

**Introduction to Urban Planning**  
**Prof. Harshit Sosan Lakra**  
**Department of Agriculture and Planning**  
**Indian Institute of Technology - Roorkee**

**Module No # 02**  
**Lecture No # 08**  
**Development Plan II**  
**(Case Study – Draft Bhopal Development Plan 2031)**

Welcome to the Course of Urban Planning. In this session we are going to continue with the understanding of the Development Plan within the boarder Theme of different levels of plan. In the previous session we had seen distinction of the Development Plan from the other levels of plans. Major contents of the Development Plan with particular focus on guidelines for capturing existing conditions and development issues with the help of Draft Bhopal Development Plan of 2031.

While going through the example, we also looked at range of maps prepared for the Development Plan Document.

**(Refer Slide Time: 01:08)**

### **Content of Development Plan**

---

1. Existing Conditions and Development Issues
2. Assessment of Deficiencies and Projected Requirements
3. Vision and Mission
4. Development Proposals
5. Implementation Plan

In the content of the Development Plan, we had covered how to capture the existing conditions and development issues as per the URDPFI guidelines and we walked through the Draft Development Plan of Bhopal to understand the purpose and approach better through the case example. In the Draft Bhopal Development Plan, we saw that the range of aspects were reviewed and maps were created to portray the existing conditions and the development issues and simultaneously the assessment of deficiencies and projected requirements were estimated.

**(Refer Slide Time: 01:53)**

---

## Coverage

---

- ① Development and Intend of the Vision

---

- ② Content of the Development Plan

---

- ③ Case example- Bhopal Development Plan-2031 (Draft)

---

- ④ Range of Maps Prepared for the Purpose of Development plan proposal

---

Today, we are going to see how vision and mission is indicated in the Document and what is covered in the development proposal and how is it provided in the document. Accordingly, the coverage of the session will include development and intend of the vision, content of the Development Plan particularly development proposals, we will see the case example- Bhopal Development Plan 2031, range of maps prepared for development proposals. Accordingly, the learning outcomes of the session are that by the end of this section you should be able to discuss the development and intend of the vision, should be able to determine the content of development proposal, should be able to support your understanding with the help of case example; which we are looking at Bhopal, should be able to list the range of maps prepared for the purpose of Development Plan proposals.

**(Refer Slide Time: 02:57)**

# Development of Vision

Now looking at the Development of Vision. The purpose of vision and mission to guide planning principles for the plan formulation. Like, whether the city development strategy is for compact city, green city, dense city, livable city and so on. Also to capture the essence of the city, if it is tourist city, heritage city, educational hub, industrial city and so on. In the plan once the existing situations are reviewed and projections are made, the vision and mission are formulated based on existing conditions, development issues and stake holder consultation.

Goals and objectives related to dispersal of activities, environmental and infrastructure sustainability, mass transportation and informal activities, information and communication technology, women and poorer section, these all things need to be incorporated if they are not already considered in the process. Here we are looking at the vision for Bhopal Development 2031. The residents of the city aspire the city to be best livable city. They want to conserve and protect the eco-sensitive areas, heritage and historical monuments which we had seen in their portrayal of the existing condition.

