

## **Chapter-I**

### **STRUCTURE OF CHENNAI**

Study of development trends helps to ascertain where development had occurred in the past and also particularly in recent years and the reasons for the same. It would help us in identifying the potential areas for future development and also plan for the future directions of growth taking into account of all the relevant planning aspects.

#### **History<sup>1</sup>**

1.02 The site on which Madras is situated has a long history. Settlements existed in the area of which Mylapore, Triplicane and Santhome were well known. The geographer Ptolemy had recorded it in the second century AD that the port of Mylapore was known to the Greeks and the Romans. The Port had a flourishing trade with the Roman Empire and received considerable quantities of gold in exchange for products like pepper and fine cloth. Mention has been made of the early settlement of Santhome by Arab travelers and merchants of the 9th and 10th centuries. Marcopolo visited this place in the late 13th Century and the Portuguese settled around Santhome in the early 16th Century. According to a traditional account it was at Mylapore that Thiruvalluvar, author of the famous Tirukkural-the universal Code of human conduct-lived. Both Mylapore and Triplicane were important Hindu religious centres and inscriptions dating back to the eighth century have been found in the Triplicane Temple.

1.03 The foundation for the development of the present metropolis was however laid in 1639 when the British East India Company acquired the site on which Fort St.George stands. The site was located by Sir Francis Day who obtained a 'firman' from one Damela Venkatadri Naik, the local chieftain of the area for setting up a factory (trading post). Francis Day and Andrew Cogan together with a few writers, 25 European soldiers and a few other Hindu artificers were the first to settle in the site granted by Venkatadri Naik in 1640.

1.04 The name of Madras is said to be derived from *Madraspatnam*, a village that existed here prior to the settlement of the English.

#### **Madras in 1600<sup>2</sup>**

1.05 Madras in 1600 was formed of scattered settlements separated by long distances. Each settlement grew around a nucleus of a temple and has its own history. The most important area at that time was Mylapore. In Santhome, the Portuguese, having originally arrived in 1522, constructed a fort and settlement. Mylapore was an

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<sup>1</sup> Ref. Master Plan for CMA 1975

<sup>2</sup> Ref. Structure Plan for CMA, 1980.

adjacent settlement with a newly constructed temple. Triplicane on the north was a separate village.

1.06 There were small settlements in Purasawalkam, Thiruvatteeswaranpetta, Egmore, Nungambakkam, and Saidapet. Among the suburbs, Tiruvottiyur, Velachery, Tiruneermalai, Mangadu, Padi, Poonamallee, Kunnathur, Ayanavarum, Vyasarpadi, Villivakkam, Ambattur, Koyambedu etc. already existed. Each of these villages was self-contained and had its own agricultural production and household industries. The changing rulers in the region never interfered with them; with the result that life in the villages continued to exist without much change. Madras being on the coast, had many sand ridges, but during the 16th century the level of the sea rose and inundated lands within the settlements.

1.07 When the sea withdrew, lagoons and ridges were left behind. The lagoons took some time to become filled in and the sandy ridges were places of safety where new temples and settlements were established. There were two ridges - one between Broadway and the Beach of about 12 feet high roughly along Thambuchetty Street and another one along Mint Street. From First Line Beach the land slowly rose to the ridge and then fell to a valley along the present Broadway, where a drainage channel ran. Again it rose to the second ridge in Mint Street and descended gradually to a valley along the present Buckingham Canal. The Mint Street ridge continued along Tiruvottiyur High Road.

1.08 On the southern side, one such sand ridge ran from the mouth of the Cooum to the present site of the Presidency College. On the rear side was a huge depression in which the college grounds have now developed. The ridge is the present Marina. Further south, a ridge in a "U" shape ran along Besant and Lloyds Road enclosing the Ice House. Parthasarathy Temple at Triplicane is just by the northern area of this ridge. There is a wide depression between the southern ridge and Mylapore.

1.09 Another ridge was along the Luz Church Road linking Santhome Cathedral and Luz Church. The developments of Santhome and Adyar have been principally around this ridge. Mount Road ran along a tank bund and was at a high level; to the east of it, the land gradually falling to Triplicane High Road and the Luz. On the western side, the present Vyasarpadi and Perambur areas were low lying lands periodically inundated by floods. They were previously sparsely populated regions. People's Park was in a low-lying area and Purasawalkam High Road was along a ridge. West of the road was a drainage channel called the Otteri channel.

