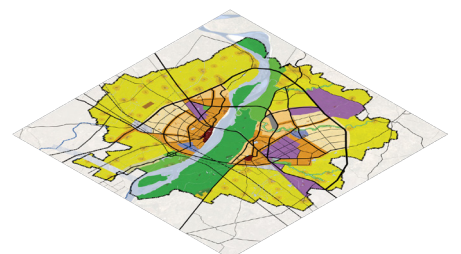
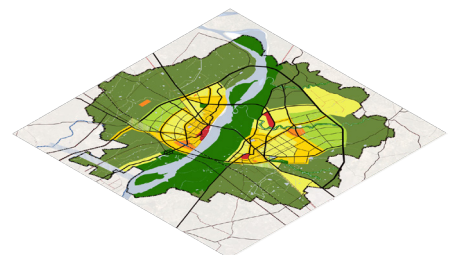
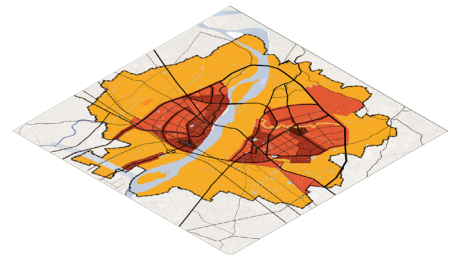
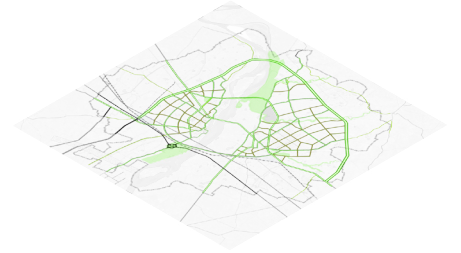
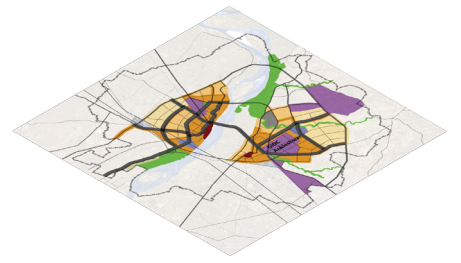


# Manual for Preparation of Development Plans



**GUJARAT REAL ESTATE REGULATORY AUTHORITY**  
GOVERNMENT OF GUJARAT

**CRDF** CEPT RESEARCH AND DEVELOPMENT FOUNDATION  
**CUPP** CENTER FOR URBAN PLANNING AND POLICY

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# Manual for Preparation of Development Plans

February 2022



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AND POLICY

## Preface

In line with the global trends, the Urban population of India is likely to go up to 70 crores by 2050. It will be double that of the current urban population and 2.5 times the present population of the USA. Experts estimate a need for 500 cities to accommodate this humungous growth in urban population. Recent data from the southern and western States shows that there is a clear linkage between urbanization, population growth and economic prosperity. These States have a high level of urbanization ranging from 33.4% to 48.4% and considerably higher per capita GDP ranging from (Rs.1.86 to 2.05 lacs) as compared to the national average of 1.32 lacs, indicating relative prosperity. The Gross Enrolment Ratio (GER) in higher education in the range of 20.1 to 48.6 and lower Total Fertility Rate (TFR) as well as better care of every child in these states reflect a superior quality of life. The experience of south Korea is also instructive. Its urban population rose from 28.8% in 1966 to 85.7% in 1999, while its economy went from low income to upper middle-income status during this phase. Cities have been centres of growth, innovation and creativity. GDP of New York as well as that of Tokyo is at par, with that of India!

If India has to achieve the Prime Minister's vision of becoming a 5 trillion-dollar economy by 2024, its cities and towns must play a crucial role of becoming the engines of growth and development. The state and cities must facilitate the demands of the future through innovations in spatial planning regime, & facilitating greater efficacy in achieving the vision for Indian cities in the 21st century.

The state of Gujarat, as one of the front runners contributing significantly, to this economic growth of the country, has already risen to achieve this vision. The Vibrant Gujarat Global Summits have paved the way for this. The Urban Development and Urban Housing Departments (UD & UHD) has been playing a key role in facilitating this growth and development, and working closely with other departments and authorities including Gujarat RERA Authority to achieve the vision.

Gujarat is known for its planning and urban development, especially its much appreciated two-tier, DP-TP planning mechanism. The Development Plans provide a larger, macro level vision and guidance for planning and development of the areas under the development authorities, while the Town Planning Schemes and Local Area Plans are mechanisms to carry out micro level planning.

Development Plans (DP) are being prepared in the state of Gujarat since more than 50 years. Development Plan is a statutory tool that allows the authorities to plan for long term future of the urban area and make necessary provisions to ensure orderly development for improved quality of life. Currently, almost all major cities of Gujarat have a Development Plan identifying zoning, major roads, infrastructure network and regulations to facilitate and manage the future growth. However, there is a need to further improve the Development Plans, making them more comprehensive, specific and implementable.

Realizing such need for improvements in planning and implementation, the Government of Gujarat has been continuously evolving the mechanism through appropriate amendments in the statutory provisions and in practice. The UD & UHD has already strengthened its human resources by recruiting new urban planners and officers and to facilitate the ease of development, the department has also accelerated preparation and sanctioning of Plans in recent years. To facilitate this noble effort, Gujarat RERA has undertaken preparation of a "Manual for Preparation of Development Plan". This manual has been conceptualized with the help of highly experienced planners and practitioners.

The core team instrumental in preparing the manual includes **Shri V. K. Phatak** (Former Dean, Faculty of Planning, CEPT University, and Former Principal Chief, Town and Country Planning Division, MMRDA), **Shri Jignesh Mehta** (Urban Planner and Program Chair, Master of Urban Planning, CEPT University), **Shri Utkarsh Patel** (Urban Planner & Domain Expert) and other experts from CEPT university. **Shri Vatsal Patel** (Technical officer, Guj-RERA, Former Chief City Planner, AMC) ably coordinated the whole effort. The successive drafts were reviewed by senior experts **Shri P.L. Sharma** (former Chief Town Planner, Govt of Gujarat), **Shri P. K. Ghosh**, IAS (R) (Former Municipal Commissioner, AMC), **Shri N. K. Patel** (Urban Planning and Development Domain Expert), **Shri M. M. Bhaumik** (Former Senior Town Planner), **Shri U. S. Mehta** and



other senior planners and professionals involved in planning and implementation of Development Plans. The final draft was reviewed by **Shri R. Shrinivas** (Town and Country Planner, TCPO, MoHUA, Govt of India), who provided valuable inputs, which have been duly incorporated.

The manual has become even more relevant in light of the Union Budget 2022-23, which focuses on bringing in the reforms in urban sector policies, capacity building, planning and implementation, where Development Plans become crucial to guide the growth through preparation of TP Schemes and Local Area Plans. We are delighted that TCPO has circulated advance copies of the manual to all states, as a reference document for providing guidance and support for formulation of LAPs, and TP schemes under the scheme of Amrut.

We do hope that the manual will be found useful by the states in preparing effective implementable Development Plans and in the process provide guidance to the young new generation planners.

We welcome any suggestions to further refine the manual.

**Dr. Amarjit Singh IAS (R)**

Chairman

Gujarat Real Estate Regulatory Authority

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**Note:**

1. This manual is NOT a Statutory document, and in no form shall it be understood or construed as one. The main purpose of this manual is only to provide additional guidance to support, facilitate and improve the preparation of Development Plan in the state of Gujarat and to make the process more efficient.
2. This manual is based on multiple discussions, suggestions and recommendations identified during various meetings with various experts from relevant departments in the State Government and practitioners in the field identified by Guj-RERA.
3. It is important to note that this manual must be used in conjunction with the Gujarat Town Planning and Urban Development Act 1976 and the rules published by the Government, and not as standalone document.
4. Beyond the current conventional practice this Manual also makes recommendations to carry out some improvements either in the process or in the institutional framework by the authority and/or the government (without requiring amendments in the act). All such recommended improvements are indicated with **BROWN** colored text in this manual.

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## Acknowledgments:

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# 01.

---

## Introduction

- 1.1 Why this Manual?
- 1.2 What does it Provide?
- 1.3 How is the manual structured?

### **Highlights**

- o *The main purpose of this manual is to provide stage-by-stage guidance for preparation of Development Plans to the new generation planners and professionals in simplified terms and illustrative format, without much legal jargon.*
- o *The manual draws upon the deep knowledge, experience and learnings of senior planners in government and practitioners in the field, with objectives to simplify and expedite the process of urban spatial planning, to bring everyone on the same platform and to facilitate organized development on ground.*
- o *The manual is not a statutory document. It shall be used in conjunction with GTPUD Act 1976 and the GTPUD Rules 1979. The Act, the Rules and the extant GoG orders must be the final reference in case of any confusion, inconsistency or discrepancy in interpretation of any part of this manual.*

## 1.1 Why this Manual?

Development Plans (DP) are being prepared in the state of Gujarat since more than 50 years. The current statutory mechanism of preparation of Development Plan under GTPUDACT 1976 has evolved from The New Bombay Town Planning Act 1954 which empowered the local authorities to prepare Development Plans for city or town. The important aspect of this process is public participation in planning. Every individual is given an opportunity to offer his objections or suggestions on planning proposal.

Development Plan is a tool that allows the authority to plan for long term future of the urban area and make necessary provisions to ensure orderly development for improved quality of life of the people.

The Development Plan mechanism has reached to this level of success and acceptance only because it has been continuously evolved through practice and improved through updates in rules, procedures and amendments in the act responding to the dynamics of nature of urban growth and development trends. In spirit of continuing this evolution the main purpose of this manual is three fold:

- To provide clear stage by stage guidance for preparation of Development Plan to the new generation planners and professionals
- To explain the process in simple terms and in illustrative format without much of legal jargon to bring everyone on the same platform
- To simplify and expedite the process of urban spatial planning, and facilitate organized, sustainable and livable development on ground.

It is important to note here, that this manual is NOT a statutory document, but only a reference document that can be used by anyone interested in preparing a good quality development plan. In this context, this manual can also be a good reference for planners and professionals from other states looking for learning this well-functioning planning mechanism of Gujarat.

## 1.2 What does it Provide?

The manual draws upon the deep knowledge, experience and learnings of senior planners in government and practitioners in the field, with objectives of simplifying and expediting the process of preparing Development Plan and to provide detailed, step-by-step guidance to everyone involved in preparing and implementing Development Plans under GTPUD Act 1976 and GTPUD Rules 1979 bringing the concerns person on the same platform by providing the same consistency and guidance.

This manual provides clear guidance regarding:

- Overall process of preparing or revising a development plan from beginning to sanction of the final development plan
- Surveys and analysis of existing situation
- Articulating the purpose, vision and principles for identifying zoning and various proposals.
- Identifying proposals for land use zoning, transportation, infrastructure, housing, environmental features and other relevant sectors.
- Preparing cost estimates, identifying revenue resources, phasing, implementation and monitoring mechanism
- Preparing development regulations for implementation of the DP.
- Roles and responsibilities of Authority and State Government in preparing, sanctioning and implementing the plan

As this manual is NOT a statutory document, it must be used in conjunction with the GTPUD Act 1976, the GTPUD Rules 1979 and relevant administrative orders published by the Government, , and other relevant statutes and advisories issued by the concerned govt. Department, central or state. This manual has also got to be related to certain statutes relating to Forest, Environment & Ground water and advisories sent by the Central or State Government on these subjects.

## 1.3 How is the Manual Structured?

### Sections & Chapters:

This manual is structured in the same order as the stages of process of preparing Development Plan as practiced by the Town Planning and Valuation Department (TPVD) and the authorities under the GTPUD Act 1976. The chapters provide step-by-step guidance for various stages of Development Plan. Therefore they are organized in four such sections clearly titled based on the stages of Preparation of Development Plan; as indicated below:

- **Stage 1:** Delineation and Declaration of Intention;
- **Stage 2:** Preparation and Submission of Draft Development Plan
- **Stage 3:** Review and Sanction of Development Plan
- **General Guidance**

These stages and steps thereunder are also clearly identified in the flow-chart showing proposed process in chapter 2.

Beyond this, under the chapter titled **General Guidance** this manual provides detailed guidance regarding Institutional framework, roles and responsibilities; Implementation and finance management.

**Appendices** for this manual includes, Survey methods; Methods for population estimates, Review of various Models of Development Plans; Guidance for appointment of consultants, various Templates and Forms to be used by the Authority during different stages of the Development Plan etc.

### Recommended Improvements in BROWN Text:

The manual is written to provide guidance for preparing Development Plan as currently practiced under the provision of the Act and the Rules. However, beyond the current conventional practice this Manual also makes recommendations to carry out some improvements either in the process or in the institutional framework by the authority and/or the government (without requiring amendments in the act). All such recommended improvements are indicated with BROWN colored text in this manual.

### IMPORTANT NOTE:

This manual is not a statutory document. It must be used in conjunction with GTPUD Act 1976 and the GTPUD Rules 1979 and the extant orders by the Government of Gujarat. In case of any confusion, inconsistency, or discrepancy in interpretation of any part of this manual, the Act, the Rules and the extant GoG orders must be the final reference.



# 02.

## The Development Plan Process and Stages

- 2.1 Background
- 2.2 Purpose and Component of Development Plan
- 2.3 Current Process and Statutory Provision for Preparing Development Plan
- 2.4 Recommended Improvements

### Highlights

- o *The enactment of Gujarat Town Planning and Urban Development Act, in 1976 allowed creation of Development Authorities who were responsible for preparing Development Plan for the whole urban area.*
- o *Key features of Development Plan:*
  - *It provides a comprehensive framework for planning the future growth and development of the urban area even beyond the city limits*
  - *It includes plans for major road network, infrastructure and key amenities*
  - *It allows preservation of environmentally sensitive areas and features*
  - *It provides clear zoning and regulations to achieve desirable development and urban character for different areas of the city*
  - *The DP-TPS mechanism, unique to Gujarat, allows the Development Plan to be implemented through micro level planning by Town Planning Schemes*
- o *Key components of a Development Plan includes*
  - *Development Plan report*
    - a) *Part 1: Existing Situation Analysis*
    - b) *Part 2: Planning Proposals*
    - c) *Part 3: Development Regulations*
  - *Development Plan Maps*
- o *Some key recommendations for further strengthening the practice of preparing Development Plans are identified in this chapter. The details of such improvements are provided in the relevant chapters of the manual.*

## 2.1 Background

History of planning in India dates back to the Indus Valley civilization, when the towns and settlements were properly planned in gridiron pattern to provide clear access, water and sewage to all structures. The current system of planning in India, however evolved in early 20th century. This was the time when Industrialization caused clustering of economic activities in and around the existing cities and towns. The employment opportunities attracted a large number of people to migrate to the cities and towns with industries for economic opportunities. The sudden growth of population and economic activities resulted in crowding, congestion and unhygienic situations, and brought the need for town planning to the forefront.

The enactment of the Bombay Town Planning Act in 1915 empowered the municipalities and municipal corporations to prepare Town Planning Schemes for various areas of the city or town. However, over the years, it was realized that the Town Planning Scheme helped only to improve small areas and parts of cities and towns. It was strongly felt that this plans need to be viewed against the background of the larger context of physical and economic region at macro level and further changes and modifications may be carried on in case it is warranted by placing a DP in the wider context. The resultant decisions can be incorporated and implemented at micro level through the TP schemes

As the cities grew rapidly beyond their boundaries, the outside areas were also needed to develop in a planned manner. The enactment of Gujarat Town Planning and Urban Development Act, 1976 allowed creation of Development Authorities who were responsible for preparing Development Plan for the whole urban area.

## 2.2 Purpose and Components of Development Plan

### 2.2.1 Purpose of Development Plan:

Development Plan is a tool which helps to promote and regulate growth for the future of cities and towns. It allocates the lands for the various uses in the city for working out the land and infrastructure requirements for its sustainable growth in the future. A Development Plan plays an important role in characterising its urban area and therefore it must plan and organise its resources carefully to achieve sustainable development within the planning area. Hence, it is integral to be aware of the strengths and weaknesses of the planning area to consider the integration of all the aspects while planning for the identified area by the Development Authority.

### 2.2.2 Component of Development Plan:

A draft development plan shall include all particulars identified in GTPUD Act, sections 11, 12 and 13 (2), and GTPUD Rules 3 and 4, which may be organized in the following components.

- **Development Plan Report (parts)**
  - > Part 1: Existing Situation Analysis
  - > Part 2: Planning Proposals
  - > Part 3: Development Regulations
- **Development Plan Maps**
  - > Base map
  - > Existing Land Use Map
  - > Proposed Land Use Zoning Map

Each of these components are described in further detail below.

### 1. Development Plan Report

A development plan report may consist of three parts. Each of them can be comprised in one single volume or separate volumes.

- Part 1: Existing Situation Analysis
- Part 2: Planning Proposals
- Part 3: Development Regulations

## Part 1: Existing Situation Analysis:

This part should provide the geographic, climate, historic context of the city and the urban area and clearly describe, analyse and illustrate the existing situation of the area. It should also highlight all the inferences and learnings from stakeholder's consultations. Below is a suggested structure / table of contents for Part 1 of the DP.

### Recommended Structure for DP Part 1

1. Introduction
  - The plan, the authority and the statutory requirements
  - The urban area and its context
    - > About the area and basic statistics
    - > Regional Context & linkages
    - > Historic, Geographic, Climatic context
2. Approach & Methodology
3. Base map preparation
4. Existing Situation Mapping and Analysis
  - Existing land use map and analysis
  - Topography map and analysis
  - Green and blue map and analysis
  - Ground water maps and analysis
  - Transport and mobility map and analysis
  - Physical infrastructure map and analysis
  - Social and civic amenities map
  - Land rate map and analysis
  - Development trend map and analysis
  - Land ownership map and analysis
  - Housing and informal settlement map and analysis
  - Heritage and Tourism destination map and analysis
  - Demographics maps and analysis
  - Ongoing and proposed projects
  - Development suitability and potentiality
5. Review of the past plans and planning efforts
  - Assessment of Past DPs and their implementation through TPS and Projects
6. Stakeholder Consultations
7. Inferences

## Part 2: Planning Proposals:

Based on the existing situation analysis carried out in the previous part, this part should provide key consideration for identifying broad visions and objectives and provide guidance for preparing various proposals for the Development Plan. The key proposals should include proposals for land use and zoning, transport and mobility, physical and social infrastructure, conservation of environment and natural resources, housing and informal settlements, conservation of Old city and heritage area etc. This part of the DP should also include strategies related to implementation, phasing, costing and monitoring of development plan. Below is a suggested structure / table of contents for Part 2 of the DP.

### Recommended Structure for DP Part 2

1. Introduction
2. Key considerations
  - Population trends, projections and estimates
  - Spatial growth and development trends
  - Economic, environmental and other considerations
3. Vision and objectives
4. Planning Proposals & Recommendations
  - Considerations for Spatial Framework
  - Land Use and Zoning
  - Transport and Mobility
  - Housing and Informal Settlements
  - Preservation of Naturally Sensitive Areas and Green Spaces
  - Physical Infrastructure
  - Social and Civic amenities
  - Old City and Heritage Area
  - Other Proposals
5. Cost Estimate and Revenue generation and Funding Mechanisms
6. Implementation and Phasing

## Part 3: Development Regulations

This part of the DP should include development regulations under the following three categories as explained below:

- Procedure Regulations
- Planning Regulations
- Building Performance Regulations

**Procedure regulations:** This category should provide regulations regarding the process for securing various permissions, such as development permission, building use permission, submitting required documents, payment of requisite fees for the same etc. It also provides specific formats and defines stages for submissions besides defining the responsibilities of individuals involved in this process.

**Planning regulations:** This category should provide zone wise regulations to regulate and/or incentive development of land and built form, by identifying permissible land uses, FSI, height, margins, build-to-line, arcade, common open space, basement, parking etc.

**Building Performance Regulations:** These regulations define minimum design and performance standards for all types of buildings to ensure health and safety of the occupants, including structural safety, seismic safety, emergency access etc. and to ensure universal access, environmental impacts etc.

### Recommended Structure for DP Part 3

- Preamble
1. Definitions
  2. Procedure Regulations
  3. Planning Regulations
  4. Performance Regulations
  5. Forms and Schedules.

## 2. Development Plan Maps

**Base Map** is a map prepared by the authority to use as a base for preparing both, the Existing Land Use Map and the Proposed Zoning Map. Base-map shall typically include all existing cadastral plots, administrative boundaries, natural features like contours and water bodies, and roads and rail network.

- The cadastral Plots should be obtained from Revenue Department
- The administrative boundaries should include boundaries of villages, talukas, districts, municipality, municipal corporations, cantonments, airports etc. These should be drawn based on maps and information obtained from revenue department and other departments relevant for the jurisdictions included in the map.
- Water bodies, major natural features, roads and railway based on information from Survey of India, satellite imagery and/or relevant departments such as irrigation, forest etc.

**Existing Land Use Map:** Existing Land Use Map is prepared using the Base Map as the base, and mapping different uses existing on ground on each and every plot. In this map, the land uses are classified in multiple detailed categories, which can be illustrated using appropriate colors. GTPUD Rule 4 provides colors for major land use categories. However, more detailed classification of land uses may be necessary for large, more complex urban areas, for which additional colors and shades should be used. AMRUT guidelines for GIS based Master Plan can also be useful for this purpose.

**Proposed Land Use Zoning Map:** This is the most important map for any Development Plan. The main purpose of this map is to clearly show every plot within the urban area and the proposed zone applicable to them. GTPUD Rule 4 provides colors for major land use categories. However the proposed zones may go beyond these land use categories and may require more colors and shades to be used. For example, the new age Development Plans may allocate Mixed Use zones to certain areas, or may identify Transit Oriented Zone, or may further sub-classify residential zone based on high, mid or low FSI and allow with different types of commercial uses within them. Such zones will need to be illustrated using appropriate colors for clear communication. This map shall also show all existing road ROW and show all major proposed roads with appropriate color codes.

All of the above mentioned maps shall be prepared at 1:8000 scale for display as required under Section 11 of GTPUD Act.

## 2.3 Current process of Preparation of Development Plan

Development Plan is a statutory plan to be prepared and sanctioned under Gujarat Town Planning and Urban Development Act 1976 (GTPUDA). Therefore, the process of preparing a development plan must adhere to the relevant sections of the act. While the manual is structured in the same order as the stages followed in practice, this order broadly follows the provisions in the act as listed below. The table below identifies key stages of the process for preparing a development plan and provides relevant sections of the act applicable at the key stages.

Sections and Rules	Provisions
<b>Stage 1: Delineation and Declaration of Development Area</b>	
<ul style="list-style-type: none"> <li>GTPUDA, Section 3 [Sub section ( 1) and ( 2)]</li> </ul>	<b>Declaration of development area</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 5 [sub section ( 1), ( 2), ( 3), ( 4), ( 5), ( 5)(a), ( 6)(a), ( 6)(b), ( 7), ( 8),( 9), (10), (11) and (12)]</li> </ul>	<b>Constitution of area development authority</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 6 [sub section( 1), ( 2) and ( 3)]</li> </ul>	<b>Power to designate local authority as area development authority</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 6A</li> </ul>	<b>Power to designate Government company as an area development authority</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 7 [sub section ( 1), ( 2) and ( 3)]</li> </ul>	<b>Power and functions of area development authority</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 22 [sub section ( 1),( 2), ( 2)(a), ( 3), ( 4) and ( 4)(a)]</li> </ul>	<b>Declaration of urban development authority and constitution of urban development authority</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 23 [sub section ( 1), ( 2) and ( 3)]</li> </ul>	<b>Powers and functions of urban development authority</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 23A</li> </ul>	<b>Entrustment of powers and functions to Government Company</b>
<b>Stage 2: Preparation and Submission of Draft Development Plan</b>	
<ul style="list-style-type: none"> <li>GTPUDA, section 9 [sub section ( 1), ( 2)] <ul style="list-style-type: none"> <li>&gt; GTPUD, Rule 3</li> </ul> </li> </ul>	<b>Development Plan</b> <b>Manner of preparation of draft development plan and its submission to State Government</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 10</li> </ul>	<b>Copy of draft development plan to be open for public inspection</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 11 <ul style="list-style-type: none"> <li>&gt; GTPUDR, Rule 4</li> </ul> </li> </ul>	<b>Manner of preparation of draft development plan</b> <b>Use of distinguished colors in draft development plan</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 12 [sub section ( 1), ( 2)(a), ( 2)(b), ( 2)(c), ( 2)(d), ( 2)(e), ( 2)(f), ( 2)(g),( 2)(h), ( 2)(i), ( 2)(j), ( 2)(k), ( 2)(l), ( 2)(m), ( 2)(n), ( 2)(o)]</li> </ul>	<b>Contents of draft development plan</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 13 [sub section ( 1), ( 2)(a), ( 2)(b), ( 2)(c), ( 2)(d), ( 2)(e) and ( 2)(f)] <ul style="list-style-type: none"> <li>&gt; GTPUDR, rule 5</li> </ul> </li> </ul>	<b>Publication of draft development plan</b> <b>Manner of publication of draft development plan and form of notice for inviting suggestions or modification to the draft development plan</b>
<ul style="list-style-type: none"> <li>GTPUDA, section 14</li> </ul>	<b>Suggestions or objections to draft development plan to be considered</b>

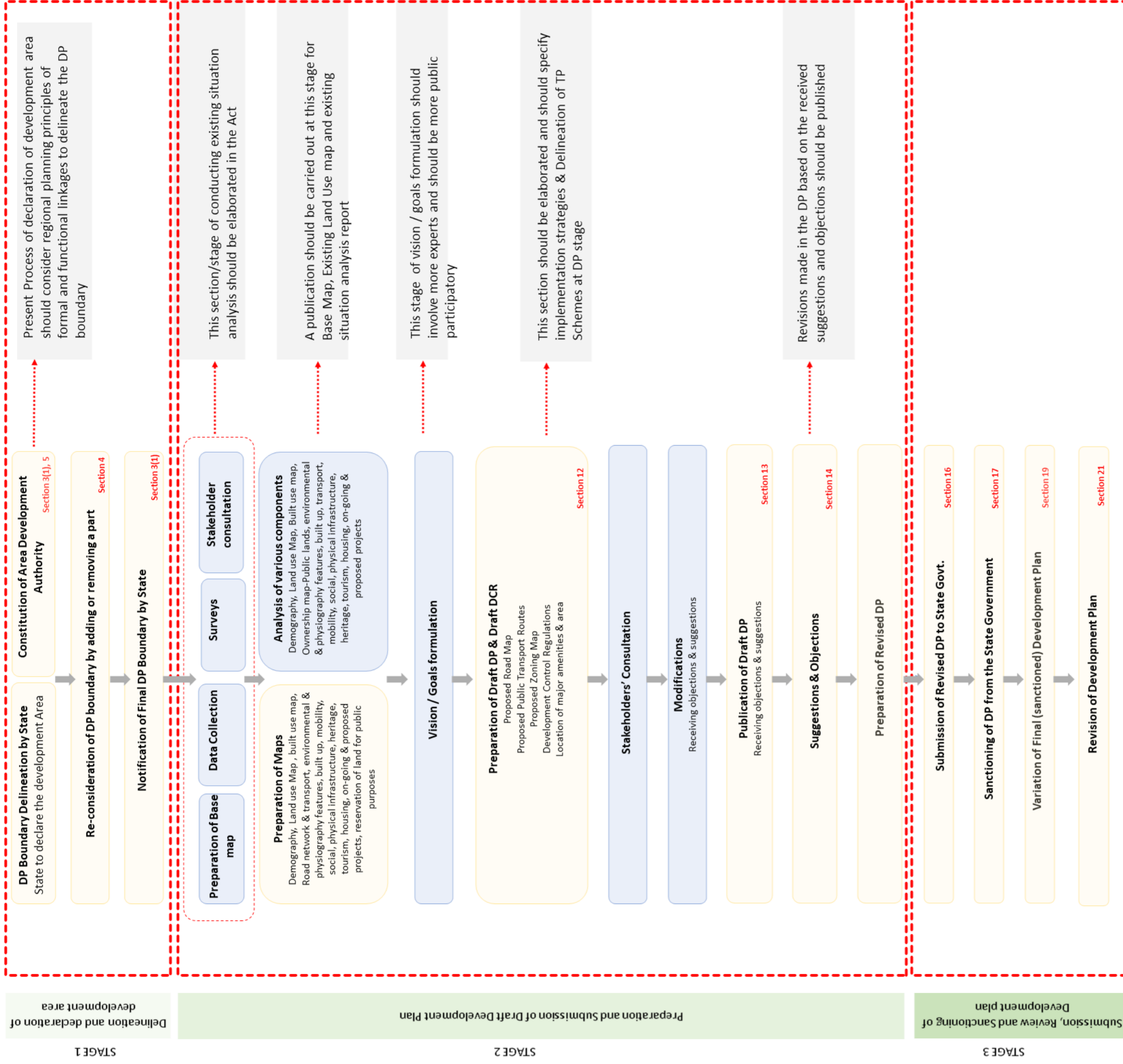
**Stage 3: Review and Sanctioning of Development Plan**

<ul style="list-style-type: none"> <li>• GTPUDA, section 16 [sub section ( 1) and ( 2)] <ul style="list-style-type: none"> <li>&gt; GTPUDR, rule 6</li> </ul> </li> </ul>	<p><b>Submission of draft development plan to the State Government for sanction</b></p> <p><b>Manner in which notice for inviting suggestions or objection to modification in the draft development plan and regulations</b></p>
<ul style="list-style-type: none"> <li>• GTPUDA, section 17 [sub section ( 1), ( 2), ( 3) and ( 4)] <ul style="list-style-type: none"> <li>&gt; GTPUDR, Rule 7</li> </ul> </li> </ul>	<p><b>Power of State Government to sanction draft development plan</b></p> <p><b>Period within which the draft development plan and the regulation shall be sanctioned sunder sub clause (i) of clause (a) of sub section ① of section 17</b></p>
<ul style="list-style-type: none"> <li>• GTPUDA, section 19 [sub section ( 1), ( 2), ( 3) and ( 4)]</li> </ul>	<p><b>Variation of final development plan</b></p>
<ul style="list-style-type: none"> <li>• GTPUDA, section 21</li> </ul>	<p><b>Revision of development plan</b></p>



# EXISTING DEVELOPMENT PLAN PROCESS

## ISSUES



Practiced but not prescribed

Prescribed and Practiced

Flow Chart 1: Existing Development Plan Process

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## 2.4 Recommendations for Improving Development Plan Preparation

This manual takes up the opportunity to identify and recommend some improvements that would make the Development Plan process more efficient and consistent and would result in better urban environment on ground.

Below are some salient features and recommendations provided in this manual:

- It is important to establish and consider clear and transparent planning parameters while delineation or re-delineating the Development Area before beginning to prepare a Development Plan. This manual includes guidance for such considerations while delineating DP boundary.
- It is critical to include some key layers of information while carrying out existing situation analysis. Such layers include analysis of topography, watersheds and key environmental features in addition to all other conventional layers such as land use, transportation, demographics, infrastructure etc. Chapter 4 in this manual includes guidance for existing situation analysis and preparation of relevant maps
- This manual provides guidance about structure and volumes of a DP and also identifies a list of sectors to be covered in the DP, beyond the conventional proposals for land use and road network.
- The manual also provides clear suggestions regarding institutional framework required to efficiently and transparently carry out the process from the beginning to the end. For this it also identifies formation of a state level review committee to provide substantial, objective reviews and to ease out the process of reviewing the draft plans submitted by development authorities.

The flow charts below build on the existing process, but also include various recommendations to strengthen process of preparing a development plan.

**GENERAL NOTE:** Refer Flow Chart 2 (Chapter 14)

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# Development Plan Stage **01**: Delineation and Declaration of Development Area

Stage 1 includes the key considerations to be undertaken for delineating and declaring the development area. Furthermore, this stage also highlights the statutory provisions for declaring the development area as per GTPUD Act 1976.

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# 03.

