India, in the past, as the graph above indicates.

Mysore has all the ingredients necessary to make it a centre for education and research.

- **#** To encourage Mysore as a centre of excellence in education
  - The Creating Campus environment
  - Promotion of the concept of international Open university

As before, the City shall play the role of a facilitator to catalyze the development of educational institutions, while the actual education infrastructure can come from private finance. In some cases the City may also be able to lobby with the State or Central Governments to locate specific centres of excellence in Mysore.

- \*\* Provision of Land in urban Corridors for enhancing the number of players that can enter the domain of education.
  - Creating land banks for educational institutions
- # Multi activities for space allotted to Universities.
  - Running summer programs

# Information Technology/ ITeS/Bio-technology

Mysore has very similar advantages — in terms of climate, reasonably good infrastructure, and human resources — as Bangalore. The congestion of IT/BT industries in Bangalore, and the proximity of Mysore, are causing more of these industries to locate at Mysore. Mysore is therefore becoming a focus of development for IT/BT and other high-technology industries.

Industry is not necessarily 'invited' but comes in because of base infrastructure and communication facilities. Industrial development would be focussed on the provision of good support infrastructure, as well as availability of suitable land.

It is also important to caveat industrial growth in a heritage city like Mysore. Unless proper planning and zoning is done, and the type of industry is regulated, it is possible that the development may result in economic growth at the cost of lowering the quality of life — by congestion and infrastructure stress.

The imperatives for development of industry are:

- # To encourage Mysore as hub for eco-friendly, hightechnology industry and services
  - **■** Particular emphasis on IT/ BT industries
- # Industrial development to be sequestered to planned zones, and not permitted within the core city area
  - Such areas to be designed to be selfsustained with basic infrastructure
  - Basic infrastructure, including water supply and transportation to be strengthened

# Sector-specific Targets

The following sections indicate the specific targets for the key urban service areas:

- 1. Water and sanitation
- 2. Urban roads
- 3. Solid waste management
- 4. Urban poor

# **Targets for Water & Sanitation**

**Table 53: Targets for Water and Sanitation** 

Parameter	<b>Current Status</b>	2012	2017	2031
Frequency of water supply	3 hours daily supply	6 hours	10 hours	Continuous
Coverage (Population)	85%	100%	All	All
Metering	Not fully Covered	100% in all non domestic, and commercial, industrial consumers	100% district metering	All categories to be metered
Sanitation Coverage	57%	75%	100%	100%
Consumer Redressal System	Ad hoc system present	Develop consumer redressal system	Response time of less than two days	Response time of less than a day

## **Targets for Urban Roads**

Table 54: Targets for Urban Roads

Parameter	<b>Current Status</b>	2012	2017	2031
Length of good quality roads	90% tarred	All	All	All
Pavements	Only in main roads	All	All	All
Absence of Potholes, depressions, waves		70% of roads	Potholes free	Potholes free
Signage & Marking on the main road		All	All	All

# Targets for Solid Waste Management Table 55: Targets for Solid Waste Management

Parameter	2012	2017	2031
Collection coverage with door-to-door (%)	80%	90%	100%
Segregation percentage (%)	25%	35%	100%
Quantum of waste treated (% of total collected)	100%	100%	100%
Quantum of waste land-filled (TPD)	Inerts & Rejects	Inerts & Rejects	Inerts & Rejects

# **Targets for BSUP**

Table 56: Targets for BSUP

Tubic cor Tui gets 10	~		
Parameter	2012	2017	2031
Slum dwellers with houses	50%	60%	100%
Access to basic services			
-Water within 50 metres of inhabitation	50%	60%	100%
-Sanitation	50%	60%	100%
-Garbage disposal system	60%	60%	100%

### **Quality of Life Ideas**

Some of the qualities of life ideas spelt out in the Stakeholder consultations include the following:



# HERITAGE WALK









The Heritage Walk is a concept in which people are made to get closer to the City by taking them through a guided walk and getting them familiar with the historical significance and strong architectural and urban character of the City.

The Heritage Walk makes people aware of the architectural heritage and living culture of the City, and also guides them through the lanes and neighborhoods pointing out places of historic and religious importance. The walks are conducted by trained guides and can also be supported with slide shows, pamphlets, stage shows etc.



# DECONGESTION OF AREAS







The core of the city, if it gets highly dense and congested, causes a high level of stress on the existing infrastructure, and impacts the quality of life, as well as the image of the city. In such cases it becomes highly crucial to decongest the city core and try to have a uniform density to utilize the infrastructure optimally. This may involve creating certain growth poles outside the city limit to diverge the flow towards that direction and also moving out of certain economic activities in outskirts along with the provision of proper infrastructure. The process is not very simple and requires a certain planning & legal framework to be followed.



# ELECTRIC BUS



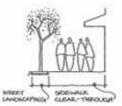




Electric trolley bus: These buses can have a capacity of about 100 passengers. These buses are of three types:

- · Electric motor driven vehicles powered by the batteries.
- Electric motor driven vehicles with the power collected from tracks beneath the vehicle or from overhead current collectors.
- Hybrid electric vehicles which have an IC engine, batteries and electric motor as a part of the drive system of the vehicle.

This kind of project will require continuous power supply and modification of the existing road surface, electricity poles and traffic signals at intersections. The advent of electric buses will control pollution and improve the mode of public transportation in the City.



# PEDESTRIANI CYCLING ZONE









Pedestrian Zone is a vehicle-restricted street, which can allow cycle access out of the core pedestrian hours using a traffic order and variable message signs. Busy shopping streets in the heart of the city centre can be converted to pedestrian zones for the safety of the pedestrians, and controlling congestion.







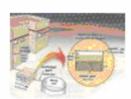




Community parks provide breathing spaces, and at the same time form a platform for interaction among various strata of the society. The parks should be preferably designed in such a way that they require very less maintenance in the long run and at the same time give a welcoming and friendly impression to the user.

The materials used could be more indigenous in nature and the parks could be designed as an extension of heritage spaces.









Rainwater collection systems are known to have existed for over 4000 years. This technique is being revived today to give back to nature what we take from it.

Rain water harvesting - a simple, economical and eco-friendly method of water conservation - is an ideal solution to recharge the ground water.

The rainwater that falls on the surface/rooftop is guided to wells or pits through small diameter pipes to recharge the underground water.

Rainwater can be harvested to the extent of 55,000 litres per 100sq. metres area per year from rooftops. Benefits of Rainwater Harvesting are:

- Quality of Groundwater improves
- Raises the water levels in wells and bore-wells that are drying up
- Mitigates the effects of drought
  Reduces the soil erosion as the surface runoff is reduced.
- Choking of storm water drains and flooding of roads decreases.
- Saving of Energy: To lift ground water, one meter rise in water level saves about 0.40 kilo watt hour of electricity.

### **Mapping of Objectives**

In preparing the CDP and planning for a city's future infrastructure the objectives as prioritized by its stakeholders should assume unequivocal importance. Therefore, the thrust of sector-specific strategies should be towards maximizing and optimizing the gains of the individual projects for the city, state at large and its citizens.

The tenets of the CDP should be based on the achievement of the following objectives:

- **#** Increasing prosperity
- # Universal provision of basic services
- # Urban renewal program
- # Managing built assets well
- \* Achieving financial sustainability

Each of these objectives has been charted with the sector specific projects, which promote the achievement of the objectives. This helps in analyzing whether the project is fulfilling the purpose and lends objectivity to the process of selection of projects for the CDP.

Each of the sectoral interventions relates to one or more of the objectives as set out by JNNURM. The sectoral strategy and suggested projects have been developed in keeping with the sector specific theme. The individual sector themes, projects envisaged to sustain the sectoral theme and their relation the achievement of the objectives of the CDP is explained as below:

Tourism and heritage: The thrust of the CDP is to preserve, conserve and protect the heritage of the city and capturing the potential that the heritage of the city offers

for tourism ventures. The projects would aim renovating the heritage buildings and promoting traditional industries like, silk, sandalwood and other handicrafts. These would not showcase the heritage but also result in gains for the city's economy.

- Roads: The sectoral theme for the sector is to provide better inter and intra connectivity by creating new assets and preserving the old ones. In order to do so projects such as, development of an outer ring road has been suggested. Further the projects also aim at improving the maintenance of the existing roads, upgrading the roads in keeping with the growth in vehicular traffic. These projects would help provision of basic services, urban renewal program, better management of built assets and achieving financial sustainability
- **#** Road related infrastructure: The sectoral theme is to decongest the city and provide a cheap mass transport system for the citizens. The projects suggested for the sector are construction of bus/truck terminals, construction and maintenance of storm water drains, footpath and medians. All these would help achievement of the objectives as stated above. This would help in preserving the older core areas of the city, which have off late been burdened by the inordinate increase vehicular traffic.
- Water supply and sewerage: The sectoral theme intends to provide basic drinking water

facility and sewerage facility to the citizens and also conserve the water resources lest these might deplete beyond the city's future requirements in line with the increase in population. Herein. the projects suggested include augmenting, rehabilitating the water supply and distribution system and introducing the measures to conserve, recycle preserve the water resources of the city through waste water recycling, and rainwater harvesting. These projects assist in accomplishing the objectives of the CDP.

- Municipal Solid waste management: The sectoral theme is to provide a clean and hygienic environment and initiate efforts to provide renewable sources of energy. The projects envisage include developing a waste to energy facility.
- theme aim at improving the quality of life for the poor by providing housing facilities, access to transportation facilities and access to other basic services. These would help in creating social equality and also help in increasing the prosperity of the city.

**Table 57: Summary of Sectoral Theme** 

	· · · · · · · · · · · · · · · · · · ·						
JNNURM objectives	Sector them e		Increasing prosperity	Universal provision of Basic services	Urban renewal program	Managing built assets well	Achieving financial sustainability
Sectors				Dasic services	program	Well	sustamability
Heritage and Tourism	Preservation of city's heritage, provide a platform for city's craftsmen to exhbit their wares to an international audience and ensure better facilties to tourist visiting the city	Renovation of heritage buildings					
		Craft village (silk, sandalwood and other handicarfts) convention centre and exhibition zone for exhibiting city's eritgae					
Roads	The city aims at providing a good intracity and intercity network of raods which would imprve connectivity with neighbouring cities and also help in a smooth flow of traffic within the city.	Asset Maintenance of existing roads in a timely and systematic manner					
		Development of Outer ring road and radial roads					
Road related infrastructure	The city intends to decongest the inner city areas, beautify the city and provide a mass transport sytem for the citizens to prevent future congestion because of vegicular population growth.	Provision of low cost transport to citizens					
		Construction of truck/bus terminals, bus shelters					
		Consturction and Maintenance of storm water drainage, streetlights, footpaths and median					
		Airport upgradation Ensuring usage of environment friendly vehicles and fuel					
Water supply and Sewerage	The city would ensure that all its citizens have better access to drinking water and sewerage facilties and also at the same time aim to conserve the water resources	Rehabilitation of existing water suppy distribution system					
		Bulk water source augmentation					
		Conservation of water and waste water recycling					
Municipal Solid Waste Management	The city aims to provide a clean and hygienic environment and also stresses on energy conservation	A good MSWM system					
		Encourage usage of renewable sources of enery such as waste to energy facility					
Urban poor	The city intends to improve the quality of life of the Economically weaker sections and provide them with all basic public amenities	Provide housing, transport and other public amenities					

# **Project Prioritization**

The priorities which have emerged from various consultations have been presented earlier in the chapter. The priorities between and within the sectors have been stated in the table. The Mysore city administration has conceptualized the implementation of certain projects, based on the priorities which have emerged. A brief overview of some of the projects is as given below:

- \*\* Remodelling of Water Supply Distribution System in Mysore city: The project aims at refurbishing the existing water supply distribution network in Mysore and extend the network to the uncovered parts of the city. This would help in providing equitable water supply to all parts of the city.
- **\*** Augmentation of Water source to Mysore City from river Kabini: The project aims at augmenting the water supply

- to Mysore by drawing water from River Kabini. This would ensure that the water supply is in line with the requirements of the population increase.
- \*\* Slum rehabilitation for identified slums: The project intends to improve the quality of life for urban poor by providing housing for the slum dwellers in the selected slums of the city. This project would be phased in such a way that all the slum dwellers of the city would have basic housing facilities.
- # Completion of Outer Ring Road: The project would involve completion of the remaining stretch of the Outer Ring Road measuring around 8 kms. This outer ring road is presently incomplete and its completion would help in improving traffic flow. With population increase and increasing urbanization the city's core area is becoming congested, and measures such help these would decongesting the city.
- Heritage Conservation and Tourism plan for Mysore: The plan would frame a strategy for protecting and conserving the heritage of the city and retaining its old world charm. plan would suggest optimal ways to capture the tourism potential of the city marginalizing without city's heritage. This would not only assist in boosting the city's economy but would also showcase Mysore's heritage to the tourists from world over.
- ★ Decongestion of Old City Areas: Mysore has grown at a brisk pace in the last few years, with the advent of IT/ITeS industries. This has resulted in

- vehicular increase in population and increase in commercial activities within the city's core area, in and around the Palace. Such congestion, if unabated would ruin the city's heritage areas. This project would therefore aim at decongesting the old Santepet, areas, like Gandhi square, Devraja Urs Market.
- # Introduction of Rain water harvesting in public buildings parks: Rain harvesting is increasingly being perceived as a viable option for augmenting the water supply sources as it is a simple and economical method of water conservation. It improves the quality ground water as well reduces the soil erosion. In this method the rainwater falling on the rooftop is guided to wells or pits through small diameter pipes leading them to recharge ground water.

Considering the importance of the same, GoK has directed the municipalities to implement harvesting rainwater measures. MCC proposes to introduce these measures, in the first instance, in all multi storied buildings. public buildings and parks of the city. of Suitable options PPP frameworks would be explored for implementing rain water harvesting schemes for public buildings and parks, where feasible.