1.10 Important lines of communication linked these settlements. Egmore, Purasawalkam and Aminjikarai lie along Poonamallee High Road. Triplicane and Mylapore lie along a road leading to Tiruvanmiyur. These roads were just earthen cart tracks.

1.11 Within a few years of the founding of the British settlement and the construction of a Fort at the site, the New Town, which had grown up around it, came to be known as Chennapatnam in honour of the father of the local chieftain. This name was later applied to the whole city. The population, which was 19,000 in 1646, expanded to 40,000 in 1669.

### **Madras in 1700<sup>2</sup>**

1.12 The Cooum River and the Elambore River or North River which flows into the Cooum at its mouth were running very close to each other (near the Central Jail area) and during floods they inundated the whole area. The two rivers were linked by a cut, at this point, to equalise the floods in the rivers. A bridge was constructed in 1710 across the cut between the two rivers. The Principal road to Egmore from that time up to 1931 had been the road in front of the present Central Jail. In this era there was a lot of building activity (a redoubt at Egmore, a bridge and churches at the Fort and many private buildings in and around the Fort).

1.13 Due to congestion inside the Fort, the British constructed some garden houses in what is known as Peddanaickenpet. In 1733 there was a lot of congestion in George Town and the weaving Community started settling in Chintadripet area and Collepatta near Tiruvottiyur since abundant open space was available for weaving. The washer men who were in the Mint area then moved towards the west. The Potters from this area moved outside the Fort on the north side and formed a new colony (Kosapet). Because of the construction of a bridge in 1710 to connect Egmore, people moved towards the present Moore Market area and settled.

1.14 During this time, the British found that Triplicane was a good area for settlement and a large number of people moved there. The presence of the Nawab of Arcot increased the economic prosperity of the area and more and more Muslims settled in Triplicane. So from that time onwards, it grew in importance, second only, to George Town. St. Thomas Mount gained religious importance and Mount Road became prominent with the construction of Marmalong Bridge in 1724.

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<sup>2</sup> Ref. Structure Plan for CMA, 1980.

1.15 Because the British started living along Cooum River, roads were laid to give access to them and thus Marshalls Road, Halls Road, Montieth Road and Casa Major Road all became thoroughfares even in 1798. Mowbrays Road and Royapettah High Road were formed to give access to these people. The land west of George Town was a low-lying swampy area and remained vacant without development. The surroundings of the Fort area covering nearly 69 kms. and containing within it 16 hamlets were constituted as the City of Madras in 1798.

### **Madras in 1800<sup>2</sup>**

1.16 After the founding of the Corporation, conservancy and improvement of the City were begun. The City was divided into 8 Divisions and the Government selected 4 Commissioners from residents. The broad-gauge line from Royapuram to Arcot was laid in 1864. Central station was formed in 1872 and linked to the main line. By 1861 the British authorities realised the necessity of a harbour. A pier was constructed in 1862 and further development took place from 1868 onwards.

1.17 The formation of Royapuram station in 1862 induced people to move northwards and settle in Royapuram. This gave rise to the establishment of some timber saw mills and depots in Royapuram after a few years. Further the railway line passed through the present Perambur area, which had so far been lying as swampy waste because of its low level. The introduction of the railway line gave development potential to the hitherto uninhabited place. From 1850 onwards, the necessity of providing recreational facilities was perceived. Many parks such as the Peoples Park, Napier Park and Richardson Park were created in this period. A Museum and a Zoo were also established.

1.18 Before 1800, the roads were in a radial pattern, but after 1810 ring roads were developed inside the City. Mount Road was important and access to it was given from Triplicane High Road, Chamiers Road, Edwards Elliot's Road and Royapettah High Road. To the North of Mount Road, Pantheon Road, Halls Road, Marshalls Road, Spur tank Road and Nungambakkam High Road were formed to serve the new residential areas. Later Brick kiln Road and Perambur Barracks Road connected Poonamallee High Road with Konnur Road, which was extended towards the Railway.

1.19 To facilitate trade the harbour was completed in 1896 just to the east of George Town. The principal roads leading out of the area in three principal directions connected the northern, western and southern parts of the presidency and they still remain as the main transportation framework for the City. Railways were also built radiating from the centre in these three principal directions.

1.20 The building of the harbour was responsible for sand accretion to the south of it and the sea which was washing the ramparts of the Fort at one time was then 2.5 km. away with a wide beach between the land and the sea. A number of public buildings were constructed fronting this beach early in the 19th century, which still add dignity to the City.