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## Delineation and Declaration of Development Area

- 3.1 Consideration for Delineating the Development Area
- 3.2 Declaration by Notification
- 3.3 Constitution of Development Authority

### Highlights

- o *Delineating or modification of DP Boundary requires careful considerations of various parameters to include not only the existing urban areas or areas with immediate development potential, but also additional buffer areas to manage and accommodate future growth and curb haphazard growth of the development area.*
- o *This chapter also provides guidance for declaration of a new development area or modification of an existing development area.*

The first step before preparing a new Development Plan or revising a Development Plan is to delineate or modify the development area for which the Development Plan is to be prepared. Such delineation and declaration of the Development Area is carried out under Sections 3, 4, 22 (1) and 22 (2a) of the Act. However, Section 4 and 22 (2a) becomes applicable after completion of Section 3 and Section 22(1).

In case where a new development area is to be declared, the State Government delineates the area to be covered under Area Development Authority or Urban Development Authority. Whereas, in case where the Development Plan is to be revised, the State Government may also take suggestions from the existing Development Authority for modifying the development area.

Below are some important considerations to be kept in view while delineating the development area by the State Government, or by the Development Authority for recommendation to the State Government.

### 3.1 Consideration for Delineating a Development Area

For purpose of securing planned development of areas within the state, the State Government is empowered to declare new development areas and define their limits, or modify the limits of an existing development area under the GTPUD Act 1976 (refer Sections 3, 4 and section 22).

While delineating or modifying of the development area, it should be taken care of that the delineated area is not only limited to existing urban areas or areas with immediate development potential, but it also includes additional buffer areas to manage and accommodate future growth and curb haphazard growth of the development area.

In order to delineate the development area following parameters should be considered

- Transport linkages
- Economic and Social linkages
- Future growth areas (development permissions and NA conversions)
- Ongoing projects of city level or larger significance
- Regional plan (if any)

After identifying the development area, following parameters should be considered for precise demarcation of the development area

- Administrative boundaries
- Physical boundaries
- Watersheds and catchments of large water bodies

## CHAPTER II.

### DEVELOPMENT AREA AND CONSTITUTION OF AREA DEVELOPMENT AUTHORITIES

3. (1) The State Government may, for the purpose of securing planned development of areas within the State, declare, by notification, and in such other manner as may be prescribed, any area in the State to be a development area. Declaration of Development area.
- (2) Every notification issued under sub-section (1) shall define the limits of the area to which it relates.
- (3) The State Government may, by notification, amalgamate two or more development areas into one development area, sub-divide any development area into different development areas and include such sub-divided areas in any other development area :
- <sup>1</sup>[Provided further that in the case of the heritage area, the development area or urban development area declared under this Act shall be co-terminous with Heritage area].
4. (1) The State Government may, by notification, withdraw from the operation of the relevant provisions of this Act, the whole or part of any development area declared under section 3. Exclusion of whole or part of development area from operation of act.
- (2) Where any notification is issued under sub-section (1) in respect of any development area or part thereof-
- (a) the relevant provisions of this Act and all notifications, rules, regulations, orders, directions and powers issued, made or conferred, thereunder shall cease to apply to the said area or, as the case may be, part thereof;
- (b) the State Government shall, after consultation with the area development authority or authorities concerned frame, a scheme determining the portion of the balance of the fund of the area development authority or

## CHAPTER III.

### DECLARATION OF URBAN DEVELOPMENT AREAS AND CONSTITUTION OF URBAN DEVELOPMENT AUTHORITIES.

22. (1) Where the State Government is of opinion that the object of proper development or redevelopment of any urban area or group of urban areas in the State together with such adjacent areas as may be considered necessary, whether covered under a development area already declared as such under section 3 or not, will be best served by entrusting the work of development or redevelopment thereof to a special authority, instead of to an area development authority, the State Government may, by notification, declare such area to be an urban development area and constitute an authority for such area to be called the urban development authority of that area, and thereupon all the powers and functions of an area development authority relating to the development or redevelopment of a development area under this Act shall, in relation to such urban development area, be exercised and performed by such urban development authority<sup>1\*\*\*\*</sup>. Declaration of urban development area and constitution of urban development authority.
- <sup>2</sup>[Provided that notwithstanding anything contained in this Act, in the case of the urban development area comprising the heritage area, the development plan shall also contain the particulars specified in the Champaner-Pavagadh Archeological park World Heritage Area Management Authority Act, 2006 and the plan so prepared shall for the purpose of that Act be deemed to be the comprehensive development plan for the purpose of section 22 of this Act.]
- (2) Every notification issued under sub-section (1) shall define the limits of the area to which it relates.
- <sup>3</sup>[(2A) The State Government may, by notification in the *Official Gazette*, include in or exclude any area from an urban development area, amalgamate two or more urban development areas into one urban development area, sub-divide any urban development area into different urban development areas and include such sub-divided urban

Figure 3\_1: GTPUD Act 1976, section 3, 4 and 22



## Parameters to be considered for delineation of the development area

### 3.1.1 Transport Linkages

Transport linkages within a region between urban and rural areas play a vital role in development of a region. It should be taken care, that the linkages have been considered in an appropriate manner while delineating the DP boundary.

### 3.1.2 Economic and Social linkages

Like transport linkages, the economic and social linkages between rural and urban areas are very vital for development of an area. The areas such as industrial clusters, ports, APMCs etc. should be considered for delineation of area.

### 3.1.3 Future growth areas (development permissions and NA conversions)

It is important to consider areas with immediate and future growth potentials and include them in the Development Area to avoid haphazard growth. This can be ascertained by indicators like recent NA permissions (permission of conversion of land use from Agriculture to Non-Agricultural), development permissions in the area. (Refer fig 4). Also other indicators such as recent population growth, increase in workforce participation in secondary or tertiary sector in the villages of the area etc. should be considered while delineating the boundary of the development area.

Various indicators of spatial development such as NA conversions, development permissions, industrial establishments etc. along with non-spatial indicators like population growth, increase in workforce participation in secondary and tertiary sector etc. should also be considered while delineating the boundary of the development area.

### 3.1.4 Ongoing projects of city level or larger significance

The boundary should also take in consideration any major infrastructure projects such as public transport, recreation, education, health, sports and other related institutional development etc.

### 3.1.5 Regional plan (if any)

The formation of the development area boundary should also consider if any regional plan covering the area or any part of it under consideration has been announced or is under consideration of concerned authorities.

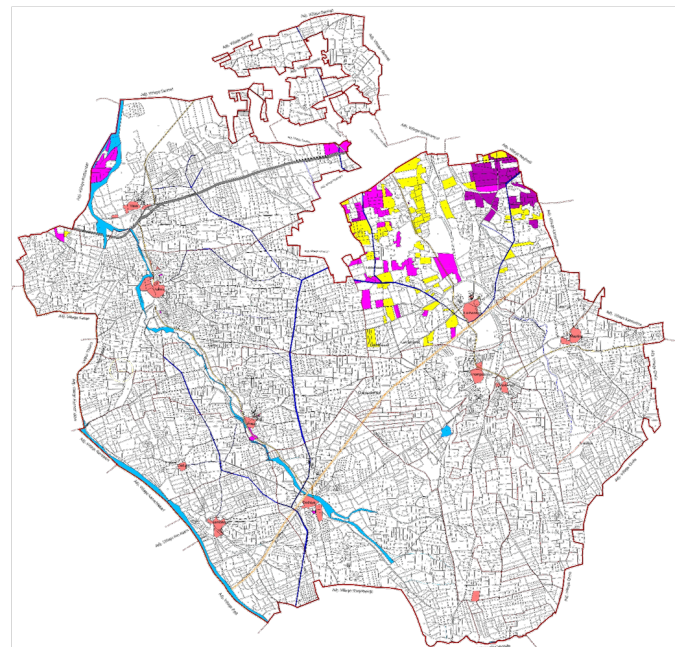


Figure 3\_2: Development permissions/ NA conversions

## Parameters to be considered for Demarcation

### 3.1.6 Administrative and Physical Boundaries

The DP boundary should be derived keeping in mind various administrative and physical boundaries. Various administrative boundaries of district, taluka, village, municipality, corporation etc. should be considered while delineating a Development Area. Similarly, certain physical features, water bodies, forest areas, sanctuaries, etc. should also be considered while delineating the Development Plan boundary.

### 3.1.7 Watersheds and Catchments of large water bodies

Catchments of larger water bodies should be considered while delineating the area particularly the tertiary channels with buffer zones (Refer fig 3\_3). This would help in formulating the strategy for the maintenance of the water bodies and the contours of the watersheds to the optimum extent.

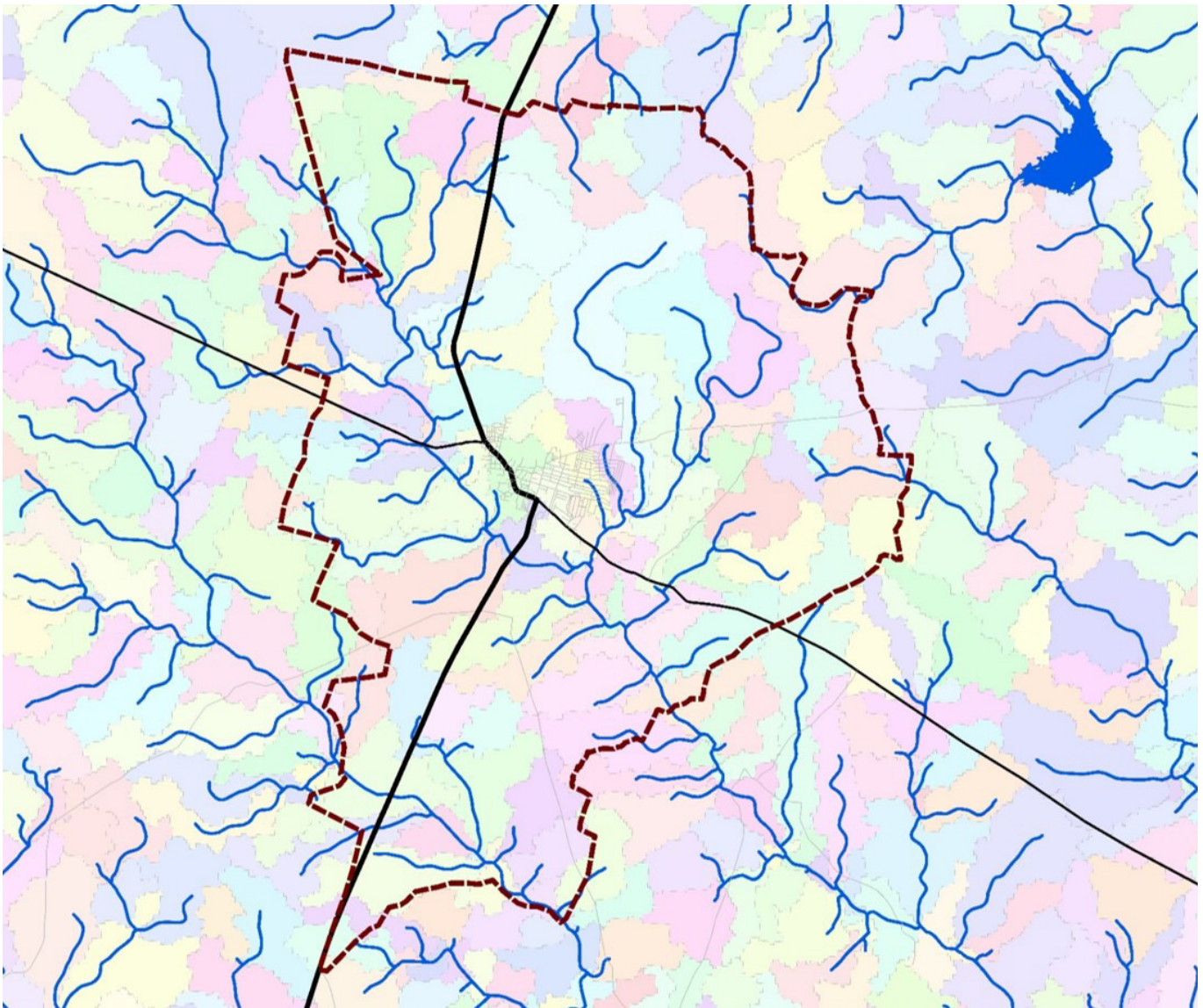


Figure 3\_3: Watersheds and water channels map

## 3.2 Declaration of Development Area by Notification

After the delineation of area, In case of a new development area, the State government shall, by notification declare the development area as per Sections 3 and 22. The notification shall also define the limits of the development area as per Section 3 ( 2).

In case of modification in the urban development area, after the due considerations discussed above, the State Government may include in or exclude any area from the urban development area, amalgamate two or more areas, or subdivide the area, by notification in the Official Gazette, as per Section 22 (2A). (Refer fig 3\_4)

The State Government may by notification either amalgamate two or more development areas into one development area and also sub-divide any development area into different development areas and include such sub-divided areas in any other development area.

### CHAPTER II.

#### DEVELOPMENT AREA AND CONSTITUTION OF AREA DEVELOPMENT AUTHORITIES

3. (1) The State Government may, for the purpose of securing planned development of areas within the State, declare, by notification, and in such other manner as may be prescribed, any area in the State to be a development area. Declaration of Development area.

(2) Every notification issued under sub-section (1) shall define the limits of the area to which it relates.

(3) The State Government may, by notification, amalgamate two or more development areas into one development area, subdivide any development area into different development areas and include such sub-divided areas in any other development area :

<sup>1</sup>[Provided further that in the case of the heritage area, the development area or urban development area declared under this Act shall be co-terminous with Heritage area].

### CHAPTER III.

#### DECLARATION OF URBAN DEVELOPMENT AREAS AND CONSTITUTION OF URBAN DEVELOPMENT AUTHORITIES.

22. (1) Where the State Government is of opinion that the object of proper development or redevelopment of any urban area or group of urban areas in the State together with such adjacent areas as may be considered necessary, whether covered under a development area already declared as such under section 3 or not, will be best served by entrusting the work of development or redevelopment thereof to a special authority, instead of to an area development authority, the State Government may, by notification, declare such area to be an urban development area and constitute an authority for such area to be called the urban development authority of that area, and thereupon all the powers and functions of an Declaration of urban development area and constitution of urban development authority.

Figure 3\_4: GTPUD Act 1976, section 3 and 22(a)

### 3.3 Constitution of Development Authority

After the declaration of development area, the State Government shall constitute Area Development Authority under section 5,6 and 6A or Urban Development Authority under section 22 for the purpose of carrying out the functions assigned under the act. (Refer fig 3\_5)

In certain cases, the State Government, instead of constituting a new Development Authority, may designate any local authority functioning in the development area as the Area Development Authority under Section 6, or may designate a government company as the Development Authority under Section 6(A) and Section 23(A)

	<b>CHAPTER II.</b>
	<b>DEVELOPMENT AREA AND CONSTITUTION OF AREA</b>
	<b>DEVELOPMENT AUTHORITIES</b>
Constitution of development Authority.	<p>5. (1) As soon as may be after the declaration of a development area under section 3, the State Government shall, by notification, constitute an authority for such area to be called the area development authority of that development area for the purpose of carrying out the functions assigned to an area development authority under this Act.</p> <p>6. (1) The State Government may, instead of constituting an area development authority for a development area, designate any local authority functioning in a development area or part thereof, as the area development authority for that development area.</p> <p>(2) The local authority designated under sub-section (1) as the Area Development Authority shall, for the purposes of performing the functions assigned to an area development authority under this Act, set up a Planning Committee consisting of the following members,</p>
Power to designate Government company as an area development Authority.	<p><sup>3</sup>[6A. The State Government may, instead of constituting an area development authority for a development area, designate the Government company as the area development authority, for any development area.]</p>

Figure 3\_5: GTPUD Act 1976, section 5,6 and 6A



# Development Plan Stage **02:** Preparation and Publication of Draft Development Plan

Stage 2 of development plan process includes the steps related to preparation and publication of draft development plan. As discussed in chapter 2.2 draft development plan prepared in this stage includes development plan report and development plan maps. The development plan report can be prepared in three parts.

## **Part 1: Existing Situation Analysis:**

The following chapters provide guidance for preparation of DP Part 1

Chapter 4: Preparation of Base-map, Existing Situation Analysis and Review of Trends

Chapter 5: Stakeholder consultations

## **Part2: Planning Proposals and Recommendations**

The following chapters provide guidance for preparation of DP Part 2

Chapter 6: Formulation of development plan vision

Chapter 7: Planning proposals and recommendations

## **Part 3: Development Regulations and Urban Guidelines.**

The following chapter provide guidance for preparation of DP Part 3

Chapter 8: Development regulations and urban guidelines

**Chapter 9: Publication of Draft Development Plan**

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## Preparation of Base Map, Existing Situation Analysis and Review of Trends

- 4.1 Preparation of Base Map, Existing Situation Analysis
- 4.2 Review of Past Planning Efforts
- 4.3 Review of Growth Trends
- 4.4 Population Estimates

### Highlights

- o A precise Base Map is critical for the whole process of preparing DP to prevent any future complications. The procedure to prepare an accurate Base map with all its integral layers to be recorded is detailed out in the relevant sections under this chapter.
- o To understand the potential and limitations of different areas within the DP area it is to record and map the Existing situation which could be used while formulating the DP Proposals later. This chapter provides a detail guidance to undertake the existing situation analysis and prepare maps with various layers to be considered while preparing the maps.
- o This chapter provides detailed guidance to undertake Development Suitability and Development Potentiality analysis in order to identify the suitable areas for development based on various integral parameters is provided in the relevant sections within this chapter.
- o Review of past planning efforts and growth trends are crucial to understand the current and future directions of population growth and spatial growth within the urban area. This chapter also provides guidance for estimating future population growth, which would drive the demand for land, floor space, water, sewage and other infrastructure and amenities.

This chapter discusses preparation of base-map, existing situation analysis, current trends and review of previous plans which shall be included in part 1 of the DP.

(Refer to chapter 2.2 for the Table of Contents for DP Part 1).

## 4.1 Preparation of Base Map, Existing Situation Analysis

In order to formulate the planning proposals, it is important to understand and analyze the existing situation of the development area. Analyzing the existing situation of the development area can be categorized under various layers.

To understand the potentials and issues of the area, it is necessary to record and map them first and then use them for formulation of proposals.

Based on the scale, context and priorities of the development area various maps can be prepared for existing situation analysis. Below is the table showing recommended maps that may be prepared by the authority as required. Each of them are explained in further details after the table.

Table 1: Existing situation maps and layers

Sr. No.	Name of Map	Layers to be covered in the map	Analysis to be done
1	Base map	<ul style="list-style-type: none"> <li>Administrative boundaries – Village, Municipality, Municipal Corporation, Authority, Taluka, District etc.</li> <li>Plot boundaries</li> <li>Existing Road and rail networks</li> <li>Reserved forest areas</li> <li>Water bodies and canal networks</li> <li>ASI marked and other listed heritage monuments</li> </ul>	<ul style="list-style-type: none"> <li>Documentation of all the land parcels</li> <li>Provides basic information related to the development area</li> </ul>
2	Existing Land use Map	<ul style="list-style-type: none"> <li>Existing Land uses of all the land parcels within Development Area</li> <li>Existing building footprints</li> </ul>	<ul style="list-style-type: none"> <li>Auditing of the previous DP in terms of its implementation</li> <li>Review of Developed vs developable areas</li> <li>Identification of major economic centres in the area</li> <li>Nature of the city – monocentric, polycentric etc.</li> <li>Job concentrations</li> <li>Development trends</li> </ul>



3	Topography Map	<ul style="list-style-type: none"> <li>• Contours</li> <li>• Ridges and valleys</li> <li>• Catchments and watersheds of bigger streams</li> <li>• HFLs (past 30 years)</li> <li>• CRZ regulation lines</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of non-developable zones</li> <li>• Formulation of strategies for preserving naturally sensitive areas</li> <li>• Prioritization of environmentally sensitive areas</li> <li>• Identification of suitable locations for WTPs and STPs</li> </ul>
4	Green and Blue Map	<ul style="list-style-type: none"> <li>• Natural drains</li> <li>• Rivers</li> <li>• Water bodies</li> <li>• Water courses</li> <li>• Flood prone areas</li> <li>• Canal network</li> <li>• Forest areas</li> <li>• Environmentally sensitive areas</li> <li>• Open and green spaces</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of non-developable zones</li> <li>• Formulation of strategies for preserving naturally sensitive areas</li> <li>• Prioritization of environmentally sensitive areas</li> <li>• Distribution of green and open spaces wrt population</li> </ul>
5	Water table map	<ul style="list-style-type: none"> <li>• Ground water levels</li> </ul>	<ul style="list-style-type: none"> <li>• Development potentiality in reference of ground water levels</li> </ul>
6	Transport and Mobility Map	<ul style="list-style-type: none"> <li>• Regional roads (NHs, SHs and Expressways)</li> <li>• District roads (MDRs and ODRs)</li> <li>• City roads</li> <li>• Public transport routes</li> <li>• Existing and proposed public transport nodes</li> <li>• Existing and proposed city level Parking facilities</li> <li>• Accident prone nodes/zones</li> <li>• Review of CMPs, if any</li> </ul>	<ul style="list-style-type: none"> <li>• Road densities and road hierarchies</li> <li>• Sector sizes</li> <li>• Basic network analysis</li> </ul>
7	Physical Infrastructure Map	<ul style="list-style-type: none"> <li>• Networks- water, sewerage, storm water, electricity, solid waste collection, Gas, telephone/ internet,</li> <li>• Locations of STPs, WTPs, Solid waste dumping site/s, bio waste, electric sub stations etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Area served by existing water supply, sewerage, and storm water network</li> <li>• Distribution of existing network</li> <li>• Demand of expansion of network wrt to the estimated population.</li> <li>• Demand of addition of new STP, WTP etc. based on population projection</li> </ul>
8	Social and civic amenities map	<ul style="list-style-type: none"> <li>• Schools</li> <li>• Hospitals</li> <li>• Institutions</li> <li>• Sports facilities</li> <li>• Recreation,</li> <li>• Health centre</li> <li>• Community parks</li> </ul>	<ul style="list-style-type: none"> <li>• Gap analysis for the requirement of the amenities required for the estimated population.</li> <li>• Provision of new civic amenities</li> </ul>

9	Land rates map	<ul style="list-style-type: none"> <li>• Jantri rates</li> <li>• Market rates</li> </ul>	<ul style="list-style-type: none"> <li>• Affordability scenario in the developable area.</li> <li>• Development potentiality wrt land rates and market forces</li> </ul>
10	Development trend analysis map	<ul style="list-style-type: none"> <li>• NA conversions</li> <li>• Development Permissions</li> </ul>	<ul style="list-style-type: none"> <li>• Mapping of development potentiality</li> </ul>
11	Land ownership	<ul style="list-style-type: none"> <li>• Government land</li> <li>• Private land</li> </ul>	<ul style="list-style-type: none"> <li>• Available areas of providing public amenities, EWS housing etc.</li> </ul>
12	Housing and Informal settlement map	<ul style="list-style-type: none"> <li>• Mapping informal settlements on city level</li> <li>• Major townships</li> <li>• Location of housing surveys</li> <li>• Housing pyramid</li> </ul>	<ul style="list-style-type: none"> <li>• Existing housing need assessment</li> <li>• Study of household size, no: of households and population in administrative areas</li> <li>• Existing housing stock</li> <li>• Studying the total residential area and current consumed floor space</li> <li>• Identification of creating additional floor space for housing for future</li> <li>• Housing demand vs. supply</li> <li>• Housing survey-ownership status, housing type, income and housing size</li> <li>• Consumed floor space by informal settlements and learning about the land ownership.</li> <li>• Household size in the informal settlements</li> </ul>
13	Heritage and tourism map	<ul style="list-style-type: none"> <li>• ASI marked heritage monuments</li> <li>• Listed heritage monuments</li> <li>• Tourist attraction spots</li> </ul>	<ul style="list-style-type: none"> <li>• Identification of the core heritage zone</li> <li>• Understanding the current situation of the monuments and areas surrounded by the listed heritage structures</li> <li>• Tourist network identification</li> </ul>
14	Demography map	<ul style="list-style-type: none"> <li>• Population density</li> <li>• Growth rate</li> <li>• Workforce participation</li> <li>• Primary and Non primary economic activities</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying the pattern of population density in urban and rural</li> <li>• Identifying the pattern of growth trends in urban and rural in census years.</li> <li>• Identifying the pattern of work force distribution in urban and rural</li> <li>• A chart to understand the growth trend in population and work force distribution through the census years.</li> <li>• Migration study to understand the percentage of inflow and outflow of the population to the areas</li> </ul>

15	Key economic centres map	<ul style="list-style-type: none"> <li>• Primary-APMC</li> <li>• Secondary-Logistic park, railway stations, airport</li> <li>• Tertiary-Airport, CBD, Bus station, railway station</li> </ul>	<ul style="list-style-type: none"> <li>• suitability of proposing new economic centres</li> </ul>
16	Ongoing/proposed city level projects map	<ul style="list-style-type: none"> <li>• city level projects</li> </ul>	<ul style="list-style-type: none"> <li>• Implication of the growth on the city</li> </ul>
17	Development suitability map	<ul style="list-style-type: none"> <li>• Non developable areas based on characteristics - water bodies, areas under HFL AND FTL of major water bodies, forests, high slopes, environmentally sensitive areas and habitats</li> <li>• Non developable areas based on regulations - CRZ and other environmental guidelines from state and central government, high tension electrical lines, oil and gas lines and their buffers etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying developable and non-developable areas</li> </ul>
18	Development potentiality map	<ul style="list-style-type: none"> <li>• Accessibility (proximity to hierarchy of road)</li> <li>• Proximity to developed areas</li> <li>• Proximity to job centres</li> <li>• Agriculture potential (single cropped and double cropped land)</li> <li>• Consideration of heritage regulations around ASI marked monuments and other listed monuments</li> <li>• Consideration of airport funnel</li> <li>• Existing settlements - gamtals, industrial areas etc.</li> <li>• Tourist attractions</li> </ul>	<ul style="list-style-type: none"> <li>• Scaling the potentiality of development under the layer of developable areas</li> </ul>

Below is further explanation of details to be included in these maps showing existing situation.

### 4.1.1 Base Map

It is essential to prepare an accurate base map for recording the details necessary for the preparation of the Development Plan as it forms the base for all other maps to be prepared for existing situation analysis and proposals of the Development Plan. Predominantly a Base map provides all the administrative/revenue boundaries with major linkages in terms of road and rail. The base map shall be prepared at 1:8000 scale in order for it to be used for preparing Existing Land Use Map and Proposed Land Use Zoning Map as required under section 11 of the Act.

Below are the various layers of information that should be included in the Base map.

#### Administrative boundaries:

The first sets of layers to be digitized on a Base map are administrative layers. The data related various boundaries in terms of plot, village, taluka, district etc. are derived from cadastral maps. Other than that, various municipalities and municipal corporations in the development area should be mapped properly. Authority boundary and other administrative boundaries should also be updated from various available maps. Data related to these layers can be derived from DILR, Municipalities, municipal corporations and other relevant organizations. (Refer fig 4\_1)

#### Road and Rail network:

Road and rail network layers should be updated on the Base map. The data related to that has to be acquired from R & B department, & National Highway Authority (NHAI) Corporations / Municipalities and District Panchayat office, Railways Authorities, if need be. Data related to Rail network is also updated after acquiring the data from Indian Railways department. (Refer fig 4\_2 and 4\_3)

#### Reserved Forest Areas:

All the reserved and protected forest areas are to be marked separately and the data related to the forests is to be acquired from forest department.

#### Water Bodies and Canal Network:

All the water bodies including rivers and other natural drains are to be marked on the Base Map. This data is available from the revenue, water supply & irrigation records to be to be collected. (Refer fig 4\_4)

In case of any major canal network in the region, to be shown in the base map and the data related to the canal network is to be derived from the Irrigation department. (Refer fig 4\_4)



Figure 4\_1: Cadastral Map with all revenue layers

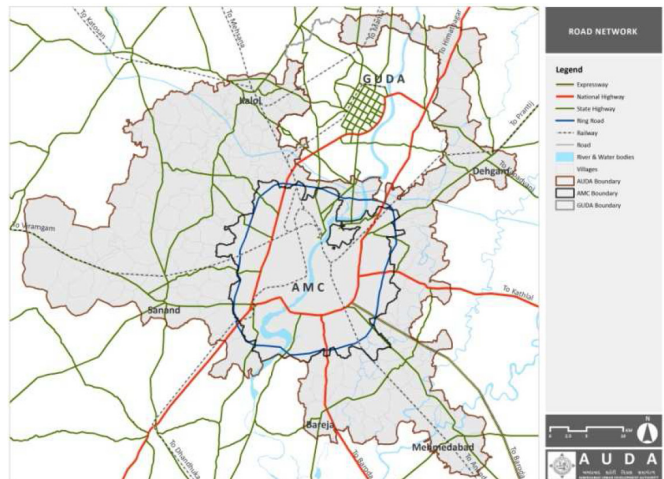


Figure 4\_2: Updated road network

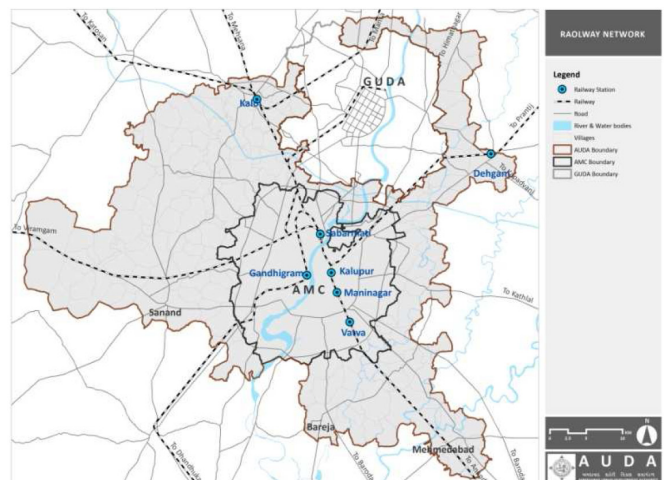


Figure 4\_3: Updated rail network

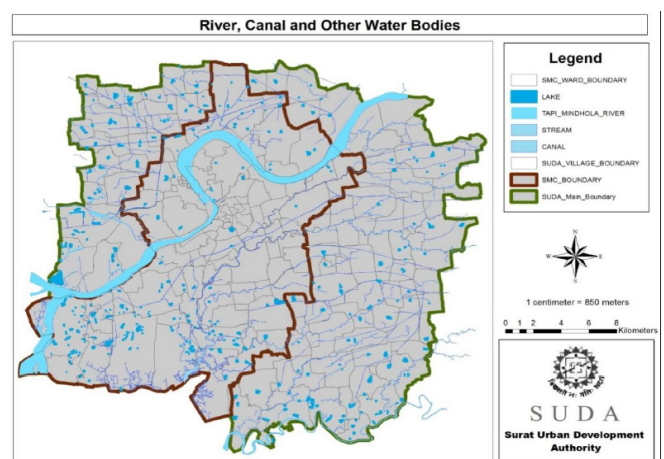


Figure 4\_4: Water bodies and canal network

(Source: SUDA 2035)



### 4.1.2 Existing Land Use Map and Analysis

Existing land use map is very important while preparing the Development Plan for any area to understand the development pattern and potential of the development area.

#### Layers:

In addition to all layers included in the Base Map, the Existing Land Use map shall include the layer/s showing existing land uses in various categories as identified under GTPUD Rule 4 and/or as per AMRUT guidelines for GIS-based Master Plan. For preparation of land use layer, the authority may require to carry out on-ground surveys, verifications etc. (Refer fig 4\_5)

For mapping existing land uses in green field areas with no or less built usages, a high-resolution satellite image of the region should be acquired and various layers related to agriculture, habitations, water bodies, padar land etc. should be derived through GIS. The satellite image can be derived from various sources like National Remote Sensing Centre (NRSC, Hyderabad), BISAG etc.

The uses thus derived should then be crosschecked and superimposed over the revenue layers of Base map and corrections should be made. Further to that, a primary survey should also be conducted to cross verify the existing land uses.

For brown field areas (urban areas) with dense built uses, a primary survey has to be conducted to document the uses of various buildings. The data thus gathered should be then superimposed over the revenue layers of Base map to complete the existing land use map.

#### Analysis:

The existing land use map shall help in analyzing the following;

- Current distribution of land under each use in percentage with regards to the total land in DP area.
- Current development trends in terms of the growth in particular direction of the development area. (Refer fig 4\_6 and 4\_7)
- Land use distribution in different municipalities and villages
- Identifying major job centers and its proximity with city.

