

14. Master Plan Implementation

14.1 INTRODUCTION

The Master Plan implementation requires (i) development of new areas (ii) redevelopment of existing developed areas and (iii) conservation of eco-sensitive areas

Landuse plan, land use zoning, sub-division and development control regulations would in general be the base for all development, and redevelopment in the city.

14.2 DIVISION OF CITY FOR DEVELOPMENT AND RE-DEVELOPMENT

The Ranchi Planning Area is divided into following 3-parts for the purpose of development / redevelopment.

- Part I** : Large undeveloped pockets available in existing developed area for new development
- Part II** : Central city old municipal congested areas
- Part III** : Rest of Remaining Area within Ranchi Planning Area

14.3 PART I - NEW DEVELOPMENTS WITHIN PLANNING AREA

There are large parcels of land areas still under agriculture or vacant where urban development is proposed in the Ranchi Master Plan - 2037. In these areas major new urban development would be taken up.

14.3.1 New Residential Developments

Approximately 3066.96 hectare of new residential area (including around 14 % of developed area) is indicated for new residential development. This area is divided into blocks, which form the unit of development. The size of these development blocks varies from 32.14 hectares to 102.29 hectares. The average size of these development blocks is 68.15 ha. Refer **Table No. 14.1**.

Table No. 14-1: Urban Development Blocks in Part I for Residential Development

S. No.	Planning Unit (PU)	Block No.	Residential Area in hectare	Population
1	PU - 1	Block 35	50.18	12,545
2	PU - 3	Block 39	66.98	16,745
3	PU - 3	Block 40	75.50	18,875
4	PU - 3	Block 41	49.62	12,405
5	PU - 3	Block 42	80.36	20,090
6	PU - 3	Block 43	39.32	9,830
7	PU - 4	Block 1	58.97	14,743
8	PU - 4	Block 2	82.44	20,610
9	PU - 5	Block 44	57.31	14,328
10	PU - 6	Block 3	74.16	18,540
11	PU - 6	Block 4	102.29	25,573
12	PU - 6	Block 5	73.69	18,423
13	PU - 6	Block 45	60.80	15,200
14	PU - 7	Block 14	95.31	23,828
15	PU - 7	Block 15	73.71	18,428
16	PU - 7	Block 16	76.00	19,000
17	PU - 8	Block 6	59.02	14,755
18	PU - 8	Block 7	76.33	19,083
19	PU - 8	Block 8	61.79	15,448
20	PU - 8	Block 9	66.53	16,633
21	PU - 9	Block 10	73.79	18,448
22	PU - 10	Block 11	92.11	23,028
23	PU - 10	Block 17	64.48	16,120
24	PU - 10	Block 18	84.02	21,005
25	PU - 10	Block 19	70.40	17,600
26	PU - 10	Block 20	67.49	16,873

S. No.	Planning Unit (PU)	Block No.	Residential Area in hectare	Population
27	PU - 10	Block 21	73.13	18,283
28	PU - 10	Block 22	76.56	19,140
29	PU - 10	Block 23	45.87	11,468
30	PU - 10	Block 25	70.59	17,648
31	PU - 10	Block 26	59.24	14,810
32	PU - 10	Block 27	70.61	17,653
33	PU - 10	Block 28	70.08	17,520
34	PU - 11	Block 12	59.81	14,953
35	PU - 11	Block 29	52.63	13,158
36	PU - 11	Block 30	70.95	17,738
37	PU - 11	Block 31	71.26	17,815
38	PU - 11	Block 32	32.14	8,035
39	PU - 11	Block 33	52.26	13,065
40	PU - 11	Block 34	45.89	11,473
41	PU - 12	Block 13	76.19	19,048
42	PU - 12	Block 24	97.65	24,413
43	PU - 13	Block 36	89.60	22,400
44	PU - 13	Block 37	60.62	15,155
45	PU - 13	Block 38	59.29	14,823
Total	Block (45)		3,066.96	7,66,743

Note: 1. These residential blocks also includes approx. 14 % of the residential area already developed in these blocks on average;

2. The areas are proposed to be developed at a gross residential density of 250- persons per hectares

Refer **Map No. 14.1** for spatial location of New Residential Areas in Ranchi Planning Area

The land sub-division of these blocks shall be as per the sub-division regulations given in **Section 13.4.1.1** of Land use Zoning and Development Regulations.

Refer **Annex 14.1** for Land Assembly Options.

14.3.2 Development of Neighbourhood Centre

Neighbourhood centres are generally the facilities, park and shopping areas to cater to the needs of 15,000 populations. These also include some new residential areas to be developed as integral part of the same. These centres are proposed to be developed to cater to major part of the facilities required at neighbourhood level for the additional population to be accommodated by 2037 and to compensate for existing deficiency.

There are 45-Neighbourhood centres indicated in this part. These Neighbourhood centres shall be developed as per the guidelines given in **Section 7.12.2**.

14.3.3 Other Major Development

Other major developments in this part are as given in **Table No. 14.2** and shall be developed as per the guidelines given in respective sections.