1.21 The city extended over an area of about 70 sq.kms. and had a population of 5.40 lakhs in 1901. The demographic growth rates during the previous two decades were 5 per cent and 6 per cent. Important buildings and structures which are the land marks of the city such as the Fort, the Marina-the road parallel to the sea-and the fronting public buildings, the High Court, the Moore Market, the Connemara Public Library and other public buildings around it already existed. George Town was the main business centre but substantial parts of it were used for residential purposes also. The main residential areas however were Chintadripet, Triplicane, Egmore, Mylapore, Purasawalkam, Vepery and Royapuram. Most of the areas outside these settlements were covered by gardens and agricultural lands interspersed with bungalows of the elite. Nungambakkam, Chetpet and Kilpauk were some of the areas, which developed in this manner; Saidapet in the southwest was a separate small settlement. Both sides of Mount Road to a distance of 5 to 6 kms. from Fort St.George were occupied by large business houses, clubs and hotels; industries were few and were located in George Town or Perambur area. The West of Nungambakkam was covered by the Nungambakkam Tank and this long tank extending in the form of a crescent for nearly 6 kms covered the west of Nungambakkam. The three railway lines served the city from the north, west and southwest. The city was mainly a commercial, military and administrative centre for the entire South India.

### **The City in 1941<sup>2</sup>**

1.22 The population of the City increased to 8.6 lakhs by 1941. The city occupied an area of about 80 sq.km. and its boundaries having been extended in 1923. The important developments during the period 1901 and 1941 were the commissioning of the electrified suburban metre-gauge railway between Beach and Tambaram in 1931 which gave a fillip for the development of the outlying suburban areas as far as Tambaram, and the development of the area occupied by the long tank at Nungambakkam as a planned residential neighbourhood by the Corporation. There were also considerable in filling within the developed areas. The city had a good water supply system and most of the areas were sewerred. It had quick and cheap modes of transport by trams and electric trains. The main roads were wide enough for the road traffic and passed through shady avenues. By 1941 Madras had developed into a provincial

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<sup>2</sup> Ref. Structure Plan for CMA, 1980.

metropolis enjoying the best of both worlds -urban amenity and rural atmosphere. It was still primarily an administrative and commercial centre.

### **The City in 1971**

1.23 The thirty years between 1941 and 1971 saw tremendous growth in population and economic activity in and around the City. The population first passed the million marks around 1943 and then doubled itself in a short span of about twenty years to cross, the two million mark. This happened in spite of two adverse events, viz., the threat of Japanese invasion to Madras in 1944 and the reconstitution of Madras Presidency on a linguistic basis in the fifties, when Andhra, Mysore and Kerala states were formed. In 1950 the boundary of the City was extended to cover 129 sq.kms. by the inclusion of Saidapet and Sembium. This period also saw the growth of new residential as well as industrial suburbs particularly on the west and south.

1.24 The main reasons for this fast growth can be attributed to the forces of economic activity released after the country obtained independence. The five-year plans and the impetus given by the industrial activity in the public sector brought about the transformation of the City from that of a purely administrative and commercial centre into a metropolis of national importance. The major developments in the industrial field during the post independence era have been, the location of a number of public sector undertakings. This was followed by many private sector undertakings. Concurrently this period saw the deterioration in water supply and drainage services and mushrooming of many slum areas all over the city. The setting up of the Tamil Nadu State Housing Board however, helped in the creation of large residential areas like Anna Nagar on the west and Sastri Nagar on the south. The City's boundary no longer remained well defined. The developments extended into the adjoining areas, particularly, on the north up to Ennore, west up to Avadi and south up to Vandalur.

This growth did not take place in a regulated manner nor did it correspond to the available infrastructure facilities. This fact coupled with the rapid growth of population on the one hand and the increase in number of motor vehicles on the other has given rise to the many problems faced by the Metropolis today. The growth of the City since 1633 is depicted in the Sheet No.1.01 and 1.02.

### **Structure of the Metropolis in 1971**

1.25 The City is at the core of the metropolitan area and is the centre for all commercial and social activities as well as a living area for majority of the total population. Its structure approximated to a semi-circle with extensions in five main directions, the North, Northwest, West, Southwest and South. This is due to the fact that early in the development of the city, George Town and Harbour became the

commercial centre of the City. Naturally all communication lines led to this centre and these in turn were linked with each other producing a radial and ring pattern of development. When the City grew, lands on the main arteries were much nearer in terms of time needed to reach the centre than areas, which were away from them, and further expansion took place on these arteries. The economics of transportation has led to formation of development corridors the most important of which are on the west and southwest where, physical conditions were more favourable for development.