# CHAPTER 5 – BASIC SERVICES TO THE URBAN POOR

#### Scenario in Karnataka

As per 2001 census in Karnataka, it is estimated that out of the total 179 lakh urban population, 34 lakh reside in slums, which works out to 19%. The total number of slums in Karnataka is 2511, out of which, 1957 are declared slums. Bangalore has declared slums and these 219 declared slums enjoy certain benefits. As per KSCB Act 1973, the Board is providing basic amenities namely water. drinking street community latrines. community bathroom, drains, roads, storm water drain to the slum dwellers in these declared slums.

The 2001 census of India revealed that out of a population of over 1 billion people, the urban population is 285.4 million (nearly 30%) and rising. A rapidly urbanising population and the inadequacy of city administration to meet its demands have meant a critical housing and infrastructure shortage.

Although information on the number of the poor families within this urban population is approximate, it is estimated that there are roughly 100 million slum dwellers in the country. Since poverty has long been



associated with rural areas, little investment has been made improving the lives of the urban poor. The contribution of slum dwellers to the city's economy is substantial as is the contribution of industrial workers. construction labourers. domestic servants, rag-pickers and a whole range of petty traders like, vegetable and fruit-sellers. Instead, the urban poor are seen as free riders, as encroachers on valuable land and as entirely undeserving of the most basic necessities. Such prejudices, along with an anti-urban bias in planning, have led to a neglect of urban poverty and a refusal to envision cities as engines of economic growth.

# **Mysore Scenario**

There are a total of 80 slums (declared and undeclared) in Mysore, as per the survey conducted by KSCB. The number of declared (also referred as notified) slums in Mysore has increased to 49 (KSCB Survey, 2006) from 34 (Census 2001). Besides, these declared slums, Mysore have 31 un-notified slums.

As per a survey undertaken by DMA and KSCB the number of BPL families and number of persons below BPL in Mysore are 31,196 and 1,55,980, respectively, as in the year 2001. The number of BPL persons in Mysore comprises 19% of the total population of Mysore, which as per the Census 2001 was around 7.86 lakhs.

Few statistics on the current status are as below:

Table 58: Current Status for Slum dwellers

uweners			
Parameters	Current Status		
Slum dwellers with houses	30%		
Water within 50 metres of inhabitation	40%		
Waste services collection	50%		
Sanitation	34%		

The current population of declared slums in Mysore is estimated at 81,000. As per the census of 2001, the population for these declared slums in Mysore was 71, 552.



Table 59: Mysore (MC) Slum population

Mysore	(M	Corp)
Slum Pop	pulati	ion
		2001
Male		35967
Female		35585
Total		71552

Source: Census of India, 2001

The data on availability of basic services to urban poor has been estimated as per the National Sample Survey data for Karnataka, 2002.

Some of these are:

♯ Sanitation access: 34% of slum dwellers

# Easy access to water supply (within 50 metres): 40%

The percentage of declared slum population in Mysore is less but there has been a spurt in the number of slums in Mysore in the recent times due to increasing urbanization. This can be seen from the increase in the number of slums notified by KSCB during the previous two decades to meet the infrastructure & services need of the urban poor of Mysore City.

Table 60: Number of Slums notified in past two decades

past two accades				
Time period	Slums notified			
Before 1985	3			
1985-90	10			
1990-95	2			
1995-00	15			
2000-05	19			
Total	49			
	Time period Before 1985 1985-90 1990-95 1995-00 2000-05			

Source: KSCB, 2006

In order to make Mysore slum free and make it more tourist friendly, rehabilitation of slums is being undertaken. The Government of Karnataka and Karnataka Slum Clearance Board aim to make Mysore a "slum free" and thereby increase its attraction as a tourist destination.

There are 18, 404 slum houses in the 49 declared slums of Mysore. The list of declared slums and the number of slum houses in each of these slums is provided below:

1		Table 61: Location of slums, their types and number of households					
2         10         Behind Sarvajanika Hostel         Declared         140           3         12         Nachanahalli Palya         Declared         360           4         12         Industrial suburb         Declared         120           5         12         Devaraja Urs colony         Declared         150           6         12         Dharma Singh colony         Declared         150           7         13         Dr. Ambedkar Colony, Ashok Puram         Declared         200           8         13         Nellur Shed         Declared         332           9         15         Jayanagar, Pampapathi Road         Declared         122           10         15         Chinnagiri Koppal         Declared         130           11         21         Kuduremala, behind Coffee board         Declared         130           12         31         RMC Yard         Declared         120           13         31         Medar Block         Declared         120           14         31         Yashwanth Nagar         Declared         110           15         31         Bamboo Bazar         Declared         110           16         32	Sl. No	Ward No	Location	Туре	Households		
3         12         Nachanahalli Palya         Declared         360           4         12         Industrial suburb         Declared         120           5         12         Devaraja Urs colony         Declared         150           6         12         Dharma Singh colony         Declared         150           7         13         Dr. Ambedkar Colony, Ashok Puram         Declared         200           8         13         Nellur Shed         Declared         332           9         15         Jayanagar, Pampapathi Road         Declared         122           10         15         Chinnagiri Koppal         Declared         350           11         21         Kuduremala, behind Coffee board         Declared         120           13         31         Medar Block         Declared         120           13         31         Medar Block         Declared         120           14         31         Yashwanth Nagar         Declared         110           15         31         Bamboo Bazar         Declared         110           16         32         Manjunathapura         Declared         820           17         33         M	1	7	Madhuvana & behind St. Mary's School	Declared	140		
4         12         Industrial suburb         Declared         120           5         12         Devaraja Urs colony         Declared         150           6         12         Dharma Singh colony         Declared         150           7         13         Dr. Ambedkar Colony, Ashok Puram         Declared         200           8         13         Nellur Shed         Declared         332           9         15         Jayanagar, Pampapathi Road         Declared         122           10         15         Chinnagiri Koppal         Declared         350           11         21         Kuduremala, behind Coffee board         Declared         130           12         31         RMC Yard         Declared         120           13         31         Medar Block         Declared         120           14         31         Yashwanth Nagar         Declared         110           15         31         Bamboo Bazar         Declared         110           16         32         Manjunathapura         Declared         820           17         33         Metagalli, Ambedkar colony         Declared         820           18         35	2	10	Behind Sarvajanika Hostel	Declared	140		
5         12         Devaraja Urs colony         Declared         150           6         12         Dharma Singh colony         Declared         150           7         13         Dr. Ambedkar Colony, Ashok Puram         Declared         200           8         13         Nellur Shed         Declared         332           9         15         Jayanagar, Pampapathi Road         Declared         122           10         15         Chinnagiri Koppal         Declared         350           11         21         Kuduremala, behind Coffee board         Declared         130           12         31         RMC Yard         Declared         120           13         31         Medar Block         Declared         450           14         31         Yashwanth Nagar         Declared         110           15         31         Bamboo Bazar         Declared         110           16         32         Manjunathapura         Declared         110           16         32         Manjunathapura         Declared         150           17         33         Metagalli, Ambedkar colony         Declared         820           18         35         <	3	12	Nachanahalli Palya	Declared	360		
6         12         Dharma Singh colony         Declared         150           7         13         Dr. Ambedkar Colony, Ashok Puram         Declared         200           8         13         Nellur Shed         Declared         332           9         15         Jayanagar, Pampapathi Road         Declared         122           10         15         Chimagiri Koppal         Declared         350           11         21         Kuduremala, behind Coffee board         Declared         130           12         31         RMC Yard         Declared         120           13         31         Medar Block         Declared         450           14         31         Yashwanth Nagar         Declared         110           15         31         Bamboo Bazar         Declared         110           16         32         Manjunathapura         Declared         300           17         33         Metagalli, Ambedkar colony         Declared         820           18         35         Behind P.K. sanitarium         Declared         820           19         40         B.B. Keri         Declared         820           20         44 <td< td=""><td>4</td><td>12</td><td></td><td>Declared</td><td>120</td></td<>	4	12		Declared	120		
7         13         Dr. Ambedkar Colony, Ashok Puram         Declared         200           8         13         Nellur Shed         Declared         332           9         15         Jayanagar, Pampapathi Road         Declared         122           10         15         Chinnagiri Koppal         Declared         350           11         21         Kuduremala, behind Coffee board         Declared         130           12         31         RMC Yard         Declared         120           13         31         Medar Block         Declared         450           14         31         Yashwanth Nagar         Declared         110           15         31         Bamboo Bazar         Declared         110           16         32         Manjumathapura         Declared         300           17         33         Metagalli, Ambedkar colony         Declared         820           18         35         Behind P.K. sanitarium         Declared         820           19         40         B.B. Keri         Declared         820           20         44         Behind KSRTC         Declared         152           21         44         C.V.	5	12	Devaraja Urs colony	Declared	150		
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10	8	13	Nellur Shed	Declared	332		
11         21         Kuduremala, behind Coffee board         Declared         130           12         31         RMC Yard         Declared         120           13         31         Medar Block         Declared         450           14         31         Yashwanth Nagar         Declared         110           15         31         Bamboo Bazar         Declared         110           16         32         Manjunathapura         Declared         300           17         33         Metagalli, Ambedkar colony         Declared         820           18         35         Behind P.K. sanitarium         Declared         150           19         40         B.B. Keri         Declared         820           20         44         Behind KSRTC         Declared         152           21         44         C.V. Road         Declared         415           22         46         Behind Jail         Declared         70           23         47         Kesare Slaughter House         Declared         291           24         47         Kesare, Belavatha Colony         Declared         150           25         47         Belavatha Janatha colo	9	15	Jayanagar, Pampapathi Road	Declared	122		
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15   31   Bamboo Bazar   Declared   300	13	31	Medar Block	Declared	450		
16         32         Manjunathapura         Declared         300           17         33         Metagalli, Ambedkar colony         Declared         820           18         35         Behind P.K. sanitarium         Declared         150           19         40         B.B. Keri         Declared         820           20         44         Behind KSRTC         Declared         152           21         44         C.V. Road         Declared         415           22         46         Behind Jail         Declared         70           23         47         Kesare Slaughter House         Declared         291           24         47         Kesare, Belavatha Colony         Declared         130           25         47         Belavatha Janatha colony         Declared         220           26         52         Chamundeshwari Nagar         Declared         220           27         57         Ghousia Nagar         Declared         4400           28         57         Kyathamaranahalli, A.K. Colony         Declared         965           30         60         Jyothi Nagar, P.K. Colony         Declared         200           31         63 <td>14</td> <td>31</td> <td>Yashwanth Nagar</td> <td>Declared</td> <td>110</td>	14	31	Yashwanth Nagar	Declared	110		
17   33   Metagalli, Ambedkar colony   Declared   820	15	31	Bamboo Bazar	Declared	110		
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38 41 Kailasapuram Declared 506	37	64	Girijabovi Palya	Declared	218		
<u> </u>	38	41	Kailasapuram	Declared	506		

Sl. No	Ward No	Location	Туре	Households
39	52	Siddappaji Block	Declared	76
40	52	Durgamba Temple, Gandhi Nagar	Declared	86
41	31	Yadavagiri	Declared	62
42	36	Gokulam	Declared	80
43	7	Madhuvana	Declared	129
44	21	Bogadi Road	Declared	130
45	59	Ghousia Nagar, 2 <sup>nd</sup> Stage, 'B' Block	Declared	250
46	8	Elethotha	Declared	80
47	22	Kukkarahalli	Declared	150
48	46	Bade Makhan	Declared	450
49	56	Shanthinagar	Declared	3000
				18404

#### **Past Responses**

Many past responses to the problem of slums have been based on the belief that provision of improved housing and related services (through slum upgrading) and physical eradication of slums will, on their own, solve the slum problem. Solutions based on this premise have failed to address the underlying causes why slums come into being of which poverty is the most significant.

It is, therefore, emphasized that slum policies should more vigorously address the issue of the livelihoods of slum dwellers and the urban poor in general, thus going beyond traditional approaches that have tended concentrate improvement of housing, infrastructure and physical environmental conditions.

#### **Holistic Approach**

This means enabling informal urban activities to flourish, linking low-income housing development to income generation, and ensuring easy access to jobs through pro-poor transport and low-income settlement location policies.

It is clear that slum formation is closely linked to economic cycles, trends in national income distribution and, in more recent years, to national economic development policies. The failure of policy had the net effect of weakening the capacity of national governments to improve housing and living conditions of low-income groups.

#### Policy of Slum Improvement

In view of the pressing need for solving the problems of slums within



the limited financial resources available, the emphasis has to be on clearance and improvement of slums.

- 1. It should aim at providing good shelter to the slum dwellers at affordable cost.
- 2. It should promote participation of the slum dwellers in clearance and improvement of slums.
- 3. Wherever in-situ development is possible, such slums shall be taken up for in-situ improvement and basic facilities provided.
- 4. The slums located in congested unhygienic areas of the urban centres shall be cleared and tenement schemes put up.
- 5. NGOs working in Mysore could be involved in an effort to build rapport and interact with slum dwellers.
  - Kuduremala, a. In for example, **RLHP** has and firmly slowly moved in to help the people organize themselves over several years, so the settlement was well placed partner with the ADBfinanced project.
  - b. RLHP also created four self-help women's

groups. The first began from a community of only a few households all of which had a monthly savings of less fifty Rupees. than Collectively, these savings have now grown to where members can get credit to meet family needs.

c. KUIDFC also provided funds, seed and subsequently loans were given to women to start small businesses. self-help Through groups and savings programs, women are able to obtain loans to buy books for their children or start small businesses. More important, they can get out of the clutches of moneylenders.