**(Refer Slide Time: 04:32)**

## Bhopal Development Plan - 2031

### Vision

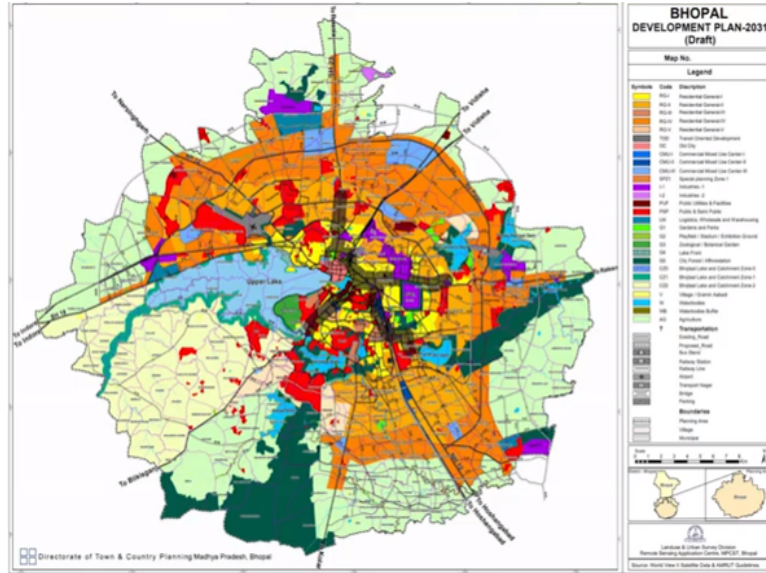
#### Vision for BDP 2031

- To make Bhopal best livable city
- Conserve and protect the eco-sensitive areas, heritage and historical monuments.
- Prepare environmental conservation along with tourism promotion plan for lakes & rivers through separate development regulation.
- Optimal utilization of land by striking a balance in the vertical and horizontal growth of the city.
- Vertical growth all along the Metro and Bus Rapid Transport System (BRTS) Corridor, Integration of Sub-cities / smart city (Area Based Development (ABD)) area with transport network and (TOD). Economic Development model through the Development Plan.

They want to prepare environmental conservation along with tourism promotion plan for lakes and rivers through separate development regulation. Further, the target is for optimal utilization of land by striking a balance in the vertical and horizontal growth of the city. In the city their vision is to bring in vertical growth all along the metro and Bus Rapid Transport System Corridor. They wish to integrate sub-cities/smart city as we had seen in the previous section with transport network and Transit Oriented Development. Further they want to adopt economic development model for the development of city through Development Plan. Furthermore, Development Plan contains the most important document of the proposal the Land Use Plan. As we have learnt that Development Plan is a Statutory Document, it provides policies and proposal for the use of land in the planning area.

Development Plan guides the day to day decision of whether or not the particular use permission should be granted. It is required that the decision should be consistent with the Development Plan unless there are factual conditions supporting otherwise.

**(Refer Slide Time: 06:01)**



Here in the proposed Land Use Plan of Bhopal city we see that different zones such as Residential, Transit Oriented Development, Old City Commercial Mixed Use, Special Planning Zones, Industrial Zones and so on have been indicated where accordingly different policies and zoning regulations will be applied and proposals will be developed in the plan period. Development Plan need not be rigid, however, they provide strong basis for rational and consistent decisions with the vision and prevailing and projected conditions of the city.

**(Refer Slide Time: 06:47)**

## Bhopal Development Plan - 2031

Provide the concept of hierarchy of planning units and spatial development of various activity nodes, facility centers and network of roads

Further, the Development Plan should provide the concept of hierarchy of planning units and spatial development of various activity nodes, facility centers and network of roads. The proposal in the Development Plan of Bhopal have been formulated after multiple deliberations such as detail analysis of the existing conditions, future growth projections, the overarching vision, principles and input from Stake Holders' Consultation.

**(Refer Slide Time: 07:17)**

# Bhopal Development Plan - 2031

---

## Robust Framework Based Approach

---

- Long term planning proposals
- Mid Term Planning Proposals (20-30 years)
- Short Term (10-20 years)

Looking at the concept and approach, the Draft Development Plan provides the robust framework based approach covering long term planning proposals effectively for future and retain the land for it. We also see midterm planning proposals which range from 20 to 30 years which may be upgraded and revised after periodic evaluation or by Government Policy Intervention. Further we see short term which is for a period of 10 to 20 years' interventions are being planned which are to be flexible that may be allowed to change depending on the demand of the time. So we see that how the combination of rigid, we see that how flexibility has been integrated in the process.

**(Refer Slide Time: 08:11)**

---

## Planning Approach

---

### Robust Framework Based Approach

---

#### Long Term Planning Proposals

- Effective for future
- Retain the land
- Road network, public transport (e.g. Metro)
- Major infrastructure
- Natural & built heritage

Long Term Planning Proposal include road network, road transport such as metro and major infrastructure, natural and built heritage.