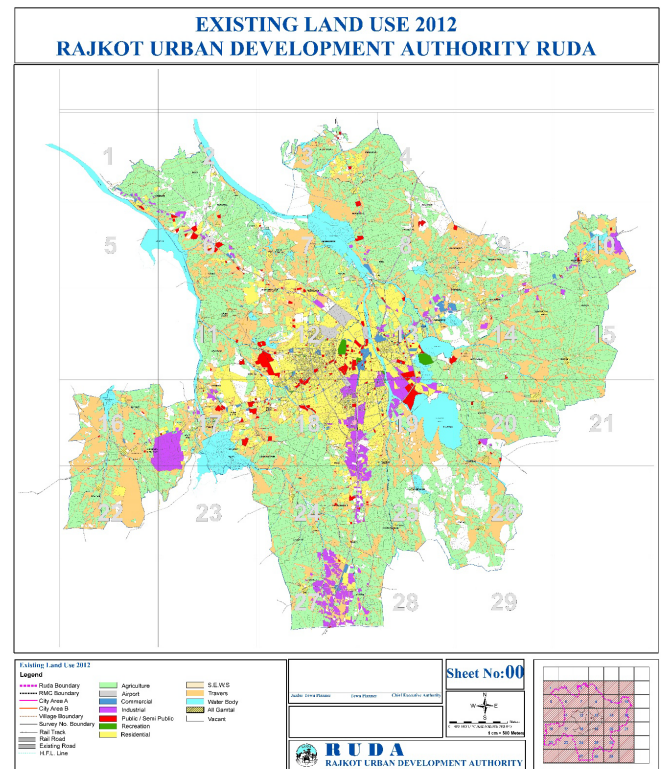


Figure 4\_5: Existing Land use Map

(Source: RUDA DP 2031)

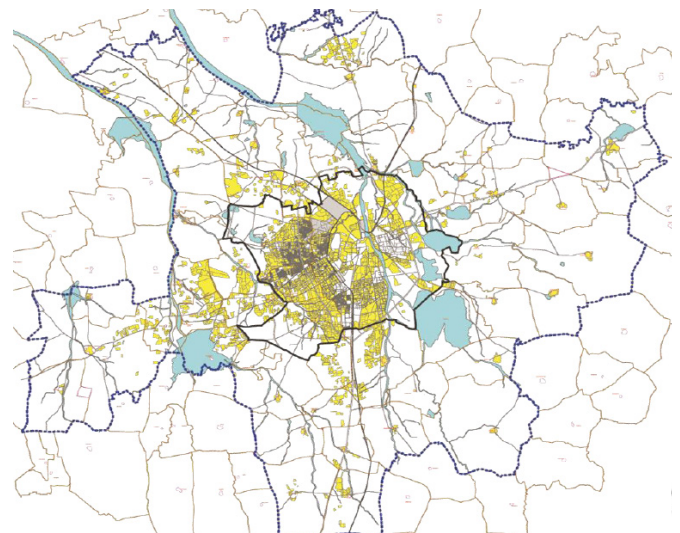


Figure 4\_6: Residential growth pattern

(Source: RUDA DP 2031)

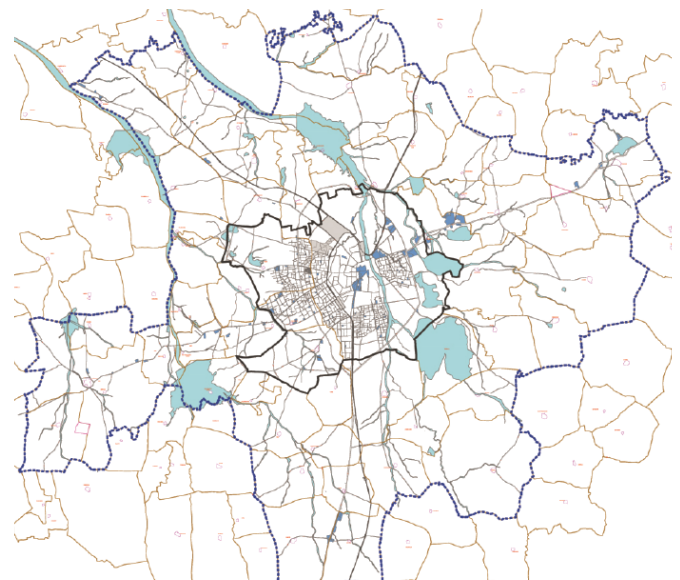


Figure 4\_7: Commercial growth pattern

(Source: RUDA DP 2031)

### 4.1.3 Topography map and Analysis

#### Layers:

This map should be prepared using topographic information which can be available from the Topographic Sheets from **Survey of India**. Typically, these sheets are published at 1:25000 or 1:50000 scale, whereas the Development Plan is required to be prepared at 1:8000 scale. (Refer fig 4\_8)

In case where the survey sheets do not have the most recent and detailed information, it is recommended to explore and use other sources, such as satellite or aerial imageries which can be used with GIS application to derive detailed topographic information such as contours, slopes, channels, watersheds, soil types etc. Depending on the requirements and available resources, such imagery can be acquired from various sources such as **NRSC, BISAG, CartoSat, QuickBird** etc. Also, a fresh **drone and lidar survey** can be carried out to avail the most recent aerial imagery and topography.

The radio detection and GPR technology can be used to locate underground features, utilities and services.

#### Analysis:

A topography map shall help in drawing the following analysis;

- The prioritization of environmentally sensitive areas
- Identification of no-development zone in the proposed development area.
- The map would help to propose road linkages, preservation of water bodies, forest land, etc.- laying storm water/water supply/ underground pipelines/ underground sewerage pipelines, site selection of STP and water pumping station and also and water treatment plant based on the topography of the site in the map.
- It will also identify the undulated areas reflecting the character of the land. (Refer fig 4\_9)

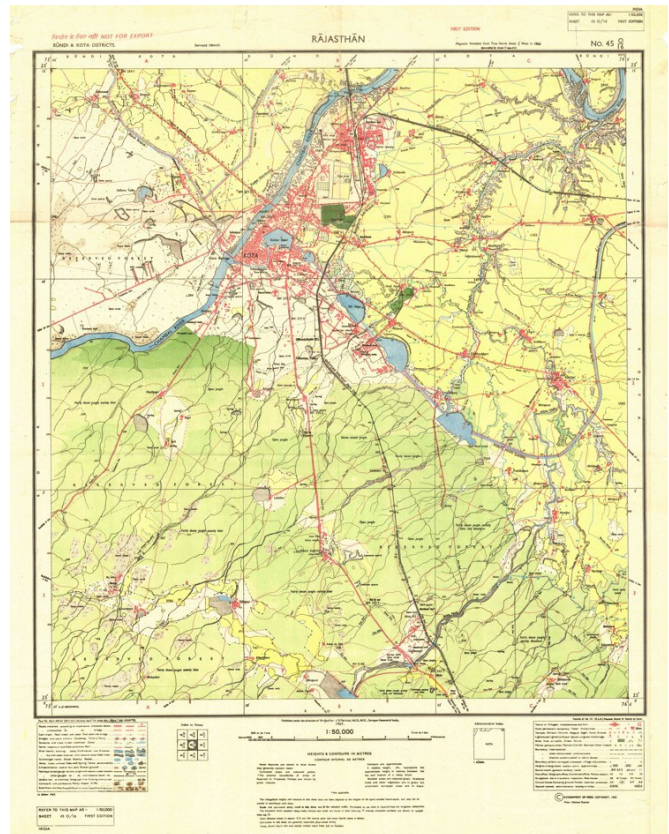


Figure 4\_8: Toposheet Survey of India

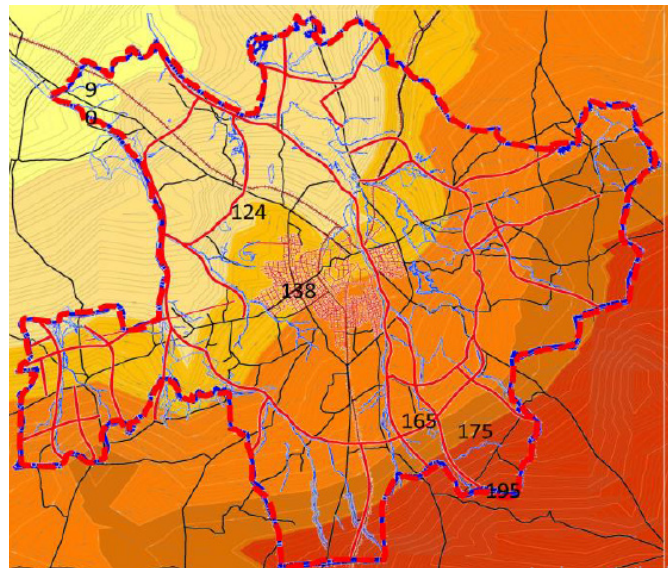


Figure 4\_9: Topography Map of RUDA

(Source: RUDA DP 2031)



#### 4.1.4 Green and Blue Map and Analysis

##### Layers:

A green and blue map should be prepared to include the following layers to establish the future proposals;

(Refer fig 4\_10)

- Water bodies: Rivers, Lakes, Water courses, Streams, Canals
- Green Spaces: Forest, Mangroves
- Wetlands, Bio diversity areas, habitats, Watersheds
- Hilly slopes
- Floor-prone areas
- Designated Environmentally Sensitive Areas- CRZ, Ramsar sites, Sanctuaries.

Various areas like sanctuaries, forests, mangroves area, sea coast etc. including any other area declared sensitive by any competent authority should be highlighted and marked during the analysis. These locations and details can be obtained from Environment and Forest department. Index should be prepared for prioritizing the water bodies for preservation in the DP area based on certain parameters, for example.

- Sensitivity of the water body for bio diversity and flooding
- Extensive potential of recharging of ground water
- Potential to develop recreational places
- Maximum quantum of water holding capacity

The relevant data related to this can be collected from DILR, Irrigation department, Environment and Forest department etc.

##### Analysis:

A map with all the potential naturally sensitive areas, shall help in drawing the following analysis;

- Identification of non-developable zones based on multiple factors like; (Refer fig 4\_11 and 4\_12)
  - > Area prone to flood
  - > Environmental sensitivity
  - > Water bodies
  - > Forest areas
  - > Natural drains and canals
- Understanding the sensitivity and buffer zones to be considered while formulating the planning proposals in DP to preserve the areas of high sensitivity.

In order to achieve this, the proposals shall formulate the strategies for preserving and prioritizing all the potential environmentally sensitive areas. Based on the map marked with all the existing open and green spaces, it would be easy to identify the distribution of green and open space with respect to the estimated population for the targeted year.

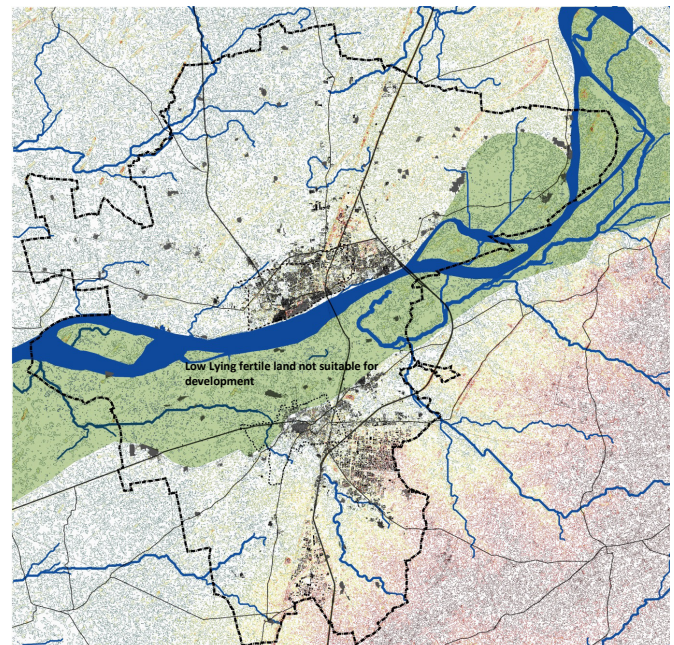


Figure 4\_10: Natural features on the contour map

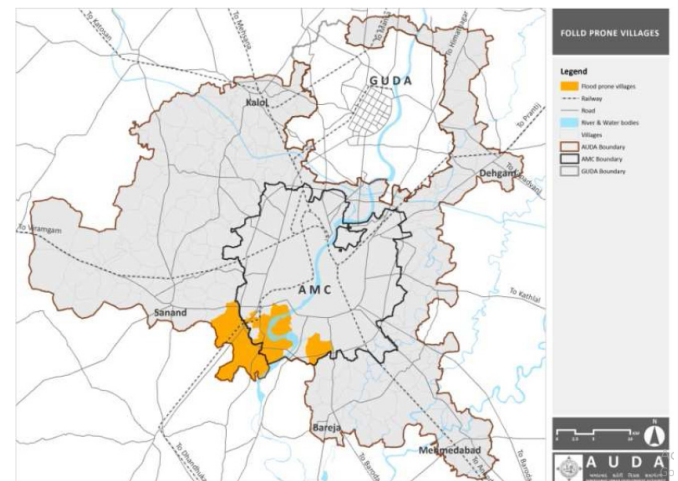


Figure 4\_11: Flood prone areas

(Source: AUDA DP 2021)

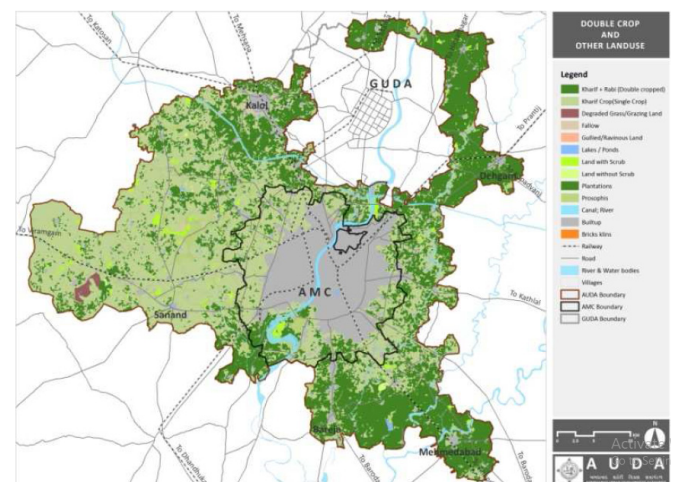


Figure 4\_12: Double crop zones

(Source: AUDA DP 2021)



## 4.1.5 Ground Water Map and Analysis

### Layers:

It would be essential to record the range of water levels in the entire DP area that shall help to understand the current ground water table for formulating the proposals for future development

Ground water accounts for the major source of drinking water and used for both in domestic and irrigation purpose in urban and rural area. (Refer fig 20)

### Analysis:

The purpose of recording the ground water level is to analyse the development potentially in the identified DP area for agriculture and industrial areas with reference to the ground water levels.

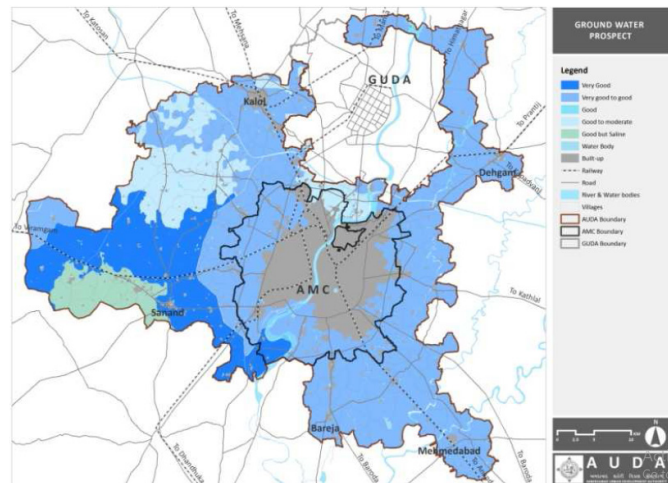


Figure 4\_12: Ground water table map

(Source: AUDA DP 2021)

## 4.1.6 Transport and Mobility Map and Analysis

### Layers:

In order to prepare the detailed analysis of existing transport and mobility scenario in the city, following are the layers that need to be considered:

- Road Network (Regional, NH, SH, Expressways, District roads, city roads)
- Public transport routes
- Existing and proposed public transport nodes
- Existing and proposed city level parking facilities
- Accident prone nodes/zones

A detailed analysis of road network (regional and city level road network) is also required to be carried out during the existing situation analysis (Refer fig 4\_13 and 4\_14). All the major and minor roads together with the city & regional networks should be mapped and analyzed for its efficiency. The data related to road network can be collected from Road & Building and District Panchayat department, ULBs etc.

Primarily the DP should focus on analysis of road network and for analysis related to traffic and transportation the inferences should be drawn from comprehensive mobility plan or other such documents prepared for the city. In case there are no secondary documents available, sample based primary surveys can be conducted.

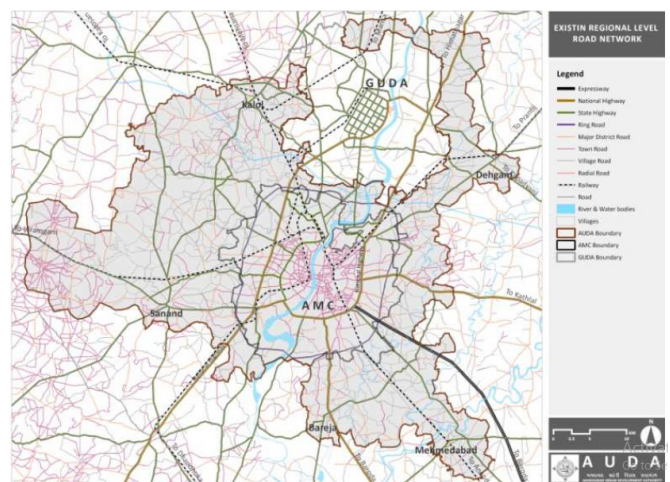


Figure 4\_13: Regional level road network

(Source: AUDA DP 2021)

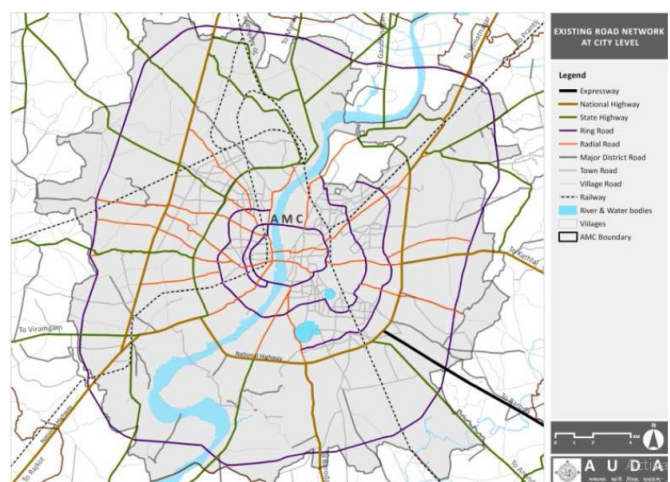


Figure 4\_14: City level road network

(Source: AUDA DP 2021)



**Analysis:**

A detailed analysis of the road network includes the study of the road densities, road hierarchies, networks, sector sizes etc.

Following are the analysis that can be drawn from the Public transport map; (Refer fig 4\_15)

- Percentage of the area served by the existing public transport network
- Block sizes
- Network analysis
- Percentage of road area in developed area

### 4.1.7 Physical Infrastructure Map and Analysis

**Layers:**

With the growing population and expansion of the urban developable area of the city, it is essential to study the following layers in detail and shall be considered to prepare a detailed analysis,

- Water Supply: Network Coverage, Water Supply Source, WTP, Pumping Stations
- Sewerage: Sewage Network Coverage, STP, Pumping Stations
- Solid waste: SW Treatment Sites, Land Fill Sites, Transfer Stations
- Storm Water: Network Coverage, ground water percolation sites, Lake-linkage
- Electricity: Electricity Generation Stations, HT Lines, Transformer and Distribution stations

The data for the recording such layers can be collected from the electric board and private companies, GWSSB, GEB, ONGC etc.

**Analysis:**

In order to identify the future demand with respect to the estimated population, following are the analysis that shall be carried out;

- The current distribution of the existing network of water supply, storm water, drainage, high tension electricity lines, gas line etc. (Refer fig 4\_16)
- The location and capacity of existing WTPs, STPs, etc. This shall help in identifying the need of proposing a new network of physical amenities to cater the currently unserved areas. (Refer fig 4\_17)

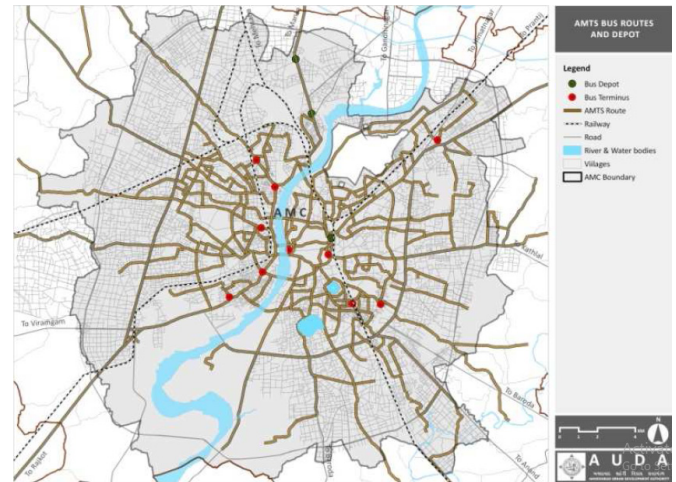


Figure 4\_15: Existing public transport network (Source: AUDA DP 2021)

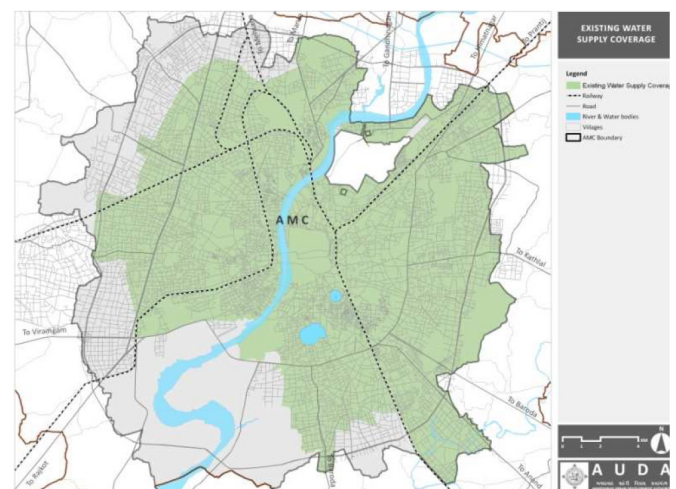


Figure 4\_16: Water supply coverage (Source: AUDA DP 2021)

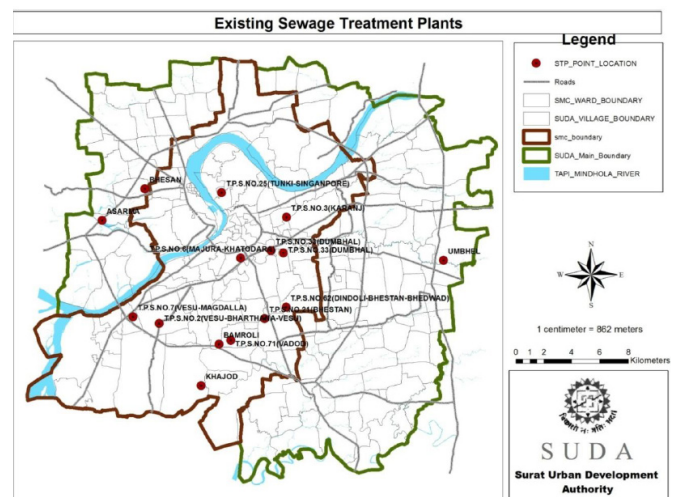


Figure 4\_17: Existing sewage treatment plants (Source: SUDA DP 2035)

## 4.1.8 Social and Civic Amenities Map

### Layers:

In order to assess the existing situation of social and civic amenities, following are the key layers that need to be considered;

- Schools
- Hospitals
- Institutions
- Sports facilities
- Recreation centers/zones/areas
- Health care center
- Community parks
- Police stations
- Post offices
- Airport
- Railway stations
- Bus stations etc

The data related to these amenities can be collected from primary surveys, Census of India surveys, village panchayat and ULBs.

### Analysis:

In order to identify the future demand with respect to the estimated population, following are the analysis that shall be carried out;

- The current distribution of the social and civic amenities.
- The need of proposing the land for new facilities like educational facilities, recreational facilities, emergency services etc.

The above analysis shall help in formulating the proposals for social amenities in the proposed DP area. However, the amenities shall be implemented through Town Planning schemes (Refer TPS manual by RERA, chapter 6, sub-chapter 6.6). The development of facilities like educational and health may also be carried out with private sector participation.

## 4.1.9 Land Rate Map (Jantri and Market rates) and Analysis

### Layers:

With the increase in demand of urban land, the land rates both in urban and rural areas are likely to get affected. Therefore, to understand the current distribution of the land rates it would be essential to record all the land rates on a map.

The data related to land rates (jantri and market rates) can be collected from Revenue department, sub-registrar office, Town Planning & Valuation Department (TPVD) and

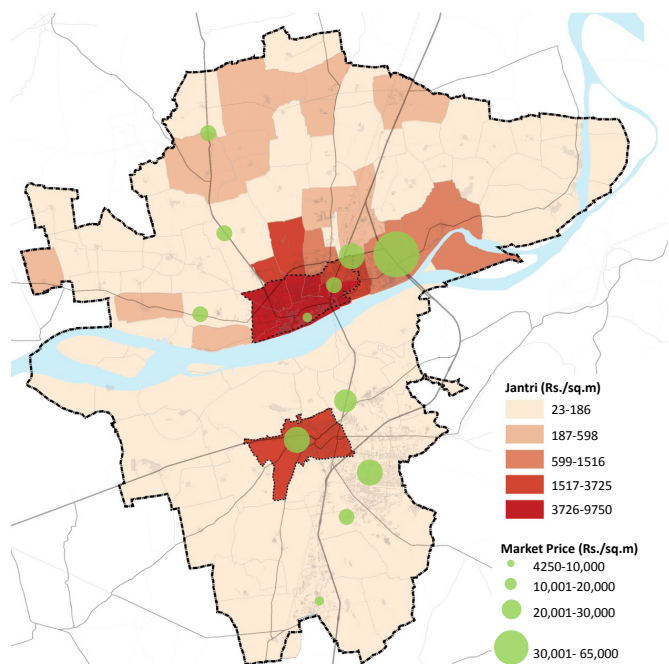


Figure 4\_18: Land Rates

along with the other related sources.

#### Analysis:

The purpose of recording the land rates is to understand the current affordability scenario in the developable area along with the development potentiality with regards to the land rates. (Refer fig 4\_18)

### 4.1.10 Development Trend map and Analysis

#### Layers:

The layer related NA conversion is to be obtained from the district collector office and data related to development permissions can be obtained from concerned ULB, Panchayat, RERA etc.

#### Analysis:

following are the analysis that shall be carried out with the help of this map;

- Understanding the development trends in the development area by mapping the NA conversions and development permissions in the development area and its surrounding.
- The NA permissions/development permissions granted along the major road including State & National Highways shall also be collected separately and mapped. This will form the base for consideration whether to introduce the plan for non-plan areas, in case if it gives a sign of future linear development outside jurisdiction of local authority / municipal corporations/ urban development authority/area development authority. (Refer fig 4\_19)

### 4.1.11 Land Ownership Map and Analysis

#### Layers:

It is necessary to record all the land parcels under government ownership. The data related to this has to be obtained from collector office of the district, ULBs, Panchayat and other government departments. (Refer fig 30)

#### Analysis:

This map shall help in analysing the location of all the land parcels under government ownership for utilizing them for various proposals under the development plan.

### 4.1.12 Housing and Informal Settlements map and Analysis

#### Layers:

In order to study the current scenario of housing in the city, it is essential to study the following layers for the detailed analysis;

- Mapping of location of Informal settlements on city level

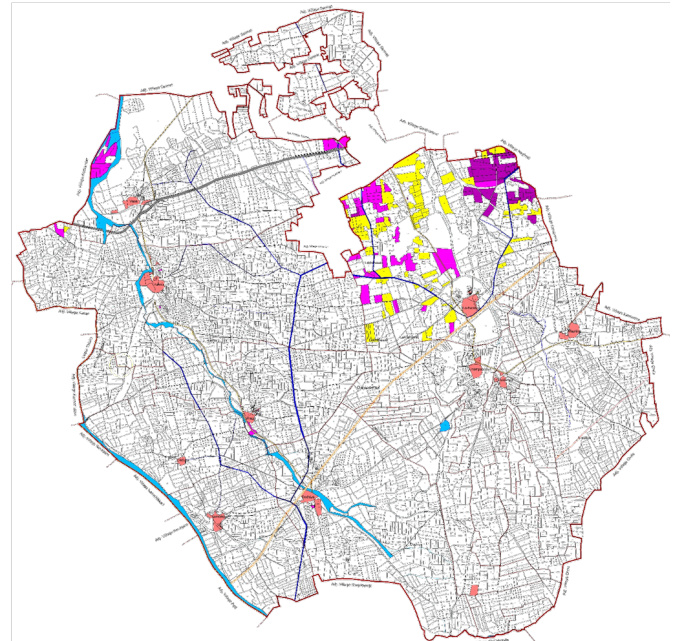


Figure 4\_18: NA Conversation

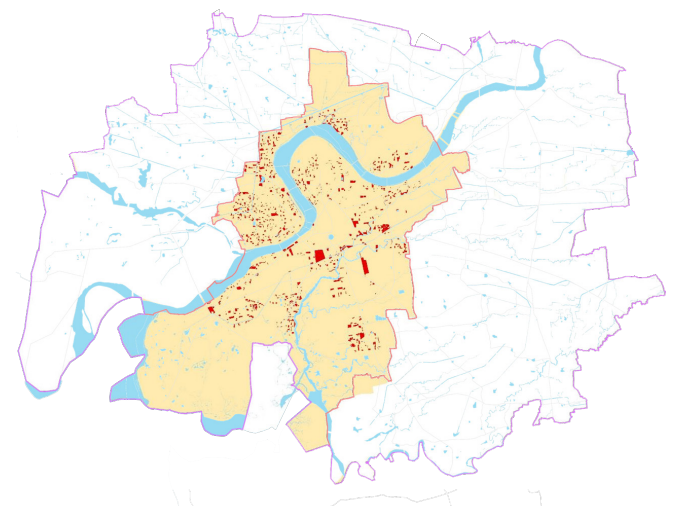


Figure 4\_19: Land Ownership



- Major townships
- Housing pyramid

It shall be important to consider the informal settlements in the city which should be mapped and analysed in terms of per household floor space consumption. While making the Development Plan, strategies should be formulated to consider these informal settlements for making the area more organized from the angle of movement. These mapping is required to be done through primary surveys along with the informal settlements, in case if survey is already being done and more than five years have passed a resurvey needs to be carried out. All the notified and non-notified slums should also be mapped during this analysis.

Such kind of data can be collected by conducting a detail housing survey, considering the sizeable sample size to understand the current distribution of the housing typologies and affordability bar in the identified DP area.

Along with this, the study of number of households, average household size, current floor space consumption etc. should also be undertaken in the survey that shall further derives the housing condition in the city (homelessness, congested, obsolescent) that requires effective schemes and policies to improve the current living condition of such areas of potential need.

#### Analysis:

in order to understand the dynamics of demand-supply mechanism of housing market in the proposed DP area, following are the analysis that shall be carried out;

- Available housing stock, housing type w.r.t income of the family, ownership status etc.
- The distribution of floor space consumption in the DP area and calculation of the additional floor space required to accommodate the estimated population projection in the city for the horizon year.
- Mapping of informal settlements, including notified slums in the DP area would help to identify the need of formalizing the settlements (Refer fig 4\_20).
- Manufacturing activity of any type if carried out in the settlement then it should be identified and mapped along with the spatial linkages for the delivery of the final product or disposal.
- Along with the mapping the internal settlements if felt necessary can be redone, informal vending and other activities should also be mapped. These mapping is required to be done through primary surveys along with the informal settlements if felt necessary can also be redone. In case if survey is already being done and more than five years have passed a resurvey needs to be carried out.