The KSCB has been working towards providing basic housing facility to the slum dwellers in the city. Under the improvement scheme KSCB constructed 1390 tenements for the benefit of the following 11 slums:

- **#** Medar's block
- **Ashokapuram**
- Raja Soap factory
- ♯ Doddakere Maidan
- # Govindrao Memorial Hall
- # Jyothinagar
- **\*** Visweswaranagar
- **Slum** between railway line and RMC premises
- **#** Chamundeswari block
- **♯** Janatha Saw Mill
- # Durgamba temple

# Concept & Resettlement Proposal

The proposal for improvement of basic services to the urban poor includes the following:

- 1. The families living in hutments in congested unhygienic areas of the urban centres would be re-housed in multi-storeyed tenements constructed in the same area.
- 2. The slums are significantly improved with basic infrastructure and conferment of land tenure and making it a good habitat.
- 3. The slum families who have encroached in areas required for further urban development, pavements, road margins and watercourse areas are to be resettled and rehabilitated near city limits in storied tenements.

The goal is to critically understand various frameworks and methodologies for upgrading slums and support those initiatives where the City would work in partnership with groups of the urban poor/NGOs. The success of each city model is judged in terms of the actual deliverables and the capacities that were created in the process of implementing policy.

KSCB has been allotted land in Mysore city for developing the housing projects for slum dwellers. The List of sites & proposed number of houses is as given below:

Table 62: List of sites allotted by KSCB and proposed number of houses

Hanchyasatgalli	200
Roopanagar	200
Medars block	92
RMC yard C block	80
RMC yard D block	80
RMC yard A block	80

RMC yard B block	80
Manjunathpura	160
Metagalli	160
Raja soap factory	68
KSRTC	42
KSRTC MUDA land	80
Dharamsingh colony	108
Usmania block	128
Savitha Ambedkar colony	130
Hebbal colony	160
Kuppalur	120
Medars block-2	60
Mandakalli	480
Rajarajeshwari rice mill	80
TOTAL	2788

- 1. The plan is to build houses in this area and resettle slum dwellers in these flats. Each flat will have a bedroom, living room, kitchen and toilet. The housing will be in configuration.
- 2. These flats will provide all the basic amenities required for comfortable living. This will include storm water drains, under ground drains, metalled roads, street lighting, piped water supply.
- 3. The project will also house a community centre, which can be used by all the beneficiaries for social and other activities useful to the community.

It is relevant here to mention that in looking at slum development the vision on urban poor should not be lost. Slum development program would also be dovetailed with the urban basic services for the urban poor. **Assuming** projected a population of 16.5 lakhs by 2030 and assuming a 19% unit (As per survey conducted by KSCB, it is estimated that out of total 179 lakh urban population as per 2001 census in Karnataka, 34.50 lakh reside in slums, which works out to 19.27%) Below Poverty Line (BPL) population, a minimum of 62000

houses for the urban poor is required in Mysore. Applying the current share of declared and undeclared slums, 32100 houses are required for declared slum population.

In this direction, land utilization reforms in land use patterns and layouts may be required. It would be necessary to create self-contained townships to absorb housing and urban poor.

# Goals of BSUP Component

- The project areas would be selected in such a way that the urbanization takes place in a dispersed manner.
- About 2800 families of Mysore city will be rehabilitated in the first phase, to get better civic amenities emphasizing universal access to the urban/semi-urban poor.
- # Houses in the slum areas will be provided with all infrastructural services like drinking water, sanitation, streetlights, etc.
  - This will lead to a qualitative improvement in the living condition of the urban population living below the poverty line.
  - The qualitative improvement in the living condition of these people will, consequently, reduce the epidemic diseases; facilitate the reduction in crime rate in the overall urban scenario.
- The project will facilitate employment opportunities to the urban poor leading to an improvement in local economy.

- \*\* Cooperative societies formed in the newly developed areas through the provision of community centres in the project will lead to an effective linkage between asset creation and asset management.
- Since the beneficiaries are also contributing to the development there will be an effective participation and the infrastructure will be managed efficiently leading to a self sustaining system.
- \* Social security, education, health are all inbuilt in the project by providing space for primary school and primary health care centres in the project area itself.
- # Upgrading the skills for the slum dwellers will ensure better earning prospects & thus improving their standard of living.

#### Infrastructure Requirements

While estimating the infrastructure requirements of such schemes, only the requirements within the complex have been considered, and not outside the boundaries. However, in case of drinking water, a bore well has been considered as an emergency measure.

The balance of the infrastructure requirements to service the area externally – such as water sourcing – have been factored into the relevant sector for the City, in the CIP.

#### Housing

The basic house is designed so that each flat has an overall area of 225 sq.ft. This has been divided into a living room, a bedroom, a kitchen and a toilet. The areas of each are as follows:

Table 63: Houses in G+ 1 or G+2 configuration (in cities)

•				
1. Living Room	-	81 sq.ft.		
2. Bed Room	-	54 sq.ft.		
3. Kitchen	-	23 sq.ft.		
4. Bath Room	-	17 sq.ft.		

The type of constructions is a varying one based on several factors such as soil conditions, local requirements and cost of the land.

In cities such as Mysore, the pressure on land is high and the acceptance of multi-storeyed dwellings is more common. Further the beneficiaries usually consist of construction housemaids workers. or factory workers and therefore the need for open space is limited. Keeping these in mind generally three storied building (ground + two floors) is considered as the optimum design.

#### **Drinking Water**

Water is the most important service provision, and it is proposed to supply piped drinking water to each house. In addition to Corporation supplied water, there will be a bore well with enough capacity to provide drinking water to all the flats.

The bore well will pump the water into a surface tank from which it will be again pumped to individual overhead tanks. From the individual overhead tanks the water will be piped to each apartment with one connection to the bathroom, toilet and kitchen respectively. In some areas where a large number of houses are coming up a overhead water tank is also considered.

#### **Underground Drain**

The sewerage drain water from each house will be fed to the under ground drain and all the branch drains will join a main drain from where it will be let to the city's sewerage treatment plants. In case such a central system is not possible to be provided, either a soak pit design or a sewerage treatment plant has to be considered. However, this cost has not been considered in this project.

#### Storm Water Drain

During heavy rains a lot of water gets accumulated along the roads and this is diverted into storm water drain running on either side of the road in the direction of the natural slope. These branch drains are connected to a main storm drain (of larger dimension), which lead the water safely into a storm drain. The rain water existing outside the project area will also flow into the project boundaries and in such a case a suitable storm water drain also has to

be laid to collect such overflow from surrounding areas and divert from around the project area into a natural drainage area.

#### Street Lighting

This entire project area will have streetlights on one side on all roads with lights being fixed at 50 meters intervals. The streetlight will be of 40 watts fluorescent tube design with an electronic choke.

The individual house connection and metering will be the responsibility of local electricity Distribution Company after the beneficiary has paid appropriate connection charges, deposits etc.

The flats however will have internal wiring from the proposed metering cubical to every room and will also have a few power points for TV or kitchen gadgets.

#### Roads

The proposed project roads will be provided between rows of houses. Roads will be of 4 meters width and they will lead to a main road of 12 meters width. This main road will join the approach road to the project area.

#### **Community Centre**

A community centre along with some open space is considered essential. In all projects the community hall can be used by various beneficiaries for performing marriage, social functions etc. This can also be used as a primary school when necessary. In some cases a primary health centre is considered very important in the absence of medical facilities in the near by areas.

### Primary Health Care & IEC Activities

It is not enough if only housing & infrastructure services are provided for the slum dwellers. There is a need to make them responsible & health through Information conscious **Education & Communication (IEC)** activities. This will enable the slum dwellers to become on par with other sections of the society. For this program 5% of the project cost will be earmarked so that there will be a comprehensive development human resources. The program will be planned for all slum dwellers & priority will be given for women & children's health.

#### Low Cost Sanitation

Main objective of 'Low Cost Sanitation' sub-project was to provide hygienic living condition to low income group, which did not have access to toilet facility,. Mainly two types of toilets were constructed – Single Pit & Twin Pits and were connected to the nearest sewerage system.

#### Skill Up-gradation Program

Slum dwellers possess skills that sometimes do not have any significant market in the cities. New skills require long-term investment of time and resources, which they do not have. Only option is getting engaged in occupations that are unskilled and menial. Inadequate earning skills lead to low incomes and inability to provide adequate resources for household expenses. Hence, it is planned to take up Skill Upgradation program & training to achieve the following.

 ♯ Identify market based income generation skills and increasing the employment prospects of slum dwellers

- \* Make slum residents active change agents in development
- Identify Areas in which skills can be imparted viz. Carpentry, Tailoring, Food processing, Electrical works, Automobile works, Computer operator, etc.
- \*\* Create support for practising these skills
- Impart and enable training for acquiring skills

#### **Financial Analysis**

#### Housing

The cost of multi-storeyed building in cities has gone up significantly in the last few years due to sharp increase in the price of steel and cement. In ground + two type of design the building loads are taken by reinforced concrete columns and beams. Therefore the steel and cement usage is significantly more leading to high cost. The walls are built of hollow concrete blocks with the main walls of 9" width and patrician walls of 4" width. These walls will be plastered

and painted both internally and externally.

The cost of housing including houses & community centres has been estimated based on the cost break up.

#### Infrastructure Cost

The infrastructure cost is relatively lower in urban dwellings due to the compactness of the design.

#### **Project Cost**

The first phase of the slum rehabilitation project in Mysore is estimated at Rs. 38.11 Crores. The administrative and O&E would be 5% of the project cost.

#### **Beneficiary Contribution**

The endeavour would be to provide an appropriate and comfortable dwelling at an affordable cost. The beneficiary contributions would be as applicable under the JNNURM guidelines.

# CHAPTER 6 - Implementing the Vision (The CIP)

#### **Basic Framework**

To attain the Vision for Mysore, it is necessary to set in place a clear fiscal and governance framework that will be realistic, flexible, and participative.

The following basic tenets would guide the implementation process:

- 1. The heritage and culture of Mysore, will be protected and sustained:
- 2. The MCC/ **MUDA** will concentrate on basic infrastructure and governance and only take position facilitator's for guiding the City's development;
- 3. Private sector investment will be encouraged in all possible areas, duly keeping in view the needs for explicit subsidies to the Urban Poor;
- 4. Emphasis will be placed on capacity-building for the MCC/ MUDA staff, to ensure that they are in a position to address the issues of the future:
- 5. Governance is key and MCC and MUDA would strive to keep improving on attaining a participative, transparent and accountable system.

# Assessing the Investments Required

The following process has been adopted in assessing the investments required in the CIP.

1. Given the vision statement, consultations have been held

with various stakeholders, to identify concrete steps that are to be taken to achieve the vision.

- a. At the stakeholder level, these discussions have yielded a 'stakeholder project list,' which has been detailed in the Annexure.
- b. The 'stakeholder project list' is however not an adequate tool, for the following reasons:
  - Stakeholder views are generally confined to the present issues and are largely targeted at addressing them, in their thought process;
  - ii. A project-wise outlook does not meet the objectives of a longterm CDP;
  - iii. The aspect of sustainability, and life-cycle costing are also not considered;
  - iv. The key to urban infrastructure is in asset management and not in asset creation. In many cases the immediacy response is create an asset - such as a water supply system – rather than investing into improving existing systems - such as improving the distribution system first, to fix the 'leaky bucket.'
- 2. The stakeholder project list has therefore been used only as one of the inputs in the estimation of investments for the CIP.
  - a. The initial investments from this project

- assessment have been converted into a normative basis for costing
- b. Costs of asset management and maintenance have been factored in
- 3. Investment requirements have been determined initially for the mission period (ending 2012) and subsequently over blocks of five years. A sectoral approach has been used to carry out this exercise.
- 4. The costs indicated have been arrived at by:
  - a. In some cases, detailed costs have been available, and these have been used as benchmarks
  - b. Stakeholder discussions, based their experience
  - c. Industry benchmarks, where available.

The indicated costs are therefore realistic estimates, but not based on detailed project reports and costing. The DPRs, which would be prepared later in the process by the agencies concerned, would have the requisite level of detail required at that stage.

The assessment of investment, in each sector, is set out in the following sections.

### Assumptions for the Assessments

The assessments for the CIP investments have been carried out on the basis delineated above, with certain project-specific information obtained from reports, and stakeholder discussions. For purpose of brevity of the main report, these assumptions have been detailed in the Annexures, and only the extract

numbers have been furnished in the subsequent sections.

One key objective is to give emphasis to the life-cycle maintenance of the asset, rather than merely on asset creation.

### Heritage Conservation and Tourism

**Improved** conservation and management of the existing assets, creation of new attractions reflecting the culture, upgrading the support complementary and urban infrastructure form the cornerstone of the city's plan for the future. A list all the heritage buildings/ monuments, and attractions has been prepared, and the respective agencies would prepare rehabilitation/ conservation plans.

The endeavour of the stakeholders in achieving the vision would be to:

- Provide/ improve all amenities required for tourism activities (public conveniences, transport shuttles, parking lots etc)
- **Development** of cultural centres, heritage works and other new attractions
- # Enable a conducive environment for participation from all quarters (private sector included)
- # Build the capacity of implementing agencies and service providers (drivers, shopkeepers etc).

By the end of 2012, the stakeholders would have implemented a coordinated strategy to manage, preserve and add value to the heritage assets. The condition of the public spaces would have been enhanced and showcased for future generations. Innovative ways would have been found to display and make tourism and heritage accessible to all those interested. The activities would include the following;

- # Upgrading the infrastructure at the existing attractions, especially the following zones and their precincts
  - The Chamundi Hills: The object would be to proper create infrastructure in the improve region, and access, while at the same time creating a **'national** park' ambience of green spaces/ parks:
    - **#** Temple and surroundings
    - **#** Mahishasura and surroundings
    - \*\* Nandi and surroundings
    - # Trek path and foothills
    - Rajendra Vilas and surroundings
- Creation of new facilities, attraction development and management
- **#** Upgradation/ Modernisation of hotels and rest houses
- Introduction of attractions like horse riding, biking and treasure hunt

In this sector, other than the basic infrastructure and some of the public facilities, the projects are proposed to be implemented under PPP/ PSP models

.