(Refer Slide Time: 08:24)

## Planning Approach

---

### Robust Framework Based Approach

---

#### Mid Term Planning Proposals

- Period (20 - 30 years)
- Revised & upgraded after periodic evaluation
- Include Physical and Social Infrastructure

Midterm planning proposal include physical infrastructure, social infrastructure.  
(Refer Slide Time: 08:31)

## Planning Approach

---

### Robust Framework Based Approach

---

#### Short Term Planning Proposals

- Period (10-20 years)
- Flexible with time according to the demand
- Includes Building Uses, Permissible Land Uses

We see that Short Term Planning Proposal include building uses, permissible land uses. Further, the Development Plan adopts the liberal approach. So we are looking at the concept like how do they want to go about it. We see that they adopt the liberal approach, which 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.

**(Refer Slide Time: 09:11)**

## Planning Approach

---

### Liberal Approach

---

- To generate the required amount and kind of floor space.
- Floor Area Ratio (FAR) to not artificially suppress the demand,
- Allowing mixed use for flexibility in kind of floor space permissible.

This means allowing sufficiently high floor area ratio, FAR do not artificially suppress the demand and allowing mixed use to allow flexibility in kind of floor space permissible.

In Bhopal Development Plan liberal, robust and flexible approach has been adopted which allows to sustain and accommodate variations in demand for floor space and developable land. Therefore, estimations are made on the higher side rather than the lower side and subsequently plans are prepared that allow sufficient supply of floor space to be able to cater to more than estimated population through zoning FAR and regulations.

**(Refer Slide Time: 09:51)**

## Planning Approach

---

### Sustainable Approach

---

- Allow and incentivize a greater number of people to locate near public transport.
- TOD Zone is another approach adopted for addressing sustainability.
- 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 spread in Greenfield areas

In the Development Plan sustainable approach is propagated. We also see that they are propagating sustainable approach. Liberal approach for the provision for future floor space



supply is seen as a sustainable approach. Further, allowing and incentivizing greater number of people to locate near public transport in Transit Oriented Zone is another approach adopted for addressing sustainability.

We see other interventions which include and encourage continuous development and discouragingly fogging sprawl into hinter lands and sensitive natural areas and encourage redevelopment and adaptive reuse rather than a deterioration of older developments while spread in green field areas.

**(Refer Slide Time: 10:47)**

---

### Planning Approach

---

### Implementable Approach

---

- A clear set of DPRs to promote and regulate development in the area.
- Identify implementable projects that facilitate planned growth.
- Identify appropriate implementation mechanism to implement the projects and proposals.
- Identify cost estimates for various proposals/projects and identify sources of revenue to cover the cost.

Further, we see for the sustainability aspect, implementable aspect is kept in the Development Plan Proposal. Development Plan has clear micro level implementation mechanism to implement the Development Plan in phases and parts backed by Statutory Provisions and target is made to implement in the given market conditions.

Such mechanism include Town Planning Schemes called TPS which we will also see further in our coming lecture. Development Schemes, Local Area Plans we will look into these as well and so on. We see that implementable aspect includes a clear set of Development Promotion Regulations (DPR's) to promote and regulate development in the area. Identify implementable projects that facilitate plant growth, identify appropriate implementation mechanism to implement the projects and proposals, identify cost estimates for various proposals, projects and identify sources of revenue to cover the cost.

**(Refer Slide Time: 12:01)**

# Zoning, Development Promotion Regulations & Guidelines

In the Bhopal Development Plan, we see that they adopted certain key principals for zoning, development promotion regulations and guidelines. Here they take a liberal approach to allow and encourage development, let people market make their choice by allowing mixed use zones, segregate or regulate only those activities detrimental to health and safety of people such as hazardous industries and nuisance generating uses such as; logistic, wholesale, warehouse, airport and so on, allow greater floor space supply than the demand to encourage affordable development.