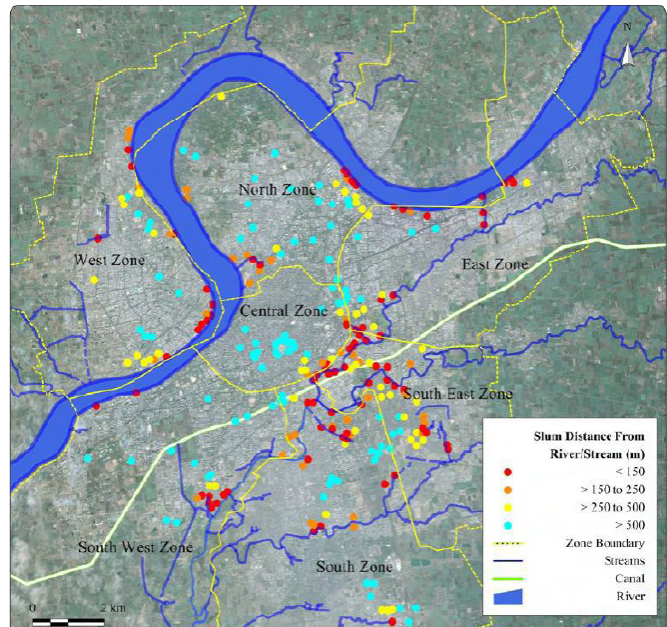


Figure 4\_20: Existing location of informal settlements  
(Source: SUDA DP 2035)

In case of formalization of the informal settlements, it would be essential to first study the current floor space consumption that would help in proposing the housing options like EWS and affordable housing for such vulnerable section of the society.

#### 4.1.13 Heritage and Tourism destination map and Analysis

##### Layers:

The ASI marked heritage monuments and all the listed heritage monuments and areas should be marked and analyzed (Refer fig 4\_21). Similarly, tourist potential areas should also be marked and special strategies should be formulated for these areas. Data related to this can be acquired from Archeological Survey of India (ASI), Tourism department etc.

##### Analysis:

In order to formulate the proposals for old city/heritage area, following are the analysis that shall be carried out based on the layers discussed above;

- The purpose of mapping heritage value structure shall help in identify the area to be demarcated as a core heritage zone. Such zone shall further be classified as a zone with separate development regulations and policies to preserve and conserve the precincts and monuments of heritage value.
- In case of re-development of precincts can be achieved by micro planning schemes like Local Area Plans which shall be prepared to uplift and enhance the existing infrastructure present in the area.

#### 4.1.14 Demographic Analysis Map and Analysis

##### Layers:

Various parameters to be studied under the layer of demography are; (Refer fig 4\_22 and 4\_23)

- Population growth rate
- Population densities
- Rural – urban population break up
- Work force participation
- Work force distribution
- Main and marginal workforce distribution
- Literacy rate
- Sex ratio
- Migration trends

##### Analysis:

The critical understanding of the demographic layers shall help in carrying out the following analysis;

- Identifying the growth pattern spatially in urban and rural areas.

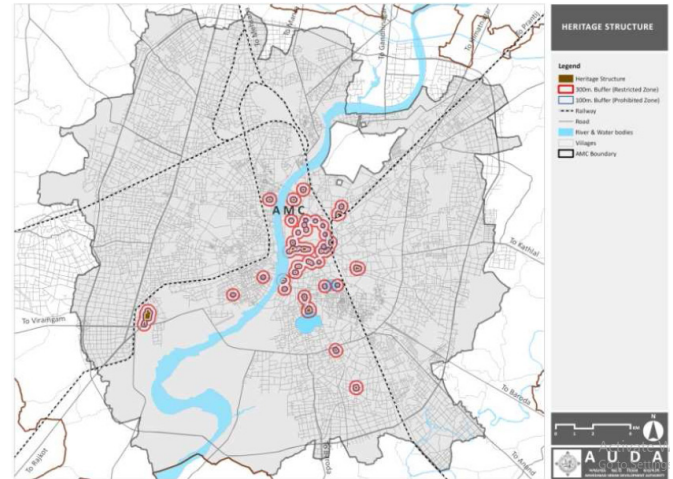


Figure 4\_21: Listed Heritage structures

(Source: AUDA DP 2021)

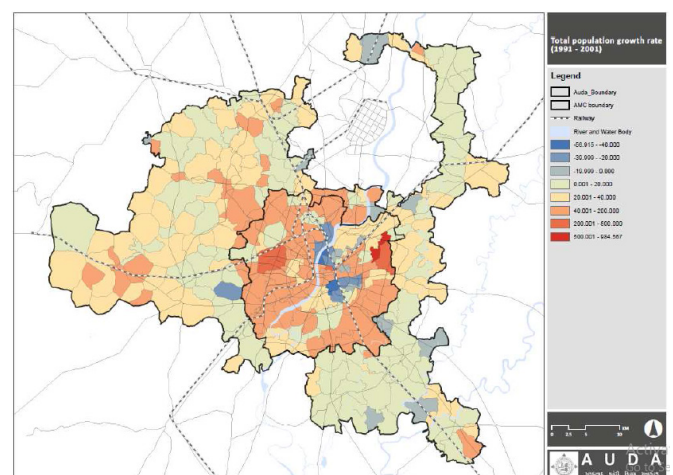


Figure 4\_22: Population trend

(Source: AUDA DP 2021)

- The growth pattern when studied spatially along with the pattern of work force participation, work force distribution, population densities, literacy rate etc. in the area will provide indications for demarcating the developable zones.

#### 4.1.15 On-going and Proposed Projects:

##### Layers:

Mapping of city level and regional level ongoing and proposed projects like MRTS/BRTS alignments, Multimodal transport stations, institutions like IIMs, IITs, etc., Regional level government hospitals, Sports Complexes, Regional linkages like DMIC (Delhi Mumbai Industrial Corridor), HSRC (High Speed Rail Corridor) etc., Ports, APMCs, Large scale Industrial projects etc.

The purpose of making all these maps is to critically analyze them by overlapping them over each other to identify the development suitability and potentiality in the development area.

Overlapping of these layers can clearly give an idea of strictly no development zones considering the layer like topography map, water table map, and green and blue map. Once the suitability is identified, the other analytical layers like; existing land use, transport and mobility analysis, land rates, land ownership, demographic analysis etc. can help in identifying the land which can be potential for the future development. Development suitability and potentiality are further explained below.

##### Analysis:

Following are the analysis that shall help in formulating the proposals for the DP area based on the map of identified locations of ongoing or proposed projects;

- The impact of these projects on the development trends in the city.
- All the ongoing and proposed projects under various categories of transport, housing, environment and infrastructure should be analyzed and considered while formulating the strategy for the region.

#### 4.1.16 Development suitability and potentiality

This analysis is done to determine the the suitable land with potential development capacity in the development area.

##### Development suitability map and Analysis

The basic premise of suitability analysis is that each aspect of the landscape has intrinsic characteristics that are in some degree either suitable or unsuitable for the activities being planned and that these relationships can be revealed through detailed evaluation and assessment. The primary objective of this suitability analysis is to

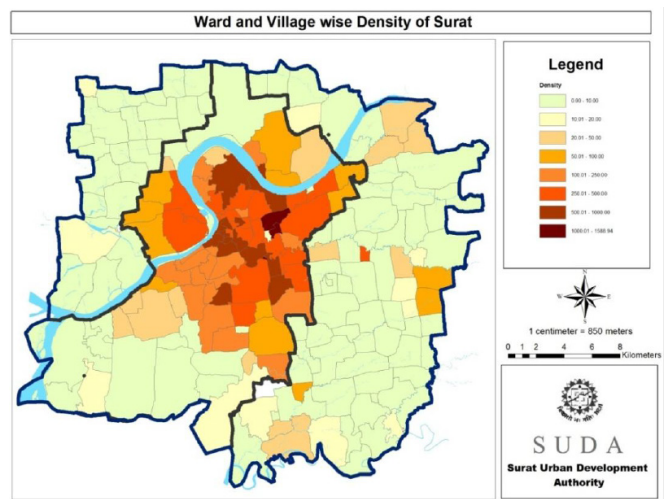


Figure 4\_23: Ward and village wise population density SUDA

(Source: SUDA DP 2035)

identify the developable and non-developable zones in the development area (Refer fig 4\_24)

Non developable zones are environmentally sensitive areas which are to be preserved from urban development. There are two methods by which these zones can be identified

- Non-developable areas by its inherent characteristics
- Non-developable areas by rules and regulations specified by state and central government

#### **Non-developable areas by its inherent characteristics**

- River
- Water bodies
- Water courses and tertiary channels for water bodies
- Marshy depressed lands
- Areas under HFL AND FTL of major water bodies
- Forests
- High slopes
- Environmentally sensitive areas and habitats

All the water bodies in the development area should be preserved and put under the non-developable zones. All the notified water bodies including lakes, natural drains, rivers, creeks etc. should be put under non developable zones.

For all the major water bodies in the development area, data related to floods in past 30-50 years should be derived and areas falling under these zones should be preserved from development. High flood level for drains and rivers (HFL) and Full tank level (FTL) for lakes and tanks should be derived and put under the non-developable zones.

All the forest lands and areas should be identified and put under the non-developable zones.

Steep sloping lands are not suitable for any kind of development and therefor they should be put under non-developable zones. Slope analysis helps in determining the steepness of slopes throughout the development area using contour data. Slope of an area is the ratio of the difference between the highest and the lowest altitude points of the place (rise) to the horizontal distance measured between the points (run). The larger the rise and the shorter the run, the steeper is the slope. Slope can be represented in terms of percentage. Areas with steep slopes above 30% should not be considered fit for development and demarcated under non-developable zone.

Along with above mentioned layers, all the sanctuaries,



habitats of certain species of birds / animals and environmentally sensitive areas should also be put under the non-developable zone.

#### **Non-developable areas by rules and regulations specified by state and central government**

- CRZ and other environmental guidelines from state and central government
- High tension electrical lines
- Oil and gas lines and their buffers

The state and central government also have prescribed certain guidelines and rules for development around water bodies and environmentally sensitive areas. These areas falling under CRZ regulations and other guidelines by MoEF and other state department should be considered and put under non-developable zone.

Areas coming under the network of electricity, gas, oil and other infrastructure provisions along with their buffers should be considered to put under non-developable zones.

#### **Development potentiality map and Analysis**

After identifying the developable land based on the development suitability map, the developable land should be further classified based on its potentiality for development (*Refer fig 4\_24*). Various factors affecting the development potentiality are as mentioned below,

- Accessibility (proximity to hierarchy of road)
- Proximity to developed areas and job centres
- Agriculture potential (single cropped and double cropped land)
- Consideration of heritage regulations around ASI marked monuments and other listed monuments
- Consideration of airport funnel
- Wind direction for the designation of air pollution based hazardous industries
- Existing settlements – gamtals, industrial areas etc.
- Tourist attractions

Depending upon the vision of the development plan, the above listed parameters should be given weightage for deciding the potentiality of the development.

Accessibility is one of the most important parameters deciding the potentiality of development. The land parcels with good proximity to higher hierarchies of roads have more potential for development as compared to the rest. An analysis should be carried out marking the potentiality



of land based on influence of adjoining roads.

Similarly, the areas in the proximity of developed areas and economic nodes would also have higher potentiality as compared to rest of the areas.

While demarcating land for development, the parameter of its agriculture potentiality should also be taken in consideration. Double cropping agricultural lands should be considered while demarcating land under developable zones.

Certain other factors like airport funnel zone, areas around heritage important monuments, industrial zones, gamtals and tourism potential zones would also impact the potentiality of development.

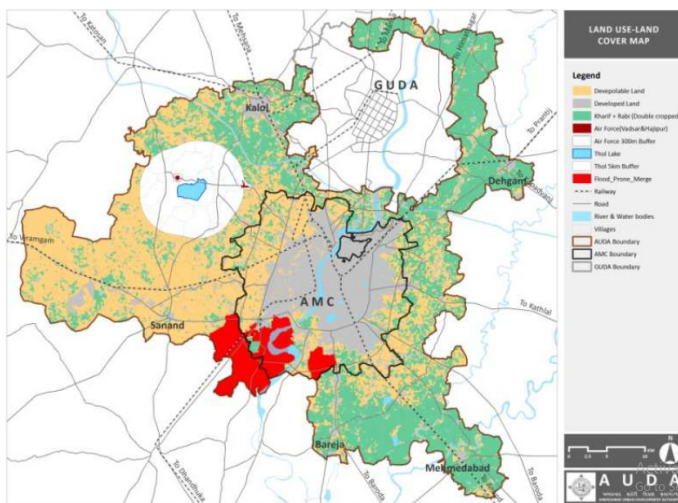


Figure 4\_24: Type of land cover in AUDA (Source: AUDA DP 2021)

## 4.2 Review of Past Planning Efforts

In order to prepare a new Development Plan, it is essential to assess the past planning efforts undertaken in terms of preparation of DPs. It shall help in vision / objectives formulation based on the objectives set for the previous years. Review of past planning efforts also helps in understanding the resource availability with the authority based on the status of implementation of various proposals.

Therefore, it is suggested to consider the following parameters of the past development plans for the review

- Vision and objectives
- Proposals related to improvement of road linkages and new roads
- Proposals related to land use zoning in terms of identified developable zones and non-developable zones
- Proposals related to various physical infrastructure facilities – node and network based
- Proposals related to social infrastructure
- Proposals related to conservation / preservation of green – natural environment
- Proposals related to heritage conservation / preservation
- Proposals related to housing
- Any other specific proposals identified
- Implementation strategies
- Phasing strategies

### **Vision and objectives**

It is important to understand the objectives set out in earlier development plans to formulate vision for the new development plan. This can enable to authority to establish a link between the earlier plans and the proposed plan. The authority shall also review the extent of achieving the objectives and should try and incorporate the unfulfilled objectives in the proposed development plan.

### **Proposals related to improvement of road linkages and new roads**

A review of proposed road network in the past development plan should be carried out to understand the patterns of development in the past. The authority shall also review the extent of implementation of road network.

### **Proposals related to land use zoning in terms of identified developable zones and non-developable zones**

An analysis should be carried out to understand the

proposed land use zones in past couple of development plans. The zones should be reviewed to understand the growth patterns of the city over a period of time.

Review of proposed land use zones in the past development plans with the current existing land use of the development area would also be very good to understand the gaps, if any between past proposals and current development trends.

#### **Proposals related to various physical infrastructure facilities – node and network based**

A broad analysis should be carried out by the authority of the proposed physical infrastructure facilities in the past development plans to understand the extent of areas covered under the proposed facilities. It shall help the authority to review the extent of implementation of the facilities and propose infrastructure for newer areas.

#### **Proposals related to social infrastructure**

A broad study of all the proposals of social amenities should be carried out to understand the type of social infrastructure facilities developed in the DP area. This shall help the authority to propose the development of social infrastructure amenities for a new horizon year, considering the future population projection.

#### **Proposals related to conservation / preservation of green – natural environment**

A detail analysis should be carried out to identify the naturally sensitive areas considered in the past development plans, the amount of area currently preserved under the past proposals and present status of these preserved areas. This shall help the authority to reconsider the preservation of these areas.

#### **Proposals related to heritage conservation / preservation**

A broad review of proposals in the past DP should be carried out to understand the initiatives or policies undertaken to conserve the heritage value of the old city. This shall help the authority to identify the extent of area/precinct considered under heritage value and help the authority to prepare the proposal to incentives owners to retain heritage value of the structures. The analysis can also be helpful for proposal of new LAPs in the DP for conservation/preservation of heritage.

#### **Proposals related to housing**

A broad review of housing proposals in the past DP should be undertaken to understand the distribution of housing typology in the city, major sectors benefitted through them etc. It shall help in assessing the supply side of the housing market in the last 10 years and identifying the economic sectors getting benefitted and excluded in the

past proposals.

Conducting a broad study of assessing the past proposals shall help the authority to identify the gap in demand and supply of housing units for the various income groups exists in the city. Further this shall help in identifying the extent of the implementation of the proposals from the past DPs

**Any other specific proposals identified**

Any specific proposals other than key proposals identified based on the context of the city in the past DP should be reviewed. This shall help the authority to assess the status of implementation of such proposals and if any of the proposals are to be carried forward in the new DP.

**Implementation and phasing strategies**

A broad review of the implementation and phasing strategies should be undertaken to understand the mechanisms of implementing and phasing the past proposals. This shall help the authority to understand the tools considered then, to implement the proposals. Along with, it shall also help the authority to review the achievability of the strategies considered to phase the proposals.

Review of all the proposals and status of its implementation on ground should help the authority to understand the gaps, if any between the proposals of past plans and current demands. The review shall also help the authority to carry forward certain proposals from past plans. (Refer fig 4\_25)

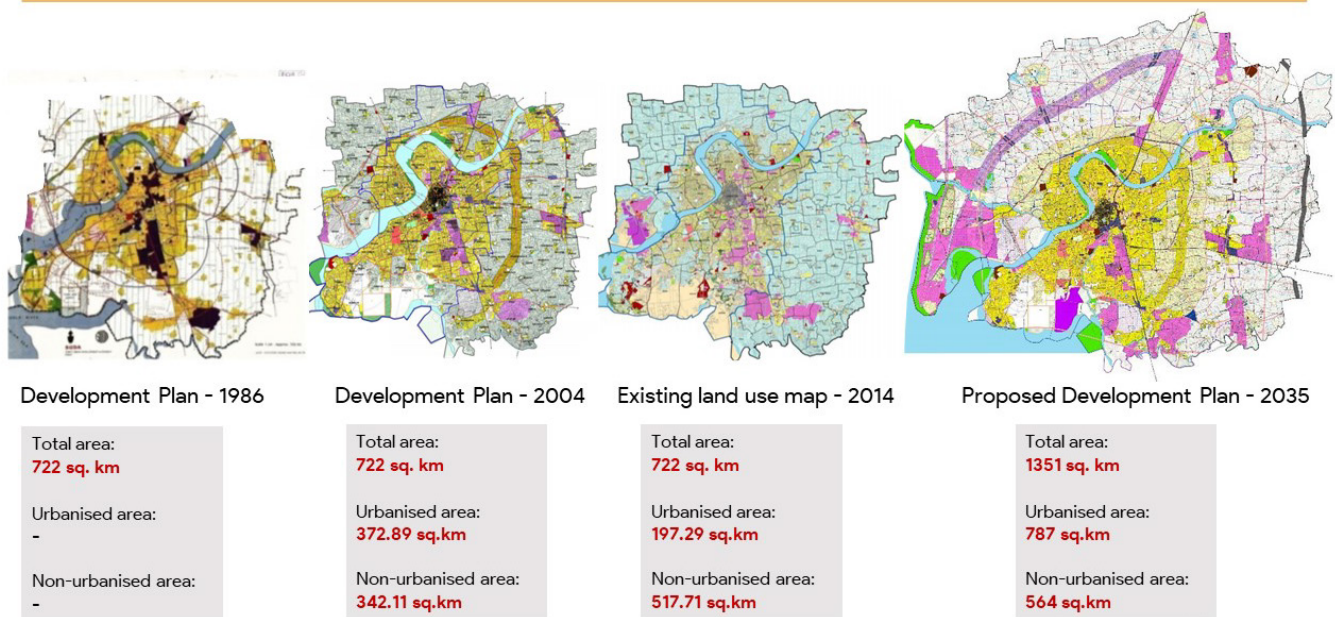


Figure 4\_25: Review of past planning efforts (Source: SUDA DP 2035)

### 4.3 Review of Growth Trends

A Development Plan must integrate land planning with various other aspects of planning such as transportation, housing, infrastructure, environment etc. to promote a well-coordinated, harmonious growth and sustainable development of the urban area. For such integrated planning, the development plan must go beyond analysing the static existing situation. It must look at the past data of multiple decades to understand the trends and rate of change over time. Of course, there are multiple parameters for which trends can be studied. However for purpose of a development plan, study and analyses of the following trends are crucial for preparing various proposals.

- Economic Trends
- Population Trends
- Spatial Trends

It is suggested to that Advisory Group should also review the past trends along with review of existing situation analysis as describe under chapter 4.

The data for assessing such trends may be collected from from various sources including Census, NSSO, various government departments and corporations (e.g GIDC, IMD), boards (e.g. housing boards, pollution control board etc) etc.

#### **Economic Trends:**

Economy of a place has a direct impact on the population growth, demographic makeup, housing demand, real estate development, land consumption and infrastructure provision. It all hinges on the economy of the place. Therefore, a good understanding of local and regional economy and trends in different economic sectors is crucial for devising various proposals for the development plan.

Employment trends in primary, secondary and tertiary sectors are crucial indicators to understand the economic based and future growth potential of any town, city or urban area. This would help in understanding which sector is experiencing growth, and how might it impact the demographic trends within the city. For example a city with growing secondary sector may attract large numbers of migrant workers to support its manufacturing or industrial base. Whereas a city with growing tertiary sector would attract more of white collar workers and more educated population to support its expanding service sector, banking, finance, and commerce. In addition to the direct impacts on population growth and demographic trends, different growth sectors also have

different impacts on the housing demand, consumption of goods and services, vehicle ownership and travel patterns etc.

In terms of spatial impacts, understanding employment trends and other indicators would also help in identifying potential locations for employment centres such as industrial areas, business districts and commercial corridors, logistics hub and planning major transport network. As each economic sector has different requirements in terms of location, space, physical infrastructure etc. the DP needs to make appropriate provisions to facilitate and organize such economic activities through zoning, regulations, transport network and provision of infrastructure and housing for the workers.

Assessing economic trends require employment data in different sectors, which can be available from government department and corporations (e.g. IMD, GIDC, NSSO etc.) different local organizations, professional, trade and business associations, workers data (from Census) etc.

### Population Growth Trends:

Understanding population trends is absolutely critical for preparing a development plan. This helps planners to understand how quickly the population is growing and in which parts of the urban area. The population growth in different areas has direct impacts on the demand of housing for various income groups, demand of real estate and floor space, demand of developable land, travel demand, consumption of water and energy, generation of waste and sewage etc. And the Development Plan needs to devise various proposals including zoning, transport network, infrastructure, social amenities etc to facilitate and/or manage growth in different areas.

For understanding population growth trends, it is crucial to analyse data of at least 3 past decades.

Census is a great resource for conducting analyses, and deriving population and demographic trends for municipalities, wards and villages of the urban area. It helps assess growth rates for population, growth rates by various age cohorts, ethnic cohorts, sex cohorts, education cohorts etc. and provides some significant cues for planning of the area.

### Spatial Growth Trends:

It is necessary to study the spatial growth pattern in the planning area. This would help to understand the urbanization pattern of the region, study of spatial growth patterns over past decades help to understand how the city is growing and in which direction? Also it gives some

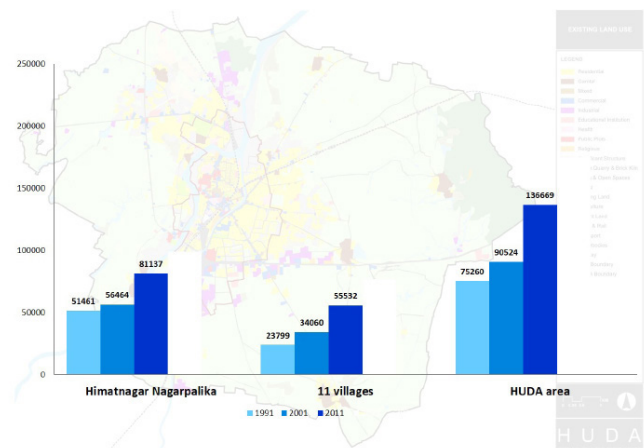


Figure 4\_26: Population Growth trends

(Source: HCP)



crucial cues about the reason of such growth, which could be due to easy accessibility, establishment of some employment centres such as industries or educational institution, or upcoming projects such as township, airport, high speed rail etc. Eventually, the study guides in identifying which non-urbanized land area should be opened up for future development.

For the contiguous urbanized area, it is recommended that the DP should analyse the evolving urbanization pattern. This shall guide identifying the areas which land should be urbanized to accommodate the future growth and to have a contiguous urban area. (Refer fig 38)

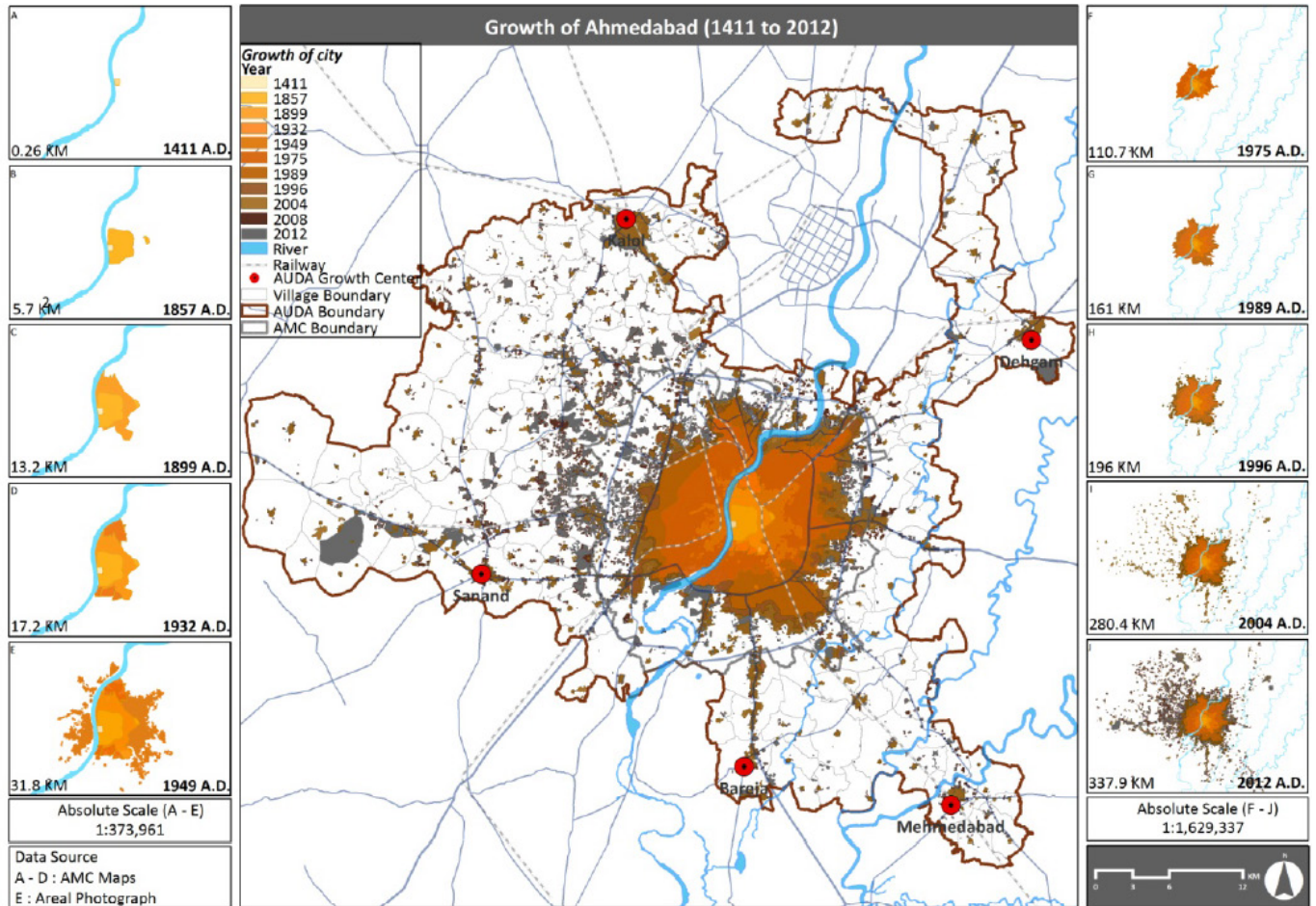


Figure 4\_27: Spatial Growth trends

(Source: AUDA DP 2021)

## 4.4 Population Estimation

Population projections mean extrapolation of the past population trends into the future. The conventional methods of population projections use population data of the past decades to derive growth rates. Typically, the growth rates are influenced by multiple factors including the natural growth influenced by the birth rates and death rates, and in-migration and out-migration due to economic factors. Assuming the past trends will continue in the foreseeable future, these methods yield definitive numbers for the population that will live in the urban area.

However, this assumption that 'the past trends will continue in foreseeable future' is proven erroneous. In fact the population trends have been observed to change frequently due to changes in macro-economic factors, shifts in the regional economy and regional distribution of population, changes in policies or political will, changes in technology etc, and most recently due to epidemic. In face of such unpredictable factors, the conventional "Predict and Provide" approach can lead to rigid and restrictive planning, which generally leads to mismatch between supply and demand of floor- space, serviced land, infrastructure etc.

Hence it would be better to clearly understand the limitations of this projection based approach, that is, the projections provide only one of the plausible scenarios - a 'Business as Usual Scenario'. Which means, if the past trends continue without any significant change in policies, economic trends, technology etc., the urban area will have the projected population.

Recognizing the above limitation, the projections may be used to arrive at an estimate of population for the horizon year of the plan. There are various well-established methods of population projections. Some of the known and commonly projection methods are as below:

- Arithmetic mean method - This method is based upon the assumption that the decadal increase in population remains constant. This method is generally used for large and old city with considerable development.
- Geometric increase method - In this method, it is assumed that the percentage increase in population from decade to decade remains constant. Since this method gives higher values, generally it is used for a new city or a new industrial town at the beginning of development.
- Incremental increase method - The method uses the difference between absolute population increases during the two successive decades to project the population. This method is generally used for an



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average size town under normal condition where the growth rate is found to be in increasing order

- Shift and share method - Shift share is a standard method that attempts to determine how much of regional employment growth can be attributed to national trends and how much is due to unique regional factors, for different industries and economic sectors. This method first projects the employment in different sectors, and subsequently arrives as population projections

Apart from these conventional methods, there are many different methods using comparison with other cities, based on employment and economic trends, or composite methods combining two different methods etc.

As mentioned earlier, however, majority of these methods are trend based methods assuming continuation of past trends. And the experience has shown that trends do change over decades. Hence, it would be advisable to take a more robust yet flexible approach while preparing a DP, which allows it to sustain variations in demand of floor space and developable land.

Such an approach will require the DP to ensure provision of a robust framework of roads and right-of-way, which can cater to long term future demand (examples New York, Barcelona). From this perspective, it is prudent to use estimates that may be on higher side, rather than the lower side, and subsequently prepare a plan that is robust yet flexible to be able to cater to reasonable deviation from the estimates.

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- 5.1 Sample based household surveys
- 5.2 Meetings with government organizations, NGOs and associations

### **Highlights**

- o *This chapter provides guidance for identifying various stakeholders at all levels who need to be considered for preparing the vision of the DP, including various organizations, institutions, general public etc.*
- o *This chapter also provides detailed guidance to conduct stakeholder consultations and household surveys to record their issues, opinions and suggestions which needs to be considered while preparing the vision for DP.*

Consultations with stakeholders are very crucial for gathering relevant information as well as for understanding the issues faced by people. An inclusive stakeholder consultation process should include both, elected members and representatives of people from the whole spectrum of socio-economic and demographic background, as well as representatives from different government and non-government organizations.

Major identified stakeholders are:

- Elected members & Representatives of development area.
- NGOs
- Government organizations / semi-government organization
- Various associations (Developers, Industries, Architecture & Engineers, Medical etc.)
- Various Institutions (Education/Academic, Religious, Environmental, etc.)

## **5.1 Sample based household surveys**

It is very important to consider people's opinion while formulating the Development Plan for an area. For that, a house hold questionnaire based survey can be conducted in the region. Samples can be selected in a way that it covers people from various economic, social and regional background. Sample selection should also take care that it has participation from rural as well as urban parts of the region. An ideal sample size would be around 2 – 2.5% for a household size of around 1 - 2 lakhs, however for more population even a sample size of the extent of 1% to be considered based on the population of the development area.

The questionnaire should cover profile of respondent in terms of household income and expenditure, family size etc. It should have questions related to provision of basic amenities like water, drainage electricity, accessibility to schools, hospitals and other civic amenities and should also cover questions related to accessibility open and green areas public transport, income, expenditure and consumption etc.