Table 64: Investments Projects and their Time Horizon					
			(Investm	ent in Rs.	Crores)
		Tir	ne Horizo	n	
Project Themes	2007-	2013-17	2018-	2023-	2028-
	12		22	27	31
Heritage and Tourism					
Development of cultural centre	45		45		
exhibiting state's culture - haats/					
shilpagram for silk, yoga,					
sandalwood and other handicrafts;					
Utilization of Dasara festival					
infrastructure facilities round the					
year, museum					
Cost of land acquisition	1				
O&M of cultural centre	6.8	6.8	6.8	6.8	6.8
Local tourist	0.0	0.0	0.0	0.0	0.0
shuttles/circuits/Heritage					
walks/ticketing					
Capital expenditure	3		3		3
O&M	0.3	0.3	0.7	0.7	1.0
Facilitation centre for tourists	5.0	0.3	5.0	0.7	1.0
Public amenities	3.0		3.0		
Toilets	4	2	2	2	2
O&M of toilets	0.4	0.6	0.8	ے 1	1.2
Parking terminus for autos/ <i>Jatka</i>	0.4	2	0.8	2	1.2
• •	2	۷	۷	۷	۷
(horse carriage) O&M	0.9	0.4	0.6	0.0	1
	0.2	0.4 0.1	0.6 1.1	$\begin{array}{c} 0.8 \\ 0.2 \end{array}$	1 1.2
	1	0.1	1.1	0.2	1.2
centres/drinking water	9.0		9.0		
Signage conforming to international	2.0		2.0		
tourist norms		0.0	0.0	0.4	0.4
O&M of signage	<b>50</b>	0.2	0.2	0.4	0.4
Renovation of heritage buildings	50	50	50	50	50
O&M of heritage buildings	2.5	2.5	5.0	7.5	10.0
Audio Guide	1	1	1	1	1
Convention centre and golf course	150	1.5	1.5	1.5	15
O&M cost	15	15	15	15	15
Cost of land acquisition	0	0.0	00	00	00
Budget Hotel	20	30	30	30	30
O&M cost	2.0	2.0	2.0	2.0	2.0
Cost of land acquisition	1.2	1.8	1.8	1.8	1.8
				m• 1	
<b>C</b>	9007	0010 17	0010		Horizon
Summary	2007-	2013-17	2018-	2023-	2028-
	12		22	27	31
Control 19	000	25	100	0.5	00
Capital expenditure	280	85	138	85	86
O&M	27	27	30	33	36
Land acquisition	2	2	2	2	2
Capital expenditure for Rolling	3	0	3	0	3
stock	0.0	0.0	0.7	0.7	4.0
O&M for rolling stock	0.3	0.3	0.7	0.7	1.0
Total	312	114	174	121	128

#### Water Supply & Sewerage

The activities for improvement in water and sewerage services relate to the following:

- \*\* Rehabilitation/creation of water extraction facilities at source of water including replacement of raw water pumps, installation of flow meters as required.
- \*\* Rehabilitation/setting up of raw water treatment plant including modification of aerator, repairs to alum dosing system, flocculator, valves, flow meters as required.
- \*\* Rehabilitation/setting up of bulk water supply lines from treatment plant
- \*\* Rehabilitation/creation of existing distribution network and piped water supply connections
- Provision of water supply connections to uncovered areas
- **#** Development and management of testing facilities and customer service
- Billing and collection activities of water connection and consumption charges
- **#** Operation and maintenance of the water supply system
- \*\* Construction/ rehabilitation/ expansion of underground drainage system including service connections to all the households
- Construction/ rehabilitation of sewage treatment plant (STP) for treatment of raw sewage
- **Safe** disposal of treated effluent at specified locations
- **#** Operation and maintenance of underground drainage system and STP as per specifications

- **#** Development, operation and maintenance of public conveniences
- **\*** Redressal of complaints and repair of any defects
- **#** Development and updating of the database and mapping of the system from time to time
- **♯** Institutional Development
- **#** Implementation assistance.

Rehabilitation/ repair/ replacement primarily relate to improvement in the bulk supply and retail distribution systems, such replacement of pipelines. modification of aerator, repairs to alum dosing system, flocculator, mixing and sludge scrapper system, replacement of raw water pumps, valves etc. New works include land acquisition, increasing coverage to hitherto uncovered overcoming raw water shortage during summer months (rain water harvesting and storage for use), ground water recharging, installation of flow meters and level indicators etc. Institutional development comprises computerization records. training and capacity building of staff, leak detection studies, surveys and preparation of awareness programs, campaigns The components etc. relating to rain water harvesting include improvements envisaged at MCC and other government agencies' properties and parks.

MCC would endeavour to improve the service delivery levels and would use a range of parameters to assess the performance some of which could include the following:

<sup>&</sup>lt;sup>2</sup> This would include covering areas that are 'missing links' from the KUIDP project.

- Quantity of water supplied (frequency and duration of supply / volume, measured at critical zone points);
- Quality of water supplied (ecoliform, physio-chemical, bacteriological tests)
- \* Pressure at critical zone points, as required;
- \*\* Coverage of water supply service (number of people having access to piped water supply);
- **\*** Customer responsiveness (time for redressal);
- \*\* Number and duration of emergency stoppages
- **\*** Reduction of losses;
- \*\* Number of properties/ area covered with sewerage system;
- \*\* Number of blockages identified / reported per month;
- \*\* Number of reported incidents of sewage overflow / sewer collapses;
- **#** Customer redressal;
- \*\* Number of public conveniences;
- Sludge disposal mechanism; and
- \*\* Sewage/ effluent characteristics after primary and secondary treatment.
- **\*\*** Maintenance of computerised records;
- Operation of customer service centres; and
- \*\* Reduction in O&M costs (implementation of energy efficiency measures).

MCC and other government agencies would incur most of the capital and operating, maintenance expenditure for the system. Private sector participation would be invited selectively, after a due diligence, for portions of the activities. Some implementation frameworks which are proposed to be utilized for private sector participation could include:

- **\*** Advisory services for redesigning and management of improvement activities
- Operations and management contracts for operations and maintenance of existing systems
- **\*** Service contracts for testing facilities etc.

It may also be necessary to consider the twin achievements of augmented water supply restoration of water tanks in Mysore through gravity flow. There are 16 water tanks in Mysore, which have dried up or silted. This would need an examination of the possibility of restoring these tanks through the waters flowing in the Varuna channel. Prima-facie, there is possibility of tapping water from Varuna channel through gravity flow. Restoration of these tanks can augment water supply, recharge ground water, create a healthy environment and attract local citizens as well as tourists as a picnic spot. The investigative study may also include study of water supply to Mysore through gravity flow from other sources as well.

Table 65: Investment in water supply and sewerage and their time horizon

Table 05: Hivestment in water	110		s. Crores)		
Project Themes	Time H		s. Crures,	<u>'</u>	
Water Supply and Sewerage	2007-	2013-	2018-	2023-	2028-
water Supply and Sewerage	2007- 12	2013- 17	2018- 22	2023- 27	31
C					
Capital expenditure for Distribution	126	51	58	67	77
system	100		100		
Capital expenditure for Bulk supply	120		120		
Augmentation	00	00	104	110	107
O&M cost	60	90	104	119	137
Capital expenditure for Sewerage	50	0.4	120	45	<b>50</b>
Capital expenditure for	84	34	39	45	52
Rehabilitation & Additions of					
sewerage	50	0.0	0.4	07	0.4
O&M cost of sewerage	50	20	24	27	31
Waste Water recycling and gas	37	37	37	37	37
capturing	_				
Land acquisition for STP	5				
Rainwater harvesting (Corp bldg,	2				
parks)					
	Time H	<b>0112011</b>			
Summary	2007-	2013-	2018-	2023-	2028-
	12	17	22	27	31
Water Supply & Sewerage					
Capital expenditure	419	121	374	149	166
O&M	110	110	127	146	168
Land acquisition	5				
Total	<b>534</b>	231	501	295	334

#### Municipal Solid Waste Management

MCC endeavours to provide a safe environmentally benign and sanitation and municipal solid waste services to its citizens. To this extent many initiatives have been taken including setting up of composting process facilities and improving collection practices. The provision of services in future would be in compliance with the applicable statutes including the Municipal (Management and Solid Wastes 2000 and the Handling) Rules, Integrated Municipal Solid Waste Management Plan of Government of Karnataka.

### Collection and Transportation of MSW

The activities include collection of different waste MSW from the generators such as domestic households. commercial establishments, hotels, institutions etc., sweeping of streets subsequent transportation of the waste collected to the processing facility or the final disposal site. The activities envisaged would undertaken with the assistance of self help groups and with participation of local populace.

#### **Treatment and Disposal of MSW**

The treatment and disposal facilities would be redeveloped / constructed with private sector participation on a Build, Operate and Transfer (BOT) Concession basis. Under the BOT Concession structure, while the ownership of the land would remain with MCC, the same would be handed over to the selected private developer for development of the treatment and

disposal facility. The developer would be responsible for construction of the facilities and operations and maintenance of the same for the entire landfill life. MCC would coordinate with other governmental agencies including MUDA for acquiring land for the purpose.

The activities for development of treatment plants and landfills would include:

- Design, Construct and operate and maintain treatment and disposal facility
- # Receive the mixed / biodegradable waste supplied and process the same.
- # Landfill the rejects of the processing facility along with other inert waste.
- \* Operate the facilities for the entire landfill life, including the maintenance during the statutory post closure period

Various implementation frameworks that are proposed to be adopted for delivering the municipal solid waste services include the following:

- **Service contracts with SHGs,** RWAs or other private operators for primary collection and transportation.
- Management contracts/ OMT or BOT concessions for collection and transportation of municipal solid waste (MSW)
- \*\*ROMT/ BOT concessions for development of engineered landfills/ upgradation of existing landfills/ compost processing units/ waste-to-energy facilities
- **Service** contracts for other SWM-related services

Table 66: Investment in Municipal Solid waste management and the time horizon

Table 00. Hivestment in Munic	(Investment in Rs. Crores)					
	Time Ho	rizon				
Project Themes	2007-	2013-17	2018-	2023-	2028-	
	12		22	27	31	
Municipal Solid Waste Management						
Collection & transportation	10.0	10.0	10.0	10.0	10.0	
equipment						
Operations & Maintenance	7.5	7.5	7.5	7.5	7.5	
Treatment & Disposal	11.0	11.0	11.0	11.0	11.0	
Cost of acquisition of Land for	8.0					
transfer station/treatment plant and						
disposal site		45	00			
Waste to energy (WTE) plant in		45	30			
2015;						
Energy from landfill gas			4.5	4.5	4.5	
O&M of WTE plant Land acquisition for setting WTE		6.4	4.3	4.3	4.5	
plant		0.4				
IEC and capacity building cost	5	5	10	15	15	
The and capacity bunding cost	J	3	10	10	10	
	Time Ho	rizon				
Summary	2007-	2013-17	2018-	2023-	2028-	
J	12		22	27	31	
Capital expenditure	10	55	40	10	10	
O&M	24	24	33	38	38	
Land acquisition	8	6	0	0	0	
Total	42	85	73	48	48	

#### Basic Services to the Urban Poor

The concept and structure of interventions contemplated under the BSUP have been detailed in Chapter 5. Based on this concept, the investments required have been outlined in the following table.

Table 67: Investment in basic services for the urban poor and the time horizon

Table 07: Hivestillent in basic so					·11
	-	<u>nent in Rs</u>	. Crores)		
	Time H				
Project Themes	2007-	2013-17	2018-	2023-	2028-
	12		22	27	31
Basic Services for Urban Poor					
EWS Housing (including	160	160	160	160	160
infrastructure)					
O&M of EWS Housing	24	48	72	96	120
Cost of acquisition of land for EWS	7.2	7.2	7.2	7.2	7.2
houses					
Construction of public toilets for	8	8	8	8	8
slums					
O&M of Public toilets	1	2	2	3	3
Development of bus bay/shelters	0.7	0.7	0.7	0.7	0.7
O&M of Bus Bay	0.07	0.14	0.21	0.28	0.35
-					
	Time H	orizon			
Summary	2007-	2013-17	2018-	2023-	2028-
Summing	12	2010 17	22	27	31
Basic Services for Urban Poor	-~		~~	~.	<b>V</b> -
Capital expenditure	169	169	169	169	169
O&M	25	50	75	99	124
Land acquisition	7	7 7	7	7	7
-	·	<u> </u>			
Total	201	226	251	275	300

#### Roads

Road and related infrastructure (including storm water drainage) include the following components:

- **♯** Improvement in the road network in the region − Arteries, rings, and other important roads
- **#** Foot-paths
- **Street lighting**
- **Traffic management, including signalling**
- \* A feasibility study would be conducted on MRTS and Metro and extension of chord surface rail for commuters travelling within the city. The study would also include feasibility of providing MRTS/Metro along the alignment of Peripheral road, outer ring road and radial roads.

MCC/ MUDA have identified corridors for road improvement along with related infrastructure. These corridors and the remaining roads would be improved in coordination with other utility operators to provide comfortable pedestrian and vehicular movement. The proposed activities include the following:

- **\*** Completion and expansion of ring road in phases:
  - **Tompleting the 2 lanes, expansion to 4 lanes, and more.**
  - **As the City grows in the Vision horizon, more outer rings may need to be developed.**
- **Strengthening/improvement of the roads including resurfacing**
- **\*** Maintaining the roads and related infrastructure to prescribed standards
- **Construction** and/or widening of road bridges/ culverts etc.
- **Construction and maintenance of radial roads & inner ring road**
- **\*** Construction and maintenance of footpaths
- **Construction and maintenance of storm water drains**
- **Maintenance** (erection of street lights as required) of street lights to prescribed specifications
- **J**unction improvements and installation of road markings and signage
- \* Provision of vehicle parking facilities at bus stand and railway station and provision for auto stands etc.

