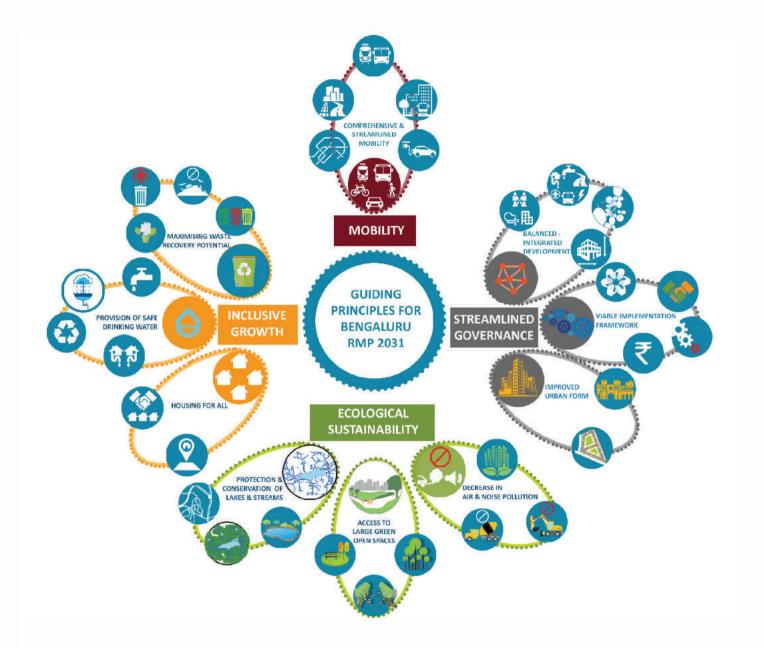
### Revised Master Plan for Bengaluru - 2031 (Provisional)



"A liveable and well governed Bengaluru premised on efficient mobility and vibrant ecology."



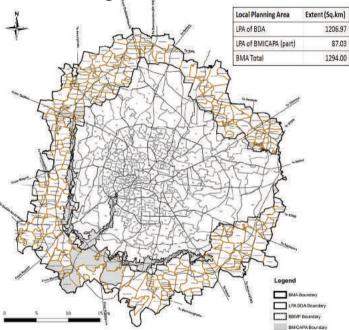
**Bangalore Development Authority** 

#### Bengaluru, a Megapolis

Bengaluru, a multi-functional metropolitan and the capital city of Karnataka, is one of the fastest growing cities in India and is branded as the 'Silicon Valley of India' for spearheading the growth of Information and Communication Technology (ICT) based industries. Bengaluru has also emerged as the start-up hub of the nation, bringing innovation and contribution to GDP, diversity of economy and adding to employment opportunities. lt is also maior education hub with a very number large higher educational institutions and around city.

The Metropolis houses about 40% of urban population of Karnataka and has witnessed 42% growth in population during the decade 2001-2011, thus playing the role of a primate city in the State.

#### **Local Planning Area of BDA**



The RMP for Bengaluru- 2031 is prepared In the summer of the provisions of Section 9, 13D and 81B of the Karnataka Town and Country Planning In the summer of the LPA of BDA.

#### **Issues and Challenges**

- Rapid Population Growth
- Development led Infrastructure rather than Infrastructure led development Integrating Spotted Developments
- Integration of Land Use, Traffic & Transportation, and Infrastructure
- Protecting Environment Lake and Valley system
- Inadequate supply of Affordable Housing
- Unbalanced spatial distribution of economic activities, infrastructure, social amenities and parks & open spaces
- Management and Metropolitan Governance Multiplicility of Agencies
- Over exploitation of land
- Managing risks and hazards both natural and man-made

#### **Studies and Surveys Conducted**

- Review of RMP 2015
- Preparation of Base Map (includes GDP Survey)
- Existing Land Use Survey
- Socio-Economic Survey
- Traffic and Transportation Surveys Preparation of Land Use Transport Model
- Classification of Natural Drainage
- Market Tracking and Housing Supply Survey Housing and Typology Assessment/ Affordable Housing
- Heritage Survey
- Utility & Services Mapping Survey
- Review of Legal & Regulatory Framework
- Risk & Vulnerability Assessment

#### **Public and Stakeholder Consultations**



- Public Consultation Meetings were conducted at zonal level - 8 zones.
- A series of stakeholder consultations were held with the Metropolitan Planning Committee, BBMP, Line departments, Industrial Associations, Professional Organisations etc.

