



Men at work.

APPENDIX

BENCHMARKING FOR CAPITAL CITY

BENCHMARKING CRITERIA

For the next stage of planning of the Capital City; few cities are studied for benchmarking. The criteria used to select the benchmarked cities were as follows:

- Waterfront cities
- Greenfield planned cities
- Global as well as local cities

A comparative analysis of these cities will help better understand the strategies adopted that created the kind of cities they are today.

Following 4 International cities have been studied for the purpose mentioned above:

1. Washington DC, USA
2. Canberra, Australia
3. Brasilia, Brazil
4. Putrajaya, Malaysia

The key take aways from these capital cities are:

Grand Ceremonial Civic axis as the main feature of the city

Physical features like hills & river influence the axis position and orientation and thus dominate the City planning.

The City Center and the Capital complex are combined together either parallelly to the axis or as a nodal development adjacent to each other.

In 1791, President Washington commissioned Pierre (Peter) Charles L'Enfant, a French-born architect and city planner, to design the new capital. The L'Enfant Plan featured broad streets and avenues radiating out from rectangles, providing room for open space and landscaping.

He based his design on plans of cities such as Paris, Amsterdam, Karlsruhe, and Milan brought from Europe by Thomas Jefferson in 1788. L'Enfant's design also envisioned a garden-lined "grand avenue" approximately 1 mile (1.6 km) in length and 400 feet (120 m) wide in the area that is now the National Mall.



Washington DC, USA
Population: Approx. 660,000
Area: Approx. 177 sq.km.

Brasília was planned and developed by Lúcio Costa and Oscar Niemeyer in 1956 in order to move the capital from Rio de Janeiro to a more central location. The landscape architect was Roberto Burle Marx. The city's design divides it into numbered blocks as well as sectors for specified activities, such as the Hotel Sector, the Banking Sector and the Embassy Sector. Brasília was chosen as a UNESCO World Heritage Site due to its modernist architecture.

The city has a unique status in Brazil, as it is an administrative division rather than a legal municipality like other cities in Brazil.



Brasilia, Brazil
Population: Approx. 2,860,000
Area: Approx. 5,802 sq.km.

The site of Canberra was selected for the location of the nation's capital in 1908 as a compromise between rivals Sydney and Melbourne, Australia's two largest cities. It is unusual among Australian cities, being an entirely planned city outside of any state, similar to Washington, D.C. in the United States or Brasilia in Brazil.

The Chicago architects Walter Burley Griffin and Marion Mahony Griffin was selected and construction commenced in 1913. The city's design was influenced by the garden city movement and incorporates significant areas of natural vegetation that have earned Canberra the title of the "bush capital".



Canberra, Australia
Population: Approx. 360,000
Area: Approx. 815 sq.km.

Putrajaya, planned as a garden and intelligent city, 38% of the area is reserved for green spaces by emphasising the enhancement of natural landscape. A network of open spaces and wide boulevards were incorporated to the plan.

Construction began in August 1995 and it was Malaysia's biggest project and one of Southeast Asia's largest with estimated final cost of US\$ 8.1 billion. The entire project was designed and constructed by Malaysian companies with only 10% of the materials imported.



Putrajaya, Malaysia
Population: Approx. 70,000
Area: Approx. 49 sq.km.

Among the Indian examples, following state capital were studied.

1. Chandigarh, India
2. Jaipur, India
3. Naya Raipur, India
4. Gandhinagar, India

The key take aways from these capital cities are:

Some of the different functions of the Capital City are Civic core comprising of the Assembly, Secratariate & High Court; State Government & Institutional buildings; Central business district; Business Parks, Government housing and University.

The Civic core sums up to approximately 3 sq km area while the Central Business District measures between 1 to 2 sq km.

The average city block size is approximately 0.8 in width to 1.2km in length.

The green connectors are where maximum public amenities are located.