#### MCC/ MUDA would endeavour to:

- \*\* Select the road stretches for prioritization on a clear basis, and focus on a life-cycle maintenance, rather than mere expansion/repair;
- \* Cause minimum delay or inconvenience to users of the road facility;
- # Ensure that all roads are maintained to the prescribed standards;
- # Ensure that drains, lane marking, street lighting, and signage are maintained at prescribed standards;

While most of the financing of the capital and recurring expenses are proposed to be met out of city or government agency budgets and grants, the activities would be implemented, where feasible, with private sector participation. The modes of implementation could be in various formats, but would focus on asset maintenance over the life-cycle.

Table 68: Investment in Roads and the time horizon

(Investment in Rs. Crores)					
Time H	orizon				
2007- 12	2013- 17	2018- 22	2023- 27	2028- 31	
69	148	126	137	147	
69	141	105	105	105	
	7	21	32	42	
10	21				
50	54	58	87	93	
50	-			75	
0				18	
_	_	_		11 71	
05	_			45 26	
	9	20	32	20	
127	134	134	228	228	
1~1	104	104	220	220	
127	12/	12/	228	228	
1=/	<del>-</del> 57	±0 <del>-7</del>			
2007- 12	2013- 17	2018- 22	2023- 27	2028- 31	
-~		~~	~ 1	<b>J1</b>	
184	323	200	225	225	
-				314	
18	29	8	11	11	
329	505	396	539	550	
	Time H 2007- 12 69 69 10 50 50 8 65 65 127 127 Time H 2007- 12 184 127 18	Time Horizon           2007- 12         2013- 17           69         141           7         21           50         54           50         4           8         8           65         140           65         132           9         127         134           127         134           127         2013- 12         17           184         323           127         153           18         29	Time Horizon           2007- 12         2013- 17         2018- 22           69         141         105 7         21           10         21         50         58           50         50         50         8           8         8         8         8           65         140         71         65         132         45           9         26         127         134         134           127         134         134         134           127         134         134         134           Time Horizon         2018- 2007- 2013- 12         2018- 17         22           184         323         200         127         153         189           18         29         8         134         134         134         127         134         134         134         134         134         134         134         134         134	Time Horizon         2007- 2013- 12       2018- 2023- 27         69       148       126       137         69       141       105       105         7       21       32         10       21       50       54       58       87         50       50       50       75       4       8       12       8       8       11       11       105<	

### Transport Related Infrastructure

Many improvements have been made to the city's transport infrastructure in the recent past, much more needs to be done. The city recognizes the importance of an effective and affordable transportation system to the surrounding tourist destinations, internal movement and the capital city, Bangalore. The connectivity to Bangalore is being upgraded with the four-laning of the Bangalore Maddur - Mandya - Mysore road, internal city road development as part of KUIDP etc.. A rapid increase in city traffic and congestion is noticed despite the efforts. There is also a need for ongoing maintenance throughout the place.

Priorities for improving the transport facilities would include completion of the outer ring road, converting the same into four lanes, new road additions (internal, extension areas and radial) and introduction of a mass rapid transport system (Bus Rapid Transit) system. Hop in hop off tourist shuttles are also proposed for better mobility. More emphasis would be placed on safety related maintenance and upgrades congested roads. At some point in the vision period, the City would also need to examine the feasibility of providing mass transport systems such as Bus Rapid Transit, Electric Trolley Buses, or light rail systems.

At the end of the current intervention. Mysore will have an efficient, affordable, integrated and safe transport system which would meet the needs of all its citizens and visitors. Congestion on main roads will be managed by a combination of engineering, capital work traffic projects and controls (zoning etc).

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Project Themes	Table 69: Investment in transport related infrastructure and the time horizon						
Project Themes				(Investm	ent in Rs.	Crores)	
Transport Infrastructure   Construction, operation and maintenance of truck terminals   Capital expenditure   Capital expenditure			Tiı	me Horizo	n		
Transport Infrastructure   Construction, operation and maintenance of truck terminals   Capital expenditure   Capital expenditure	Project Themes	2007-				2028-	
Transport Infrastructure	1 Toject Themes		2010 17				
Construction	Transport Infrastructura	122			~ ~ ~	<u> </u>	
Maintenance of truck terminals   Capital expenditure   12	•	19	1	12	9	9	
Capital expenditure		12	1	13	۵	۵	
D&M		19		19			
Land acquisition		12	1		o	9	
Construction   upgradation   and improvement   of city   bus terminals/bus depots/bus shelters; private bus terminal   Capital expenditure   39   39   39		9	1		۷	۷	
Improvement   Of   city   bus   terminals/bus   depots/bus   shelters; private bus terminal   Capital   expenditure   39   39   39   39   39   39   39   3	-		4		0	0	
terminals/bus depots/bus shelters; private bus terminal   Capital expenditure   39   39   39   38   38   38   39   38   39   39		39	4	43	0	0	
Drivate bus terminal   39	1 J						
Sepital expenditure							
New   Capital expenditure   Capital expend		00		00			
Land acquisition   6		39			0	0	
Rolling stock-Augmentation of bus fleet   10		0	4	4	8	8	
Fleet			~	~	~	~	
O&M for rolling stock         7         8         9         10           Mass transport (bus/rail) System for peripheral areas of the city or Electric bus system         160         1000         530         1045         1075           Capital expenditure         160         1000         500         1000         1000           O&M         30         45         75           Land acquisition         150         75         150         150           Rolling stock-BRT bus fleet         11         0         500         1000         1000           O&M for rolling stock         11         0         150         150         150           Rolling stock-BRT bus fleet         11         0         45         75         150 </td <td>0</td> <td>33</td> <td>7</td> <td>7</td> <td>7</td> <td>7</td>	0	33	7	7	7	7	
Mass transport (bus/rail) System for peripheral areas of the city or Electric bus system         160         1000         530         1045         1075           Capital expenditure O&M         160         1000         500         1000         1000           O&M         30         45         75           Land acquisition         150         75         150         150           Rolling stock-BRT bus fleet         11         2			~	_	^	40	
The component of peripheral areas of the city or Electric bus system		400				_	
Electric bus system		160	1000	530	1045	1075	
Capital expenditure							
O&M         150         30         45         75           Land acquisition         150         75         150         150           Rolling stock-BRT bus fleet         11         150         75         150         150           O&M for rolling stock         2							
Land acquisition   150   75   150   150   150   150   160   160   160   160   160   170		160	1000				
Rolling stock-BRT bus fleet   11							
O&M for rolling stock         2			150	75	150	150	
Usage of less polluting fuels in public and private transport vehicles   Capital expenditure   O&M							
Public   and   private   transport		2	2	2	2	2	
vehicles         Capital expenditure         O&M         Land acquisition         Road and road related infrastructure       19       10       10       10       10       10       1							
Capital expenditure   O&M	•						
O&M         Land acquisition       Road and road related infrastructure       19       10       10       10       10       10       10       10       10       10       10       10       10       10							
Land acquisition   Road   and   road   related infrastructure   - Streetlights   19   19   19   19   19   19   19   1							
Road   and   road   related infrastructure   - Streetlights   19   19   19   19   19   19   19   1							
Infrastructure	<u>-</u>						
19   19   19   19   19   19   19   19							
Capital expenditure       17       10							
O&M       2       3       2       2       2							
Land acquisition							
- Storm water drains Capital expenditure  O&M Land acquisition - Footpaths, medians and social forestry Capital expenditure  O&M Land acquisition  - Pootpaths, medians and social forestry Capital expenditure  O&M Land acquisition  Development of pedestrian/cycling z z z z z 3 3 3 2 2 2 2 2 2 2 2 2 2 2 2		2	2	2	2	2	
Capital expenditure       51       51       51       10       10       10         Land acquisition       - Footpaths, medians and social forestry       26       3       3       3       3       3         Capital expenditure       26       3       3       3       3       3         Land acquisition       2       2       2       2       3       3         Capital expenditure       2       3	Land acquisition						
O&M       5       10       10       10         Land acquisition       26       3       3       3       3         Social forestry         Capital expenditure       26       26       26       26       27       20       3       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2 <td></td> <td></td> <td></td> <td>10</td> <td>10</td> <td>10</td>				10	10	10	
Land acquisition       26       3       3       3       3         social forestry       26       3       3       3       3         Capital expenditure       26       3       3       3       3         Development of pedestrian/cycling zones       2       2       2       2       3       3         Capital expenditure       2       3       3       10.5       5		51	51				
- Footpaths, medians and social forestry Capital expenditure  0&M			5	10	10	10	
social forestry         26           O&M         3         3         3         3           Land acquisition         2         2         2         2         3         3           zones         2         3         3         9							
Capital expenditure       26         O&M       3       3       3       3         Land acquisition       2       2       2       2       3       3         Development of pedestrian/cycling zones       2       2       2       2       2       3       3         Capital expenditure       2       3		26	3	3	3	3	
O&M       3       2							
Land acquisition       2       2       2       2       3       3         zones       2       3       9 <td></td> <td>26</td> <td></td> <td></td> <td></td> <td></td>		26					
Development of pedestrian/cycling zones         2         2         2         2         3         3           Capital expenditure         2         3         9         9         8         10.5			3	3	3	3	
Capital expenditure         2         3         3         0         2         3         3         0         2         3         3         0         2         3         3							
Capital expenditure         2         3	Development of pedestrian/cycling	2	2	2	3	3	
O&M       0.2       0.4       0.6       0.8         Land acquisition       0.2       0.4       0.6       0.8         Construction of subways       7.5       8.3       9.0       9.8       10.5         Capital expenditure       7.5       7.5       7.5       7.5       7.5         O&M       0.8       1.5       2.3       3.0         Land acquisition							
Land acquisition       7.5       8.3       9.0       9.8       10.5         Capital expenditure       7.5       7.5       7.5       7.5       7.5       7.5         O&M       0.8       1.5       2.3       3.0         Land acquisition		2					
Construction of subways       7.5       8.3       9.0       9.8       10.5         Capital expenditure       7.5       7.5       7.5       7.5       7.5         O&M       0.8       1.5       2.3       3.0         Land acquisition			0.2	0.4	0.6	0.8	
Capital expenditure       7.5       7.5       7.5       7.5         O&M       0.8       1.5       2.3       3.0         Land acquisition							
Capital expenditure       7.5       7.5       7.5       7.5         O&M       0.8       1.5       2.3       3.0         Land acquisition	Construction of subways						
Land acquisition		7.5	7.5	7.5	7.5	7.5	
			0.8	1.5	2.3	3.0	
	Land acquisition						
	Construction of flyovers in	20	22	24	26	28	

			(Investm	ent in Rs.	Crores)
		Tiı	ne Horizo	n	
Project Themes	2007-	2013-17	2018-	2023-	2028-
	12		22	27	31
peripheral areas					
Capital expenditure	20	20	20	20	20
O&M		2	4	6	8
Land acquisition	3	3	3	3	3
Airport upgradation	90	9	9	9	9
Capital expenditure	90				
O&M		9	9	9	9
Land acquisition					
				Time	Horizon
Summary	2007-	2013-17	2018-	2023-	2028-
•	12		22	27	31
Capital expenditure	425	1098	597	1046	1046
O&M	2	26	65	88	121
Land acquisition	11	153	80	153	153
Capital expenditure Rolling	43	7	7	7	7
stock					
O&M for Rolling stock	2	7	8	9	10
Total	482	1290	756	1303	1337

#### **Urban Spaces**

The city of Mysore has been rapidly growing and a spate of infrastructure activities need to be planned for the city's infrastructure to keep pace with the population growth and increasing commercialisation. This leads to the important concept of "Creation of Urban Spaces" with in the city. The City in its present form is congested as the road network is inadequate and mass transport infrastructure is not in place. The city boasts of having around 50 parks and three major lakes but the upkeep and maintenance is not satisfactory.

The city envisages improving the quality of life for its citizens by creating green spaces/social forestry, efficient maintenance of its existing parks/green assets and institute pedestrian only/cyclist only zones across the city. Further, the city intends to develop integrated townships/sub-urban spaces in the growth corridors of the city so that the growth of the city is not skewed.

Special corridors/ zones for pedestrian and non-motorized vehicular traffic would be created and maintained. To summarize the city aims to implement the following:

- **#** Improve the quality of life for its citizens by decongesting the city. It may be necessary to shift small industrial units and auto-workshops, distributed locations, which are adjacent to the existing residential areas, to zones marked 'industrial' (say in the manner of "Auto Nagar") within the conurbation in the Revised Comprehensive Development Plan (RCDP). This will also ease congestion and permit road widening. will This help redevelopment of the old areas to more conducive living areas.
- # Encourage a green and pollution free Mysore by increasing the share of green space, efficient maintenance of existing green asset and redevelop its lakes
- # Ensure uniform growth of the city by developing integrated townships and sub-urban areas
- # Build the capacity of implementing agencies and service providers.
- \*\* Redevelopment of the core area around Devaraja Market creating a heritage environment

Table 70: Investment in Urban Spaces and the time horizon

(Investment in Rs. Crores)							
	Time Ho	rizon					
<b>Project Themes</b>	2007-12	2013-17	2018-22	2023-27	2028-31		
Urban spaces					_		
Development of existing and new	8	8	8	8	8		
parks and boulevards with							
indigenous materials							
O&M of parks and playgrounds	0.8	0.8	0.8	0.8	0.8		
Infrastructure facilities for integrated	7.5	37.5	37.5	37.5	37.5		
townships							
<b>O&amp;M</b> of infrastructure facilities	1.5	9	16.5	24	31.5		
Land acquisition	25	37.5	37.5	37.5	37.5		
Lake redevelopment	10	10	10	10	10		
O&M of lakes	1	1	1	1	1		
Fire system	2	2	2	2	2		
SEZ/industrial parks	12.5	12.5	12.5	12.5	12.5		
	Time Ho						
Summary	2007-12	2013-17	2018-22	2023-27	2028-31		
a			~~	<b>*</b> 0			
Capital expenditure	28	58	58	58	58		
O&M	3	11	18	26	33		
Land acquisition	38	38	38	38	38		
Total	68	118	126	133	141		

#### Summary of Infrastructure Investments

Based on the sector-wise assessment, the aggregate investment required over the vision horizon, is summed up in the following table. As stated before, this investment is an aggregate investment, and it is understood that not all of it can be financed under the framework of JNNURM. The city would need to generate finances from other sources.