## Structure of RMP for Bengaluru- 2031 (Provisional)

Volume 1: Vision Document

Volume 2: Existing Land Use Maps (Maps only)

Volume 3: Master Plan Report

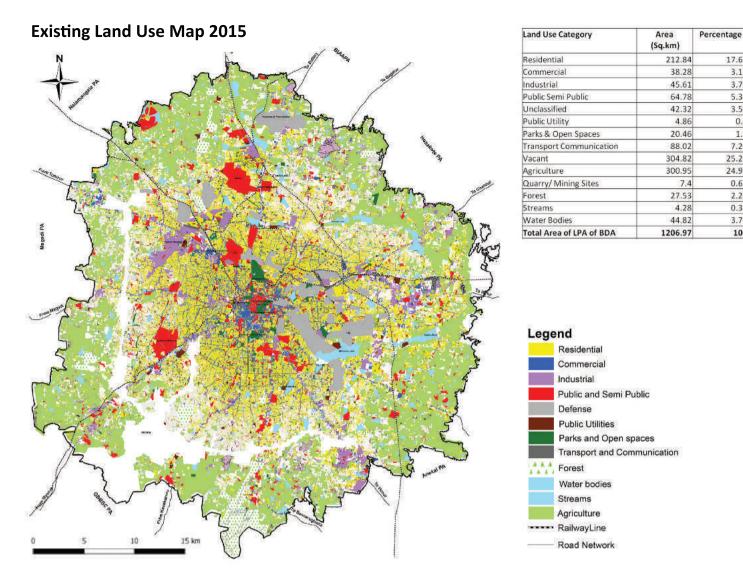
Volume 4: Planning District Report

Volume 5: Proposed Land Use Maps (PD level maps)

Volume 6: Zoning Regulations

# Declaration of revision of RMP 2015 Review of

**Process Flow** 



#### **Lakes and Valley System**

#### **Environmental Sensitivity**

17.63

3.17

3.78

5.37

3.51

0.4

1.7

7.29

25.25

24.93

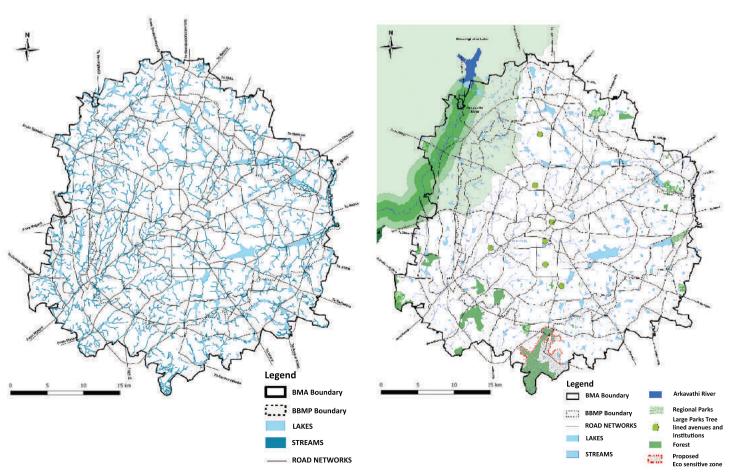
0.61

2.28

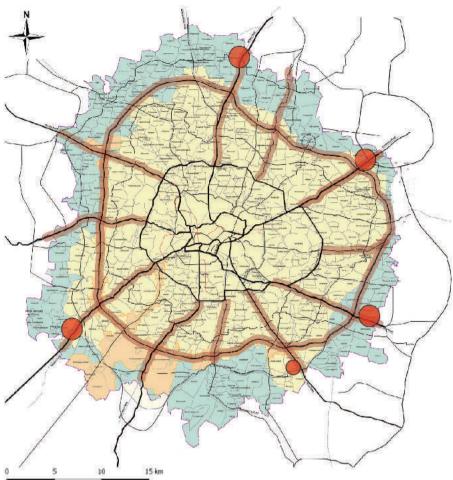
0.35

3.71

100



#### **Growth Scenario** (under Differential Strategy)



RMP for Bengaluru- 2031 evolved 3 alternative Growth Scenarios namely:

- 1. Containment Scenario
- 2. Corridor Driven Scenario
- 3. Differential Scenario

The scenarios were based on 2 non-negotiable constant parameters of, transportation network and the environmental layers of lakes, streams and eco-sensitive areas in BMA.