Chandigarh, also known as The City Beautiful, is a city and a union territory in the northern part of India that serves as the capital of the states of Haryana and Punjab.

The city of Chandigarh was the first planned city in India post-independence in 1947 and is known internationally for its urban design. The master plan of the city was prepared by Le Corbusier, transformed from an earlier plan by the American planner Albert Mayer. Most of the government buildings and housing in the city, however, is designed by the Chandigarh Capital Project Team headed by Pierre Jeanneret, Jane Drew and Maxwell Fry.



Chandigarh

Population: Approx. 1,050,000
Area: Approx. 114 sq.km.

While venturing to prepare the development plan for Naya Raipur, basic studies were made in the form of a secondary survey of data on Chandigarh (the first capital of independent India) and Raipur, the elder sister and the most important "organic" metropolis in the region.

With a population of 5.6 lakh, the Naya Raipur City is expected to generate approximately 2.2 lakh jobs, with an assumed workforce participation rate of 40%. The high standards of physical and social infrastructure adopted for the city will be able to cope with the maximum capacity of the city.



Naya Raipur

Population: Approx. 2,860,000
Area: Approx. 5,802 sq.km.

The construction of Jaipur started in 1727. It took around four years to complete the major palaces, roads and square.

The city was built following the principles of Shilpa Shastra, the science of Indian Architecture. The city was divided into nine blocks, two of which contain the state buildings and palaces, with the remaining seven allotted to the public. Huge fortification walls were built, along with seven strong gates. For the time, during the regime of Sawai Ram Singh, the whole city was painted pink to welcome Edward, Prince of Wales. Today, avenues remain painted in pink, giving Jaipur a distinctive appearance.



Jaipur

Population: Approx. 6,700,000
Area: Approx. 645 sq.km.

The character of a plan for a new city is influenced by various factors, such as the regional setting, site conditions, dominant function etc. Functionally, Gandhinagar was to be the capital city of Gujarat. The new city would predominantly be the administrative centre of the state and consequently may acquire many important cultural, civic and allied functions. Initially, the principal employer in the city would be the state government and as such, the design population was based on the government employment structure. In 1965 the city was planned for a population of 150,000.



Gandhinagar

Population: Approx. 196,000
Area: Approx. 177 sq.km.

Capital Region_ Projected Population Distribution and Density

Planning Area	No. of Mandals	Area (sq.km.)	Existing Population (Year 2011)	Projected Population (Year 2035)	Density (p/sq.km.)	
Central	7	Mangalagiri, Thullur, Tadepalli, Ibrahimpatnam, Vijayawada (Urban), Vijayawada (Rural) and Penamaluru	854	1760790	4,250,000	4,977
Southern	8	Edlapadu, Guntur, Medikonduru, Pedakakani, Phirangipuram, Prathipadu, Tadikonda, Vatticherukuru	1266	1281334	2,180,000	1,721
Eastern	12	Challapalle, Ghantasala, Gudivada, Kankipadu, Mopidevi, Movva, Nandivada, Pamarru, Pamidimukkala, Pedaparupudi, Thotlavalluru and Vuyyuru	1072	689394	1,190,000	1,110
South East	10	Amruthalur, Bhatti prolu, Chebrolu, Duggirala, Kollipara, Kollur, Ponnur, Tenali, Tsundur, Vemuru	1159	859101	1,370,000	1,182
South West	5	Amaravathi, Atchampet, Krosuru, Pedakurapadu, Sattenapalle	897	379427	590,000	658
Northern	4	Agiripalle, G.konduru, Mylavaram, Nuzvid,	837	318026	530,000	633
Western	7	Chandarlapadu, Kanchikacherla, Nandigama, Jaggayyapet, Vatsavai, Penuganchiprolu, Veerullapadu	1446	512233	7,53,000	521
North East	3	Bapulapadu, Gannavaram, Unguturu	534	226272	420,000	787



Andhra Pradesh Capital Region Development Authority