#### **Summary including Cost of Land & Rolling Stock**

Table 71: Summary of cost of land and rolling stock

	(Investment in Rs. Crores)					
	•	Ti	ime Horizo	n		
Project Themes	2007-12	2013-17	2018-22	2023-27	2028-31	
Roads	329	505	396	539	550	
Transport related infrastructure	482	1290	756	1303	1337	
Water and Sewerage	533	232	501	295	334	
Solid Waste management	42	85	73	48	48	
Urban Poor	201	226	251	275	299	
Tourism	312	114	174	121	128	
Urban Spaces	68	118	126	133	141	
Grand Total	1,96767	2,57070	2,27777	2,71414	2,83737	
		12,303				

#### **Summary excluding Cost of Land & Rolling Stock**

The table below sets out the investment requirements without the cost of land and rolling stock, as set out in the JNNURM guidelines. However, the city and its citizens would certainly benefit if the cost of essential rolling stock were to be considered within the ambit of the JNNURM.

Table 72: Summary excluding cost of land and rolling stock

	(Investment in Rs. Crores)						
	Time Horizon						
Project Themes	2007-12	2013-17	2018-22	2023-27	2028-31		
Roads	311	476	389	528	539		
Transport related infrastructure	428	1,131	670	1,143	1,177		
Water and Sewerage	529	232	501	295	334		
Solid Waste management	34	79	73	48	48		
Urban Poor	194	218	243	268	292		
Tourism	307	112	168	118	122		
Urban Spaces	31	68	76	83	91		
Grand Total	1,834	2,316	2,120	2,483	2,603		
			11,356				

The costs are on a fixed present value basis, and inflation has not been considered.

#### CHAPTER 7 – FINANCIAL SUSTAINABILITY ANALYSIS

The total infrastructure investment requirement for achieving the vision has to be funded through a combination of:

- 1. Funding under JNNURM
- 2. State Government grants/loans
- 3. MCC's own revenues
- 4. MCC's debt from banks and financial institutions
- 5. Private sector/ commercial capital

For analyzing the 'means of finance,' it is important to understand the current financial situation in the MCC.

#### **MCC Financial Summary – Current**

A summary of MCC's receipts and expenditures for FY 02 to FY 06 is given below. These figures and analysis presented below are based on the financial statements of MCC. The figures for FY 06 are taken from budget estimate 2005-06.

#### Receipts

**Table 73: Summary of MCC's Receipts** 

(Rs. Lakhs)

Receipts	FY02	FY03	FY04	FY05	FY06(BE)	CAGR
	861.50	813.07	1195.82	1389.21	1300	10.83%
Property Tax						
Other property based receipts	1280.58	1378.98	1243.75	1494.07	1654	6.61%
•	1035.6	1479.40	1073.06	1225.19	1360.25	7.05%
Water charges						
State Finance Commission	771.27	1131.94	1705.62	1558.35	2115.25	28.69%
Miscellaneous receipts	970	214.29	227.10	227.10	579.78	-12.07%
Grants and Contributions	2830	2115.28	1538.91	1643.41	1626.75	-12.93%
Total	7748.95	7132.96	6984.25	7786.23	9036.03	3.92%

#### Components of Receipts

The share of various components of receipts is presented in the following Table: Table 74: Components of Receipts

**Percentage** 

Receipts	FY02	FY03	FY04	FY05	FY06 <sup>(BE)</sup>
Property Tax	11	11	17	19	19
Other property based receipts	17	19	17	20	18
Water charges	13	21	15	16	15
State Finance Commission	10	16	24	20	23
Miscellaneous receipts	13	3	3	3	6
Grants and Contributions	37	30	22	22	18
Total	7748.95	7132.97	6984.26	7537.33	9036.03

#### **Comments on Receipts**

- a. The share of Grants has been steadily decreasing. Grants have shown a decrease from Rs 2830 Lakhs in FY01 to Rs 1626.75 Lakhs in FY05.
- b. Property Tax has grown at a CAGR of approximately 10%, and water charges have increased by a CAGR of 7%.
- c. Development charges has been growing year on year at a rate of around 6%. This amount is collected from land developers for providing civic services. Other property based receipts have been growing consistently at a CAGR of 6%.
- d. The main items in miscellaneous receipts are advances, fixed deposits and other cesses.
- e. There have been various transfers to municipal funds under the residual head. These transfers pertain to some earmarked funds/grants. This head also consists of some book entries.
- f. SFC accounts for around 23% of the receipts while salary accounts for 25% of expenditure in FY06.
- g. Grants and Contributions are generally received for specific purpose. It is assumed that both the receipts and expenditure from these components would match each other over the period.

#### Expenditure & Surplus (Deficit)

Table 75: MCC's Expenditure & Surplus (Deficit)

(Rs. Lakhs)

Expenditure	FY02	FY03	FY04	FY05	FY06 <sup>(BE)</sup>	CAGR
Salaries	2832.78	1945.53	1969.07	2036.00	2308.75	-4.99%
Administration expenses	1276.70	1622.54	1263.04	1155.76	1225.90	-1.01%
Repairs and Maintenance	1076.01	1030.31	1143.57	1331.05	1556.95	9.68%
Purchases	1034.40	1010.97	983.46	1912.10	2161.91	20.24%
Miscellaneous	1352.00	1403.71	1403.71	1413.50	1467.1	2.06%
Development Expenses	273.17	342.91	285.31	261.85	356.05	6.85%
Total	7845.06	7355.97	7048.17	8110.26	9076.66	3.71%
Surplus / (Deficit)	-96.11	-223.001	-63.90	-572.92	-40.63	

Source: MCC's budget statements

The Receipts and Expenditure have a grown at a CAGR of 3.9% and 3.7% respectively.

#### Components of Expenditure

The share of various components of expenditure is presented in Table 3. Table 76: Proportion of components of Expenditure

(Percentage)

Expenditure	FY02	FY03	FY04	FY05	FY06
Salaries	36.11%	26.45%	27.94%	25.10%	25.44%
Administration expenses	16.27%	22.06%	17.92%	14.25%	13.51%
Repairs and Maintenance	13.72%	14.01%	16.23%	16.41%	17.15%
Purchases	13.19%	13.74%	13.95%	23.58%	23.82%
Miscellaneous	17.23%	19.08%	19.92%	17.43%	16.16%
Development Expenses	3.48%	4.66%	4.05%	3.23%	3.92%
Total	7845.06	7355.97	7048.17	8110.26	9076.66

#### **Comments on Expenditure**

a. Water supply and general conservation account for nearly 90% of Public Health and Water Supply.

- b. Repair and Maintenance expenses have increased significantly from Rs 1076.01 lakhs in FY02 to Rs 1556.95 Lakhs in FY06.
- c. The variations in municipality works are driven by the outlays on road and drainage works.
- d. Five items contribute to 90% of the expenditure, salary, and electricity for water purifying unit and city cleaning expenses, purchase of water pipes and line, roads and UGD works.
- e. Purchases have been growing at a CAGR of 20%. Also, year on year growth of purchases has been increasing.
- f. Repairs and maintenance consists of electricity charges for water purifying unit and city cleaning expenses, together accounting for 70-80% of this head.
- g. There is an increase in repairs and maintenance in FYO2 due to increase in electrical charges for water purifying unit. This payment is made to Government for old accruals and is made on availability of funds or grants.
- h. Developmental works comprising road, UGD works development of parks, hospitals etc, have been growing at a CAGR of 6.85%.

#### **Projected Receipts and Expenditure of MCC**

With a view to estimate MCC's debt bearing capacity, MCC's receipts and expenditure for the next 20 years have been forecast.

#### Receipts

#### **Assumptions**

- 1. The financial projections have been based on the prospective growth drivers and the reforms that would be implemented as part of compliance to JNNURM.
- 2. Property tax augmentation would happen due to increased assessment of properties, transfer of properties from MUDA, widening of assessment base, levy of additional cesses, in addition to reform measures.
- 3. The key growth drivers, therefore, include
  - Increased population growth given the increased economic development and preference of Mysore by the new economy industries
  - Progressive revision of property taxes
  - User fees for full cost recovery
- 4. The rates of property tax is proposed to be levied on capital value basis in future. The rates of property tax are as follows:
  - a. Residential Property:

i. Owner occupied
ii. Tenant Occupied
b. Commercial Property
ii. O.25% of Capital value
ii. O.50% of Capital Value
iii. O.50% of Capital Value
iii. O.50% of Capital Value

5. These rates of property tax have been assumed to be revised upward by 20% every 5 years. Collection efficiency is assumed as 60% for FY06, at 70% till FY07, at 80% till FY08, 90% thereafter. The assumptions on collection efficiency are based on past efficiency trends, as illustrated below:

**Table 77: Details of Property Tax** 

Years	Opening Balance (Rs. lakhs)	Current Demand (Rs. lakhs)	Collection (Rs. lakhs)	Closing Balance (Rs. lakhs)	Collection Efficiency
FY03	606.73	1249.08	1129.26	726.55	90%
FY04	726.55	1427.42	1460.74	693.23	102%
FY05	693.23	1993.07	2164.64	521.66	109%
FY06	521.66	3304.88	2552.42	1274.1	77%

Collection efficiency is defined as percentage of Collection by Current Demand.

6. Flat water rates are being charged. The water charges have been assumed to remain constant for the next 2 years. Thereafter, it is assumed that the rates would be increased by 20% every 5 years and this would be implemented to domestic, non-domestic and commercial connections. Collection efficiency is assumed at 75% till FY 2006, 80% in FY07 and 90% thereafter. The assumptions on collection efficiency are based on past efficiency trends, as illustrated below:

**Table 78: Details of Water Charges** 

Years	Opening Balance (Rs.lakhs)	Current Demand (Rs.lakhs)	Collection (Rs.lakhs)	Closing Balance (Rs.lakhs)	Collection Efficiency
FY03	2931	970	1028	2873	106%
FY04	2873	932	1003	2802	108%
FY05	2802	1113	1032	2883	93%
FY06	2883	1270	1425	2728	112%

Collection efficiency is defined as percentage of Collection amount by Current Demand.

- 7. It has been assumed that with better service provision, water rates would be increased. Though only flat rates have been assumed for analysis, phased introduction of volumetric tariffs would augment water revenues. Other key drivers include:
  - Increase in service area and subsequent increase in consumer base
  - Implementation of energy efficiency programs
- 8. Miscellaneous receipts have been projected, with 5% increase every two years, on the basis of discussions with MCC authorities.
- 9. Other non-property receipts have been assumed to increase 5% once every three years.

10. SFC grant is assumed to grow at 5 % per annum given that SFC grants are likely to increase due to the proposed progressive increase in devolutions.

**Table 79: projections of Receipts** 

(Rs. Lakhs)

uis)					
Receipts	FY 07	FY 08	FY 13	FY 18	FY 31
Property tax	761	966	1833	2872	10224
Other Property based Receipts	1737	1737	1915	2010	2217
Water charges	5042	4711	6767	8747	14885
State Finance Commission grants	2449	2571	3281	4188	7897
Miscellaneous receipts	639	639	740	816	1148
Grants and Contributions	1883	1977	2524	3221	6073
Total	12511	12601	17143	21854	42443

#### **Expenditure**

#### **Assumptions**

- 1. Expenditure on salary is assumed to increase @ 5% per annum.
- 2. However, since there could be some savings due to reduction in staff on retirement and freeze on further recruitment, the annual salary increase may not exceed 2%.
- 3. An increase of 15% every five years has been assumed for correction in salary packages.
- 4. For various other items of expenditure, 5% annual increase has been considered. This would provide for inflation and enable MCC to meet other items of expenditure.

**Table 80: Projection of Expenses** 

(Rs. Lakhs)

Expenditure	FY 07	FY 08	FY 13	FY 18	FY 31
Salaries	2450	2499	2976	3543	5748
Administration Expenses	1419	1490	1902	2427	4577
Repairs & maintenance	1802	1892	2415	3083	5813
Purchases	2503	2628	3354	4280	8071
Miscellaneous	1698	1783	2276	2905	5477
Development Activities	412	433	552	705	1329
Total	10285	10726	13475	16943	31016

#### Summary

**Table 81: Summary of Projected Finances** (Rs. Lakhs)

	FY 07	FY 08	FY 13	FY 18	FY 31
Opening Balance (a)	330	2556	16814	36533	13635 0
Total Receipts (b)	12511	12601	17143	21854	42443
Total Expenditure (c)	10285	10726	13475	16943	31016
Cumulative Closing Balance (a+b-c)	2556	4432	20482	41444	147778

The improvement in the finances of MCC is envisaged owing to the following reforms being envisaged:

- Improvement in collection efficiencies for levying charges for water supply services (projections are based on improvements on current levels)
- Reform of water sector, across the state with adoption of volumetric pricing and rationalisation of tariffs, efficient metering mechanism for water supply services
- Improvement in property tax collection efficiencies and increase in property tax collections owing the change over from the administered system to the self assessment method of calculation of property tax in line with the Bangalore experience
- Operational reforms such as mitigation of UFW, drives for collection of arrears, mapping of assets (GIS system) leading to optimal asset management, capacity building etc.