The outcomes of the analysis of the stakeholder consultation process highlighting the citizen's key issues and priorities, especially when tagged to specific spatial zones within the city, were deliberated in the Board Meeting of the Authority on June 9, 2017 and after the detailed discussions, the Authority selected the Differential Strategy Scenario.

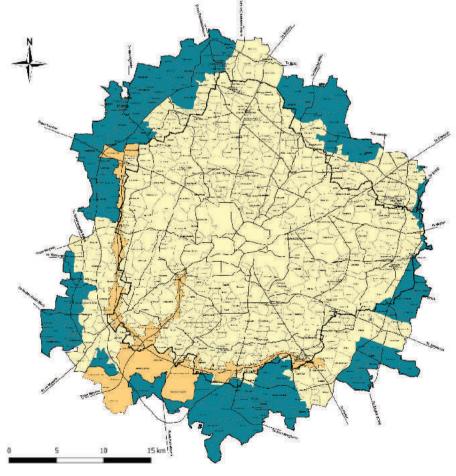
# Roads Metro stations Railway segments Metro line Agriculture land Conurbation area BMICAPA

Legends

Employment centers / SDZ's

Transit oriented development - Indicative

#### **Conurbation of RMP 2031**

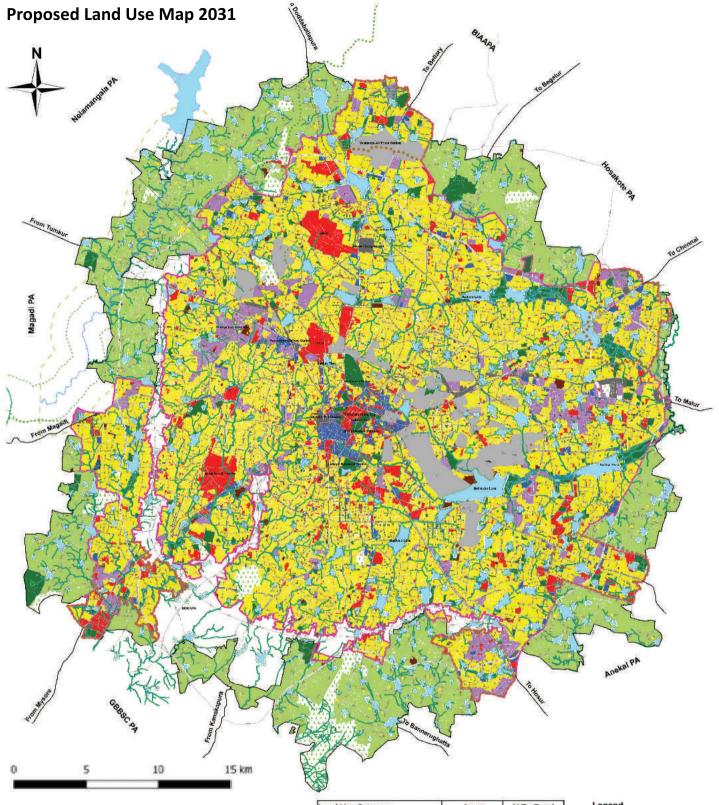


Description	Extent
Area of Conurbation	884.31 sq.km
Area of Agriculture	322.66sq.km
Area of LPA of BDA	1206.97 sq.km

The increase in conurbation is limited to about 80 sq.km. (from 804 sq.km. to 884 sq.km. with a gross density of about 210 PPH) in view of the large tracts of vacant land available under the existing conurbation limits and the strategy for compact high density developments supported with targeted shift of public transport share from existing 48% to 68-70%.