1.26 The fringe areas in the north, west and Southwest had been the location of large industrial establishments. The Madras Refinery, the Madras Fertilisers, Ennore Thermal Plant, the Ashok Leyland Truck Factory and many accessory industries are located in the north at Manali and Ennore. The T.V.S. Group of companies, Dunlop Rubber Company, T.I. cycles and the larger industrial estates are located on the west at Ambattur with the Heavy Vehicles Factory located further west at Avadi. Almost all cinema studios and a number of medium industries including the first industrial estate of the State - the Guindy Industrial Estate - are located in the southwest between Arcot Road and Annasalai. A large industrial estate at Ambattur was located in the West along MTH Road and the Standard Motor Factory (now closed) was located in the south at Vandalur along GST Road. The main residential areas outside the City are along the Southwest closely following the electrified suburban line and Alandur, Tambaram, Pallavaram are such residential areas. Most of these areas however lack in commercial and public facilities for which they depend on the main City.

1.27 Triplicane, Mylapore, Purasawalkam and also the northern part of George Town and Royapuram are the old residential areas characterised by street housing (i.e. houses constructed in a row without side open spaces) with shopping along main streets. New residential areas of Mylapore and Theagarayanagar had developed with bungalow type houses but densities here were higher than the exclusive older residential areas of Egmore, Nungambakkam and Chetpet, which lie between these areas and the central business district. This intervening area was developed for multi-storeyed apartments, offices and hotels in view of their relative proximity to the central business district.

The rural areas fringing the city were generally fertile then, particularly on the north and west where paddy was raised as an irrigated crop. Casuarina wood for fuel was raised all along the sandy coast in the southern part of the metropolitan area.

1.28 George Town and its extension southwards into Anna Salai together constitute the central business district of the City where most of the wholesale trade, specialised retail trade and banking and financial institutions were located and where commercial

activity was intense. More than 2 lakh work places (jobs) constituting 48 per cent of the total work places in the Madras Metropolitan Area in 1971 were located here. Shopping facilities of local significance had developed along almost all major roads.

1.29 The industrial areas within the City were mainly in the northern and western parts, where they were closely mixed up with residential developments but new industrial establishments as mentioned were located outside the City limits and many important industries were on the outskirts. The main industrial areas are in Ennore and Manali on the north, Ambattur and Avadi on the west, along Anna Salai and its extension on the southwest. Nearly 40 percent of the industrial work places were located on the north and northwestern part of the Chennai Metropolitan Area and over 10 per cent along Anna Salai and its extensions.

1.30 Public and semi public uses were dispersed but those, which were established earlier, were concentrated in the older parts of the City such as Egmore and on the Marina. New public offices were located in Nungambakkam and on Anna Salai. Public uses, except for higher educational institutions were few in the suburbs.

1.31 The radial type of development has created green wedges, the edges of which in some cases penetrate into the City boundary itself. The main communication routes were lined with industrial establishments and shopping but the development is diffused and could not be termed "urban" except in uses. The real rural area was not far from these corridors and urbanisation had scarcely touched those areas either in the physical or social sense. Many of the small settlements in fact did not exhibit any sign of being near a large metropolis. Urban development in CMA in 1973 is shown in the map annexed.

### **Structure of the Metropolis in 2006**

1.32 The Master Plan for CMA approved in 1976 proposed the structure of the Metropolis taking into account various factors. The structure proposed was of radial pattern with City as hub. The main elements of the strategy were<sup>2</sup>:

- (a) Restriction of density and population growth in the city;
- (b) Restriction of industrial and commercial developments within CMA;
- (c) Encouragement of growth along the major transport corridors and development of urban nodes at Manali, Minjur, Ambattur, Avadi, Alandur and Tambaram;
- (d) Dispersal of certain activities from CBD; and
- (e) Development of satellite towns, beyond CMA at Maraimalai Nagar, Gumidipoondi and Thiruvallur.

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<sup>2</sup> Ref. Structure Plan for CMA, 1980.



1.33 The Master Plan included spatial plans for CMA with land use zoning and set the urban form during the Plan period. TNHB has played a major role in development of large scale neighbourhood schemes; Anna Nagar (about 5 Sq.km.), Ashok Nagar and K.K. Nagar (about 7 Sq.km.), South Madras Neighbourhood scheme comprising Indra Nagar, Sastri Nagar and Besant Nagar (about 4 Sq.km.), etc. had come up with plots/flats meeting the requirements of all sections of the society from HIG to EWS. Under MUDP-I (1977-92), MUDP-II (1983-87) and TNUDP (1988-95) Neighbourhoods at Arumbakkam, Mogappair, Villivakkam, Velachery, Kodungaiyur, Ambattur, Avadi, and Madhavaram etc. were developed within the City and its suburbs. These large-scale neighbourhood developments of TNHB with full infrastructure acted as catalyst for private developments for residential use around.