#### The Financing Plan

The CIP, given in the previous chapter, sums up the investment requirements for the City in the period of the CDP horizon. This investment ('Project Cost') will be financed through various sources ('Means of Finance'). The means of finance will, *inter-alia*, be:

- 1. Funding under the JNNURM in the JNNURM tenure (the first block period), which, in the case of Mysore, will be 80% of the project cost, less exclusions of items such as land, that are not considered under the JNNURM finance:
- 2. State contribution, which is 10% of the eligible project cost, in the case of Mysore;
- 3. State contribution, beyond the JNNURM co-financing;
- 4. MCC's own surpluses, which have been estimated in the previous section, and other stakeholders;
- 5. Private sector finances, or PPP projects;
- 6. Borrowings by the MCC/ other stakeholders from banks and institutions;
- 7. Capital market borrowings by the MCC/ other stakeholders;

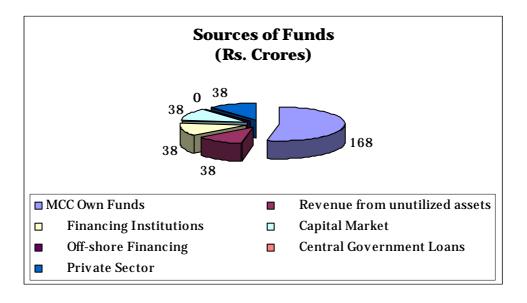
The costing for the project includes the O&M cost for the upkeep of the assets and the same would be financed through the internal accruals of the implementing agency and by levying of user charges, wherever applicable. In addition, a revolving fund would be conceptualized for individual projects while formulating the detailed project reports. This would be as per the norms set out in the JNNURM toolkit.

The summary Project Cost – Means of Finance has been set out in the following table.

**Table 82: Project Cost – Means of Finance** 

(Amount in Rs. Crores)	FY 2007- 12	2013-17	2018-22	2023-27	2028-31
Total Project Cost including costs towards Rolling Stock and Land Acquisition	1967	2570	2277	2714	2837
Amount to be funded under JNNURM (Share of Central Government and State Government). This amount includes only the eligible costs, excluding land, rolling stock, etc.	1649				
Share of Central Government in eligible amount	1466				
<ul> <li>Share of State Government in eligible amount</li> </ul>	183				
Amount to be funded by MCC and other agencies, which includes the co-financing share of 10% of the eligible amount, as well as ALL other costs towards land acquisition, rolling stock, etc.	318	2570	2277	2714	2837
MCC's Budgetary Surplus	168	365	639	1039	1478
Other Sources of Financing and Contributions from Other Agencies	150	2204	1638	1676	1359

In FY 2007-2012, the Amount to be funded by the MCC and other agencies involved, is Rs. 318 Crores. Of this, the MCC could meet upto Rs. 168 Crores out of budgetary surplus, and the balance would be met from other agencies/ sources, as illustrated below.



It may be noted that after the JNNURM period, there are large uncovered investments required, since a large proportion of Government of India and Government of Karnataka funds under the JNNURM would no longer be available. This investment gap would need to be addressed through other schemes that may be available at that juncture, municipal bonds, commercial borrowing, multi-lateral borrowing, and further efficiency improvements.

#### **Conclusions**

- 1. The financial situation in MCC in the past, has not been very robust, and the Corporation budget has been running a deficit finance;
- 2. Fiscal reform is therefore a key area of focus. The Corporation will have to gear up to meet the challenges ahead, by:
  - a. Better efficiencies in tax collection;
  - b. Property tax reform;
  - c. Utilization of assets/ land in an appropriate manner to generate revenue:
  - d. New cess/levies. such as:
    - i. Solid-waste cess;
    - ii. Impact fee for new development;
    - iii. Parking revenues
  - e. Encouraging private participation/ PPP wherever possible and appropriate, and using its own finances only to catalyse such investments.
- 3. The financial projections worked out in the above section, have been used to work out the 'means of finance' under JNNURM, for the projects envisaged under the CIP.

## THE INSTITUTIONAL REFORM AGENDA

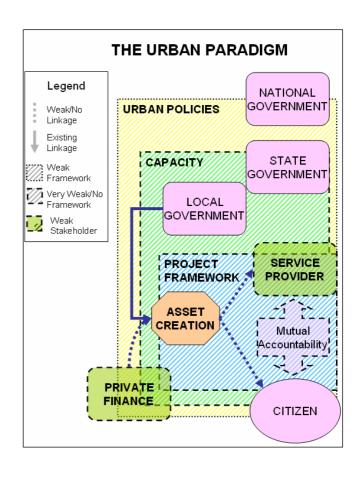
# Urban Governance Background

The Urban infrastructure sector is arguably one of the most complex and difficult areas to make a successful intervention. There is a wide range of factors and players that make the sector so challenging. The complexity stems from the range of stakeholders, necessary and sufficient framework conditions, the strength of the linkages between these and the presence of market forces.

The figure below provides a diagrammatic representation of the urban infrastructure situation.

In order to enable the urban local bodies "to perform effectively as vibrant democratic units of self government", the 74th Constitutional Amendment was introduced in the Parliament and it became an Act in December 1992. The 74th CAA requires the State governments to:

- # Establish an adequately represented electoral base at local levels with a fixed tenure of five years, and a provision for holding elections within six months in the event of premature dissolution of local councils:
- Set up mechanisms for consolidating and coordinating planning and development initiatives and actions of municipalities; and
- Consider expanding the role of municipalities, and correspondingly strengthen their fiscal jurisdiction and power and authority.



Over the last decade the responsibilities and problems to be tackled by the urban local bodies as managers and service providers has increasing. The Constitutional Amendment has led to decentralization of responsibilities of urban local bodies, thereby increasing their functional areas and giving them more powers. However, the spirit of the 74th CAA – that of providing functional and financial independence to ULBs. has occurred. These institutions encounter a number of problemssuch as multiplicity of organizations, inadequate resource mobilization, internal capabilities. information and monitoring. quality and coverage of service. The control of the 2nd tier of Government (the State), is pervasive.

### Core Focus Should be Service Delivery

A feature that has characterized centralized development approach has been the focus on asset creation, as this is preferred for administrative convenience. However experience across sectors has indicated that the focus needs to be on service delivery, as asset creation is not sufficient to guarantee the delivery of infrastructure service.

# Mutual Accountability between Service Provider & Citizen

Urban local bodies in India provide services to cover the most basic human needs - drinking water, sanitation, waste management, street lighting, housing, roads, and health care. There is significant room for improvement in their overall governance, while simultaneously being able to respond adequately to new challenges posed by the rapidly changing urban scenario.

At the core of any process of efficient service provision is a relationship of mutual accountability between the service provider and the citizen. The mutual accountability implies that both the service provider and citizen have rights and responsibilities in the relationship of service provision. This aspect is lacking, particularly in the Urban Sector.

Ideally there needs be a clear incentive structure on both the service provider and citizen to have a good level of service. This would normally be achieved by Citizens having to pay for the service (with explicit subsidy to urban poor, as needed) to ensure that there is some

expectation of service and therefore some scope for its satisfaction. The service provider should correspondingly be paid only on the satisfactory delivery of service partly or entirely based on the "satisfaction" of the beneficiary, the citizen.

While the present status is very far removed from this ideal, it is useful to start with this premise to look at where the interventions are required. Looking at this matter from a top down approach there are a number of necessary framework conditions that need to be in place to create an environment conducive to efficient and effective urban infrastructure service delivery.

# Financial Resource Situation of ULBs

The ULBs have been bestowed with many administrative and financial powers, under the 74th Constitutional Amendment. However, most ULBs have been found unable to cope with the changing scenario. The provision of urban civic services has long been considered as the onus of the government, expected as a social right, and at nominal cost. This makes it difficult for the ULBs to meet the growing demand for investment. Further, lack of sufficient resources and access to capital markets, huge capital investment requirements, and long gestation periods, have made it difficult for the the growing **ULBs** meet responsibilities devolving upon them.

### **PPP Projects**

Even though there has been some improvement in making specific urban infrastructure projects commercially attractive, the private sector has taken very limited

exposure/ interest in these projects, for various commercial reasons, and attendant socio-political risks.

Some of the key issues that have been identified are:

- \* Absence of rationalization of functional responsibilities and assignment of revenue instruments to the ULBs;
- **\*** Lack of assignment of revenue sources among the state and municipal functions;
- **\*** Lack of autonomy and accountability in devolution of functional responsibilities;
- Increasing revenue gaps in the ULBs and resource gaps in meeting the O&M requirements;
- \* Lack of professionally qualified municipal functionaries;
- \* Ad-hoc fiscal interrelationships between the State and ULBs;
- Inequitable rate structures for various taxes levied by the ULBs;
- # Difficulties in the exploitation of user charges and lack of effective pricing policy; and
- \*\* Overstaffing and disproportionately large administrative and collection costs.

The decentralization financial envisaged under the 74th CAA is based on the mechanism of the Finance Commission (FC), at the State and Central levels, wherein the State Finance Commission (SFC) is expected to suggest State fiscal devolution to the ULBs and the Central Finance Commission would top-up such devolution by assisting the States. As a follow-up measure, 10th FC (1995-2000)recommended devolution of Rs. 10 billion to the ULBs for its award

period, to be distributed among the States on the basis of inter-state ratio of slum population derived from the population figures of the 1971 Census, and the GoI accepted this recommendation. Further, the 11th FC was set up with a mandate to augment the consolidated funds of the State in order to supplement the resources of the ULBs in terms of the 74th CAA for the period 2000-2005.

Recommendations of the 11<sup>th</sup> FC, *inter-alia*, were:

- (i) Measures to augment the consolidated funds of the States (like land taxes, surcharge / cess on the State taxes, professional tax)
- (ii) Reforms in local taxes (property/house tax, Octroi/entry tax, user charges)
- (iii) Maintenance of civic services, and
- Accounts and audit. Keeping (iv) in view the availability of and the overall resources limits set for the flow of resources from the Centre to 11<sup>th</sup> States. the recommended a grant of Rs. 4000 million (US\$ 83 million) for each of the five years starting from the financial year 2000-01<sup>3</sup> to urban local bodies in the country to facilitate the Governments State to implement the recommendations.

#### Framework Conditions

The framework conditions that can be considered essential can be divided into 3 broad sections

\* National and State Policies for urban infrastructure, that outline overall roles and

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<sup>&</sup>lt;sup>3</sup> Report of the Eleventh Finance Commission for 2000-2005

- responsibilities, regulation, governance, fiscal and subsidy related matters
- \*\* Capacity at the State and Local levels to translate policies into projects and programs that result in final service delivery
- \* A project development framework that specifically provides for addressing stakeholder interests and requirements that is conducive to the creation of urban infrastructure projects that deliver the planned service.

Once again most of the above is in the realm of what is desirable as against what is present today. All these three are weak in the urban areas infrastructure sector in India. This is however complicated further by the problem of scale where most of the project development work is required at the local level where transaction costs for capacity building and change are very high.

Thus reform in the urban sector requires success and change at all levels of government,

- # At the same time and
- **#** On the same issues.

# Challenges of Decentralized Frameworks & Capacity Creation

The unique challenge for the Urban Sector stems from the capacity required at the decentralized levels to successfully implement projects and provide the services. As extensively discussed in the vast body of literature on decentralization and economies of scale, administrative convenience often has veered towards centralized administration as it is easier to create capacity. However with the real requirement being at

the local government level, the challenge is to create capacity at the ULB level.

### **Context Mysore**

The institutional structure of MCC and MUDA has been discussed in previous sections, and in this section an assessment is made on the reform agenda for governance of the urban region of Mysore.

Urban infrastructure and governance are inextricably linked, and the linkage is strong enough to raise a debate on what needs to be addressed first. JNNURM also carries this linkage with explicit clarity.

MCC's process of formulating the CDP, CIP, and vision statement is a clear commitment towards open and professional management for the welfare of its people.

### Summary of Current Situation

- 1. MCC and MUDA are established and well managed organizations. However, many of the issues highlighted in the previous sections are equally valid fiscal sustainability & independence, capacity to address the challenges of the future, transparency and participative governance, etc.
- 2. MCC follows a cash-based, single-entry accounting and budgeting system. This system is not suitable for proper financial management.
- 3. MUDA's Comprehensive Development Plans are in the nature of land-use master plans, and do not address the aggregate of the city's needs in terms of economic planning. MCC still lacks a long-term

- economic development plan for the city.
- 4. MCC has a Citizen Charter on its web site, with published performance delivery standards. This is a first step towards realizing the delivery of services.
- 5. MCC does not carry out consumer satisfaction surveys, which will make its functioning more effective.
- 6. Both MCC and MUDA have their web sites, and flow of information is vital for good governance.

#### Issues to Address

Given that the core purpose is to create a means of efficient urban infrastructure and governance provision to citizens, there are a number of critical elements required to make this happen.

- \*\* Creation of capacity in the MCC for accounting, administration, project identification and implementation
- ♯ Increased transparency and implementation of best practices in the MCC
- # Creation of independent financing interest in urban projects, though at the current juncture it is more on account of government guarantees/ comfort. This would still be a significant change private sector is becoming engaged in the sector, and one anticipates that an improvement in the framework conditions enable the MCC to gradually allow infrastructure projects to stand on their own without such guarantees/comforts
- **\*** Creation of breakthroughs on demonstration projects. This

creates a core nucleus of successes in various elements of the overall scenario that can be replicated; such as:

- PPP/ PSP projects in Mysore
- New financing methodologies, such as Pooled Finance Initiatives
- MCC raising money by way of project-specific bonds
- **Service contracts with clear** mutual accountability frameworks between citizen and service provider
- # Beneficiary funding
- # Set in place precedents for greater community involvement, including NGOs, especially for addressing the needs of the urban poor;
- \*\* Creating new "pressure mechanisms," which highlight the issues and facilitate information sharing on the subject, thereby enabling adoption of better standards/practices.

Broadly speaking, there are four critical areas of reform, and these will be addressed in turn.