#### Legend

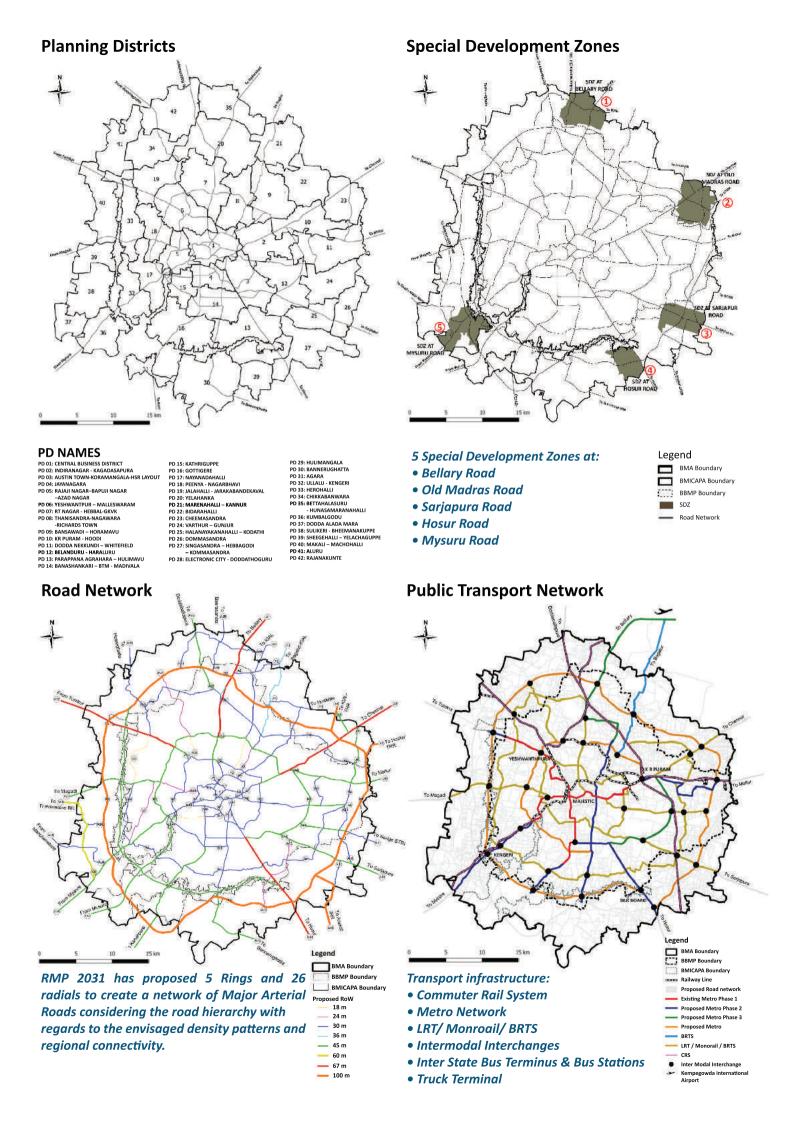




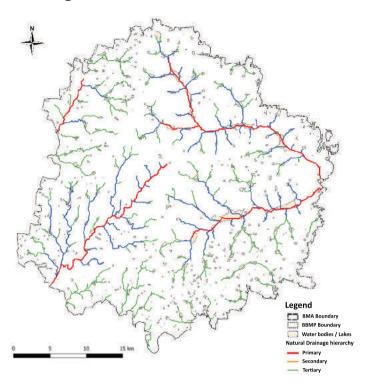
- Ecological sustainability, Mobility, Inclusive Growth and Streamlined Governance are the four pillar stones of the Revised Master Plan for Bengaluru-2031 (Provisional).
- The spatial distribution of land for economic nodes/centres, public-semi-public and greens.
- Integration of land use and transport with consideration for road hierarchy and public transport.

Land Use Category	Area (Sq.km)	% To Total Developable Area	
Residential	424.77	48.03	
Commercial	24.74	2.8	
Industrial	42.56	4.81	
Public Semi Public	60.08	6.79	
Unclassified	43.56	4.93	
Public Utility	4.71	0.53	
Parks & Open Spaces	37.35	4.22	
Transport Communication	118.34	13.38	
Forest	5.77	0.65	
Water bodies and Streams	33.94	3.84	
NGT Buffer	88.49	10.01	
Total Developable Area	884.31	100	
Agriculture Zone	322.66		
Total Area of LPA of BDA	1206.97		





#### **Drainage classification for NGT Buffer**



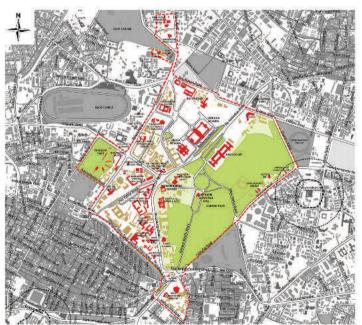
Drainage system classified into Primary, Secondary and Tertiary. Drainage classification earmarked on Proposed Landuse Maps along with buffers prescribed by Hon'ble National Green Tribunal (NGT)

# Parks and Open Spaces - Lung spaces for the city Legend Lege

8 regional parks measuring 40 Ha to 200 Ha and 4 Sports Complexes proposed for the city.

