

Chapter XII

Spatial Strategy and Land Use Planning

A. Introduction

Location of various major urban activities and introduction of transport links since the establishment of Chennai in the 17th Century has had significant impact on the current urban form of the City. The urban form of Chennai Metropolitan Area has been dictated by developments along the major roads and rail links radiating from the center of Chennai. A detailed account of how the city developed over the last few centuries is given in volume III.

B. Current Situation

12.2 The main road corridors from north to south are the Kolkotta National Highway (NH 5), the Chennai Thiruvallur High Road (NH 205), the Poonamallee High Road (NH 4), the Arcot Road, the Mount-Poonamallee Road, the Grand Southern Trunk Road (NH 45), Rajiv Gandhi Salai (Old Mammallapuram Road) and the East Coast Road.

12.3 The rail corridors are the railway line to Gummidipoondi and beyond on the North, the railway line to Arakkonam on the west, the rail line to Chengalpattu on the south-west and the MRTS link along the Buckingham Canal to Velachery.

12.4 The stages of urban expansion between 1971 and 2006 are indicated in the map annexed. It can be seen from these maps that till now a urban form has developed in the shape of a half star with interspersed green wedges. These green wedges are getting filled up due to improved accessibility created through construction of ring roads during the last decade.

Activities Influencing Urban Form

12.5 The significant developments /decisions of the recent past, which would have far reaching influence on the future urban form and structure are

- New road infrastructure projects – Rajiv Gandhi Salai, extension of NH Bye-pass from Maduravoyal to Redhills and formation of outer ring road and other ring connections.
- Developments along IT corridor in the southern part of CMA along the Rajiv Gandhi Salai (Old Mammallapuram Road).
- Redevelopment for commercial and IT Parks and in residential and non-residential areas with multi-storeyed buildings.

- Conversion of manufacturing units especially in industrial estates at Guindy and Ambattur into IT industries.
- Strengthening of the suburban railway infrastructure to Gummidipoondi, Arakkonam and Chengalpattu and extension of MRTS.
- Proposed construction of Metro Rail from Beach to Airport and Washermanpet to St. Thomas Mount.
- Location of large scale manufacturing industries in the Orgadam-Sriperumbudur Corridor as well as on the GST Corridor.
- Location of the new Chennai Airport on the west.

12.6 These development actions are expected to modify the form from the half star mentioned earlier to concentric half circles engulfing the green wedges that had been left undeveloped earlier. The urban structure beyond the City limits is also expected to shift from a predominantly low-density low-rise development to medium density developments interspersed with high-rise buildings.

C. Principal Stakeholders

12.7 The evolution of the emerging structure is the result of intensified activities of infrastructure development departments of central as well as state governments. Real estate developers and private entrepreneurs are taking advantage of such infrastructure developments to spread urban development all over CMA. The principal stakeholders in each sector have already been indicated in the earlier part of the report. CMDA will be the main agency for ensuring orderly spatial developments.

D. Vision for Chennai

12.8 As explained earlier the Vision 2026 is to make Chennai a prime metropolis which will become more livable, economically vibrant, environmentally sustainable and with better assets for the future generations.

E. Objectives of the Spatial Plan

12.9 The objectives of the Spatial Plan for Chennai are to provide:

- i) Optimum utilization of land by channalising the developments in the right directions and locations.

- ii) The future land needs of the metropolitan area by recognizing the existing growth trends and strengthening the infrastructure links needed.
- iii) Efficient transportation network integrating work, living, shopping and recreation areas to arrive at balanced developments.
- iv) Wider scope for decentralized employment locations and economic development.
- v) Preservation and conservation of ecologically sensitive areas and natural and built heritage.

F. Strategies

12.10 This metropolitan growth scenario based on the vision is proposed to be effected through the following strategies:

- a) Encouraging growth outside the CMA on the main corridors.
- b) Strengthening the potential for growth in the three satellite towns of Gummidipoondi, Thiruvallur and Maraimalai Nagar and creation of new ones near Tiruporur in the south and near Sriperumbudur in the west.
- c) Creating urban foci in the amorphous developments in the City as well as in the outlying municipal towns incorporating commercial and environmental hubs, heritage precincts and buildings to develop interesting city images.
- d) Providing opportunities for development of composite neighbourhoods on the outer ring road.
- e) Demarcating areas of significant ecological and water resource values for preservation and conservation.
- f) Instituting specific Area Development Projects for upgrading quality of life in City sectors and neighbourhoods.
- g) Restructuring the zoning strategy to promote development.
- h) The main problem of the CMA is excessive concentration of population and economic activities. The trend of migration for gainful employment is by and large towards the CMA, resulting in diseconomies of scale. This situation calls for channalisation of economic activities to the other major cities in Tamilnadu.