- I. Land-use & planning
- II. Financial
- III. Infrastructure management
- IV. Capacity building
- V. Participatory governance

#### **Financial**

# Introduction of Accrual Based Accounting System in MCC:

The MCC has been maintaining its accounts on "cash basis" only. Since the form of accounting system based on cash basis does not reflect the true financial position of the MCC, it is imperative to replace the cash-based accounting to double-entry accrual accounting system, in a phased manner. The standard accounting practices in the financial market (banks and financial institutions) also require quicker, efficient, dependable and comparable financial information. MCC has to therefore change to accrual-based, doubleentry accounting system. This is anyway a mandated reform that the MCC has to undertake, under the JNNURM.

#### **Skill Transfer**

The implementation of accrual accounting reforms can be by way of orientation program to officials and transfer of skill. Chartered Accountants can assist municipal staff in switchover from cash to accrual system of accounting;

#### **Increase in MCC Income**

The measures taken for financial reform and capacity building will result in improved levels of finances and management capacities.

#### **Property Tax Reform**

However the key issue relates to the revision to property taxes and the quality of assessment of property taxes. The general revisions are delayed and the increments to assessed value of the base of property tax have not been commensurate with the appreciation in value of real estate. While collection percentages have improved, further increments in absolute terms would come about only with revisions to the base of property tax.

Property tax is by far the best 'surrogate user charge' for a variety of urban services that cannot be separately charged. It is also the largest component of revenues to the MCC, with property-tax and property based receipts accounting for over 35% of MCC revenues.

The issue is therefore one of basal (rate) revision, and also of collection efficiency.

#### **E-Governance Mysore**

Property Tax is the principal source of revenue in cities including Mysore. In most cities in India the property tax base has been considerably administrative eroded by procedural inadequacies. In many cities significant number properties are not included in the tax base; those that are included are inaccurately assessed, and collection efficiency is poor. This directly affects quality of the services infrastructure provided by the city. Based on thorough analysis of cities Karnataka. the Urban Dept. Development Govt Karnataka in partnership with the e-Foundation. Governance developed the e-Gov Property Tax system to attempt addressing the inadequacies in the current system.

The e-Gov Property Tax application computerizes the revenue department and provides an IT system that manages properties and their taxation. It calculates the property tax demand automatically based on the "CVS-Capital Value"

Systems". It handles property registrations, transfers, bifurcations and amalgamations.

The Revenue Dept. of the Mysore City Corporation will be computerized under the Nirmala Nagara project, and a property tax system will be implemented which will make the payment of property taxes very easy for the citizens of Mysore.

Currently work is underway in Mysore:

- **\*** Creating GIS maps of the city
- **\*** Street & Property numbering
- \* Assigning unique IDs to each property
- **\*** Collecting accurate data on each property

### **Capacity Building**

# Training and Exposure programs

To build knowledge and capacity, it is to identify important training programs for Municipal Officials, Elected Representatives and Other key stakeholders. Further, a number of **Workshops** Seminars, Conferences need to be organized in national association with international organizations on special topics to improve the understanding, awareness and appreciation of urban issues.

These capacity building activities will yield a number of benefits for various stakeholders:

- a) For the *municipal staff*: in terms of time savings for delivering municipal functions, retrieval of information quickly by the managers etc;
- b) For the *municipality*: in terms increased revenue realization, and
- c) For the *citizens*: in terms of availability of corporate looking

facilities to pay various fee for extended hours, and clarity on their arrears/dues etc.

The benefits include inter-alia:

- # Appropriate orientation about the status and functioning of the MCC in the changed context after the 74<sup>th</sup> Constitutional Amendment:
- # Applying to work, the specific skills and understandings gained through customized training pertaining to their area of operation.
- The capacity of MCC in Project formulation and project format appraisal, in a acceptable to the financial institutions, will significantly improve as a result of specific training on the project development process.
- \* The managerial capacity covering different areas of operations, including the awareness and attitude of the managers, is another significant area of expected improvement.
- The MCC could start introducing partnership arrangements in few areas of service delivery, like solid waste management, street lights etc.
- Increased application of information technology day-to-day functioning and e-Governance measures another area of visible impact of training. MCC can introduce computerized information, collection and service entries improving the efficiency of various desk services offered to the citizens. MCC and MUDA already have their own websites, and there could be increased volume of

- correspondence through email, reducing delay and paper work and highlighting sophistication.
- The elected representatives will be better aware of legal/ statutory provisions vis-à-vis their role and responsibility, and various best practices. Separate one day training programs can be conducted exclusively for women representatives (along with the main orientation training courses) on women empowerment and on gender issues.

## Other Components in Capacity Building

The institutional development can address a number of other sub-components, designed to complement one another, to build capacity and improve governance in the MCC.

- 1. City Corporate Plans
- 2. Urban Indicators Program
- 3. Geographical Information System
- 4. Engineering software
- 5. Computer support
- 6. Land-use study
- 7. Quality Assurance & Control Manuals
- 8. Study Tours; and
- 9. Capacity Building of Department of Municipal Administration

### Participatory Governance

# Automation of Municipal Functions & E-Governance

To improve management, it is useful to design operational manuals on municipal functions such as administration and engineering (apart from accounts and computer applications), defined systems and provided software support in certain core areas

- 1. Birth and Death registration
- 2. Building Plan Registration/ Approval
- 3. Licenses
- 4. Financial Management:
  Financial Accounting
  System, Inventory Control,
  Movable Property, Vehicle
  Inventory, Immovable
  Property
- 5. <u>Revenue Management</u>: Non-Tax, Professional Tax, Water Charges, Property Tax
- 6. <u>Others</u>: Census, Personal Management System, Electoral rolls, Family Enumeration, Solid Waste management, Hospital Information
- 7. <u>Engineering applications</u>
  - # Engineers can access all engineering codes and quality assurance measures at one place, in a very user friendly manner;

Once these systems are in place at the MCC level, they can be opened appropriately to the public for direct queries and services, over a suitable e-governance platform, with a central gateway and user kiosks.

# Continuing Stakeholder Interactions

As has been mentioned in the preface to the CDP, the consultation process with stakeholders has to be institutionalized and kept as an ongoing exercise.

1. Periodic stakeholder meetings with the officers/ elected representatives, to review the

- progress of various initiatives and to iron out any wrinkles;
- 2. Interactions organized by specific NGO's with the Urban Poor;
- 3. Institutionalising a process of periodic reports/ feedback/ score-card on key performance parameters.

#### **Transparency & Accountability**

Karnataka State has always been ahead in terms of setting in place mandated processes to ensure transparency in public dealings. The Karnataka Transparency in Public Procurements Act 1999, and the Karnataka Right to Information Act 2000, form the cornerstone of the legal framework under which Government departments agencies have to operate. Karnataka also has the Fiscal Responsibility Act, to encourage planning and prudence in the process of budgeting.

Karnataka has also encouraged private sector participation in projects in the infrastructure areas, with first-time projects in the country illustrated by the Bangalore International Airport Project, and the Hassan – Mangalore railway line.

In projects such as KUWASIP, Karnataka has also amended rules of employment to enable employees to proceed on deputation to the private sector.

However, it is clear that going forward, the objective is not to have mandated transparency, but to have open and participative governance.

This can be set in place only through an institutionalised and sustained process of interaction, as mentioned in the previous section. In addition, there are a number of steps that MCC/ MUDA would take to address this critical aspect of governance:

- 1. Framing of budgets and plans after a consultative process
- 2. Making available details of ongoing projects, costs, expected time-lines
- 3. Stakeholder interaction in monitoring project progress

### Land-use & Planning

MUDA designs a Comprehensive Development Plan for the city, at an interval of 10 years. Based on this master plan, the development regulation is done by way of plan approvals and land-use.

However, given the rate of urbanization, 10 years is a long time-frame, and this leads to the issue of periodic land-use reclassification and the concomitant problems and issues.

It is therefore imperative to:

- 1. Review the master plan periodically, to incorporate demographic and economic changes as they occur
- 2. Have a realistic and flexible master plan, where the emphasis is on a zone and sector, rather than on the exact use of a particular lot of land.

In addition, Mysore has the key factor of heritage that has to be kept in mind, in any plan process. Some of the key aspects of planning, as a result of this concern, are:

- **#** The core city areas are to be kept in excellent condition,
  - Discourage new large constructions in the core city area, and force all new development in dedicated

zones around the periphery.

- ♯ FSI in the core city could be pegged at a suitably low level, while higher FSI permitted in the periphery
- Larger development fees or betterment charges could be levied in the core
- Pro-actively develop fully self-sustained enclaves (industrial, commercial, or residential) on the periphery, so that there is no incentive for development to move to the core
- Avoid large infrastructure interventions, such as elevated roads, and multistorey complexes in the core city.
- \*\* Computerization of land records for the City and especially the periphery, and easy availability of title verifications, will also facilitate land transactions and have a beneficial effect on reducing demand in the city core.

### Infrastructure Management

## Asset Management vs. Asset Creation

Government and its agencies have been generally efficient in asset creation, but the real issues arise in maintenance of these assets. This leads to situations where facility does not perform its intended function properly. Potholed roads, leaking water systems, non-functional sewage treatment plants — many of these situations occur because:

- **Poor** construction quality, leading to higher maintenance requirements
  - The life-cycle aspect of the infrastructure asset is not considered
  - The contracting entity that constructs the facility has no stake in ensuring that it functions
- # Finances for operation and maintenance are not earmarked/available
- # The capacity of the staff engaged in the maintenance is generally lower than

Addressing this issue is more of a management and training paradigm shift, than one requiring large investments.

The measure required to take care of asset management are the virtual converse of the issues mentioned before:

- # Ensure construction quality requirements
  - Consider life-cycle aspect of the infrastructure asset
  - Tie-in the contracting entity to a longer maintenance, or backended payment structures, to ensure that it has a stake in the functioning of the asset
- # Include costs for operation and maintenance, and keep aside in an earmarked fund
- # Build up capacity/ training of the staff engaged in the maintenance.

### Linking Reform to Development Projects

As mentioned previously, development of projects has a strong linkage to reform in governance.

- 1. An assessment of MCC's current financial situation will illustrate that unless there are key financial reforms, it may not be in a position to raise budget surpluses, and use those surpluses in implementing its CIP.
- 2. Further, even if the financial situation improves, the size. number, and type of projects that need to be implemented, will place a significant strain on the capacity of the MCC and also on governance system as a whole. For instance, even small urban transport projects like the Bus **Transit** High Rapid or Capacity Bus, need a very high skill level to implement and administer.
- 3. Finally, if private or commercial finance is required to be brought in, the legal and financial capacity required to handle such transactions, has also to be created.

There is a clear and imperative need to ensure that reform on the financial and capacity aspects of MCC/ MUDA and the other stakeholders, moves in tandem to the project development process.

# Professional Delivery of Services

As the size of the City increases, and the level of sophistication required at the urban infrastructure and

governance level increases, it will add significantly to the onerous tasks of the MCC, to deliver high-quality and efficient services to the citizens. Professional delivery of services would cover the entire gamut of activities. from project conceptualization to asset management. While a part of this service can be carried out by the MCC officials, it is probable that the MCC shall need to seek external assistance from professional agencies.

In the context of increasing professionalism, the use of external services can result in completion of work on time, where cost over run is marginal and savings to the MCC as a result of financial advisory services, though it may not be substantial, is significant. Support for market access can result in MCC accessing the External support could market. include:

- Outsourcing of design and management functions;
- ★ Better quality procurement (bidding), where the cost overrun of large projects would be lesser, and times would be maintained;
- ★ Service contracts or PPP arrangements, which leverage the administrative authority and governance capability of the MCC, with the sector specific skills in the corporate sector.

One of the suggestions that came up in the stakeholder meetings with elected representatives was the possibility of setting up a separate 'Water Board' for Mysore, on the lines of the Bangalore Water Supply & Sewerage Board (BWSSB). This is a possibility that may need to be examined later in the reform phase.

# Implementation, Sequencing & Prioritization of Reform

#### State and City role

Some of the key reform areas lie in the purview of the State Government, while some of them are in the jurisdiction of the City. Issues such as determining Stamp Duty are clearly in the State's purview, while introduction of accrual-based double-entry systems are in the domain of MCC.

At the next level, there are also issues where the MCC has to depend on the discretion of Government of Karnataka. The devolution of State grant to a particular ULB is a matter of such discretion.

Finally, in situations such as the JNNURM, the Central Government is also a key participant.

The important aspect of urban infrastructure is that unless all the tiers of Government work in concert, the objectives will not be met. The JNNURM guidelines therefore rightly envisage a tri-partite agreement between the Central Government, the State Government, and the ULB.

Many of the mandatory & optional reforms are in the jurisdiction of the State's legal and administrative domain, and would be committed at the State level.

The role of MCC and Government of Karnataka, vis-à-vis the reform process that is agreed upon, will be set out in such an agreement, and will determine the duties/ responsibilities that each party has to perform, to make a reality of the vision envisaged in this CDP

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The chart below sets out the time-lines for Mysore City to carry out the mandatory and optional reforms. The time-lines for reforms that are within the jurisdiction of the Government of Karnataka will be set out in the MoU to be signed.

**Table 83: Sequencing of Mandatory Reforms** 

Prerequisites for funding – Mandatory reforms (ULBs & parastatal agencies)	Current Status	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Adoption of modern accrual-based double entry system of accounting in Mysore	Being implemented						
Introduction of a system of e-governance using IT applications, such GIS and MIS for various services provided by Mysore	Being implemented						
Reform of property tax with GIS so that collection efficiency reaches at least 85 per cent within next seven years.	Being implemented						
Levy of reasonable user charges by Mysore with the objective that the full cost of O&M or recurring cost is collected within the next seven years.	To do						
Internal earmarking, within local bodies, budgets for basic services to the urban poor.	To do						
Provision of basic services to the urban poor including security of tenure at affordable prices, improved housing, water supply and sanitation.	To do						

**Table 84: Sequencing of Optional Reforms** 

Prerequisites for funding – Optional reforms (S	Current Status	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Revision of bye-laws to streamline the approval process for construction of buildings, development of site etc.	To do						