## 5.2 Meetings with government organizations, NGOs and associations

Along with citizen, it is also necessary to consult various organizations and government department for stakeholder consultation. (Refer fig 39, 40 and 41)

The authority shall try and consult all the concerned government departments and take their suggestions and consider them for preparation of vision for the region. And indicative list of departments is given below, however depending upon the region; the list should be elaborated further

- Revenue department
- Irrigation department
- Educational institutions
- Environment and forest department
- Panchayat Department
- Urban Development and Urban Housing Department
- Water Supply & sewerage department
- Railways department
- Ports Administration
- Tourism department
- Industries department
- Engineering departments of ULBs
- Road and building department
- Chamber of Commerce and Industries
- Airport Authority

Apart from the above departments, the authority shall also meet the organizations and associations

- Builders' associations
- Architects' and Engineer's and Town Planning associations
- Industries' associations
- Environmentalists and their associations
- NGOs

Various rounds of meetings can be conducted with these departments, associations and organizations to take their viewpoints and also data required for analysis.



Figure 5\_1: Stakeholder Consultation

Source: HCPDPM

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## Development Plan Part Planning Proposals and Recommendations **2**

### **06.**

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#### Identifying DP Vision, Objectives and Approach

- 6.1 Identifying Vision and Objectives
- 6.2 Planning Approaches
- 6.3 Workshop with Advisory Group

#### **Highlights**

- o *Clear vision is critical for any development plan, which can be described in form of a vision-statement and/or in form of a set of clear objectives that are to be achieved over relatively long term period of 10 to 20 years.*
- o *This chapter discusses the importance of formulating a vision for the preparation of DP. It also provides detailed guidance to prepare the vision for DP in consultation with stakeholders.*
- o *The authority at this stage may appoint an Advisory Group (AG) including various experts appointed by the authority for the purpose of formulating the vision and objectives of the DP.*

## 6.1 Identifying Vision and Objectives

A development plan is a document laying out long term vision, proposals and recommendations for improving the future development of the area. A clear vision is the key-stone for any development plan, which can be described in form of a statement or in form of a set of clear objectives that are to be achieved over a relatively long term period of 10 to 20 years.

The vision and objectives of the development plan shall be prepared based on the inputs received from stakeholders and residents of the development area. The inputs from stakeholders and residents can be taken in form of focus group discussions, sample surveys, public meetings and workshops etc. The vision and objectives of the DP shall be identified considering the stakeholder inputs as well as the existing situation analysis, assessment of trends and on-ground observations (as described in chapter 4). The vision and the objectives should be further reviewed by the Advisory Group, and subsequently finalized by the authority.

The suggested key principles that shall help in shaping the vision/identifying the objectives of the city can be as follows;

- **Encouraging Compact Development**
  - > Discourage development inducing infrastructure in far flung areas.
  - > Reduce sprawl by encouraging compact city form in order to reduce the trip lengths and commute distance.
- **Managing/Promote sustainable and environment friendly development**
  - > Promote development based on principles and best practices of sustainability
  - > Protect and enhance environmental assets to create development that is environmental friendly.
- **Enhance accessibility, connectivity and mobility options for all citizens**
  - > Improve existing street network
  - > Ensure complete street network to enhance connectivity.
  - > Improve accessibility for Pedestrians to develop pedestrian friendly streets
  - > Improve Non-Motorised Network (NMT) to ensure safe mobility options for the people in the city.
  - > Enhance connectivity at local, urban and regional level

- **Integrating Land use planning with transportation**
  - > Plan and implement public transport linking existing nodes of development and activity
  - > Promote Transit Oriented Development along existing and future public transport corridors.
- **Enhancing/developing the green network in the city**
  - > **Provide adequate amount of green spaces such as parks and public open spaces**
  - > **Connect the garden and open spaces with a network of green streets**
- **Preservation of natural terrain, drain and strategies for its spatial planning**
  - > Identify the Non-Developable areas in order to preserve the natural features
- **Development Suitability and Development Potential**
  - > Restricting the development on the fertile lands identified in existing situation analysis
  - > Ground water surveys shall be conducted to identify the lands not potential for development.
- **Incentivize affordable Urban Development**
  - > Promote inclusive development policies for enhancing affordable access to housing
  - > Promote affordable housing around transport corridors and government land on DP.
- **Strategies for Gamtal integration**
  - > Strategic planning of gamtals in the development plans separately
- **Managing the 'non planning areas' (outside of DP boundary)**
- **Conservation and preservation of heritage zone**
  - > Preserve and conserve the urban heritage & important land mark of the city.
  - > Enhance the built form of the built heritage.
- **Development of efficient physical and social infrastructure.**
  - > Provide adequate physical infrastructure in the city to cater the future growth
  - > Provide adequate social infrastructure in the city to support the needs of the future growth

## 6.2 Identifying Planning Approach

After identifying a long term vision and objectives, it is also important for the DP to identify a clear approach that would help formulate various proposals.

Considering that a Development Plan by nature is a macro level, long term plan, the following approaches may be considered by the authority and the Advisory Group:

- Robust Framework Approach
- Liberal Approach
- Sustainable Approach
- Implementable Approach

### 6.2.1 Robust Framework Approach

Development plan, being a macro level, relatively long term plan, should focus on providing a robust framework of road network, infrastructure, zoning and regulations, within which subsequent detailed micro level planning can be carried out through mechanisms of Town Planning Schemes, Local Area Plans, specific projects etc.

This Robust Framework based Approach will allow flexibility in absorbing variations in demand, trends, technological changes, economic changes, choices etc. while retaining certain basic framework. A Plan with Robust Framework Approach will identify:

- Long term proposals; effectively for foreseeable future, and retain the land for it, no matter what. This will include road network, public transport (e.g. Metro) and major infrastructure (e.g. Critical Natural & Environmental Features)
- Midterm proposals period (20 - 30 years), but maybe revised & upgraded when demand changes. This will include physical and social infrastructure.
- Short term proposals (10-20 years) and flexible, that can be allowed to change depending on the demand of the time Building Uses, Permissible Land Uses .

### 6.2.2 Liberal Approach

Liberal Approach broadly means, allowing the market to generate the required amount and kind of floor space, as long as it is not detrimental to the health and safety of the people. This means, allowing sufficiently high FSI to not artificially suppress the demand, and allowing mixed-use to allow flexibility in kind of floor space permissible.

However, such flexibility should not result into negative health and safety impacts, and the planning should also ensure sufficient provisions of infrastructure and amenities to facilitate the developments.

Predict & provide approach, though proved wrong due to various unpredictable development, there are also instances of long term predictions working for planning of orderly future development. Therefore, some level of estimates can be useful to plan for some infrastructure such as treatment plants and trunk networks etc.

### 6.2.3 Sustainable Approach

After ensuring a liberal approach for the provision of future floor space supply, the Authority should consider Sustainable Approach while planning for where to allow higher or lower supply.

- Allow and incentivize more number of people to locate near public transport, in Transit Oriented Developments.
- Encourage contiguous development, and discourage leapfrogging sprawl into hinterlands and sensitive natural areas.
- Encourage redevelopment and adaptive reuse rather than a deterioration of older developments while spreading in Greenfield areas

### 6.2.4 Implementable Approach

- Planning & implementation should go hand in hand. Plan should be realistic and feasible. It should not be rigid but flexible with respect to time and policy of the Government
- The Authority must have clear micro-level implementation mechanisms to implement the DP in phases and parts. These mechanisms must be backed by statutory provisions and must be implemented in the given market conditions. Such mechanisms include Town Planning Schemes / Development Schemes, Local Area Plans etc.
- Must have a clear set of DCRs to promote and regulate development in the area.
- Must clearly identify implementable projects that facilitate planned growth.
- Must identify appropriate implementation mechanism to implement the project and proposals.
- Must clearly identify cost estimates for various proposals/projects and identify sources of revenue to cover the cost.

### **6.3 Workshop with Advisory Group (AG)**

After completing the existing situation analysis, preparing various thematic maps and conducting stakeholder consultations, the authority shall prepare a draft vision and may conduct workshop with Advisory Group (AG) to review vision formulation. The details related to formulation of Advisory Group (AG) are elaborated under chapter 15 in the manual. It is recommended to conduct the workshop in a guided framework to properly convey the contents of the Development Plan and key principles considered to formulate the vision for the city.



## Development Plan Part Planning Proposals and Recommendations **2**

## **07.**

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### Planning Proposals and Recommendations

- 7.1 Proposals for Land Use and Zoning
- 7.2 Proposals for Transport and Mobility
- 7.3 Proposals for Physical Infrastructure
- 7.4 Proposals for Social and Civic Amenities
- 7.5 Proposals for Green and Open Spaces and Preservation of Natural and Environmentally Sensitive Areas.
- 7.6 Proposals for Housing and Informal Settlements
- 7.7 Proposals for Old City/Heritage Areas
- 7.8 Other Proposals
- 7.9 Cost Estimate, Revenue Generation and Funding Mechanisms
- 7.10 Implementation and Phasing

#### **Highlights**

- o *Development Plan must identify various proposals to manage growth, facilitate development and improve the quality of life of people and the environment within the area. This chapter provides detailed guidance for preparation of various proposals related to land use and zoning, transportation, infrastructure, amenities, housing, green and open spaces, environment, heritage etc.*
- o *The chapter also provides detailed guidance for carrying out implementation and phasing of the identified projects, their cost estimation and resource mobilization in the Development Plan.*

Based on the overarching vision and the objectives formulated for the development area, various planning proposals should be identified and included in the DP Part 2: Planning Proposals. The proposals must be prepared after considering the existing situation analysis, stakeholders' input and recommendations of the AG.

The proposals can be grouped under different chapters in the DP based on their focus areas. The table below identifies the 'proposal focus area' and the relevant provisions as per Section 12 ( 2) (a) to (o) of GTPUDA 1976 (Refer annexure 2 for detail section as per GTPUD Act 1976) However, the proposals under this chapter should be organized in the order of their importance for development of the area and not necessarily in the same order as that of the sub-sections (a) to (o) under Section 12 ( 2) of GTPUD Act 1976.

Subsequently, the proposals identified in the DP should also be supported by the broad cost estimates for implementation of these proposals. The cost estimation may also require to identify phasing strategies for certain proposals with long term implementation. All of these shall be included in the DP Part 2.

Table 2: Planning Proposals and Recommendations

Sr. No	Proposals focus Area	Relevant sub-sections under section 12 ( 2) of GTPUD Act 1976
1	Proposals for Land Use	Section 12(2a): proposals for designating the use of the land for residential, industrial, commercial, <sup>2</sup> [educational,] agricultural and recreational purposes, <sup>3</sup> [or such other purposes;]  12(2g) proposals for designation of sites for service industries, industrial estates and any other Industrial development on an extensive scales;
2	Proposals for Transport and Mobility	12(2d) transport and communications, such as roads, highways, parkways, railways, waterways, canals and airport, including their extension and development;
3	Proposals for Physical Infrastructure	12(2e) proposals for water supply, drainage, sewage disposal, other public utility amenities and services including supply of electricity and gas;  12(2f) reservation of land for community facilities and services;  12(2l) the filling up or reclamation of low lying, swampy or unhealthy areas or leveling up of land;
4	Proposals for Social and Civic Amenities	12 (2b) proposals for the reservation of land for public purposes, such as schools, colleges and other educational institutions, medical and public health institutions, markets, social welfare and cultural institutions, theatres and places for public entertainment, public assembly, museums, art galleries, religious buildings, playground, stadiums, open spaces, dairies and for such other purposes as may, from time to time, be specified by the State Government;

5	Proposals for Preservation of Naturally Sensitive Areas and Green spaces	12 (2c) proposals for designation of areas for zoological gardens, green belts, natural reserves, 4[Water body, water course] and sanctuaries;  12(2j) proposals for food control and prevention of river pollution;  12(2l) the filling up or reclamation of low lying, swampy or unhealthy areas or levelling up of land;  12(2n) provision for preventing or removing pollution of water or air caused by the discharge of waste or other means as a result of the use of land.
6	Proposals for Housing and informal settlements	12 (2o) such other proposals for public or other purposes as may from time to time be approved by the area development authority or as may be directed by the State Government in this behalf
7	Proposals for Old city/ Heritage areas	12 (2h) preservation, conservation and development of areas of natural scenery and landscape, 1[and of heritage buildings and heritage precincts;]  12(2i) preservation of features, structures or places of historical, natural, architectural or scientific interest and of educational value;
8	Other Proposals	12 (2o) such other proposals for public or other purposes as may from time to time be approved by the area development authority or as may be directed by the State Government in this behalf
9	Development Regulations and Urban design guidelines	12 (2m) provision for controlling and regulating the use and development of land within the development area, 2[Including imposition of charges at such rate as may be provided for grant of Floor Space Index (FSI) or height, and also imposition of ] conditions and restrictions in regard to the open space to be maintained for buildings, the percentage of building area for a plot, the location, number, size, height, number of stories and character of buildings and density of built up area allowed in specified area, the use and purposes to which a building or specified areas of land may or may not be appropriated, the sub-divisions of plots, the discontinuance of objectionable uses of land in any area in any specified periods, parking spaces, loading and unloading space for any building and the sizes of projections and advertisement signs and hoardings and other matters as may be considered necessary for carrying out the objects of this Act;

As discussed above, the planning proposals should be written in appropriate chapters of part 2 of the DP broadly based on their focus area, as listed below.

- Proposals for Land Use, Zoning and Development
- Proposals for Transport and Mobility
- Proposals for Physical Infrastructure
- Proposals for Social and Civic Amenities
- Proposals for Preservation of Natural, Environmentally Sensitive Areas and Green Spaces
- Proposals for Housing and Informal Settlements
- Proposals for Old City and Heritage Areas
- Other Proposals

The following sub-chapters elaborate on each of these proposals

## **7.1 Proposals for Land Use and Zoning**

Land is a limited and non-renewable resource. Therefore, it must be used very carefully. Development Plan is a tool to ensure planned and efficient use of land for human purposes. Hence, the proposals detailed out in a DP must be prepared to make the most efficient and sustainable use of land. Zoning is the most important tool used for this purpose.

As per Section 12(1) of GTPUDA, a draft development plan shall indicate the manner in which the use of land in the area covered by it shall be regulated, and also indicate the manner in which the development therein shall be carried out. Subsequently Section 12(2) of the act empowers an authority to identify various proposals including proposals for use of land and for regulating development within the development area as part of the Development Plan.

### **7.1.1 Background and Types of Zoning**

Zoning is one of the most commonly used planning tools to regulate development and its character in different areas of the city. The early use of zoning as a tool to regulate development goes back to late 19th Century, when the cities were suffering from overcrowding, pollution and urban squalor associated with onset of Industrialization. The nuisance created by industrial activities locating within or near existing neighbourhoods led the cities to create functional separation of uses. While many European cities used law of nuisance for this purpose the early uses of modern zoning were seen in Germany and Britain in the late-19th century.

Later use of zoning as a tool expanded in different cities to regulate building height, built floor space, density etc. Since late 19th century, the use of zoning as a tool has evolved. The various ways in which zoning has been done include: Use based zoning, FAR based Zoning, Density based Zoning, Height based zoning, Nuisance Based Zoning, Architectural Style Based Zoning, Community based Zoning, Form-based Zoning, etc. Each of these approaches have their merits and demerits.

More recently, many progressive cities have begun using Form-based zoning and regulations which goes beyond use-based zoning to focus on urban form that encourages efficient use of land, improves connectivity and walkability and enhances overall urban character. Gujarat is one of the first states in India to use this approach for planning. The volumetric approach adopted in Sabarmati Riverfront Development (SRFD) project, and form-based regulations for Local Area Plans (LAP) in Ahmedabad are Indian examples where this approach is explored.

However, the more widely used method of zoning practiced for Development Plans in Gujarat is combination of use-based and floor space based zoning.

### 7.1.2 Identifying areas to zone for development

Before delineating zones for a DP, it is important to understand which areas are suitable for development and which areas are not. Once the suitable areas are identified, the development potential of these areas should be considered while identifying and delineating the zones. This can be done using the Development Suitability Maps and analysis as identified in chapter 4.1.16.1

**Development Suitability:** Using the Development Suitability Map and analysis as identified in chapter 4.1.16.1, the authority should identify developable and non-developable areas. The areas not suitable for development generally include water bodies, area under flood zones, areas under HFL and FTL of major water bodies, forests, high slopes, environmentally sensitive areas, natural habitats etc.

The non-developable areas also include areas restricted for development through various regulations of state and central governments, such as areas under CRZ and other environmental regulations, right-of-ways defined under high tension electrical lines, oil and gas lines and other infrastructure, heritage areas marked by ASI etc. All non-developable areas should be preserved and should not be zoned for general development activities.

**Development Potentiality:** Once the non-developable areas are excluded, the remaining areas shall be assessed for their development potentiality as discussed in chapter 4.1.16.2. Based on the priorities and objectives of the plan, various factors considered for identifying development potential may include accessibility and proximity to roads of different hierarchy, proximity to existing developed areas, proximity to job centres, proximity to significant education or transportation hub, distance from industrial areas, market demand considering recent transactions, NA conversions, market rates, jantri rates etc.

Based on the potentiality indicators and other factors, areas under developable zones should be zoned for various development activities like residential, commercial, industrial, mixed, institutional etc (Refer fig 42)

**Understanding Trends:** While the above process helps identify availability of developable land within the area, identifying zones for development requires good understanding of recent trends influencing development in the area. Understanding **Population Growth Trends,**

**Spatial Growth Trends and Development Trends** are critical, as it provides a very good idea about which areas are currently attractive for growth and development, and whether the plan should facilitate growth in those areas or divert it in other areas. Also, depending on the priorities and objectives of the plan other trends such as employment trends, housing trends, vehicle ownership trends etc can provide useful information for the kind of development taking place today and in short-term future. However, it is important to understand limitations of the trends based planning at this stage. The sub-chapter below discusses conventional approach and new approach for zoning.

### 7.1.3 Approach to Zoning

Majority of master plans and development plans for Indian cities today are prepared based on the Conventional Approach, which first uses Population trends of past few decades to project future population and to identify demand for land; and subsequently opens up exactly the amount of land required to cater to the demand. This conventional **predict and provide approach** however is highly questionable as it predicts the future assuming that the past trends will continue in foreseeable future.

As recent events have clearly shown, it is extremely difficult to foresee long term future and forecast the future population based on the past trends. Often, population trends have been observed to change due to changes in macro-economic factors, impacts of epidemic such as COVID 19, changes in technology, changes in policies or political will etc. In face of such unpredictable factors, the conventional “Predict and Provide” approach has led to rigid and restrictive planning, which generally results in a mismatch between supply and demand of floor-space and serviced land. Very often this results in increased real-estate prices, lack of affordable housing in city areas, longer travel distances, increased informal settlements etc.

Hence, it is recommended to take a **robust framework based approach** and **liberal approach**, as discussed in chapter 6.2, which allows the plan to sustain and accommodate fluctuations in demand of floor space and developable land. This approach would

- a. Enable the plan to liberally allow more floor space than the demand projected based on the current trends and,
- b. Simultaneously ensure robust framework of well-planned roads and infrastructure by reserving land for their right-of-ways, which can be developed when the areas develop in future.



Zoning can be used as tool to ensure **liberal approach** in primarily two ways, (a) by allowing higher floor space in the existing urban areas to encourage infill and redevelopment, and (b) by allowing new floor space to be built in the surrounding suitable greenfield areas contiguous with the city, where services can be provided.

Both these approaches will require to ensure provisions for a robust framework of roads and infrastructure, which can cater to the future demand.

Apart from this, another way in which Zoning also facilitates liberal approach is by NOT assigning single 'proposed land use'. The 'predict and provide approach' often leads to assigning a 'Proposed Land Use' to a land parcels, which quite often may not be in consistent with the demand in the area. This results in underutilization of development potential of the land parcels, or sometimes even leaves them undevelopable.

In contrast to this, Zoning does not 'assign' a proposed land use to land parcels, but 'allows' a set of compatible land uses within the identified area. For example, a zone can allow multiple compatible and complimentary uses such as residential, commercial, educational etc. in a single zone. And a plot owner in that zone can chose to develop any of these uses on her/his plot based on the prevailing demand in the area. Similarly another zone may allow commercial and/or industrial activities (**GTPUD Act 1976, section 12 ( 2)**). In summary, it is important to understand that 'Proposed Land Use' would identify exact use permissible on a plot, whereas zoning would identify a set of uses permissible on the plot.

#### 7.1.4 Key Principles for Zoning

As discussed earlier (chapter 7.1.1.1), zoning began with the purpose of segregating the uses impacting health of people such as polluting and hazard prone industries, and preventing spread of diseases. Since early days, zoning has also been used for segregating activities causing public nuisance. Later, zoning evolved to also regulate uses, intensity of development and urban character in different areas.

Following are some of the key principles, which need to be considered while identifying and delineating zones for a DP.

- Zone to **segregate uses impacting health** of people. For example, create separate zones for hazardous industrial use; and identify zones requiring health related improvements, such as dense old city areas, informally settlement areas etc.
- Zone to **prevent safety hazards**. For example, identify hazard prone areas such as flood prone

areas, landslide prone areas with high slopes etc as no-development of restricted development zones.

- Zone to **segregate nuisance generating uses** such as large traffic generating and noise generating uses like logistic, warehouses, wholesale, transport hubs, airport etc.
- Zone to preserve **natural or development sensitive areas**. For example, identify forest, natural habitats, sensitive natural resources, culturally sensitive areas, heritage areas etc.
- Zoning to **facilitate and/or regulate urban form and character** of different areas

### 7.1.5 Delineating Zones

Identifying and delineating zones is one of the most important exercise for a DP. Based on the above key principles, below are some of the key considerations for locating and delineating various zones of DP.

1. **Zones for Preservations of Natural and Environmentally Sensitive Features:** Identify and **zone areas to be preserved and restricted for development** for long term future. These areas include lakes, rivers, streams and other important water bodies, forested areas, natural habitats, eco-sensitive areas, flood prone areas, high slope areas, coastal zones etc.
2. **Zones for Development, redevelopment and conservation:** Identify areas that can be zoned for development. These areas should be identified based on development suitability and potentiality as discussed in 7.1.1.2. Once identified, these areas can be further zoned for different activities based on their nuisance impacts as below:
  - > Identify **zones to segregate polluting and hazardous industries**. These zones should be located away from core urban areas and residential neighbourhoods in such a way that minimizes the impacts of pollution and other impacts on the urban areas. Such zones shall also be located considering connectivity with highways, major arterials and other modes of transport for movement of goods and workers.
  - > Identify **zones to segregate high nuisance generating uses such as logistics, warehouses, wholesale, APMC, transport hubs, airports etc.** which generate heavy traffic and noise. They also generate other ancillary activities that are generally not compatible with residential neighbourhoods or other urban developments.
  - > Identify **zones to retain and enhance existing urban character of old urban cores, urban**

**villages and precincts with heritage values.**

Once identified, such zones can have regulations to incentivize conservation of heritage structures and precincts. Also, detailed local area plans can be prepared to plan and enhance such areas for tourism and other purposes under section 76(A) of GTPUDA.

- > Identify **zones to improve older urban areas through incentivized redevelopment.** Such zones can include older urban areas with high development demand (e.g. CBD), or existing areas where public transport such as Metro or BRTS is being planned. Such zones can have incentives to trigger redevelopment and regulations to obtain land for public purpose when the redevelopment occurs. Such areas can be developed through Local Area Plan (LAP) mechanism under Section 76(A) of GTPUDA 1976. Such zones should also incentivize affordable housing so the lower income groups.
- > Identify **zones to allow Greenfield development.** These zones should be located contiguously with the existing urban areas where urban services can be easily extended. These zones should typically allow residential mixed use developments to enhance convenience and to reduce travel for daily needs. Such zones should be planned to have small block sizes to enhance walkability and provide all necessary infrastructure and amenities through TP Scheme mechanisms as per the provisions of GTPUDA (Please refer Manual for Preparation of Town Planning Scheme for learning more about TP Schemes). While planning such Greenfield areas special care should be taken to preserve all natural water bodies and streams and connect them with green and open spaces network in the area. Zoning for such areas should also be planned to take benefits of public transport by allowing higher intensity developments around metro and bus rapid transit services.
- > Identify other special activity zones such as **education zone, institution zone, recreation zone** etc considering relevant factors such as availability of public lands, proximity to urban areas, connectivity, serviceability etc.
- > Identify zones for provision of large city level utilities and physical infrastructure such as sewage pumping and treatment facilities, water treatment and pumping facilities, solid waste treatment facilities, etc. Such zones shall be identified in consultation with respective departments managing and providing these



services. Also such zones shall be identified after considering the availability of public lands, proximity to populated areas, natural slopes, topography, wind directions and other environmental impacts on air quality, surface and ground water quality, etc.

- > Identify the existing village settlements and their surrounding areas as **gamtal and gamtal expansion zones**. The gamtal expansion zones should be delineated based on the recent growth trends and considering development suitability and development potentiality of the areas. And they should be planned and developed through TP Scheme mechanism.

**3. Zones for Agriculture and related activities:**

Identify the remaining area not covered in the other zones as **agricultural zone**, which allows them to continue their current, agricultural and farming related activities. These zones can be further classified based on types and intensity of farming

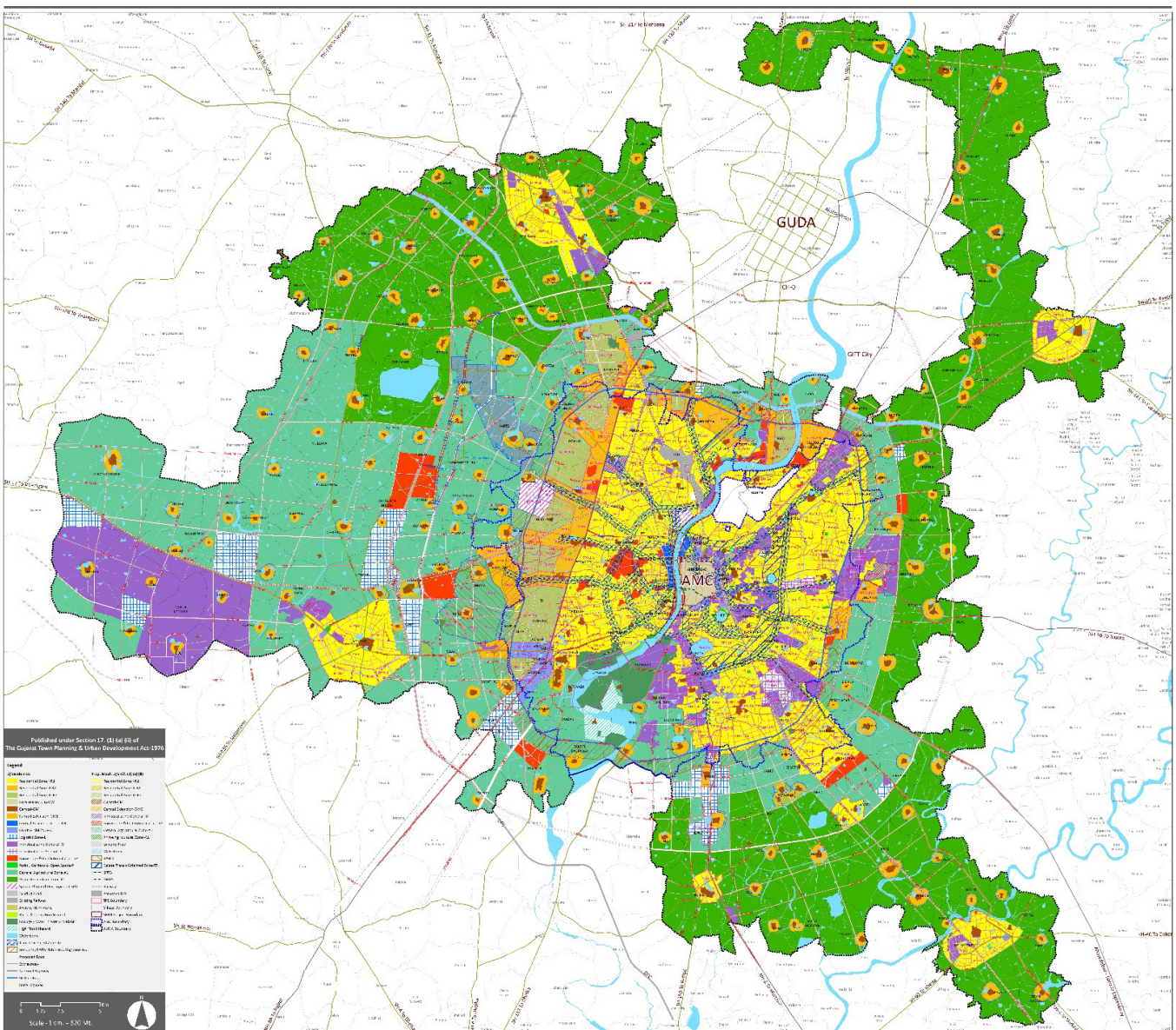


Figure 7\_1: Draft Development Plan 2021 AUDA (Source: AUDA DP 2021)

related activities such as General Agriculture, Prime Agriculture etc.

**DP Map showing proposed land use zones:** Once zones are identified, they should be clearly delineated on the draft DP Map as provided under Section 11 of GTPUDA 1976, using appropriate colours as per Rule 4 under the act. This map shall clearly identify each plot and plot number within development plan area and identify the zone it is covered under using the appropriate colours.

**Contents of the subchapter covering Land Use & Zoning:** This subchapter of the DP should refer to the zoning map and describe the purpose and character of each zone (Refer fig. 7\_1) which also becomes the basis for the regulations applicable in that zone. The chapter should also include a comprehensive table with all zones along with the areas covered under each and permissible FSI in the zone (Refer fig. 7\_2). This zoning table should be the link between zoning proposals and development regulations included in part 3 of the Development Plan. (Refer chapter 8-Development Regulations)

While delineating the zones, it is important for the authority to also identify the related development regulations applicable for each of these zone as per provisions under **Section 12( 2)(m)** of the act. This can be incorporated under the Part 3 of the draft development plan and submitted to the state government for sanctioning.

**Summarizing the key steps for Land Use Zoning proposals:**

- Derive Land Use Zoning proposals for various areas in the DP considering existing situation analysis, current trends, vision and objectives of the DP identified after stakeholder consultations and AG input.
- Identify and delineate zones considering the purpose and envisioned character of the zone
- Delineate zones on the DP Map using identified colours and showing each plot and plot number within the zones
- Prepare a zoning table identifying area covered under each zone and permissible FSI for the zones

Prepare regulations for the zones to achieve the development and character as identified in the zoning proposals.

Zones	Codes	Area in sq.m	%
1 Residential Zone I	R1	248	13.39%
2 Residential Zone II	R2	42	2.2%
3 Residential Zone III	R3	44	2.4%
4 Residential –Affordable Housing Zone*	RAH	75	
5 Core Walled City	CW	4	0.2%
6 Gamtal	GM	23	1.2%
7 Gamtal Extension	GME	57	3.1%
8 Central Business District	CBD	2	0.1%
9 Transit Oriented Zone*	TZ	16	
10 Commercial and Logistics Zone	C	43	2.3%
11 Industrial Zone - General	IG	100	5.4%
12 Industrial Zone - Special	IS	3	0.2%
13 Knowledge and Institutional Zone	KZ	20	1.1%
14 Parks and Gardens	PO	2	0.1%
15 General Agricultural Zone	A1	497	26.7%
16 Prime Agricultural Zone	A2	569	30.5%
17 Special Planned Development (SPD) Zone- Sabarmati Riverfront Development	SPD-1	6	0.3%
18 SPD - Science Park	SPD-2	4	0.2%
19 SPD- Gandhi Ashram Special Development Area	SPD-3	1	0.1%
20 Airport and Cantonment**		9	0.5%
21 Road and Rail**		86	4.6%
22 Waterbodies**		85	4.6%
23 Other areas**		19	1.0%
<b>TOTAL</b>		<b>1866</b>	<b>100%</b>

Figure 7\_2: Zoning Table

(Source: AUDA DP 2021)

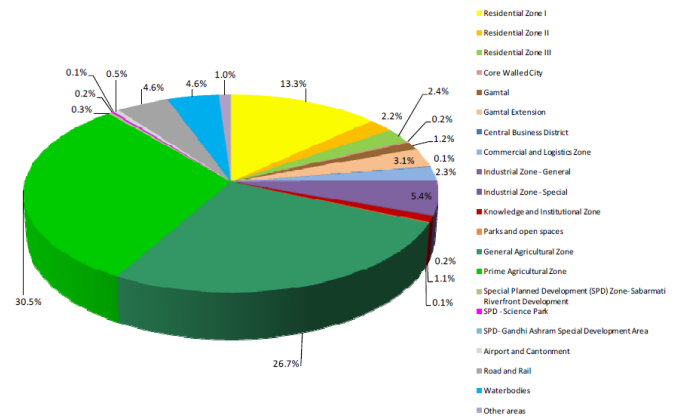


Figure 7\_3: Distribution of Areas

(Source: AUDA DP 2021)

## 7.2 Proposals for Transport and Mobility

This chapter in the DP should include proposals related to improving the existing transportation network and mobility in the development area. The proposals in the development plan should consider should consider all modes of travel including road, public transport, non-motorized transport, rail, waterways and air. Section 12(2)(d) of the act provides for inclusion of these transport related proposals in DP.