**(Refer Slide Time: 12:47)**

## Zoning, Development Promotion Regulations & Guidelines

### Zoning Principles

---

- Liberal approach to allow and encourage development.
- People/market make their choice (mixed use zones).
- Selective segregate or regulation.
- Encourage affordable development.
- Preserve and/or conserve sensitive areas.
- Facilitative better access to public transport.

Further we see preserve or conserve sensitive areas including forest, water bodies, bio-diversity area, habitat sensitive and natural resources, heritage structure and precincts, incentivized development with TOD in the areas with better access to public transport. So we saw planning approach concept adopted in the Development Plan.

**(Refer Slide Time: 13:22)**

## Zoning, Development Promotion Regulations & Guidelines

---

### Zoning Categories

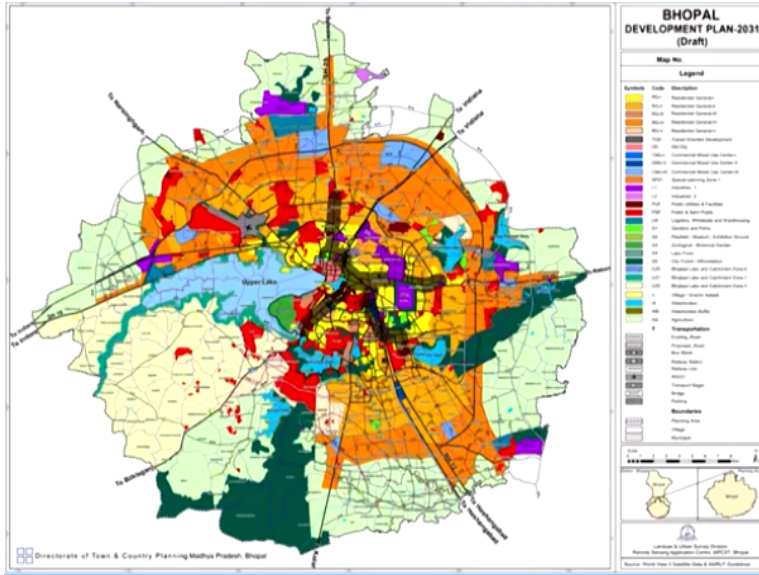
---

- Residential areas
- Commercial areas
- Manufacturing area
- Public and semi-public
- Parks, Playgrounds and Open Spaces
- Transport and Communication
- Special areas
- Old built-up (core) area
- Heritage and conservation areas
- Scenic value areas
- Disaster prone / Eco-sensitive area
- Primary activities
- Water-bodies

Moving forward, further we see that Development Plan should provide the zoning regulation for the proposed land use categories including; residential areas, commercial areas, manufacturing areas, public and semi-public areas, parks, playgrounds and open spaces, transport and communication, special areas, old built-up core areas, heritage and conservation areas, scenic value areas, disaster prone areas or eco-sensitive area, primary activities and water bodies.

In the planning proposal and recommendation of the Development Plan the Bhopal Development Plan basis its proposal on the pragmatic approach, which is perceived to bring a remarkable model shift in which the city of Bhopal is planned. Through the plan it is perceived that the intervention shall disperse the growth of the city across its total area instead of concentrating on selected land pockets and the proposal, the move has been made from land use planning to zoning to promote equitable development across the city, to facilitate flexible platform for diversifying usages and activities on any parcel of land.

**(Refer Slide Time: 14:32)**



(Refer Slide Time: 14:44)

## Zoning, Development Promotion Regulations & Guidelines

### Key focus areas (9 subsections)

1. Zoning and Development
2. Transport Network and Mobility
3. Housing
4. Green Network
5. Physical Infrastructure
6. Social Infrastructure
7. Economic Development
8. Heritage
9. Environment

In the Development Plan key focus area have been identified grouped in nine sub sections including key focus area, zoning and development, transport network and mobility, housing, green network, physical infrastructure, social infrastructure, economic development, heritage, environment. So we see that they have identified these 9 focus areas according to which zones have been created and the proposals have been prepared.