Table No. 14-2: Urban Development Blocks for Residential Development

S. No.	Other Major Developments	Area (HA)	Remarks
1	City commercial centre	31.0	Refer section 13.4.2.2
2	City facility centre	68.0	Refer section 13.4.1.3
3	City level recreational areas	4,327.0	Refer section 13.4.2.2
4	District commercial centres (DCC-1, DCC-3, DCC-4, DCC-5, DCC-6)	184.10	Refer section 13.4.2.2
5	District Facility Centres (FC-2, FC-8, FC-10, FC-13, FC-16)	215.90	Refer section 13.4.1.3
6	District Park and Play Area	50.0	Refer section 13.4.2.2
7	Community Commercial Centres (CCC)	64.80	Refer section 13.4.2.2
8	Community Facility Centres (CFC)	274.24	Refer section 13.4.1.3
9	Community parks and play areas (CP/PA)	30.47	Refer section 13.4.2.2
10	Neighbourhood centres (NC)	540.0	Refer section 13.4.2.2
11	Education and Research Centre	230.0	Refer section 13.4.1.6
Total		6015.51	-

14.4 PART II – CENTRAL CITY OLD MUNICIPAL AREA

This is a central congested area measuring about 9,419.53 hectare presently with high-density residential developments, wholesale and retail markets. Redevelopment of central city zone is proposed. This area needs the preparation of urban renewal plans. Refer **Section 8.11.2** for urban renewal guidelines.

14.5 PART III – AREAS BETWEEN PART I AND PART II

This area includes the major urban development as in **Table No. 14.3**. For guidelines refer respective sections.

Table No. 14-3: Major Development Projects within Planning Area

S. No.	Major Developments	Area (HA)	Remarks
1	New University including a Engineering College	565.0	located on land of Villages Turup (Thana No. 16), Hesal (Thana No. 19), Mansu (Thana No. 18) and Jamuwari (Thana No. 17) under Planning Unit 9
2	City Level Recreational Areas	4,327.0	Distributed in different parts of planning area
3	District commercial centre (DCC)	184.10	Proposed to be located in DCCs
4	District facility centre (FC)	290.15	Proposed to be located in DFCs
5	District park and play area	50.0	-
6	Neighbourhood centres	540.0	114 Nos of Neighbourhoods are proposed within Planning Area

Refer **Map No. 14.2**: for Phasing of Planning Area

14.6 TRANSPORTATION AND PHYSICAL INFRASTRUCTURE

Transport and physical infrastructure projects run through different parts of the planning area. Thus, these have been identified for city as a whole (**Refer Table No. 14.4, 14.5 & 14.6**). For details of transport and physical infrastructure projects refer to the chapter 6 and 7 of this report.

Table No. 14-4: Major Transport Projects

S. No.	Major Developments
1	Circular Road
2	Road Network Development (Arterial, Sub-Arterial & Collector)
3	Light Rail Transit System (LRTS)
4	Airport up-gradation
5	Bridges <ul style="list-style-type: none"> on river Subarnarekha River (8 Nos) on river Potpoto River (3 Nos) on river Jumar River (4 Nos) Other Nallah (4 Nos)
6	Grade separators (as identified in Chapter 6) – 12 Nos
7	Terminal <ul style="list-style-type: none"> Bus Terminals and Depots (4 Nos) Freight Terminals / Complex (1 No.) Truck Terminal (1 No.)
8	Transport Nagar (1 No.)
9	Off-street parking complexes (1 Nos)

Table No. 14-5: Details of Physical Infrastructures Projects

S. No.	Major Developments	Area (HA)
1	Augmentation of Rukka Water Treatment Plants by 72.17 MLD and their distribution system	-
2	Identification of additional Source and preparation of DPR (300.50 MLD) of Water for Planning Area	-
3	Service Reservoirs (78.61 ML), 43 Nos.	
4	Sewerage Treatment Plants and their collection system (6 Nos)	74.0
5	Solid Waste Dumping Sites (1 Nos)	85.0
Total		

Table No. 14-6: Details of Power Supply Projects

S. No.	Major Developments	Numbers
1	132/33 KV main receiving grid station (4-having capacity of 200 MVA and 1-having capacity of 150 MVA)	5
2	33/11 KV electric sub-stations (each having capacity of 20 MVA)	28
3	Installation of 33 KV Transmission line	410 km

14.7 SLUM UP-GRADATION & RESETTLEMENT

95 slums are scattered in different parts of the city. Slums up-gradation/resettlement shall be taken up for these slum areas. Refer **Map 8.2** for location of major slum areas in Ranchi Planning Area.

14.8 PROJECT PHASING

In the above sections, projects in different sectors have been identified for implementation during the period 2012-2037. The State Government's major responsibility is of land assembly; land development and provision of basic infrastructure i.e. water supply, sewerage, drainage, solid waste management, power and transportation. The building activity except for Capitol Complex in general is to be left to the private sector and the Government & Non-government agencies concerned.