Parks and Open spaces

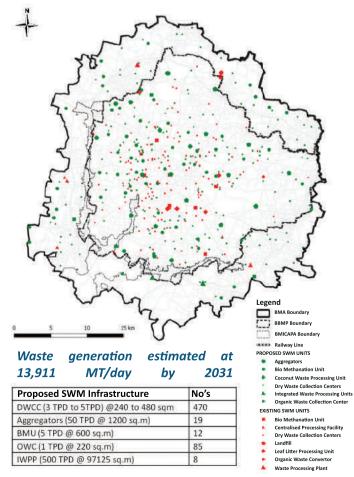
#### **Heritage mapping and Protection**

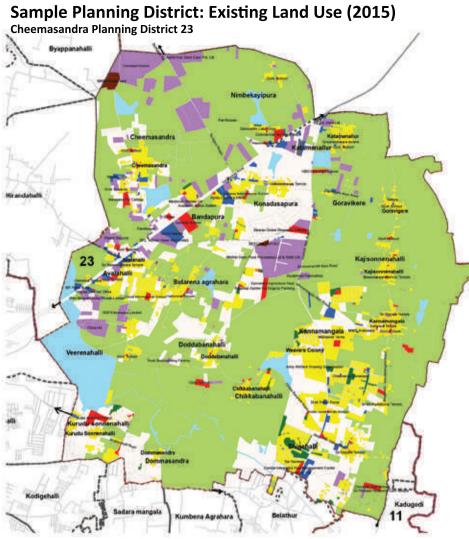


12 Heritage Zones have been delineated for which special regulations have been included in the Zoning Regulations

# Legend Heritage Zones Built heritage Natural heritage Cultural heritage Road Network Buildings Water Bodies Parks and Open Spaces Prohibited area (100mts) Regulated area (200mts)

#### **Solid Waste Management**

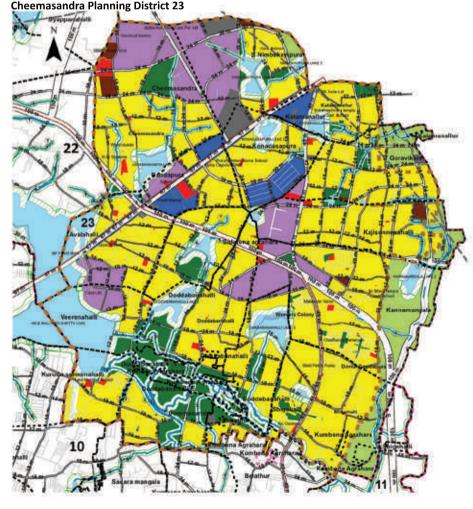




Land Use Category	Area (in Ha)	Percentage to Total Area (%)
Residential	280.45	10.29
Commercial	29.87	1.10
Industrial	54.47	5.67
Quarry and Mining Sites	0.00	0.00
Public Semi Public	154.68	1.24
Pubic & Semi Public - Defence	33.93	1.24
Public Utility	4.92	0.18
Parks & Open Spaces	16.90	0.62
Transport Communication	96.77	3.55
Vacant	526.39	19.29
Agriculture	1453.55	53.26
Forest	0.00	0.00
Streams	7.13	0.26
Water Bodies	124.81	4.57
Total	2729.28	100.00

#### Legend Residential Commercial Industrial Public and Semi Public Defense **Public Utilities** Parks and Open spaces Transport and Communication Forest Water bodies Streams Agriculture -- RailwayLine Road Network

Sample Planning District: Proposed Land Use (2031)
Cheemasandra Planning District 23