Zoning proposals in order to facilitate the regeneration of existing urban areas in the city and to incentivize mixed uses proposal 5 residential zones. As we can see in the list of 5 residential zones identified and map indicating boundaries and location of the proposed residential zones.

(Refer Slide Time: 15:31)

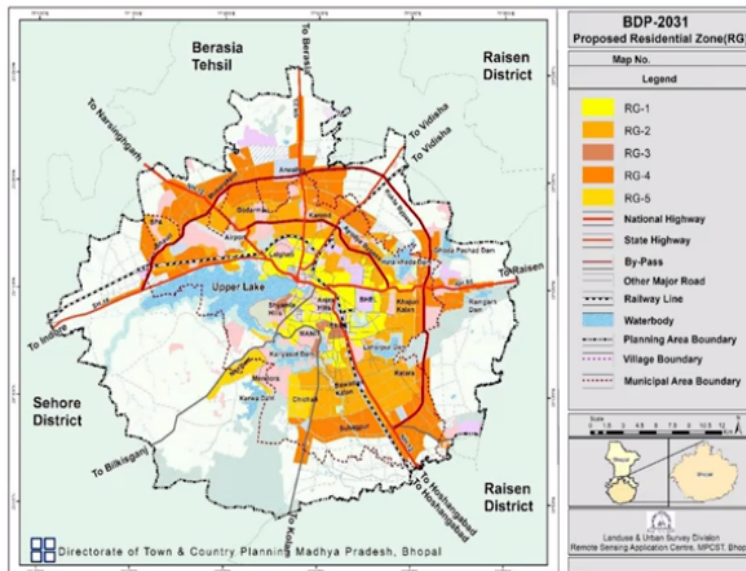
# Zoning and Development

## Zoning proposals: Residential Zone

1. Residential General 1 (RG-1)
2. Residential General 2 (RG-2)
3. Residential General 3 (RG-3)
4. Residential General 4 (RG-4)
5. Residential General 5 (RG-5)

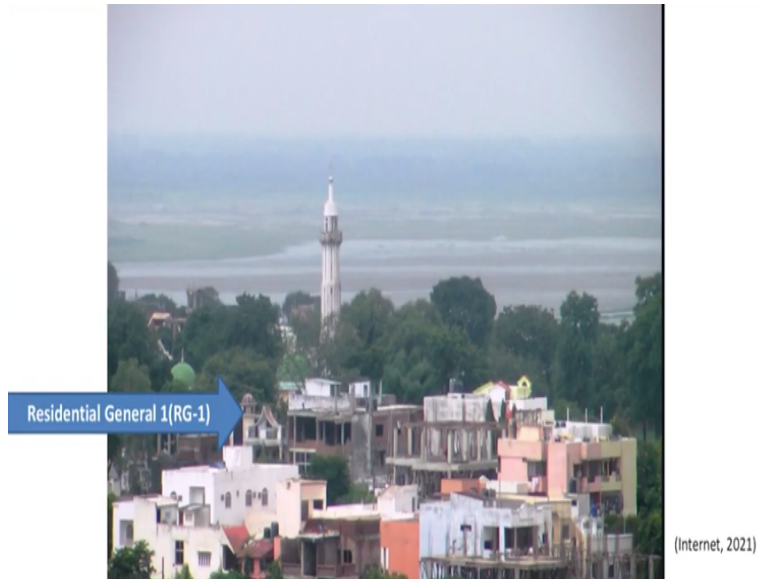
We see of first is the Residential General 1 Zone, is the existing residential zone as per Bhopal Development Plan of 2005.