1.34 A number of medium and small-scale industrial developments came up in the areas zoned for industrial developments at Madhavaram, Vyasarpadi, Kodungaiyur, Ambattur, Noombal and adjoining areas Pammal and Perungudi. Industrial estates at Villivakkam, Thirumazhisai and Industrial estate for women entrepreneurs were developed at Morai near Avadi. Considering the demand, infrastructure availability, potential for industrial developments, the lands along the Poonamallee bye-pass road near Poonamallee Town in the west and Old Mamallapuram Road (from City limit to Sholinganallur) in the south were comprehensively reclassified for industrial use where a number of medium scale and small scale industries had come up.

1.35 Though Vallalar Nagar (George Town) and Anna Salai area have continued as CBD, Mylapore, Thyagaraya Nagar, Nungambakkam, and Purasawalkam have developed as Regional Commercial Centres and Adyar, Anna Nagar and Perambur have developed as Regional Commercial Sub-Centres. Relocation of wholesale activities in Vegetable, Fruit and Flower from CBD to Koyambedu and City bus stand from CBD to Koyambedu have been carried out; Iron and Steel Market at Sathangadu was developed. Truck terminal at Madhavaram was made operational.

1.36 Major higher educational institutions are located in the central part and southern part of the City and they continued to expand within its premises. After 1980, a number of private engineering and medical institutions have come up dotting the Metropolis.

1.37 In the last three decades, the agricultural activity within this Metropolis had become abysmally minimal for various reasons including non-availability of water for irrigation purposes, labour cost, and cost of agricultural inputs. In the northern wedge between GNT Road and T.P.P. Road, because ayacut rights of Puzhal and Redhills lakes

had been cancelled and local water sources are not adequate, the agricultural activity in these areas is very minimal. Similar is the position in the northwestern wedge between CTH Road and GNT Road, which lie in the catchment area of these lakes, which are the main sources of water supply to the City. The Chembarambakkam lake, another large lake in CMA, is being converted as another source for city water supply and very minimal agriculture activity is being carried out in its ayacut area which lie in the south-western wedge. In the southern wedge between Rajiv Gandhi Salai (Old Mamallapuram Road) and GST Road only in few pockets to a limited extent the agriculture activity in the south of Tambaram - Madipakkam Road continue.

1.38 Chennai has become one of the preferred destinations for IT / ITES companies. Tamilnadu is the second largest software exporter in the country, and 90% of the export is from Chennai alone. A large number of IT / ITES developments are located along the Rajiv Gandhi Salai (OMR), the area popularly known as IT Corridor. TIDEL PARK, a self contained IT Park developed with a total floor area of 2.5 million sq.ft. at Taramani houses all the major players in IT Sector. In this corridor, from Taramani to Semmancheri a number of I.T developments are coming up because of locational advantages for the industry such as uninterrupted quality power supply, better transport facilities, accessibility to airport, availability of potable water supply, pollution free environment etc. These developments are spilling over in the areas in the west along the 200ft. wide Pallavaram - Thoraipakkam Road, and also along Velachery – Tambaram Road. In the large I.T Park (layout with all required infrastructures, developed by government agency over an area of 868 acres) at Siruseri, a number of I.T.Parks are being located and will be fully functional by 2007. Bio-tech Park at Taramani was developed by TICEL, and a major bio-tech park came up at Sirucher. These employment-generating developments resulted in fast development of the areas in the west of the corridor such as Medavakkam, Jalidampet, Perumbakkam, Vengai vasal, Gowrivakkam, Rajakilpakkam etc. as residential areas.

1.39 Chennai is emerging as a major export hub in the South East Asia. International car manufacturers such as Ford, Hyundai, and General Motor etc. have established around Chennai their manufacturing bases to cater to domestic and international markets. New testing and homologation centre for automobile sector with an investment over Rs. 1000 cr. is being established in this region. Saint Gobin glass factory, Nokia cell phone manufacturing industry at Sriperumbudur, and Mahindra Industrial Park developed over 1700 acres, near Maraimalai Nagar new town are some of the major developments around Chennai. All these developments made considerable impact on the structure of this Metropolis. Urban development in CMA in 2006 is shown in the map annexed.