The proposals should be derived based on the existing situation analysis of transportation network and mobility as described in chapter 4.1.6, and considering the overall vision, objectives and priorities of the DP. The DP should also refer to Mobility Plan, if prepared and available for the city or the urban area, while identifying the proposals in the DP. The proposals in this sub-chapter should include proposals for

- Improving existing road network
- Expanding road network
- Public Transport
- Pedestrian and bicycle network
- Parking management
- Freight and logistics
- Interstate connectivity

### 7.2.1 Proposals improving existing road network:

Growing vehicular traffic and congestion are most common concerns for our cities and towns. While controlling the vehicle ownership may not be under the purview of a development plan, improving the transportation network and regulating parking are certainly within the purview of a Development Plan.

Too often, the roads and streets in our cities are congested not because of too many vehicles, but because of the way the ROWs are designed (or left un-designed) and the way they are used (or misused). Also the congestion is caused by the way the street network is planned (or not planned) so majority of traffic is forced to take the same congested arterial as there are no easy alternative routes or parallel roads planned.

Therefore, the proposals for improving existing street network should prioritize:

- Improving the overall street network by opening up alternative connections, dead-end streets and bottlenecks.
- Enhancing and/or reorganizing the existing streets



and road ROWs to organize and prioritize movements of different modes and improve mobility

### 7.2.2 Proposals for improving overall street network:

It require study and mapping of congested arterials and intersections. They should also consider existing and future travel demand for those critical segments and nodes on the network, and refer to the comprehensive mobility plan or relevant transportation study if available. Subsequently, these proposals should identify alternative connections to be opened up, or existing connections to be enhanced for easing out the congestion on the network (Refer fig 7\_4). Such network improvements proposals may include proposals for

- adding new connections in form of streets or roads,
- widening ROWs
- improving intersections
- new bridges, flyovers, underpasses etc.

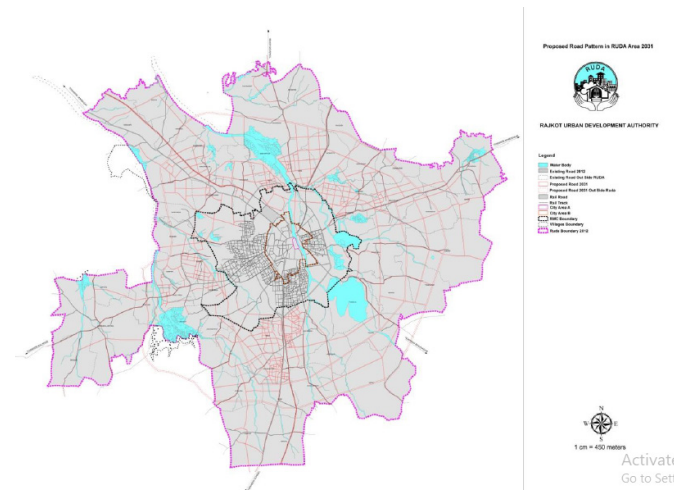


Figure 7\_4: Road network RUDA

(Source: RUDA DP 2031)

### 7.2.3 Proposals for enhancing and reorganizing street right-of-ways:

It should recommend typical street sections for different ROWs identified in the DP. Recognizing that urban roads are different than intercity roads and highways, they should be designed to carry not only vehicular traffic, but also accommodate other modes and activities. Such street sections should be based on the concept of '**complete streets**'. Complete Streets mean the streets that are designed considering all modes including pedestrian, cycling, public transport, IPT and private vehicles. Such streets are designed to accommodate various elements such as benches, trees, lighting, dustbins, bus-stops, parking, vending spaces etc, to facilitate urban activities taking place along the street. Such Complete Streets also integrate underground utilities in the design at

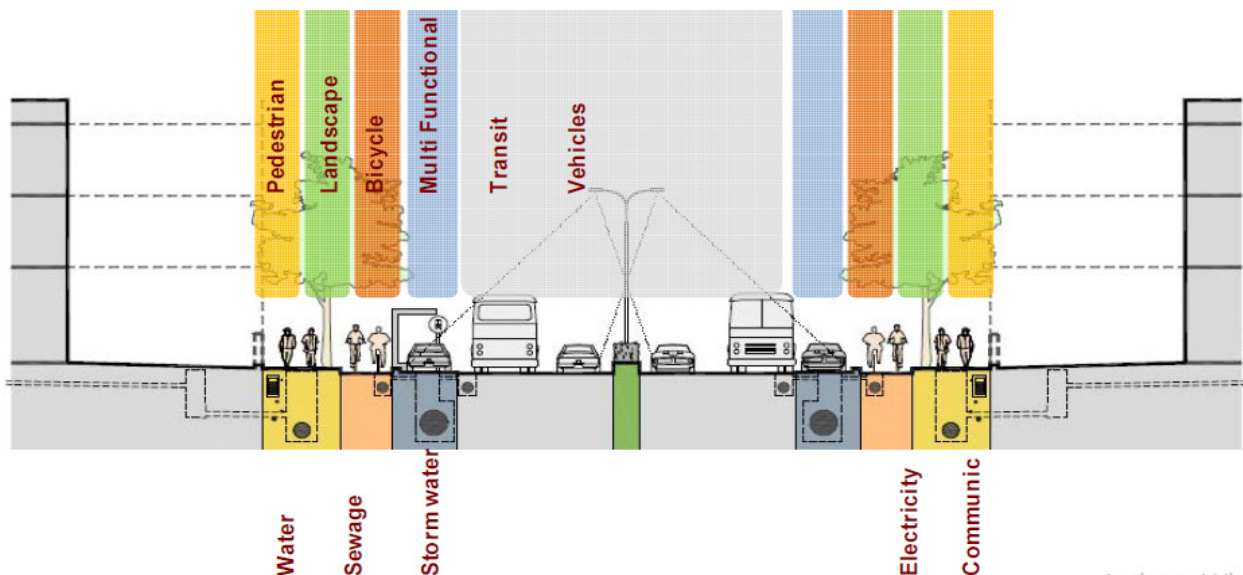


Figure 7\_5: Example of Complete Street

Activate Wind

appropriate locations for ease of maintenance. (Refer fig. 7\_5). The typical street sections identified in the DP can be used as a reference while preparing detailed design of those streets for implementation.

## 7.2.4 Proposal for Expanding Road Network:

Beyond improving existing network, the DP should also provide proposals for new road network in the areas zoned for new, greenfield development in future.

(Refer fig 7\_6)

Following could be the criteria that needs to be considered while expanding the road network in the development plan.

- Proposed new roads must be integrated with the existing road network to ensure continuity of existing arterials and major roads for seamless mobility.
- All urban roads must be designed as 'Complete Street' to accommodate all necessary modes of transport and allow choices to the users.
- Proposed road network shall have a clear, well-defined hierarchy. This street hierarchy should not only be based on right-of-way width but also based on function of the streets in the overall network. For example, many times relatively narrow street may be an important street functioning as an arterial, running through core areas and connecting it with other parts of the city. Therefore, it is recommended that the hierarchy shall be based on road functionality and not based on the width of ROWs.
- A Development Plan should identify both right-of-way based and function based road network hierarchy and propose to improve and expand the network using the same. For this, a DP may consider the following hierarchy for road network proposals:
  - > **Major Arterials:** The most important road and streets within the network, running for longer distances, connecting different areas across the city. These should have wider right-of-ways, designed to carry high volume traffic for longer distances. They should also be designed to carry significant pedestrian volumes supporting major commercial and mixed use activities along the right-of-way. They could be located about 2 km apart.
  - > **Minor Arterial Roads:** They generally run for shorter distances, and serve different areas to connect them with major arterials. They could be located at about 0.5 to 1km apart.
  - > **Major Streets:** They are generally shorter and smaller than the above categories, designed

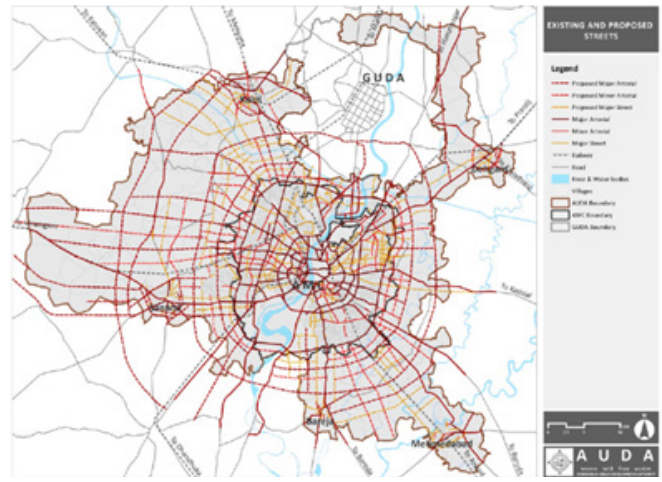


Figure 7\_6: Expanding road network

(Source: AUDA DP 2021)

to serve moderate to slow traffic, but higher pedestrian volumes. With local shops, commercial frontages and informal activities, these streets may be some of the most important streets for the neighbourhoods

- > **Local Street:** These are small streets, typically carrying low volume, slow-moving traffic. They are normally placed in residential neighbourhoods to facilitate residential related activities such as walking, cycling, mobile vendors, roadside sitting and gathering etc.

### 7.2.5 Proposal for Integrating Public Transport System:

Public transport system in the cities help to alleviate the traffic issues and reduce the pressure of congestion on roads. Therefore it is important for a DP to integrate the existing and proposed public transport systems in such a way that they support and facilitate the land use proposals and together form a well-integrated network. (Refer fig 7\_7)

Following are recommended criteria required to be considered in the development plan while planning for the public transport system:

- It could be proposed that all public transport systems are integrated with each other and all are designed to accommodate NMT and intermediate transport modes.
- It is recommended that the development in close proximity to stations must be integrated through improved streets, pedestrian network and feeder services to support public transport system.
- It is necessary that all transit stations (BRTS, Metro and city bus stations) must be integrated within its context in a way that they can provide maximum connectivity and accessibility between the station and surrounding
- All the transit stations must be carefully planned to allow spaces for pick up and drop off for IPT access.
- It is could also be recommended to identify the station that shall be developed as multi-model stations integrating with other public transport facilities.
- It could be recommended in the development that the development in TOD corridor shall be done through the Local Area Plan (LAP), a tool to plan for improved street network and infrastructure in the identified areas

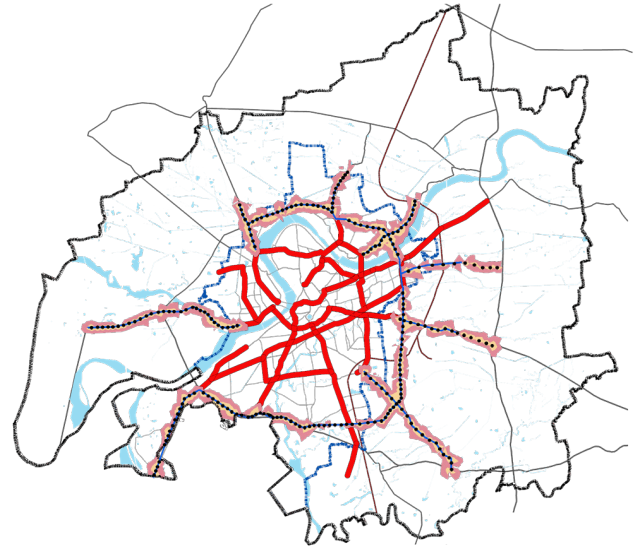


Figure 7\_7: Public Transport system (Metro and BRTS)

## 7.2.6 Improving/Proposing Pedestrian and Bicycling Network

Pedestrian and bicycling are considered to be the most sustainable transport mode. Allowing and encouraging them in the development plan shall be the first priority while planning for the transport infrastructure in the city.

Therefore, it is recommended that a DP may consider the following criteria while planning for the improving pedestrian and bicycle network in the city:

- It can be recommended in the DP that all city roads shall be designed to have walkable sidewalks and provide pedestrian-friendly environments. This shall be achieved by developing all the roads as 'Complete Streets' as discussed in proposal 1 and 2.
- In order to create pedestrian-friendly streets; below are the mentioned elements can be incorporated in the DP while designing and constructing roads.
  - > Contiguous, obstruction-free – clear 2-meter-wide sidewalk
  - > Well paved walking surfaces along both sides of streets
  - > Tree covered sidewalks with well-designed street furniture and other elements
  - > Clearly defined and safe pedestrian crossing at junctions
  - > Active street frontages to create a safe environment
  - > Small block sizes to allow better pedestrian connectivity
- It can be recommended in the DP that 'Bicycle Network Plan' shall be prepared which identifies streets that have potential to be developed with bicycle lanes and important locations such as transit stations, parks, open spaces, shopping centres, and institutes that should be connected through the network. The bicycle network shall be comprised of
  - > Dedicated bicycle lanes
  - > Demarcated bicycle lanes
  - > Shared bicycle lanes



Figure 7\_8: Parking Management Strategy

## 7.2.7 Parking management

Lack of organized parking system combined with increasing usage of private vehicles lead to unorganized parking on streets, encroaching pedestrian sidewalks, pushing pedestrian to use ROWs and putting them directly in conflict with vehicular traffic that results in to create unsafe traffic condition on the streets. However, it could be recommended for an authority to prepare a comprehensive parking management plan that deals with managing both on-street and off-street parking demand.



Following are the suggestions that may be considered to address the parking issue in the city;

- The parking condition in the city shall be managed through the implementation of the parking management system and through specific parking provisions in DCR.
- Parking Management Plan shall be prepared to provide guidelines and regulations accommodating on-street parking in commercial and abutting residential streets.

Location for off-street parking shall be identified in the parking management plan that may include public parking lots and multilevel parking garages. However it is recommended to designate the locations for such spots shall be near public transit stations and in areas with high demand for parking.

### 7.2.8 Freight and Logistics

It is recommended that the DP shall have a specific zone named Logistic, Warehousing and Wholesale (LW) intending to accommodate Logistic relates activities

Following are the suggestions that a DP may consider while proposing logistic parks and Freight in the city (*Refer fig 7\_9*)

- Such activities normally tend to agglomerate near transport axis, railway stations and airport. Hence, it is recommended that in the proposed development plan, location for these activities should be determined based on the location tendency of the logistic, warehouse and wholesale activities.
- It is also recommended that the DP should prepare a 'Comprehensive Freight Movement Plan' for the city to avoid conflict between local and regional traffic.'
- Trucks should be allowed on certain roads at certain time for the ease of smooth movement of both freight transit and daily vehicular traffic in the city.
- It is recommended that a logistic zone shall be developed in the DP for the ease of freight transit and near to the proposed or existing freight corridors and at the peripheries of the urban area

### 7.2.9 Interstate connectivity

- Depending on the need and size of the development area, the DP shall address and provide for the interstate connectivity with other major centres. Proposals related to various modes of commute like road including rail, air and waterways should be addressed and included in the proposal.

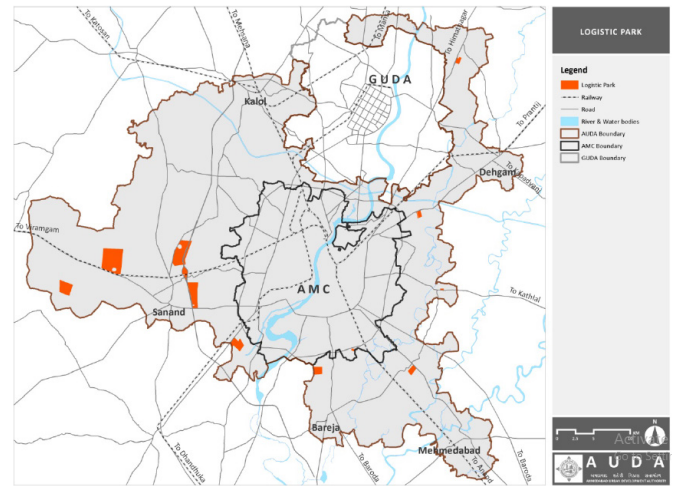


Figure 7\_9: Proposed Logistic park

(Source: AUDA DP 2021)

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## 7.3 Proposals for Physical Infrastructure

All areas zoned for development in the DP must be served with high quality infrastructure. Therefore all DP should clearly identify proposals for providing infrastructure for Water Supply, Sewage, Storm Water, Solid Waste, Electricity, etc.

This chapter in the DP should include proposals related to the provisions for physical infrastructure within the development area. Section 12( 2)(d)(e)(f)(l) of the act provides for inclusion of these physical infrastructure related proposals in DP.

Therefore, following are the considerations to be undertaken for the preparation of proposals for the physical infrastructure services in the Development Plan;

- Assessing the unserved areas in the current development area
- Existing coverage of the physical infrastructure network, including water supply, sewerage, storm water, electricity, gas pipelines etc.
- Ensure the availability of a complete network of water supply in the DP area
- Ensuring the good quality of water to be supplied
- Ensuring the discharge of sewerage is not affecting the peripheral fields and rivers to avoid pollution
- Solid waste management

The DP should assess the demand for physical infrastructure that can be referred through URDPFI guidelines based on the population projection estimates.

As per **GTPUD Act 1976 under section 12( 2)(e)** the DP should incorporate proposals for water supply, drainage, sewage disposal, other public utility amenities and services including supply of electricity, gas, telecom etc.

### 7.3.1 Proposals for Water Supply:

This should be done using gap analysis based on the existing available water supply, estimated population for the horizon year, and CPHEEO guidelines by Ministry of Urban Development. Further, details of demand analysis shall be documented well in tabular format for better understanding in the development plan.

#### Up gradation and Provision of New Water Treatment Plans and water supply network

In order to cater to the future demands based on the estimated population, the DP shall identify existing water treatment plants which can be upgraded and the requirement of new treatment plants. (Refer fig 7\_10). The proposals may include the following;

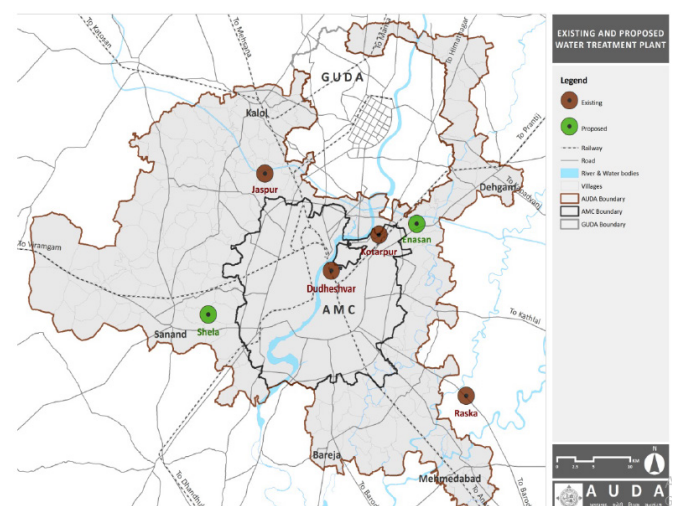


Figure 7\_10: Existing and proposed water treatment plants  
(Source: AUDA DP 2021)

- Probable sources of water
- Locations of existing treatment plants required to be upgraded and their revised capacities
- Locations of new treatment plants and their capacities
- Trunk network of water supply in the DP area

### Provision of New Water Distribution System

Based on the existing capacity of water storage tanks (water distribution centres) in the city and estimated water supply requirement, it is suggested that the DP should identify provisions of new distribution stations and OHTs and ESRs.

### 7.3.2 Proposals for Sewerage network and treatment

It is recommended that the DP should determine the proposals for sewerage network based on the demand analysis by estimating possible wastewater generation in future. This can be done based on the estimated population for the horizon year, estimated water supply demand and CPHEEO guidelines by Ministry of Urban Development.

#### Up gradation and Provision of New Sewerage Treatment Plants

In order to cater to future requirement, up gradation of existing sewage treatment plants and provision of new treatment plants shall be carried out (Refer fig 7\_11)

It is suggested that the DP should identify the additional requirement for sewage treatment plants. This shall be done based on the analysis of the capacity of existing sewage treatment plants in the city and estimated future wastewater generation.

The DP can also consider decentralized sewage treatment system, which will allow better opportunities for grey water recycle and reuse for irrigation and other purposes. It may be considered to identify locations for such decentralized treatment facilities next to city level parks so that the gray water generated after the treatment can be used for irrigation, public toilets etc.

#### Provision of New Sewerage Pumping Stations

- Locations of existing and new treatment plants with revised capacities
- The DP shall need to identify the requirement for decentralizing waste water treatment system.

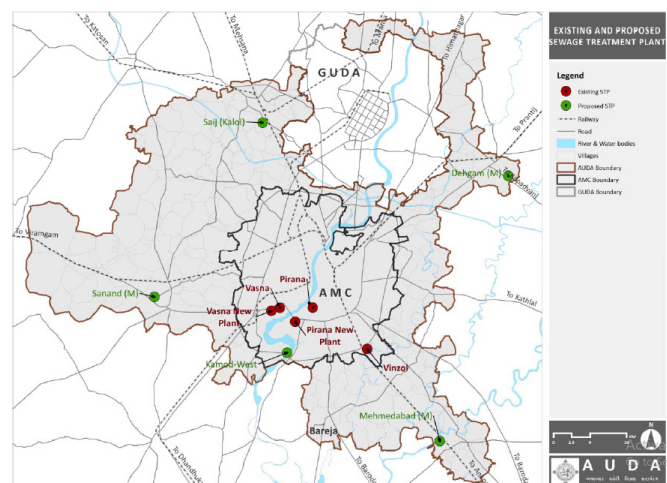


Figure 7\_11: Existing and Proposed Sewerage treatment plants  
(Source: AUDA DP 2021)

### 7.3.3 Proposals for Storm Water management and ground water recharge

This sub-chapter in the DP should include all the proposals for developing a complete and efficient storm water drainage network within the Planning Area.

#### Enhancement of Storm Water Drainage

It is important for the urban local body to provide a well-designed storm water network to avoid flooding in rainy season. This requires detailed study of natural topography and low lying flood prone areas, as well as retaining existing natural water channels, lakes and water bodies.

While detailing out proposals for Storm Water Network in the DP, it is best that the rainwater is allowed to percolate at local level. This means creating frequent opportunities for ground water recharge through percolation bores, percolation wells, collection of rain water in retention ponds or lakes.

The proposals for storm water system should be planned in such a way that they are frequently interspersed with appropriately located ground water recharge bores.

As discussed the natural drains and tertiary channels should be preserved and maintained, and the storm water should be allowed to run into these nalas and into the lakes where it can percolate and recharge the ground water.

#### Lake Inter-Linkage Plan

It is recommended that a DP shall identify specific lakes to be linked as a part of the storm water drainage system. It is recommended that the Preparation of a comprehensive and detailed lake linkage plan shall be undertaken in order to make it an effective channel for water harvesting known to be essential for ground water recharge and to be used for irrigation purposes.

### 7.3.4 Proposals for Solid Waste Management:

The solid waste generation within the development area would be very different for the urban areas and for the rural areas. The authority preparing the Development Plan shall identify the solid waste generation per day for its development area and prepare a robust framework for its management in the development plan.

Considerations for preparation of proposals for solid waste management for Development Plan;

- The development area should adopt for options considering treatment of solid waste than just disposal

- Adopt large scale waste treatment, recycling and disposal, maximizing source segregation, localized recycling and target for zero waste generation
- Establishment of eco-friendly techniques for solid waste treatment as well as disposal
- Up-gradation and Provision of New Landfill Sites. (Proposals for such provision should be made round the city, with increase in accessibility of the point from their respective areas) (Factors such as logistics & traffic movement should be considered)

**Other recommendations**

- Encourage / create public awareness regarding reduce, reuse and recycle (3 'R's)
- Create awareness among the citizens for segregation of waste at source; that is two domestic bins for biodegradable waste and for recyclable waste.
- Develop localized treatment and disposal options such as community composting etc.
- Develop mechanism through which the rural areas (villages) in Development area can be catered for solid waste management.
- Carry out appropriate waste treatment and disposal techniques through public private partnerships

## 7.4 Social and Civic amenities

The DP should identify proposals for ensuring sufficient supply of land for public purposes, such as schools, colleges and other educational institution, medical and public health institutions, markets, social welfare and cultural institutions, theatres and places for public entertainment, public assembly, museums, and art galleries, religious buildings, playgrounds, stadiums, open spaces and for such other purposes as may from time to time be specified by the state government.

Section 12(2)(b) of the act provides for inclusion of these social and civic amenities related proposals in DP. URDPFI guidelines is a good general reference for estimating the demand of social amenities. However, today government is not the only provider of such amenities.

In Gujarat the private sector is also involved in provision of the above stated amenities and thus it should be accounted for while estimating the demand and approaching the land. For neighbourhood level amenities, land parcels are reserved at TPS level. (Refer fig 7\_12)

Considering that the private sector is also involved in provision of amenities, the requirement of city level social amenities to be provided through public sector should be identified while preparing the DP and land parcels should be reserved which can further be appropriated through TPS or other mechanisms.

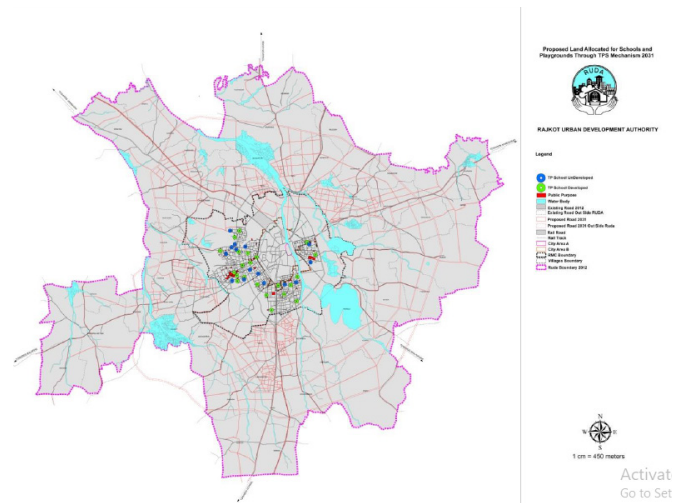


Figure 7\_12: Land reserved for health, education and recreation through TP mechanism (Source: RUDA DP 2031)

## 7.5 Proposal for Green and Open Spaces and preservation of Naturally and Environmentally Sensitive Areas

As our urban areas grow, they require additional land to be developed for various purposes. However, it is crucial to carefully conserve, preserve or deal with environmentally sensitive areas while preparing the Development Plans for such areas. Neglecting the natural features such as topography, floodplains, watersheds, water-bodies, forest areas and biodiversity areas have led to disastrous results in many of our cities today. The loss of human life and damages to property due to pluvial and flash flooding have become frequent phenomena in many of our cities. Similarly, the depleting levels and quality of ground water, inundation of salt water into the wells and bores, urban heat island effect etc have resulted in diminishing quality of life in our cities.

Therefore, it is critical for any DP to carefully look at the existing environmental features and carefully identify the proposals related to the preservation of environmentally sensitive areas such as water bodies, low lying areas, flood prone areas, wetlands, bio-diversity areas etc. to be added in the Development Plan. These features are an integral part of the ecosystem of the city that balances the quality of environment in the region. Therefore, it is necessary to study and protect them to have a sustainable development in the planning area. Section 12( 2)(c)(j) of the act provides for inclusion of preservation of naturally sensitive areas and green areas related proposals in DP.

As per section 12( 2)(c) of GTPUD Act 1976, the DP should identify proposals for designation of areas for zoological gardens, green belts, natural reserves (water body, water course) and sanctuaries. (Refer fig 7\_13)

The DP should clearly identify proposals to appropriately locate various kinds of green and opens paces including community and city level gardens and parks, urban groves/urban forests, greenways along streams and water bodies, green paths and streets etc.; as they all directly or indirectly help in maintaining physical environment of the city and positively contribute to social characteristics of the neighbourhoods.

Based on various analysis suggested under chapter 4.1.3, 4.1.4 and 4.1.5, the proposals for green and open spaces and preservation of environmentally sensitive areas should be proposed under the Development Plan.

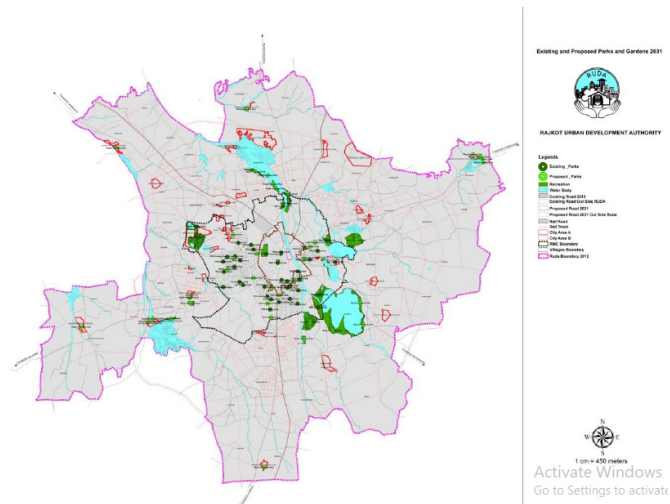


Figure 7\_13: Existing & Proposed green spaces (Source: RUDA DP 2031)



The proposals should be broadly classified under below given six categories

- Preservation and conservation of environmentally sensitive areas such as wetlands, mangroves, forests and biodiversity areas
- Ensuring continuity of natural streams and channels and integrating them in the network of green and open spaces.
  - > Clearly map and identify tertiary channels and ensure their continuity in DP as well as TP level to allow rain water to flow into the lakes and rivers
- Preservation and enhancement of existing lakes and water bodies
  - > Clearly mapping and identifying lakes to be retained and enhanced by developing parks or natural groves around them, and creating mechanisms for ground water recharge
- Encouraging ground water recharge
  - > Through utilizing low lying areas as retention ponds/lakes, lake linkage to create more opportunities for rain water to seep in ground, Rainwater harvesting in large campuses etc.
  - > Identifying and reserving low lying, flood prone areas and utilizing them for environmentally suitable activities
  - > Identifying different levels of parks, gardens and open spaces (for education & recreations) and creating a network of parks and open spaces

#### **Preservation and conservation of environmentally sensitive areas such as wetlands, mangroves, forests and biodiversity areas**

Wetlands, mangroves, forests etc. are important part of the ecology and must be preserved and strategies for the same should be formulated in the Development Plan. These areas not only act as buffer but also provide habitation to many species of birds and animals.

It is suggested that the DP should preserve these areas and no development shall be allowed, in fact DP should also create specifications and guidelines to regulate development in the area abutting these sensitive areas.

#### **Ensuring continuity of natural streams and channels and integrating them in the network of green and open spaces**

Due to development pressures in urban areas, natural drains and nalas get encroached with development resulting in to flooding in monsoon. This also leads to depletion of aquifers due to lack of recharge as these drains feed in to bigger drains / rivers and lakes helping in



Figure 7\_14: Preservation of Existing Lake



Figure 7\_15: Conservation of Environmentally Sensitive Areas.

maintaining the underground water table.

During the preparation of a Development Plan, it is crucial to acknowledge and maintain the continuity of such drains and nalas by either integrating them with road network or with network of green and open spaces. For wider drains in low lying areas, it is always advisable to integrate them with network of parks and open spaces to provide them more space for adjustment of course and to provide more ground for water to get accumulated during monsoon.