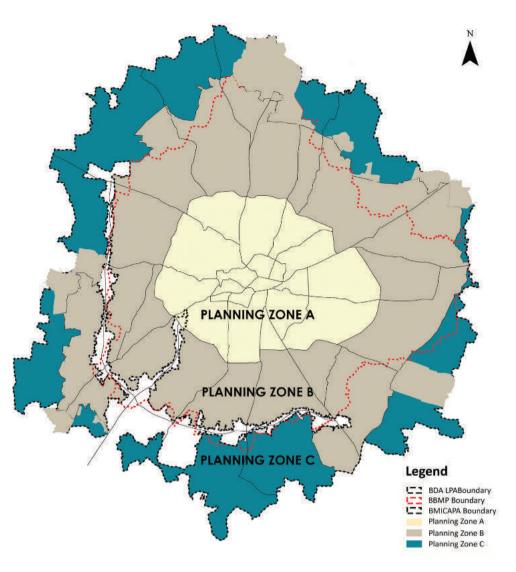
Land Use Category	Area (in Ha)	Percentage to Total Developable Area (%)
Residential	1168.30	46.56
Commercial	69.58	2.77
Industrial	256.17	10.21
Public & Semi Public	31.95	1.27
Public & Semi Public - Defence	0.00	0.00
Public Utility	18.03	0.72
Parks and Open Spaces	152.96	6.10
Transport & Communication	364.98	14.55
Forest	0.00	0.00
Streams	6.77	0.27
Water Bodies	113.42	4.52
NGT Buffer	327.14	13.04
Total Developable Area	2509.30	100.00
Agriculture	220.2	
Total PD Area	2729.41	1.0



## **Zoning Regulations Provisions RMP 2031**

The zoning regulations, structured around the philosophy of differential strategy, have spatially divided the LPA of BDA into three planning zones supported with regulations to achieve the envisioned strategy for the three zones. Three planning zones are: 1.Planning Zone A (areas falling within the Outer Ring envisaged as zone requiring strategies to stabilize the growth through discouraging further commercialization and densification;

- 2.Planning Zone B (areas falling out side the ORR and upto the Conurbation Limit of RMP 2031) envisaged as consolidation zone with strategies to promote compact optimal developments with strengthened infrastructure;
- **3.Planning Zone C** (areas beyond the conurbation limit and up to the Boundary of LPA) is envisioned as a preservation zone whereby agriculture land is preserved as productive landscape with improved economic returns for the farmers.



#### A. General Regulations

- Minimum road width for change of land use is proposed as 12.2 m.
- Provision for planning permission prior to seeking building permission for single plots introduced to ensure integration and coordination of independent development.
- Standardization of building lines based on the road width and setbacks linked to the height of the building.
- Provisions related to exemptions applicable in Ground Coverage, FAR and Height has been streamlined.
- Provisions related to applicable FARs have been restructured to include the free base FAR and maximum allowable FAR linked to the road widths to make TDR as a viable instrument for land procurement for road networks and infrastructure.
- Regulations for single building introduced.
- Provisions related to rain water harvesting, solar water heating and solar lighting for large scale developments, institutional and commercial buildings, norms for tree plantation have been introduced/ amended.

- Provisions related to NGT buffers including classification of primary, secondary and tertiary drains and earmarking on the PLU maps has been introduced for the first time. The land falling under NGT buffer as part of the Layout/DP could be considered against the mandatory requirements of open space.
- The concept of Traffic Impact Assessment for certain large scale developments made mandatory.

#### **B.** Regulations for Residential Land Use

- The permitted activities and permissible activities in residential land use zone have been streamlined based on the space standards and the road widths.
- The FARs for residential zone has been proposed on differential basis for Planning Zone A and Planning Zone B in view of the differential strategy. The base FAR ranges between 1.5-2 and the Maximum allowable FAR (including FAR allowable against TDR/ any other instrument) ranges between 1.50-3.2 for residential plots upto 20,000 Sqm.
- For single plots above 2000 sqm, provision of 10% mandatory green has been introduced. For single plots above 1Ha, provision for civic amenities has been made mandatory.

- The sub-division regulations/ regulations for DP have included aspects related to mandatory provisions for EWS housing (exempted from FAR), minimum width of public street and integration of layouts through peripheral roads and allowing commercial development as part of residential layouts to encourage planned commercial development rather than conversion of residential plots to commercial use.
- A separate set of provisions have been introduced with regard to special development zones with certain incentives to encourage planned high density compact developments with maximum permissible FARs of 3.5.