The major projects as identified are proposed to be taken up in 5-yearly phases between 2012 and 2037. Refer **Annexure 14.2**

14.9 FINANCIAL OPTIONS

14.9.1 Sources of Resource Mobilization

Implementation of Master Plan and provision of urban services require massive financial investments. The traditional system of funding based on plan and

budgetary allocations can't meet the financial requirements. As basic approach for the implementation of the Ranchi Master Plan-2037, the role of private sector in development process should be duly recognized, depending upon the potential of various projects. As a general fiscal policy on resource mobilization, it would be however desirable to have a proper mix of public and private sectors participation. It is advisable that the public infrastructure projects should be implemented through budgetary resources/government funding and commercial/residential projects to be implemented through private sector participation while the option of joint venture/public-private participation could also be explored in both cases. Some of the important financing options for Ranchi Master Plan (RMP) are briefly described below:

Revolving Funds

Revolving funds are defined as a fund which, if borrowed or used, is intended to be replenished so it may be spent repeatedly. This technique has been successfully implemented.

Institutional Finance (Financial Assistance from HUDCO, IL&FS)

Local authorities need substantial funds for execution of various infrastructure and other projects. Financial institutions providing loans to various state governments for execution of these projects are Housing and Urban Development Corporation Limited (HUDCO) and Infrastructure Leasing & Finance Corporation (IL&FS). They finance mainly physical infrastructure projects (water supply, sewerage, and solid waste disposal) and area development projects.

Joint Venture/ Public-private Partnerships

One of the ways to enhance fiscal capabilities of the Development/Municipal Authorities is to evolve alternative institutional arrangement for the performance of such functions. Some of the aspects of water supply, transport, electricity, and collection of solid waste could be privatized. Other financial options available like BOT, BOOT, BFT (Build-Finance-Transfer), BOO are

emerging variations of such partnership arrangements which need to be explored.

Financial Assistance from Central Government

The sectors and project covered Central Government Schemes assistance are urban renewal, water supply, sanitation, sewerage & solid waste management, construction and improvement of drains & storm water drains, urban transportation, parking lots, development of heritage areas, prevention and rehabilitation of soil erosion and landslides, prevention of water bodies.

International Funding

The debt profile for the projects would depend on the debt serving capability of the project cash flows. The risk undertaken by the international lenders would be high in comparison with the traditional lending profile typically adopted domestically. Accordingly, the debt instruments with varying risk profiles are structured to meet the requirements of different lenders like World Bank, Asian Development Bank.

Suggested Funding

For the major projects identified, funding option is suggested against each project in **Refer Annexure – 14.2**. Projects in different phases of development shall be taken up after the preparation of Detailed Project Reports (DPR). The approximate overall funding in various options would be as in **Table No. 14.7**.

Table No. 14-7: Approximate division of the projects cost in funding options

S. No.	Funding options	Cost of projects (in Rs Crore)	% of total cost
1	Revolving fund (A)	3,889.34	27.32
2	Institutional finance (B)	995.91	7.00
3	Joint Venture (C)	1,058.96	7.44
4	Central Government Schemes (D)	173.30	1.22
5	International funding (E)	3,360.00	23.60
6	BOT (F)	2,689.26	18.89

S. No.	Funding options	Cost of projects (in Rs Crore)	% of total cost
7	Government budgetary allocation (G)	341.20	2.40
8	Private Sector (H)	1,726.80	12.13
Total		14,234.76	100.0

14.10 AREA PLANNING

For defined areas in all use zones, area plans at the scale of 1:2,000 should be prepared based on the latest physical survey. These shall make a set of reliable plans for any further area level development/redevelopment.

14.11 MASTER PLAN MONITORING AND REVIEW

The physical and socio-economic indicators responsible for development need to be monitored so that the changes required for improving the quality of life can be put into action. The plan should be monitored continuously to update the socio-economic changes. Monitoring helps in evaluating the achievements of physical targets proposed in the plan. Following are the important indicators of physical and socio-economic changes to be monitored for the Ranchi Planning Area at 5-year intervals i.e. 2012, 2017, 2022, 2027, 2032 and 2037.

14.11.1 Indicators of Physical and Socio-Economic Changes

Demographic	Population size, Age-sex structure, Migration, Density Pattern
Economic	Distribution of Household by Income, Employment, Workers Participation Rate, Occupation Pattern, Growth of Economic Activities, increase in Commercial Activities in relation to population
Land Use	Different landuse categories
Physical Infrastructure	Access to safe drinking water, access to sewerage and removal of garbage, drainage

Social infrastructure	Access to health facilities & education facilities at different levels, number and capacity of various facilities such as police, fire, recreational areas, stadium, libraries
Housing	Household size, number of housing units, slums with number of households, housing typology, housing condition
Environment	Air Pollution, Water Pollution, Noise Pollution and Land
Transport	Trips by public transport cost of using and operating different modes, passenger's capacity and distance travelled by public transport per year in relation to population. Parking demand and supply in different areas

The above-mentioned list of socio-economic indicators is not exhaustive; the concerned Development Authority could add more indicators in due course of time.

14.12 MASTER PLAN REVIEW

In view of its rapid growth and fast changing socio-economic conditions, in a city like Ranchi, the Ranchi Master Plan (RMP) - 2037 needs to be reviewed at 5-yearly intervals with a major mid-term review in 2025.