### Preservation and enhancement of existing lakes and water bodies

The Development Plan should have strategies for all the existing lakes and water bodies. The smaller water bodies should be retained and put in public usage with the mechanism of Town Planning Scheme. For large water bodies, the catchment should be identified and should be considered while preparing the road layout and zoning. To take care of storm water during monsoon, as mentioned in chapter 7.3.3, lake interlinking plan should be prepared.

### Encouraging ground water recharge

The development plan should formulate regulations to encourage the ground water recharge in development zones. Incentives can be provided to promote the ground water recharge within the private developments. At city level, as discussed in above, low lying areas should be used as retention ponds/lakes and proposals like lake linkage should be formulated to create more opportunities for rain water to percolate.

### Identifying and reserving low lying, flood prone areas and utilizing them for environmentally suitable activities

As discussed above, Development Plan should identify low lying and flood prone areas and they should be barred from any kind of development activities. These areas should be utilized for environment suitable activities like zoological gardens, botanical gardens etc.

### Identifying different levels of parks, gardens and open spaces (for education & recreations) and creating a network of parks and open spaces

All the larger level parks, gardens and recreational areas should be identified and reserved at Development Plan level. Further the neighbourhood level parks can be appropriated at Town Planning Scheme level. Mechanisms should be evolved to appropriate land for city level parks and gardens at Development Plan level. The identified parks and gardens should be delineated in such a manner that they form a network with each other and does not remain in isolation. (Refer fig 7\_17)

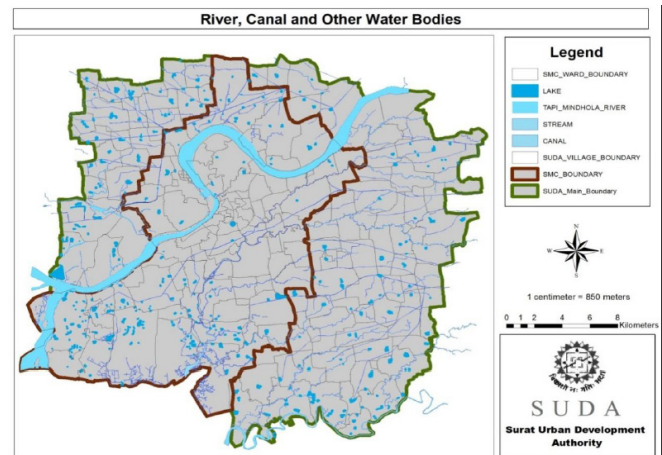


Figure 7\_16: Water bodies and canal network (Source: SUDA 2035)

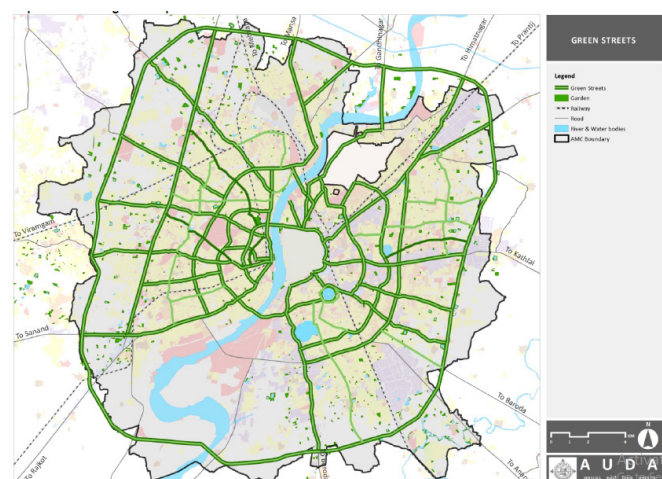


Figure 7\_17: Existing & Proposed green streets (Source: AUDA DP 2021)

## 7.6 Proposals for Housing and informal settlements

This chapter in the DP should include all the proposals related to catering the housing needs for all types of households and income groups, and make provisions to allow and incentivise creation of affordable housing units for EWS, LIG and MIG sections.

Being the basic necessity of human sustenance it deserves the special attention in any kind of planning and policy intervention to be done for Development Plan. It is important to understand the current housing distribution in the city, available housing typology, and current income of households (Refer fig 7\_18). Hence, it is recommended that the housing proposals should undertake the following consideration while planning and formulating the proposals for the development area based on the analysis drawn from the existing situation of the housing scenario in the city as mentioned in chapter 4 sub chapter 4.1.11;

- Provision of housing for EWS
- Improving living conditions for slum dwellers through various schemes
- Ensuring availability of housing for migrant workers
- Ensuring sufficient supply of affordable housing for LIG and MIG
- Ensuring supply of new housing stock for future population.

Therefore, considering the above studies, following could be the recommendations proposals to be undertaken by the authority in the DP.

### Provision of Housing for EWS

Land price being the important factor affecting the creation of affordable housing stock in the city, the authority experiences the difficulty to provide EWS housing units within the city limits. However, the authority may reserve the land for EWS housing through Town Planning mechanisms that shall allow creation of EWS housing stock well distributed at appropriate locations within the Development Area.(Refer fig 7\_19).

### Improving living conditions for slum dwellers through various schemes

The proposal requires the authority to identify the slum areas within the city and evaluate the adequacy of the availability of basic infrastructure and living condition of slum dwellers. It is recommended to encourage improving living condition in the slum areas by upgrading basic infrastructure that could be achieved by various redevelopment mechanism like; In-situ up gradation that

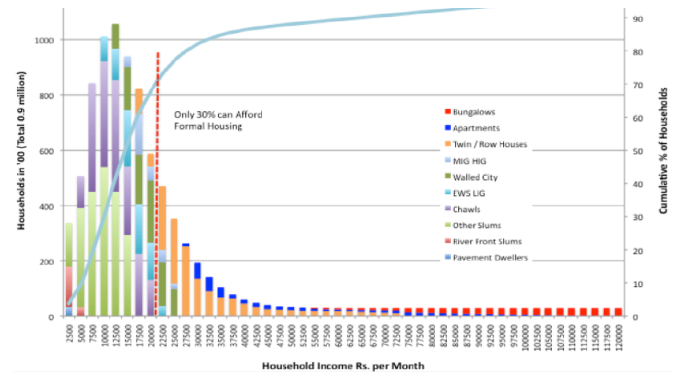


Figure 7\_18: Allocation of households to housing stock  
(Source: RUDA DP 2031)

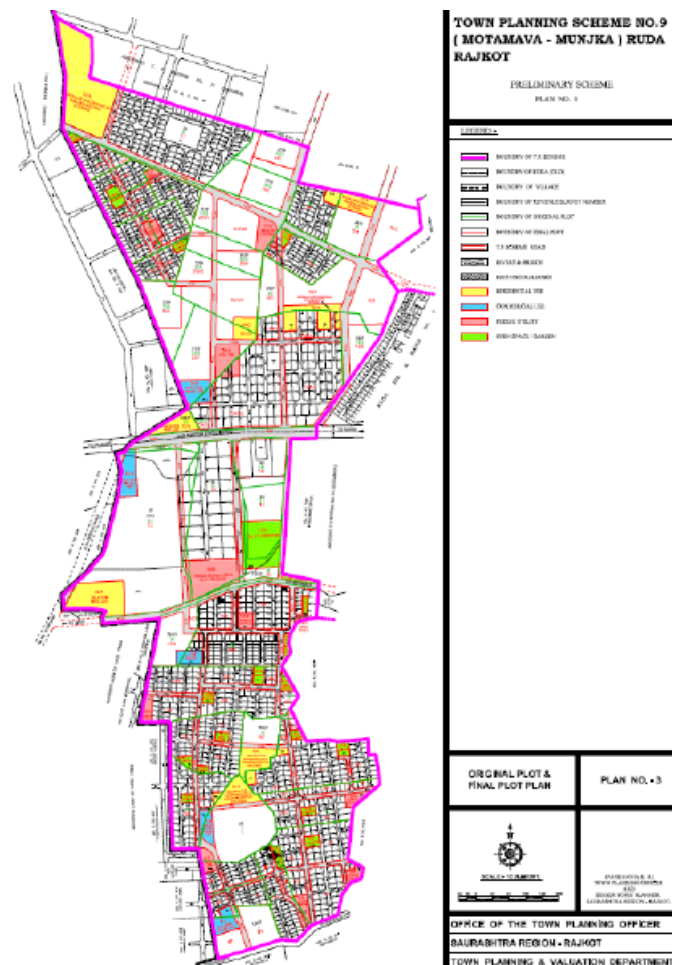


Figure 7\_19: Land reserve in TP scheme for affordable housing  
(Source: RUDA DP 2031)



shall include the provision of basic services in the existing slums, rehabilitation and complete redevelopment of the existing slums. Further, it is recommended to prepare a *Comprehensive Slum Networking, Redevelopment and Rehabilitation Plan* for the development area in order to improve the basic physical infrastructure within the slums with the help of community participation, NGO and private sector participation.

### Ensuring availability of housing for migrant workers

Through various strategies, the DP should encourage development of affordable, short term / rental housing choices at locations closer to their work places. The DP may also consider guidance from National Urban Housing Rental Policy and other state housing policies for provision of short-term housing.

### Ensuring sufficient supply of affordable housing for LIG and MIG

The location of the affordable housing plays an important role while formulating the proposals for its planning and implementation. Proposing affordable housing far away from the workplace of the residents may turn out expensive when cost of housing unit and transportation on daily basis are considered together. Therefore, it is recommended that the authority should allow and incentivize development of the affordable housing within a reasonable distance from the workplaces and be connected adequately with the public transport system available (Refer fig 7\_20). Successful implementation of affordable housing shall be achieved by bringing PMAY projects in or within close proximity to the proposed TOD corridor and by encouraging affordable housing with smaller unit size within the corridor.

It is recommended that the authority shall prepare public land inventory to estimate the amount of underutilized and vacant public land available with them. This shall help to identify available land that may be potential for creation of affordable housing and other public amenities.

It is required for the authority to evaluate the current development regulations and understand the impacts of it on the various types of existing housing units such as congested housing units, obsolete housing units and dilapidated housing units. It is important to incentivise the redevelopment of such units through development regulations as they play a vital role in the redevelopment of the same. Identifying such available units in the city shall help in determine the concentration of the stocks and potential for redevelopment in any part of the city

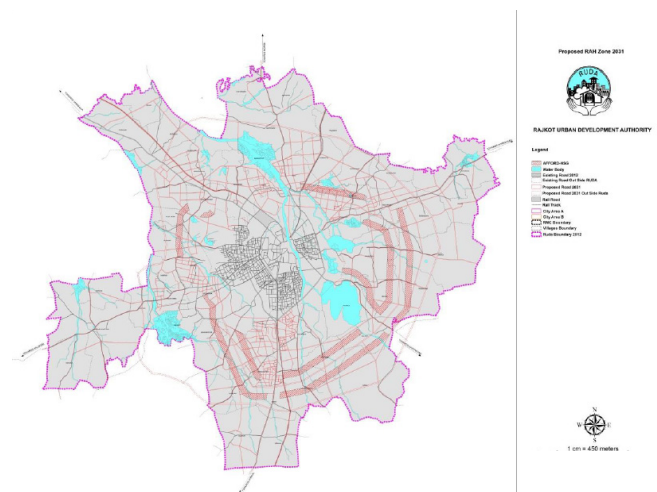


Figure 7\_20: Affordable housing zone RUDA (Source: RUDA DP 2031)

including gamtals.

### **Ensuring supply of new housing stock for future population**

While distributing the FSI for all the developable zones in the DP based on population estimates for the horizon year, it is important to consider the gross FSI in terms of proposed total built up across all the developable zones should be able to cater double the population than estimated.

However, it is important to consider the floor space consumption per capita in order to estimate the additional floor space required to accommodate the future population and ensure sufficient supply of housing in various zones.

## 7.7 Proposals for Old city/ Heritage areas

This chapter in the DP should include all the proposals related to manage the development and preserve the areas in the old city and conserve the monuments and precincts of heritage value. Section 12(2)(h)(i) of the act provides for inclusion of old city/heritage area related proposals in DP.

Almost all of our cities and towns have grown outwards from their old historic urban cores. Many of these urban cores consists of structures and precincts with significant heritage values. However, over the years these urban cores have deteriorated due to out migration of original residents replacing them with commercial, industrial, warehousing etc. activities.

In order to preserve the urban character of the core area of the old city, it is necessary to incentivize conservation and improvement of the heritage properties and precincts along with improving the infrastructure and releasing the pressure of vehicular traffic. It is suggested that a DP should identify the proposals for preservation, conservation and enhancement of heritage structures and heritage precincts.

### Conservation and preservation of the old city area

In order to preserve the historic fabric of the old city area, the DP should clearly identify and delineate the zone to be conserved / preserved as heritage area. (as discussed in zoning under sub chapter 7.1.1). It is recommended that the DP should formulate proposals for this zone based on the detailed analysis of existing condition of the area falling within this zone (Refer fig 7\_21). Following are the recommendations that an authority shall consider while formulating proposals and policies for the conservation and preservation of the old city area.

- The DP shall Identify and delineate boundaries for LAPs for heritage precincts
- The development regulation for the zone shall specifically formulate to preserve and conserve the heritage structures and their precincts.
- The DP shall create the regulations to incentivize the conservation of buildings or precincts of heritage value through heritage TDR. This incentive shall vary based on the grade of the listed heritage structures. In addition, the development regulation for the zone shall specifically be formulated to preserve and conserve the heritage structures and their precincts.
- The DP shall include the table of the grade of Tradable Development Rights (TDR) for the listed structure.

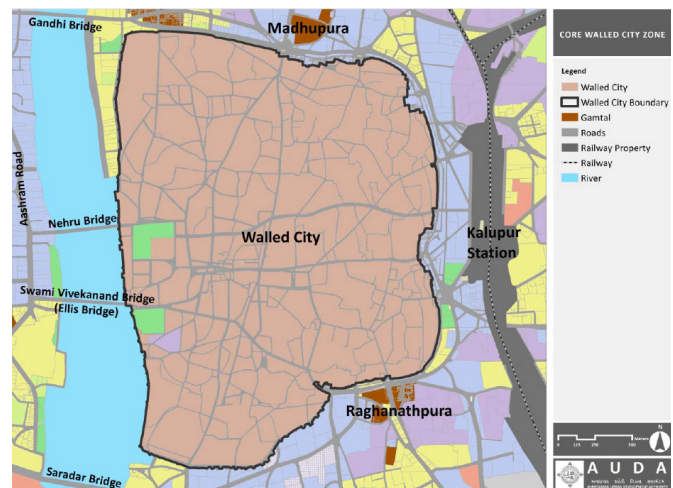


Figure 7\_21: Old city zone

(Source: AUDA DP 2021)



### **Preparation of Detail Heritage Conservation Plan**

DP shall recommend preparation of detailed *Heritage Conservation Plan* to protect, conserve and maintain the heritage structures and precincts. The plan shall include:

- All the structures and precincts of heritage value in the Old City zone and their influence zone.
- Clearly identified LAP boundaries considering the existing character of different areas within the zone
- The structures of heritage value which may get re-use or transformed into any hotels, museums, commercial use etc. and heritage-related tourism activities shall be determined.
- An implementable plan shall be prepared to incorporate the proposals and regulations for the precincts in the zone.
- The plan shall include a financial strategy for implementation purpose.

The plan shall identify the mechanism of TDR for redevelopment of privately owned buildings in the Zone

### **Improvement of existing infrastructure and circulation within the old city area**

Usually an old city area in any city is one of the most congested areas with inadequate infrastructure. It is necessary to improve traffic condition and infrastructure in the older part of the city. In order to facilitate the improvement in the old city, the authority shall carry out the detailed analysis of the existing condition of the old city area as discussed in chapter 4 sub-chapter 4.1.12 to identify the potential areas for the improvement of current quality of infrastructure and inner circulation within the zone. It is recommended that the improvement of infrastructure and circulation within this area can be achieved through Local Area Plans (LAP)

### **Parking Management Plan for Old City Area**

As discussed in proposal 1, in order to achieve the safe and smooth movement of people and vehicles in the old city area, it is important to address the issues pertaining due to lack of parking management in the area.

However, the DP should identify and prepare a specific parking management plan for the old city area to support Development Regulations for Old City Zone.

### **Organizing display of hoardings to enhance the aesthetics in the area**

It is recommended to prepare a set of guidelines as such which demands the hoardings be put in a uniform way in order to protect the visual character of the buildings in

this zone.

**Prepare a visual Pollution control Guidelines and standards for the old city**

It is suggested to prepare visual pollution control guidelines for the Old City Zone. The guidelines shall include:

- A set of guidelines and standards for controlling Visual pollution in the area.
- A separate set of guidelines addressing contextual requirements and enhance the traditional ambience.

## **7.8 Other Proposals**

Other than the proposals highlighted above, specific city level proposals can be put up under section 12(2)(o).

This sub-chapter gives provision to authority to propose for certain area specific projects for public and other purposes.

## 7.9 Cost Estimates, Revenue Generation and Funding Mechanisms

Implementation of various identified projects and proposals will require funds for its implementation. A broad cost of estimates can be categorized under 3 major components.

- Implementation of Projects and proposals
- Preparation of detail plans

### 7.9.1 Cost estimates

The cost estimates for DP broadly includes the cost of planning and preparation of DPRs, the cost of land acquisition and cost of implementation of projects.

#### **Cost estimates for preparation of details plans and DPRs:**

This should include costs for the following;

- Cost of preparation of TPS and Lap
- Cost of preparation of detailed plans and DPRs for various construction and development projects
- Cost for preparation of specific plans such as traffic management plan, heritage conservation plan, parking and vendors management plan etc.

#### **Cost estimate for projects:**

For the development area, there would be a need for up gradation and expansion of infrastructure facilities. The developable areas would have to be provided with organized infrastructure i.e. roads, water supply, sewerage etc.

Cost estimates for identified projects can be broadly classified under below mentioned categories

#### **Infrastructure projects:**

- Nodal infrastructure
  - > Water treatment plant/s
  - > Sewage treatment plant/s
  - > Solid waste treatment plant/s
  - > Solid waste dumping ground/s
  - > Pumping / distribution stations
  - > Water storage facilities
  - > Electrical sub stations
  - > Gas stations
- Network infrastructure
  - > Water supply
  - > Drainage and Sewerage
  - > Storm water
  - > Electricity
  - > Gas, telecom etc.

**Transportation related projects**

- Widening of existing roads
- Construction of new roads
- Construction of bridges, flyovers and underpasses

**Public transport**

- Buses / metro etc.
- Route – road etc.
- Stations

**Green networks related projects**

- Development of parks
- Development of lakes/ water bodies / canals etc.

**Social and civic amenities related projects**

- Housing
- Other social infrastructure proposals

Above highlighted are broad categories for cost estimation. Standard rates of construction from government department's SOR should be taken to work out the estimates. Along with these rates, rates for acquisition of land should also be worked out precisely based on LARR Act 2013 and considered wherever applicable. The applicability of LARR Act 2013 would be different for urban and rural areas and it should be considered while calculating the acquisition cost. The identified proposals should also be phased and inflation rates should be considered for deriving the costing.

### **7.9.2 Revenue Source and Funding Mechanisms**

In order to cover the costs identified above, the DP should clearly identify various revenue sources. Such resources include;

- **Revenues from the authority's own resources.** This includes revenues generated from various means and resources available to the authority, such as;
  - > For Sale plots from Town Planning Schemes – the mechanism allows to reserve land for sale to cover the costs of infrastructure development. As a result, it is very important to make more TPs in smaller cities as well. This will allow planned development and may generate additional revenue for these smaller cities.
  - > Sale of purchasable FSIs – Certain zones in Development Plan allows for purchasable FSI over and above the base FSI. This purchasable FSI is normally charged at 40% of jantri rate and is one of the major sources of revenue for the authority.
  - > Revenue from development charges – the authority also collects development charges in TPS which also helps in covering the infrastructure costs.

- **Funding from State Government and Central Government.** Authority and Municipal Corporation / Municipality can avail monetary support from various ongoing state and centre backed schemes and missions. Multiple schemes like Mukhyamantri Awas Yojna, Pradhan Mantri Awas Yojna, BSUP etc. can support housing proposals, schemes like Smart City Mission, AMRUT can support development of various infrastructure proposals, schemes like HRIDAY can help in supporting proposals related to heritage conservation.
- **Leveraging funding from other agencies and departments.** This includes low interest rate loans from central government organisations like HUDCO, international and national funding agencies such as World Bank, JICA, ADB etc. public sector banks and agencies.
- **Joint ventures (JV).** This includes joint ventures between multiple private organisations under guidelines of Government. This model can help to develop the project-based proposals in the Development Plan.
- **Public Private Partnerships (PPP).** This includes partnerships between private sector companies and government, authorities, government owned companies and SPVs to implement various housing, road infrastructure and other related projects.



## 7.10 Implementation and Phasing

Resource mobilization and quick implementation of the identified projects play a key role for success of a Development Plan. Proposals identified in the Development Plan under various layers of zoning, infrastructure, transportation etc. needs to be implemented through identified mechanisms.

- Town Planning Schemes and Local Area Plans
- Development Regulations
- Development of Projects

The implementation mechanisms for these tools are as follows;

The Town planning schemes and Local Area Plans should be delineated in the Development Plan for implementation of identified proposals and shall be carried out by appropriate authority such as, ULB, Municipal Corporation or development authority.

The Development Regulations will be implemented and force.

The implementation of the Development Projects has to be done as when the budget becomes available. The funding for the implementation of the development projects can be done by various funding sources such as state government, central government, could be self-funded by ULB or different missions.

### 7.10.1 Town Planning Schemes and Local Area Plans

The purpose of TP Scheme is to provide with basic infrastructure in developing areas. Sometimes TP Schemes may also be delineated to provide the area with some city level infrastructure like a ring road, airport etc., provide land for institutions and provide for city level greens, provision of social amenities. Similarly provision of LAP may also vary from heritage improvement, provision of infrastructure, de-clutter etc.

Considering the objective and some basic parameters like proposed DP roads, proposed zones, number of plots, physical features etc. a set of TP schemes and Local Area Plans should be delineated in the proposed Development Plan.

### 7.10.2 Development Regulations

Development Regulations are important tools to regulate the use of land and the urban form of the city while ensuring safe, healthy and livable urban environment. Details related to development regulations re further explained in chapter 8.

### 7.10.3 Development Projects

These projects would typically include construction and development of activities proposed under various proposals related to transportation, social and physical infrastructure, improvement of green network, housing etc. These projects would need capital investment and may also require a Detailed Project Report (DPR).

Considering the limited human resources and expertise of the authority it is recommended that such projects are taken up by qualified private sector entities. Considering the ease of business and to efficiently manage such projects the authority shall carefully prepare the necessary RFQs, RFPs in order to engage qualified consultants and contractors who can ensure timely and cost effective delivery.

The list of projects may include the following;

#### Transportation

- Development of street network
- Expansion and widening of roads
- Network improvement through construction of bridges underpasses and flyovers

#### Social Infrastructure

- Development of schools and health care centres
- Development of community centres, fire stations, civic centres

#### Physical infrastructure

- Expansion of sewerage network
- Expansion of water supply network
- Upgradation / development of water treatment plants
- Upgradation / development of sewerage treatment plants

#### Green network

- Development of parks at city and neighbourhood level
- Development of green network along the streets

#### Housing

- Slum upgradation
- Construction of EWS housing

### 7.10.4 Phasing

The proposals of development plan should be phased in accordance to the priorities set out in the vision. A phasing strategy till the horizon year for the Development Plan should be elaborated and followed for the implementation of various identified projects and proposals. (Refer fig 7\_22)

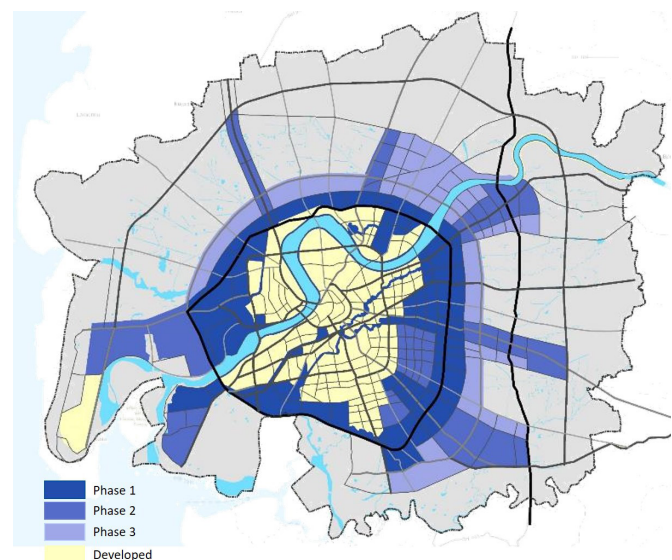


Figure 7\_22: Phasing of projects map

The proposals of development plan should be phased in accordance to the priorities set out in the vision. As discussed earlier in chapter 6, the implementation of Development Plan takes place through primarily three identified mechanisms,

- Town Planning schemes (TPS) and Local Area Plans (LAP)
- Development Regulations
- Development Projects

### **TPS and LAP**

TP Schemes and Local Area Plans (LAPs) take care of implementation of all the network-based infrastructure. All the roads, water supply lines, drainage-sewerage lines and other network-based infrastructure gets implemented with the mechanism of TP / LAP. Along with provision of network-based infrastructure, the TPS/LAP also identifies and demarcates land parcels for various social amenities like anganwadi, PHCs etc., land parcels for neighbourhood greens, social housing and other required civic amenities. Therefore, it is important to do a preliminary delineation of TP / LAP in the development plan. The delineation can be broad based on DP Roads, proposed land use zones, physical features, number of plots, number of owners etc. and can be revised when taken up for implementation.

A preliminary delineation can help the authority to phase out the TPS / LAP and provides a broader phasing strategy for the whole development plan. Costing's related to various infrastructure facilities provided through TPS / LAP are calculated separately for each and every TPS/LAP and therefor need not to be calculated under the development plan.

### **Development Regulations**

The development regulations help in regulating the proposals related to land use zoning. The authority does not get into developing inside a private plot and there for the development regulations help in controlling the use of land, consumption of FSI and other built form related things. The proposals related to zoning can not be phased and hence, once a development plan is prepared for an area, any land parcel under developable zone can be developed at any given time adhering to prescribed development regulations.

### **Development projects**

All the proposals related to development of nodal infrastructure like water treatment plants, sewage treatment plants, pumping / distribution centres, water storage facilities, gas stations etc. are implemented with the help of projects.

Along with identified infrastructure projects, certain other projects like city level parks, development of lakes and water bodies, development of schools and health care facilities, slum up-gradation, construction of EWS housing etc. also happens through special projects.

Costing for all these projects have to be identified in development plan and should be phased properly along with the phasing of projects. Depending up on the increase in population and vision of the development plan, these projects should be phased and developed.

- 8.1 General Considerations for Development Regulations
- 8.2 Planning Considerations for Development Regulations
- 8.3 Structure of Development Regulations

### Highlights

- o Under Section 12( 2)(m) of GTPUDA, a Development Plan shall provide regulations for use and development of land within the development area.
- o Development regulations must act as enabling mechanism rather than controlling mechanism. They must allow, facilitate and encourage organized development instead of simply controlling or restricting it.
- o This chapter provides guidance and key considerations for preparing development regulations to achieve planned growth, high quality development and built character in different zones of the urban area. Also it clearly identifies different types of regulations in three categories: Procedure Regulations, Planning Regulations and Building Performance Regulations.

Under **Section 12( 2)(m) of GTPUD Act 1976**, a Development Plan shall make provision for controlling and regulating the use and development of land within the development area, including imposition of conditions and restrictions in regard to the open space to be maintained for buildings, the percentages of building area for a plot, the location, number, size, height, and character of building and density of built up area allowed in specified area, the subdivision of plots, parking spaces, etc and other matters as may be considered necessary for carrying out the objects of this Act.

As it is obvious, development regulations are integral part of a Development Plan, and must be well-coordinated with zoning, road network and other proposals of the plan to achieve coherent, planned development as envisioned for different zones and areas in the DP.

The regulations such conceived shall be sanctioned together with the DP as per the GTPUD Act. These regulations subsequently can be integrated in the Common Statewide Regulations.

## **8.1 General Considerations for Development Regulations**

- Development regulations must be easy to interpret by a layperson. Regulations written using complex technical terms or jargon makes it difficult for commoner to understand, and they require middlemen for interpretations and advise. This increases the cost, time and reduces 'ease of business' by breeding in corruption.
- Development regulations must be clear and unambiguous. They must lead to a single, clear interpretation. For example, if a regulation can be interpreted in multiple different ways, it becomes difficult to implement, and breeds in corruption.
- They must be implementable. Some regulations in spite of being well-intentioned, are very difficult to implement and monitor due to the amount of human resources it takes. Such regulations shall be avoided.



## 8.2 Planning Considerations for Development Regulations

In addition to the above general considerations, below are some key planning considerations while preparing regulations.

- Development regulations must act as enabling mechanism rather than controlling mechanism. They must allow, facilitate and encourage organized development instead of simply controlling or restricting it.
- Development regulations must be prepared considering the urban character envisioned for the zone.
- Each zone identified in the DP must have clearly written planning regulations provided in a single chapter, so the land owner does not have to keep flipping pages to find relevant regulations. These regulations may include permissible uses, FSI, permissible height, margins, common open space, parking,
- All regulations must be equitable, inclusionary and just. They should not differently impact different income group.
- Regulations must ensure health and safety of inhabitants. For example, regulations must restrict nuisance such as noise pollution, air pollution etc. to ensure healthy livable environment.
- Regulations should encourage coherent built form. Hence it should take form-based approach rather than rule- based approach.
- Regulations must enhance affordability. Every additional regulation impose a direct or indirect cost on development. Therefore it is crucial consider affordability while preparing regulations
- Regulations should promote sustainable development. This includes regulations encouraging walkable environment by requiring or incentivizing active frontages, arcade etc. and encouraging efficient use of land, as land is a limited resource.
- Regulations should promote conservation or heritage buildings and structures

## 8.3 Structure of Development Regulations

Based on the type of regulations, the Development Regulations volume should be organized under the following categories;

**Procedure regulations:** This category defines the process for securing development permission, building use permission and the requisite fees for the same. It also provides specific formats and defines stages for submission besides defining the responsibilities of individuals involved in the process.

**Planning regulations:** This category elaborates on the regulations pertaining to the land use, FSI, heights, margins, parking requirements and other aspects such as;

- Each designated use of lands as per section 24.
- General/Private Parking provisions in D.P. as well as in G.D.C.R.
- Special provision for redevelopment projects with basic provisions of health, hygiene and friendly environment.

Above mentioned points are to be considered to formulate a clear policy to regulate the buildings in order to direct the development envisioned in the Development Plan.

**Building performance regulations:** This category prescribes minimum standards of design and specification of a building and its components for accessibility, public health and safety and environmentally sensitive development.