Land Use Zoning

12.11 The purpose of land use zoning is to segregate certain uses particularly hazardous and environmentally unsuitable uses from other urban uses of work, housing and recreation to reduce the effect of negative externalities, which the former have on the latter. By providing spatial segregation of highly conflicting uses it benefits some uses to find advantage in being grouped together with other similar uses. Thus separation of hazardous industries would enable provision of special infrastructure to safeguard environmental quality at the same

time providing reduction of costs in providing certain common public services. Because of zoning's vital role in planning, modern strategies encompass expanded objectives for supplying essential public amenities such as open spaces for recreation, conservation of prime agricultural land and protection of ecologically sensitive areas from unsustainable uses.

Mixed Land use Zone

12.12 The concept of mixed land use zone has been prevalent in Chennai since 1975 and is part of the First Master Plan itself. In the Indian context mixed land use zoning is gaining importance particularly because of the existence of a large informal sector. Based on the experience of the First Master Plan this Plan in addition to providing a range of uses that can possibly be permitted in the various zones has designated a new zone namely the urbanisable zone. This is in addition to the nine other designated zones namely Primary Residential, Mixed Residential, Commercial, Institutional, Industrial, Special & Hazardous Industrial, Open Space & Recreational, Non-urban and Agricultural use zones.

12.13 The purpose of creating an urbanisable zone is to eliminate the unnecessary freezing of land uses, which would normally happen if a particular use which may not find favour in locating in that area is specified in advance. This urbanisable zone facilitates most environmentally safe urban uses paving the way for demand driven developments to take place without affecting the quality of life in the neighbourhood.

12.14 As a part of the non-urban use zone natural environment to be protected from urbanization such as forests, streams and other water bodies including the numerous tanks and eries and swamps and other lands unsuitable for urban development are to be prevented for urban development such as water recharging and recovery areas have been zoned specifically for these purposes.

12.15 Employment generating activities have been zoned along the major transport corridors and are permissible in a limited way in the mixed residential and commercial zones.

12.16 The coastal areas being an important feature in terms of economy and environment of CMA the zoning along the coast has been carried out in accordance with CRZ regulations, II and III and incorporated appropriately in the land use plan.

12.17 Existing Land Use in 2006 and Proposed Land Use 2026 are given in the tables below.

Table No.12.1 Existing Land use 2006				
	Chennai City		Rest of CMA	
	Extent in Hectares	%	Extent in Hectares	%
Residential	9523	54.25	22877	21.87
Commercial	1245	7.09	390	0.37
Industrial	908	5.17	6563	6.28
Institutional	3243	18.48	3144	3.01
Open Space & Recreation	366	2.09	200	0.19
Agricultural	99	0.57	12470	11.92
Non Urban	82	0.47	2433	2.33
Others (Vacant, Forest, Hills, Low lying, Water bodies etc.,)	2087	11.89	56507	54.03

Table No.12.2 Proposed Land use 2026				
	Chennai City		Rest of CMA	
	Extent in Hectares	%	Extent in Hectares	%
Primary Residential use zone	5916.35	33.58%	32090.68	31.68%
Mixed Residential use zone	2426.90	13.78%	13503.10	13.34%
Commercial use zone	714.24	4.05%	880.35	0.86%
Institutional use zone	2868.97	16.28%	3888.85	3.83%
Industrial use zone	691.83	3.93%	7274.33	7.18%
Special and Hazardous Industrial use zone	130.67	0.74%	3416.08	3.38%
Open Space & Recreational use zone	1000.65	5.68%	392.86	0.38%
Agriculture use zone	-----	-----	7295.81	7.20%
Non Urban	113.31	0.64%	2332.92	2.30%
Urbanisable			2075.89	2.05%
Others (Roads, water bodies, hills, Redhills catchments area, forests etc.,)	3754.79	21.31%	28147.55	27.79%
Total	17617.70	100.00%	101298.42	100.00%

12.18 It may be observed that while there is no great increase in extent of lands zoned for urban activities the intensity of development is likely to increase in sparsely developed and less developed areas to optimum levels thus increasing the efficiency of urban form. Restricting reclassification and open layout developments would prevent urban sprawl beyond the area zoned for urban development.

12.19 The land use plans are given in the map numbers MP-II/CMDA 1/2008 to Map No. MP-II/CMDA.15/2008, read with MP-II/City 1/2008 to MP-II City 42/2008 and MP-II/CMA 1/2008 to MP-II/CMA 250/2008(except no.7 and 173 for Thiruverkadu Municipality and Senneerkuppam village of Poonamallee Panchayat Union which are covered by approved DDP).

Density and FSI

12.20 Chennai within the City Corporation limits is one of the denser cities in India. As per 2001 census its density varies from 180 persons per ha. in Saidapet and Mylapore zones to 368 persons per ha. in Kodambakkam zone. The gross density for Chennai City is of the order of 247 persons per ha. As per the projected population demand the density of the City is anticipated to go up to 330 persons per ha. by 2026. During the same period the average densities in the outlying areas are expected to go up as noted below:

▪ Municipal Towns	149 persons per ha.
▪ Town Panchayats	78 persons per ha.
▪ Rest of Panchayat Union Areas	32 persons per ha.

12.21 Floor Space Index (FSI) would be one of the principal tools to regulate density of development with reference to infrastructure availability and provision. Density not only needs to be linked to carrying capacity of land and infrastructure but also to several sociological parameters particularly for low income communities. After examining the issues in detail appropriate FSI parameters have been incorporated in the Development Regulations.