#### C. Regulations for Non-Residential Land Use

- The permitted activities and permissible activities for various non-residential land use zones have been stream lined based on the space standards and the road widths considering the functionality and traffic generated.
- The FARs for commercial zone have been proposed on differential basis for Planning Zone A (Base FAR 1.2 to 1.5 and maximum allowable FAR 1.20 to 2.40) and Planning Zone B (Base FAR 1.5 to 2.0 and maximum allowable FAR 1.50 to 3.20) for commercial plots upto 12,000 Sqm. Provision of 10% mandatory green for plots above 2000 sqm, however the FAR applicable on entire land.
- The Hi-Tech Industrial Areas/ activities proposed in the industrial land use shall also be entitled for commercial FAR. The commercial activity permissible in industrial land use zone as main activity subject to road width and space standards.
- The ancillary use to the main use in the PSP zone allowed up to the extent of 20%.
- The regulations for agricultural zone have defined the extent to which a particular type of development may be permitted. The actual demarcation of the village extension area has been introduced and the Zoning regulations have limited the type of development in these areas to extent of G+ 1 structure with a maximum FAR of 1.0.
- For non-residential DPs, the base FAR of 2.00 and maximum allowable FAR ranging between 2.40 to 3.20 permitted for plots with areas above 1.20 Ha based on the road widths with minimum road width requirement of 15 m. For non-residential DPs in Special Development Zones, the base FAR to the tune of 2.50 and maximum allowable FAR ranging between 3 to 4 permitted for plots with areas above 2.40 Ha based on the road widths with minimum road width requirement of 18 m.

# D. Regulations for Special Category of Developments

- Special regulations for :
- Area redevelopment with incentive in base FAR of 0.5;

- Redevelopment of slums and EWS Housing with provision of maximum allowable FAR as base FAR and incentive FAR of 0.5 for schemes on roads of 18 m and above; and
- Redevelopment of existing industrial areas with up to 20% of the land permissible for ancillary uses.
- Special Guidelines/ Regulations for large scale economic/ Integrated developments to encourage the concept of walk to work and compact high density developments:
- Integrated Economic Townships (Above 25 Ha) permissible in Residential/Commercial/ Industrial land use zone with upto 40% allowed for residential, permissible on minimum access road with width of 24 m and the minimum internal road widths of 18m (with mandatory provisions for cycle tracks and footpaths), mandatory provision for EWS hous ing, Free base FAR of 2.5 on 95% of the land area and maximum allowable FAR upto 4 based on road width; and
- Integrated DPs (DPs with area ranging between 5-25 Ha) with upto 20% land for economic activities in residential and use zone with base FAR of 2.25 and maximum allowable FAR upto 3.50 and upto 40% land for residential use in commercial/ industrial land use zone with base FAR of 2.5 and maximum allowable FAR upto 4.0 based on road width with Free base FAR applicable on 95% of the land area, permissible on minimum access road with width of 18/24 m and the minimum internal road widths of 12/15m (with mandatory provisions for cycle tracks and footpaths) and mandatory provision for EWS housing.
- Regulations for Heritage Zone/ Heritage Buildings
- The heritage zones and heritage buildings have been identified. The Heritage Committee for advising the Authority/ BBMP for implementation of regulations for heritage zones has been proposed.
- The regulations cover general guidelines in terms of architectural and visual control, streetscapes, signages and hoardings and zone specific guidelines in terms of height restrictions, building lines, vistas, views, skylines etc.

#### **Projectisation of Plan Proposals**

#### 1. Road Development Plan:

- Demarcation of Master Plan Roads (18m and above) on Ground
- Upgradation/ Widening of Existing Roads
- Development of New Links
- Junction Improvement Programme and Development of Flyovers/ Railway Bridges
- Preparation of Parking plans for Streets/ Areas

#### 2. Public Transport Network Development:

- Development of Commuter Rail Service
- Development of Metro Network
- Development of LRT/Mono Rail/ BRTS
- Development of Intermodal Interchanges
- Development ISBTs
- Development of Bus Stations/ Terminals

#### 3. Development of Logistic Facilities:

- Demarcation of Land for Logistic Facilities
- Development of Logistic Hubs/ Truck Terminals