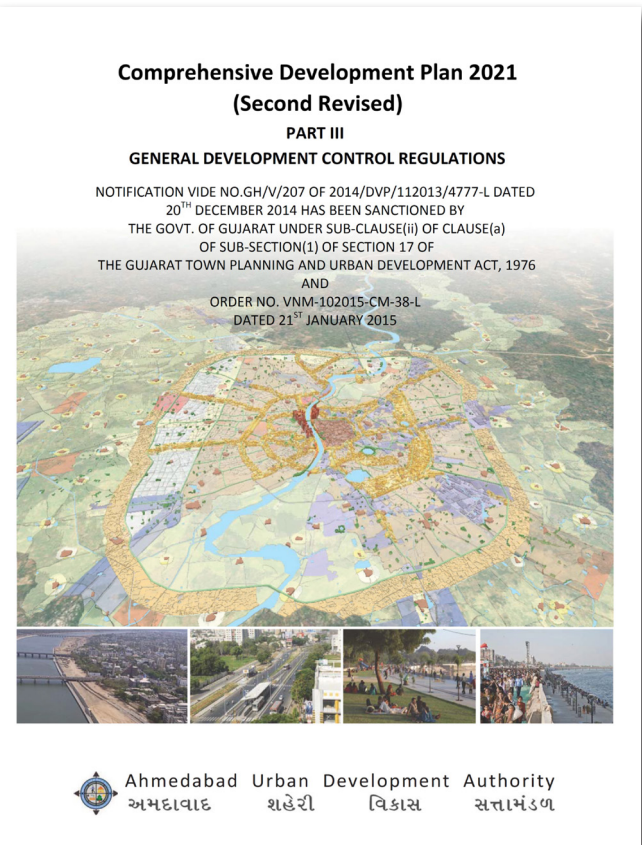


Figure 8\_1: Development Regulations of AUDA



Figure 8\_2: C.G.D.C.R (in 3 parts) for the state of Gujarat

# 09.

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## Publication of Draft DP for Receiving Suggestions and Objections (Section 13 and Section 14)

- 9.1 Method of Publication
- 9.2 Publication of Draft Development Plan
- 9.3 Receiving Suggestions/Objections and Publication of Modified Draft DP

### **Highlights**

- o *This chapter provides guidance for publication of Draft Development Plan as per the relevant sections of the Act.*
- o *It also highlights the key components of the DP to be included at the time of Statutory publication of Draft DP.*

As soon as the draft Development Plan is prepared, the authority shall submit the same to the State Government under section 9 of the GTPUD Act 1976 and publish it to the official gazette and in such other manner as may be prescribed along with the notice in the prescribed manner and inviting suggestions or objections from any persons with respect to development from any persons with respect to development plan within a period of two months from the date of its publication. (Refer fig 9\_1)

## 9.1 Manner of Publication

Along with publication in the official gazette as per form A of GTPUD rules 1979, the authority shall also publish this notice in one or more Gujarati newspaper circulating within the development area. The authority shall also put such notice at the head office of the authority and at other prominent places within the area as declared development area. The notice shall also state that a copy of the scheme is open for public inspection in the authority during office hours.

The notice published shall also announce that if any person affected by this shall communicate in writing to the authority about any objection relating to it within two months (as per the section 13, GTPUDA, 1976) from the date of publication in the official gazette. (Refer fig 9\_2) The details related to scrutiny of received objections and suggestions are elaborated in sub chapter 9.3

9. (1) As soon as may be after the constitution of an area development authority for any development area under section 5<sup>1</sup> [or designation of a local authority as the area development authority under subsection (1) of section 6,] the area development authority shall, not later than three years after the declaration of such area as a development area or within such time as the State Government may, from time to time, extend, prepare and submit to the State Government a draft development plan for the whole or any part of the development area in accordance with the provisions of this Act.

Figure 9\_1: GTPUD Act 1976, section 9

- Publication of draft development plan.
13. (1) The area development authority or, as the case may be, the authorized officer shall, as soon as may be, after a draft development plan is prepared and submitted to the State Government under section 9, publish it in the *Official Gazette* and in such other manner as may be prescribed along with a notice in the prescribed manner, inviting suggestions or objections from any person with respect to

Figure 9\_2: GTPUD Act 1976, section 13

## 9.2 Publication of Draft Development Plan (section 13 as per GTPUD Act 1976)

The draft development plan typically includes the following components;

Development Plan Maps including;

- Base map (index map)
- Existing Land Use Map (1:8000 scale)
- Proposed Land Use Zoning Map (1:8000 scale)

Development Plan Report including;

- Existing Situation Analysis
- Planning Proposals
- Cost estimates and revenue generation
- Implementation and Phasing strategies

Development Regulations including;

- Procedural regulations
- Planning regulations
- Performance regulations

The publication of Development Plan shall follow the particulars provided under section 13( 2)

- statement indicating broadly the uses to which lands in the area covered by the plan are proposed to be put and any survey carried out for the preparation of draft development plan (the detail of this section is discussed in chapter 7)
- maps, charts and statements explaining the provisions of the draft development plan;
- the draft regulations for enforcing the provisions of the draft development plan;
- procedure explaining the manner in which permission for developing any land may be obtained from the area development authority or, as the case may be, the authorized officer;
- a statement of the stage of development by which it is proposed to meet any obligation imposed on the area development authority by the draft development plan;
- An approximate estimate of the cost involved in acquisition of land reserved for public purposes

### **9.3 Receiving Suggestions/ Objections and Publication of Modified Draft DP (section 14, GTPUD Act 1976)**

With the publication of draft Development Plan under section 13 for a duration of 60 days, any person can communicate in writing to the area development authority for any suggestions or objections relating to the draft development plan and the authority shall consider such suggestions or objections and then shall submit the same (in original) to the State Government along with their opinion on such objections or suggestions as per section 14, GTPUD Act 1976

A format for registering all the received suggestions and objections is attached with this manual under Annexure 4.

*(Refer fig 9\_3)*

As per the process, the authority shall register the objections by the plot owners with their respective survey number, date of the objection registered on, location of the site and the proposed land use on the site of concern. The authority shall form an opinion regarding the objections made by the land owners based on the site visit to examine the current situation of the concerned land and shall submit their opinion to the board for further decision to be made regarding their acceptance or rejection on the issue stated.

14. within the period specified in section 13 any person communicates in writing to the area development authority, or, as the case may be, to the authorized officer any suggestions or objections relating to the draft development plan, the said authority or officer shall consider such suggestions or objections <sup>1</sup>and then shall submit the same to the State Government alongwith his or its opinion on such objections or suggestions. ]

*Figure 9\_3: GTPUD Act 1976, section 14*



# Development Plan Stage **03:** Submission, Review and Sanctioning of Development Plan

**Stage 3 includes the statutory provisions of reviewing and sanctioning of the development plan. It also includes the provisions provided under GTPUD Act 1976, related to making variations and revisions in the sanctioned development plan**

**The following are the chapters included in this stage;**

- Chapter 10: Submission to state government**
- Chapter 11: Sanction of draft development plan**
- Chapter 12: Variation of final development plan**
- Chapter 13: Revision of development plan**

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# 10.

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## Submission to State Government (Section 16)

### **Highlights**

- o *This chapter provides the integral statutory provisions for Submission of the Draft DP to the state Government.*

The development authority shall submit the draft Development Plan and the regulations to the State Government for its sanction within six months from the date of publication of the draft development plan. (Refer annexure 2 for detail section as per GTPUD Act 1976) and (Refer fig 61)

Along with the draft Development Plan and its regulations the Authority shall also submit the statement of all the objections and suggestions (in original) received under Section 14.

16. (1) After a draft development plan is published as aforesaid and the objections or suggestions thereto, if any, are received, the area development authority or, as the case may be, the authorized officer shall, within a period of six months from the date of publication of the draft development plan under section 13, submit to the State Government, for its sanction the draft development plan and the regulations [ \* \* \* \* ]

Provided that the State Government may, on an application by the area development authority or the authorised officer, by order in writing, extend from time to time, the said period by such further period or periods as may be specified in the order, so however, that the period or periods so extended shall not, in any case, exceed twelve months in the aggregate.

- (2) The particulars published under sub-section (2) of section 13, and the suggestions or objections received under section 14 [ \* \* \* \* ], shall also be submitted to the State Government, along with the draft development plan.

Figure 10\_1: GTPUD Act 1976, section 16

# 11.

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Sanction of Draft Development  
Plan by State Government  
(Section 17)

The State Government may sanction the draft development plan and the regulations submitted to it under section 16 within a period of 12 months from the date of receipt by the State Government, if no modification is proposed, however if any modifications are proposed in the Plan or in the regulations the State Government may sanction the draft in a period of 24 months as prescribed by the Rule 7 of GTPUD Rules 1979.

The state government, however can take below mentioned action to relate to the submission of the draft Development Plan

- Sanction a part of draft development plan without any modifications
- Return the draft development plan and the regulations to the area development authority for modifying the plan and the regulations
- Make modifications themselves and publish the modifications
- Reconsider the objections and suggestions received under section 14 and insert suitable modifications if necessary.

*(Refer annexure 2 for detail section as per GTPUD Act 1976)*



# 12.

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## Revision of Development Plan (Section 21)

12.1 Revision of Development Plan

12.2 Variation of Development Plan

### **Highlights**

- o *Development Plan shall be revised at least once in ten years as per Section 21 of the Act*
- o *If necessary in public interest, the development plan can be varied as per section 19 of the Act*

## 12.1 Revision of Development Plan

At least once in ten years from the date on which a final development plan comes into force, the area development authority shall revise the development plan after carrying out, if necessary, a fresh survey and the provisions of sections 9 to 20, shall, so FSI as may be, apply to such revision. (Refer annexure 2 for detail section as per GTPUD Act 1976) and (Refer fig 12\_1)

21. At least once in ten years from the date on which a final development plan comes into force, the area development authority shall revise the development plan after carrying out, if necessary, a fresh survey and the provisions of sections 9 to 20, shall, so far as may be, apply to such revision.

Figure 12\_1: GTPUD Act 1976, section 21

## 12.2 Variation of Development Plan

After sanctioning of the final development plan, if the State Government finds it necessary in public interest to make variations in the sanctioned development plan, it shall make the necessary variations and publish them in the official gazette. The government shall then invite any suggestions or objections to the proposed variations for a duration of 2 months.

After considering the suggestions or objections, if any, received and after consulting the area development authority in a case where the variation is not proposed by that authority, the State Government may, by notification, sanction the variation with or without modifications, as it may consider fit to do and such variation shall come into force on such date as may be specified in the notification.

From the date of coming into force of the variation, the provisions of this Act shall apply to such variation, as they apply to a final development plan. (Refer annexure 2 for detail section as per GTPUD Act 1976)

# 13.

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## Monitoring Mechanisms

It is recommended that a monitoring and evaluation cell can be made in the authority for the purpose of continuously evaluation the progress made towards the implementation of the plan. This cell should be responsible for regular review and monitoring of implementation of Development Plan. While the DP is required to be revised at interval of every 10 years, It is recommended that it gets reviewed at 5 years interval for any major course corrections through implementation of zoning and town planning schemes.

The authority should identify the sequence of implementing various proposals and projects as per the phasing strategy and should it should be shared with the monitoring and evaluation cell. The cell shall identify measurable indicators to monitor the physical and socio-economic changes. Various stages of evaluation can be derived till the horizon year and at the end of each stage implementation of the plan should be reviewed, growth rates and economic conditions should be assessed and necessary recommendations should be made by the cell for any modifications and revisions.

A GIS based system should be made to monitor the implementation of the development plan. The system developed should review the development under below given criteria

- NA conversions
- Development permissions
- Infrastructure development – roads, underground infrastructure, green spaces and all critical projects like Metro etc.
- Stages of town planning schemes

For above identified activities, an annual report should be made by the authority and reviewed by the EAG. In case, if the development activities are not aligned with the proposals of the Development Plan then course corrective measures should be taken accordingly. Based on the review of annual reports, the authority should consider revisions in zoning and other DP proposals at the end of every 5 years, if necessary.

# 14.

## Recommended Improvements

- 14.1 Recommended Improvements in Institutional Framework
- 14.2 Recommendations to strengthen the Development Plan process under GTPUD Act 1976
- 14.3 Recommended Improvements to plan the non-planned areas experiencing the haphazard growth outside DP Areas

### Highlights

- o *This chapter provides following key recommendations for improvements in institutional framework and identifies the roles and responsibilities:*
  - *Recommendation for appointment of Advisory Group by the Authority to provide advisory guidance during preparation of Draft DP*
  - *Recommendation for appointment of Expert Review Committee (ERC) to review the submitted Draft DP and shall recommend for approval of Draft Development Plan to the Authority and State Government*
  - *Recommendations for inclusion of sustainable urban planning mechanisms in Development Plan*
  - *Recommendations for publication of Draft Development Plan*
  - *Recommendations for planning the non-planned areas immediately outside DP areas*
  - *Recommendations for planning and managing the growth along major arterials outside DP areas*

The recommended improvements are categorized under 3 major categories

- Recommended improvements in Institutional Framework
- Recommendations to strengthen the Development Plan process under GTPUD Act 1976
- Recommended improvements to plan the non-planned areas experiencing the haphazard growth outside DP areas.

## **14.1 Recommended improvements in Institutional Framework**

Below are two key recommendations made to improve the process of decision making at the development authority level and at the state level.

At the authority level, preparation of a high quality, implementable, Development Plan in a timely manner requires both, sound professional expertise for assisting the authority in preparing the plan, and an experienced group of experts for prompt and sound decision making. The recommendation for appointment of an Advisory Group (AG) by the development authority is to assist the authority in reviewing the work carried out by the team of planners and other professional technical experts engaged in preparing the development plan.

Once the Draft Development Plan is prepared and submitted to the State Government, there is a need for the draft to be reviewed by a set of technical and domain experts in coordination with the Chief Town Planner. The suggestion for appointment of Expert Review Committee at the state level is to help ease the process of reviewing the draft development plan, and/or reviewing the final development plan and advising the government for further course of action for sanctioning the same under the provisions of the act.

### **14.1.1 Appointment of Advisory Group during preparation of Development Plan**

#### **Appointment:**

The authority shall appoint an advisory group after publication of existing situation analysis stage for formulating vision for the Development Plan. (Refer section 6.2)

#### **Advisory group shall comprise of:**

- Chairman/President/ Mayor/ standing committee/ chairman of the local body
- Chief Executive/ Commissioner of their representative/ Administrative head of the other authority
- STP of the authority/Regional STP/ ACTP/ City Planning Head



- Domain experts like infrastructure expert, transport expert, environment expert, housing expert, valuation expert and other expert from renowned institute from private or government organization having knowledge of urban planning as may require.

#### **Roles & Responsibilities:**

- Base map prepared by the survey agency, ILR and the authority shall be scrutinized by the advisory group for finalisation
- Delineation area of the DP shall be finalized by the advisory group
- Existing situation analysis report prepared by the authority shall be reviewed and scrutinized by the Group
- The advisory group shall give inputs for initial concept preparation
- The members of the committee shall provide suggestions and recommendations for the improvement of DP
- The experts shall provide their domain specific inputs for the vision / goal formulation
- The domain experts shall give inputs and recommendations for proposals and projects related to their expertise as required. For example the environment expert can ensure whether the nalas/natural streams, water bodies, forest lands are addressed properly in the Development Plan proposals.
- The group shall conduct workshops / meetings / interviews with range of stakeholders to build on the existing situation analysis for formulation of vision / objectives
- The advisory group shall give inputs for DP report.

### **14.1.2 Appointment of Expert Review Committee (ERC)**

#### **Appointment:**

The State Government shall appoint an Expert Review Committee (ERC) to review the Draft Development Plan and Final Development Plan

#### **The Expert Review Committee (ERC) shall consist of:**

- Chief Town Planner of the State Town Planning and Valuation Department-(as a chairman)
- STP of the Authority Regional
- Planning Experts and Domain experts - from Advisory Group (AG) appointed by the development authority, and other relevant domain experts

#### **Roles & Responsibilities:**

- The ERC shall review the Draft Development Plan and recommend necessary modifications to the Authority
- In some cases, where the Expert Review Committee feels that the same particular case requires more details/scrutiny, in such case shall be referred to the Authority for reconsideration and the authority shall thereafter submit the detail report along with its decision to the Expert Review Committee.
- The ERC shall recommend for approval of Draft Development Plan to the Authority and State Government.
- The State ERC shall also review the presentation given by STP for Draft Development Plan.
- Provided that if State Government find any irregularities or informality, etc. before sanctioning the draft Development Plan, it shall be referring to the Expert Review Committee for necessary action. Expert Review Committee shall submit its opinion to the State Government with detail report. Considering the report of the Expert Review Committee, State Government shall by notification sanction the Development Plan with or without modification or refuse to give sanction.

## 14.2 Recommendations to strengthen the Development Plan process under GTPUD Act 1976

### Recommendation 1: Recommendations for inclusion of sustainable urban planning mechanisms in Development Plan.

- It is very important to consider and preserve existing natural and environmentally sensitive features while preparing a DP for improving sustainability and addressing the issues related to climate change in the area. This includes, features such as existing lakes, streams, seasonal and perennial water bodies, wetlands, habitats, forested areas etc. Also, it is crucial to consider watersheds, flood prone areas while preparing a DP for flood control and preventing pluvial floods. Therefore, it is recommended to make clear provisions for considering and identifying proposals for conserving, preserving and sensitively developing such areas in the GTPUD Act.
- Along with above considerations, it is also important to consider ground water table in different aquifers in different areas.
- **To address the above concerns, it is suggested to consider adding provisions under section 12( 2) of GTPUD Act 1976**

### Recommendation 2: Recommendations for publication of Draft Development Plan

- Under the current provisions for publication of draft Development Plan in the Act (after the amendments of 2014), there is only one stage of publication of draft Development Plan under Section 13 for 60 days. The current provision does not allow the concerned stakeholder to review whether their objections and suggestions are considered and incorporated in the DP or not.
- Therefore, it is recommended to have an additional round of publication after incorporating received suggestions and objections.
- The duration for publication of the revised draft DP can be of 30 days. Similarly, the duration for publication in the first round can also be reduced to 30 days instead of 60 days. This will help in keeping the total duration for publications the same.
- **The second round of publication as discussed above may be added in the section 14 as Section 14 (a) in GTPUD Act 1976**

### **14.3 Recommended improvements to plan the non-planned areas experiencing the haphazard growth outside DP areas**

#### **Recommendation 1: Recommendations for planning the non-planned areas immediately outside DP areas.**

- While DP regulates the area covered under the authority, the areas immediately outside the DP area experience unplanned haphazard growth. Therefore, it is recommended to plan for the areas immediate outside the development plan area. This would require creating a mechanism and an institutional framework that can plan and monitor the development in such areas.
- Taking reference from this chapter X in SIR act 2009, Government of Gujarat, for control of the peripheral areas, it is recommended to plan for the peripheral area of approximately 3km to the immediate proximity of the statutory development boundary with major roads and services with tentative land use zoning. In order to regulate the development in the periphery areas, the Authority may prepare separate Land use Plan/development plan for such areas in accordance with the provision of this act.
- Similar provisions for planning the areas outside the development areas are also found in some other acts. For example, Madhya Pradesh Town and Country Planning Act section 24( 3) and ( 5) includes provision to allow government for making rules to regulate development and use of land in the non-planning areas (areas not included in the development area) of the state. (*Refer fig 15\_1*)

## CHAPTER VI

### ***Control of Development and use of Land***

**[24. State Government to control development and use of land.** - (1) The overall control of development and use of land in the State shall vest in the State Government.

(2) Subject to the provisions of sub-section (1) and the rules made under this Act, the overall control of development and use of land in the planning area shall vest in the Director with effect from such date as the State Government may, by notification, appoint in this behalf.

(3) The State Government may make rules to regulate the control of development and use of land in planning area and non-planning area in the State and may, by notification, apply the said rules to any planning area or non-planning area from such, date as may be specified therein and where the rules are made applicable to a non-planning area, such notification shall define the limits of the non-planning area: Provided that different rules may be made for different classes of local authorities in a planning area or non-planning area, as the case may be.

(4) On application of rules to a planning area, the provision of this chapter in its application to that planning area, shall be subject to the provisions of the rules.

(5) On application of rules to any non-planning area, the following consequences shall ensue, namely :-

- (i) relevant provision of the law relating to local authority empowering the local authority to control development and use of land or any other enactment under which the authority entrusted with the functions of. development and use of land is constituted and the rules, or bye-laws, if any, made thereunder shall cease to apply to the area comprised within the limits of the local authority or any other authority, as the case may be;
- (ii) the local authority or any other authority whose function it is to control development and use of land under any law relating to local authority or under any other enactment for the time being in force shall, notwithstanding anything contained in any such law or enactment, be bound to give effect to the provisions of the rules made under this Act :]

Figure 14\_1: Provision of planning the areas outside the DP area (MP T&CP act 1973)

## **Recommendation 2: Recommendations for planning and managing the growth along major arterials outside DP areas.**

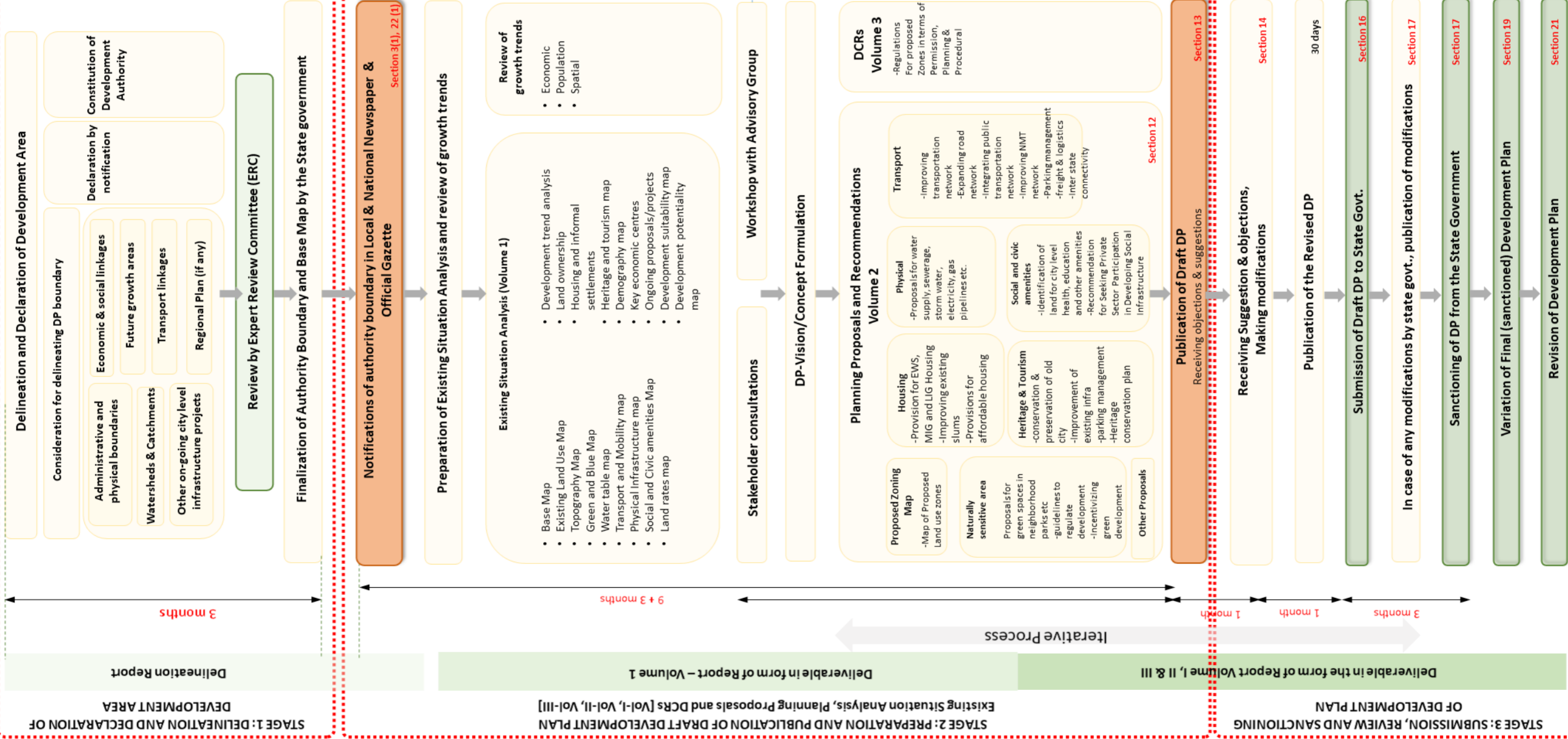
- Significant growth and development is observed to take place along major arterials and corridors connecting with urban areas. The development corridors of national importance such as Delhi - Mumbai Industrial Corridor (DMIC), as well as corridors of regional and state level importance also experience significant haphazard unplanned growth. The haphazard growth results in to underutilization of development potential along these corridors and hampers the economic growth of the state. As this growth is taking place outside of any authority's jurisdictions, there is no statutory mechanism to plan and manage development in these areas. Therefore, it is recommended to make provisions in the act to create mechanisms for planning and managing growth in such corridors.
- The government may consider creating a Corridor Development Authority, who can be responsible for planning for development in such corridors through preparing Corridor Development Plans. Such corridor development plans may cover area within 500m-1km distance on both sides of the identified arterials such as state highways or national highways.



# PROPOSED DEVELOPMENT PLAN PROCESS

## Institutional Framework

## Statutory framework



The Core team preparing DP should be experts from various Urban Planning Sector

- Formulation of Expert Review Committee (ERC)**
- Additional Chief Secretary (UD &UHD)
  - Chief Town Planner of the State
  - Town Planning and Valuation Department
  - Planning and Domain Expert from Advisory committee appointed by the Local Authority
  - Professional expert in any field if necessary

Administrative order should provide for the process of delineation of the Authority Boundary considering the Planning Principles

- Formulation of Advisory Group for**
- Vision Formulation
  - Socio-Economic Analysis
  - Environmental concerns & climate change
  - Traffic & Transport
  - Housing for poor & informal sector
  - Physical & social infra facilities
  - Heritage & Tourism

**Section 12**  
Act should provide proposals related for Environment & Transport related specific sub-sections

- Addressing issues related to climate change and encouraging use of renewable source of energy
- Proposals to prevent & reduce air pollution, greenhouse, gas emissions
- Proposals for Flood control, conservation of environmentally sensitive watersheds & prevention for water pollution

**Section 13**  
Act should mention 30 days for publication instead of 60 days

**Section 14**  
Act should mention 30 days for receiving suggestions & objections with modifications and then again 30 days for publication and then preparation of revised DP

Submit & Sanction as per the Act  
Publication as per the Act



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# APPENDIX

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## Appendix 1: Types of Data and its Probable Sources

Probable locations to avail data for preparation of base map are highlighted in the table given below

Table 3: Types of Data and its Probable Sources

Sr. No	Type of Data	Probable Source
Layers for Base Map		
01	Original maps of Municipal Corporation/ Municipality area along with TP scheme and village maps/village tikka sheet of all villages	District land record office, Corporation / Municipality etc.
02	Latest map with division/sub – division	Village Talati, Gram panchayat office and revenue department
03	Revenue water bodies	Revenue records
04	Forests	Forest Department
05	Roads	R & B department, National Highway Authority/Defence, Corporations / Municipalities, District Panchayat office
06	Rail	Indian Railways
07	Heritage Monuments	Archaeological Survey of India & heritage structures/ landmarks identified by Local self-government
08	Canal Network	Irrigation department
Layers for Existing Land use Map		
09	High resolution satellite image	ISRO, BISAG, NRSC etc.
10	Industrial Estates	GIDC , Industries Commissioner
11	Mapping of all the existing buildings in the urban areas, primary surveys should be conducted	
Other layers for thematic maps		
12	Latest Toposheets	Survey of India
13	Parks and green areas	ULBs
14	NA Conversions	District Collector & District Panchayat
15	Land Rates (Jantri)	Revenue department /TP & VD
16	Land Rates (Market) – Sale deeds and other market rates	Sub registrar office and on-line portals, property websites & magazines and other related sources.
17	Government ownership land	Revenue department (DILR), ULBs
18	Underground Infrastructure, (i) Service lines of water, sewerage, (ii) Location of intermediate pumping station for sewerage (if existing) (iii)Location of city scale overhead water tanks and pumping station.	Corporations / Municipalities, Gram Panchayat
19	Social amenities	ULBs, Panchayat, Census of India
20	Existing built up	Primary survey
21	Public transport	ULBs & Private mode
22	Informal settlements and street vending	Primary survey
23	Demography	Census of India surveys of past three decades, projection of selected age group for next 20 years with the help of demography expert.

તા. ૧૧/૨/૧૩ ના રોજ અધિનિયમની કલમ-૧૩ હેઠળ પ્રસિધ્ધ હિતિય પુનરાવર્તિત વિકાસ યોજના અન્વયે અરજદારશ્રી તરફથી આવેલ વાંધાસુચનો દર્શાવતુ પત્રક									
ક્રમવર્ધ/તારીખ	વાંધા અરજદારનો નામ/સરનામું	ગામનું નામ	બ્લોક/સર્વે નંબર	વાંધાસુચનોની બંધરૂઠની કૃત્રી વિગતો	પ્રસિધ્ધ વિકાસ યોજના મુજબ ઝોન	દર્યાત જમીન વપરાશ	શાખાનો અભિપ્રાય	નિર્ણય	રીમાસ્ટર
૨૩૫૧ ૨૦/૨/૧૩	અશોકલાલ શાંતલાલ વાળંદ	સાણંદ, ચેખલા, જી. અમદાવાદ	મોજે ચેખલા	પયાચત સર્વે નં. ૧૧૩૯	એગ્રીકલ્ચર ઝોનમાંથી રેસીડેન્સીયલ ઝોનમાં ફેરવવા બાબત	Vacant land			✓
૨૩૫૦ ૨૦/૨/૧૩	ચિંતન ભરતભાઈ પટેલ	પટેલ કામ ફાઉન્ડેશન, પયાચત ઓફીસ સામે, મેમનગર, અમદાવાદ	મોજે નિધારા, તા. સાણંદ, જી. અમદાવાદ	સ. નં. ૫૮૬	સેન્ટ્રલ ઝોનમાંથી યોજના બંધન હેઠળ પુરું પૂરું કરવા બાબત.				✓
૨૩૪૯ ૨૦/૨/૧૩	અમદાવાદ મ્યુનિસિપલ કોર્પોરેશન	મહેનગર સેવા સદન, ૩ જી માળ, બી બ્લોક, સરદાર પટેલ ભવન, દાણપીઠ, અમદાવાદ	વોર્ડ રામોલ-શાહીજી સર્વે. જી. આઈ.ડી. સીના	પ્લોટ નં. ૧૬	ડેવલપમેન્ટ પ્લાન તથા જી. આઈ.ડી. સી. બંધન સુચવવામાં આવેલ રોડની વિસ્તારતા અંગે...				
૨૩૪૮ ૨૦/૨/૧૩	પટેલ રાજેશ પ્રમુખભાઈ	૪૧૧, છેલ્લો વાસ, નવા વાડજ, અમદાવાદ	મોજે નાગ, તા. દસ્ક્રી, જી. અમદાવાદ	સર્વે નં. ૭૪૩ તથા ૪૭૫	ડેવલપમેન્ટ પ્લાન માં સર્વે નં. તથા એડીયા સુસંગત ન હોવા બાબત.				
૨૩૩૧ થી ૨૩૪૭ ૨૦/૨/૧૩	ધરણભાઈ મહેનલાલ ઠક્કર તથા અન્ય	ગુજરાત રાષ્ટ્ર મીલ કંપાઈ, ધોળીધાટ, કુધેશ, અમદાવાદ-૦૪	ડી. પી. સ્કીમ - ૧૪ શાહીબાગ	ફાઇનલ પ્લોટ નં. ૧૨૪	રિ. ડી. પી. મુજબનો ૨૪૦૦ મીટરનો રોડ રદ કરવા અંગે				
૨૩૩૦ ૨૦/૨/૧૩	જનવીરા નટવરભાઈ પટેલ	૬૪, વૈલવ બંડોલ વિભાગ-૨, સોલા રોડ અમદાવાદ	મો. જે. જેતલપુર તા. દસ્ક્રી, જી. અમદાવાદ	સર્વેનંબર ૬૧	સર્વેનંબર ૬૧ નો અડધો ભાગ નવા પ્લાનિંગ મુજબ ખેતીલાયક અને અડધો ભાગ રેસીડેન્સ એડીયામાં હોય તેને સંપૂર્ણ રેસીડેન્સ એડીયામાં લેવા બાબત.	Gamial Extension+ Agriculture Zone			●
૨૩૨૯ ૨૦/૨/૧૩	આતિષ દેસાઈ	આશિષ બંડોલ, ન્યુ આલ્કાપુરી રોડ, સત્યમ શોપિંગ સેન્ટર પાસે, ગોલબાઈ ટેકરા અમદાવાદ	જી. ડી. સી. આર અન્વયે અમદાવાદ	જી. ડી. સી. આર અન્વયે	To provide permission of amalgamation at 9 mtr and 12 mtr roads				
૨૩૨૮ ૨૦/૨/૧૩	રાકેશભાઈ કિરીટભાઈ પટેલ	ઠ. વૈદાન સોસાયટી, પી. જેતલપુર, તા. દસ્ક્રી, જી. અમદાવાદ	મો. જે. જેતલપુર તા. દસ્ક્રી, જી. અમદાવાદ	સર્વેનંબર ૬૨	એગ્રીકલ્ચર ઝોન સિવાય કોમ્પ્લેક્સ રેસીડેન્સ કે કોમર્શીયલ ઝોનમાં સમાવવા બાબત.	Vacant land			

A3\_1: From for received Objections and Suggestions