Setting a Clear Hierarchy of Roads

12.22 Till now, the emergence of a desirable urban form for optimal use of urban lands has been constrained by the absence of a hierarchy of roads to provide adequate access for movement of people and goods. The growing travel demand in the metropolis has also made it imperative to increase the extent of road space. While the First Master Plan ensured enhancement of road space by provision of missing links, widening of roads, construction of underpasses and over-bridges and flyovers the actions in the Second Master Plan would besides consolidating the earlier efforts seek to establish a clear hierarchy of roads and expand

the road availability optimally. For this purpose it will ensure that a person can have access to an arterial road or sub-arterial road within a distance of 2.5 kms. or ten minutes of travel time by a private travel mode. This would ensure equity in mobility and good accessibility across the entire CMA.

Development Regulations

12.23 In the light of the foregoing strategies and actions the Development Control Rules have now been reviewed and recasted to conform to the zoning and urban structure proposed for CMA. The major revisions are:

- i) Permitting multi-storeyed buildings in the rest of CMA also (excluding the Island Grounds, approved layout areas, Aquifer recharge area and Redhills catchment area)
- ii) Redefining special buildings as the ones exceeding 6 dwelling units
- iii) Permitting IT buildings and bio-informatics centers in Mixed Residential, Commercial, Institutional use zones
- iv) Proposing higher FSI of 2.00 for special buildings and group developments with dwelling units not exceeding 75 sq.m. in floor area each in the MRTS influence area between Luz and Velachery
- v) Defining IT corridor along the Rajiv Gandhi Salai (Old Mamallapuram Road)
- vi) Accommodating working women's hostels and old age homes in Primary Residential areas
- vii) Proposing transfer of development rights in cases of road widening, conservation of heritage buildings, slum redevelopments etc.
- viii) Providing for restricted developments in Aquifer Recharge area
- ix) Providing for conservation of heritage buildings
- x) Rationalising the planning parameters for special buildings with reference to plot extent, number of dwellings, and number of floors
- xi) Revising the parking standards totally based on the recommendations made in recent consultancy study on parking requirements
- xii) Reducing plot extent or side setback requirements
- xiii) Enlarging the areas of incidental structures that are exempted from FSI calculations
- xiv) Including provisions for persons with disabilities
- xv) Allowing Multi-storey Building (MSBs) along 12 m and 15 m wide roads with limitations on FSI and height
- xvi) Reservation of 10% of land for EWS/LIG with dwelling sizes not exceeding 45 sq.m. in the case of special buildings, group developments, multi-storeyed

buildings on lands of extent exceeding 1 hectare either within the site proposed for the development or in a location within a radius of 2 kms from the site under reference.

- xvii) Allowing additional FSI 0.25 in cases of special buildings and group developments with dwelling units each not exceeding 45 sq.km. in floor area.

12.24 Listing of Heritage buildings and its notification after consultation with the owners, conditions to be imposed, contents of the agreement to be executed with the heritage building owners who get TDR, and detailed guidelines for allowing premium FSI etc will be decided separately.

G. Area Development Plans

12.25 While this Master Plan lays down policies and strategies and programmes at the CMA level many of the actions for improving the quality of life would have to be translated at the area level namely neighbourhoods and city or town sectors under each local body including the City Corporation. While the Town Planning Act provides for the making of Detailed Development Plans (DDPs) for this purpose, elaborating the land use linkages in each area, the substantial investments that are now available for infrastructure such as roads, water and sewerage, drainage and civic amenities under the JNNURM and TNUDF programmes provide opportunities to attempt comprehensive Area Development Plans in a systematic way. While the initiative for developing appropriate Area Development Plans would be that of the local bodies the CMDA would facilitate establishing these DDPs with the participation of the parastatal agencies and departments of government. While preparing DDPs the requirements at local area level will be considered and reservation of space as may be required for facilities such as schools, playgrounds and formation of missing road links etc. will be made. These DDPs would form the basic units or building blocks for improving quality of life to the citizens of Chennai and at the same time promote sustainable development.

12.26 One of the important components of the Area Development Plans particularly in the outlying areas would be the integration of unapproved subdivisions and layouts that have come up by supplying the missing parts of development so as to make these areas fit for urban habitation. Evidently this will have to be carried out with the full cooperation and consent of the owners of land as well as the local bodies concerned with appropriate fees levied to finance the missing infrastructure.

12.27 As a follow up of the Master Plan CMDA will initiate actions to institute Area Development Plans in various critical areas of the City as well as the outlying areas as a time bound programme.

H. Monitoring and Review

12.28 A committee to be known, as “Land use and Environment Committee” with representation of Government and non-government stakeholders and experts will be constituted to monitor the implementation of policies and strategies in this sector and to initiate such studies and assemble such information as needed for the purpose. This committee will meet at least once in three months or as many times as needed. It will draw up detailed terms of reference for its work in consultation with the concerned stakeholders.

12.29 This committee may work through special working groups created for the purpose for the different sub-sectors under it.