#### 4. Rejuvenation of Lakes and Streams:

- Prioritise Lakes for Rejuvenation
- Demarcation of Lakes Extent
- Demarcation of Primary, Secondary & Tertiary Drains (which are not existing on ground, missing links only)
- Preparation of Lake Rejuvenation Plans and Lake Area Development Plan
- Preparation of Stream Development Plans
- Implementation of Plans and Project for Lake & Stream Rejuvenation

#### 5. Green Development Plan:

- Development of Parks and Open Spaces (Regional Parks & Other Parks)
- Avenue Plantation (Master Plan Roads)
- NGT Buffer Area Development
- Block Plantation in Villages / Forest Areas
- Development of Sports Complexes (4)

#### 6. Redevelopment/ Upgradation/ Development Plans:

- Preparation of Industrial Area / Estates Redevelopment Plans
- Preparation of Area Redevelopment Plans / Upgradation of Urban Villages
- Preparation of Slum Redevelopment Plans
- Preparation of Village/ Gramthana Development Plans

#### 7. Heritage Area Protection and Conservation Scheme:

- Grading and Listing of Heritage Buildings
- Preparation of Heritage Master Plan for Bengaluru

#### 8. Development of Social Infrastructure:

- Development of Crematoriums/ Graveyards
- Development of Fire Stations
- Development Night Shelters
- Preparation of Street Vending Plan and declaration of Street Vending Zones and Streets

#### 9. Development of Physical Infrastructure:

#### 9a. Water Supply & Sewerage

- Finalisation of Water Source and development of Trunk Pipeline to BMA
- Development of Water Supply and Sewerage Network for BBMP
- Preparation of Water Supply and Sewage Network Plan for areas outside BBMP
- Development of Water Supply and Sewerage Network for Areas outside BBMP

#### 9b. Solid Waste Management

- Demarcation of Land and Development of SWM facilities
- Dry Waste Collection Centre
- Organic Waste Collection Center (OWCC)
- Aggregators (AGGR)
- Bio-Methanation Units (BMU)
- Coconut waste Processing Unit (CPU)
- Integrated Waste Processing Unit (IWPU)

#### 9c. Power Supply

• Development of Sub-station (220kv only) and transmission lines.

#### 9d. Disaster & Hazard Management

- Preparation of Disaster & Hazard Mitigation Plan
- Implementation of Components and Projects of Disaster & Hazard Mitigation Plan.

#### 10. Town Planning Scheme / Development Schemes/ Special Development Zones

#### **Implementation of RMP 2031**

- Role of Metropolitan Planning Committee: MPC being an institution with jurisdictions across municipal and panchayat areas shall be responsible for:
  - (i) Translating the RMP 2031 into development plan (5 year plan and annual plans) for implementation in phased manner;
- (ii) Coordination between multiple institutions of local self-government with regard to the matters of common interest:
- (iii) Sharing of resources, financial, physical and natural, available with different sectoral departments.
- Strengthening of Master Plan Implementation process: BDA endeavours to strengthen the Master Plan Implementation Process and make it citizen friendly through improved governance measures.
  - (i) Setting-up the Spatial Data Management Cell (SDMC) with responsibility of managing the GIS data base, ensuring availability of RMP-2031 on-line in a user friendly interactive mode, updation of the planning permissions granted in GIS data base and make the information related to permissions accessible to general public, maintaining database of land assets, linking the database on Development Rights and setting-up a system for online applications for Planning Permission, change of land use.
- (ii) Special Development Zone Cell (SDZC) shall be responsible for formulation, notification, implementation, resource mobilisation and regulation of the developments in these zones along with assisting the Authority and the GoK for the development of policy, legislative and regulatory framework for land pooling and land assemblage.
- Coordination with adjoining LPAs: Regional road network proposals of BMRSP 2031 integrated with RMP-2031 based on the ground situation
- BDA and BBMP coordination: All building permissions within the BBMP area are envisaged to be aligned with the database of planning permissions.
- Municipalisation of Conurbation Limit: RMP 2031 envisages that by the end of the plan period as the areas under conurbation transforms from rural to urban character, the areas would be brought under the Municipal Umbrella
- Constitution of Master Plan coordination and monitoring committee





## **Bangalore Development Authority**

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Visit: www.bdabangalore.org

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