(Refer Slide Time: 15:45)



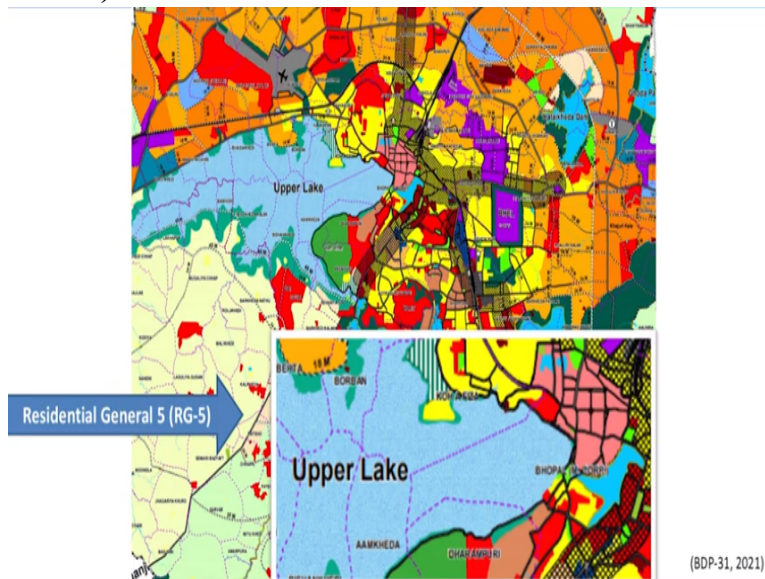
The yellow color central part and circling the lake as, we can see in the map.

(Refer Slide Time: 15: 55)



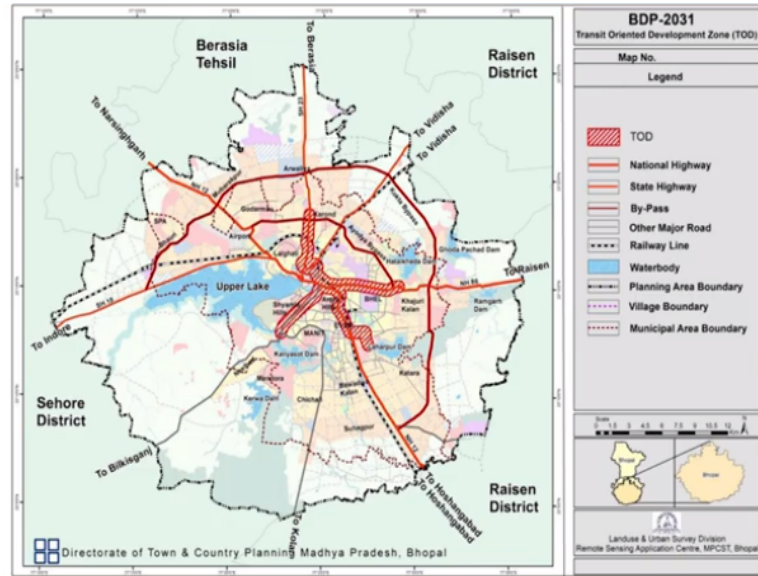
The purpose of this zone is to incentivize the redevelopment and allow regeneration of the existing urban areas. We further see Residential General 2, RG2, is the proposed residential zone as per Bhopal Development Plan 2005, zone shown in saffron color forming the second ring around the lake. The purpose of this zone is to allow limited mixed use considering the existing development. Residential Zone 3, RG3, the area shown in brown color forming the third circle from lake. This area includes existing low density use and the purpose of this zone is to retain the identity and character of the areas. Areas under this zone are Arera colony, Chunahati., Shamlā Hills, Vijaynagar and so on. We see another zone which is Residential General 4, RG-4, zone shown in orange color in the extreme periphery in the map. This zone includes new proposal to cater population of year 2031. The purpose of this zone shall be an additional proposed area with the provision of multiple mixed use development allowing the market to function as per demand.

**(Refer Slide Time: 17:13)**



Residential General, RG-5, this area includes low density zone to preserve ecologically sensitive areas. Zone shown in peach color on the southern side of the lake in the map. The plots falling under these zones shall be approved for development as per the regulation specified in the later volumes. You see and we shall be also covering the regulations later in the course. So, as you can see in the map the residential area which is been proposed here, these areas.

**(Refer Slide Time: 17:51)**



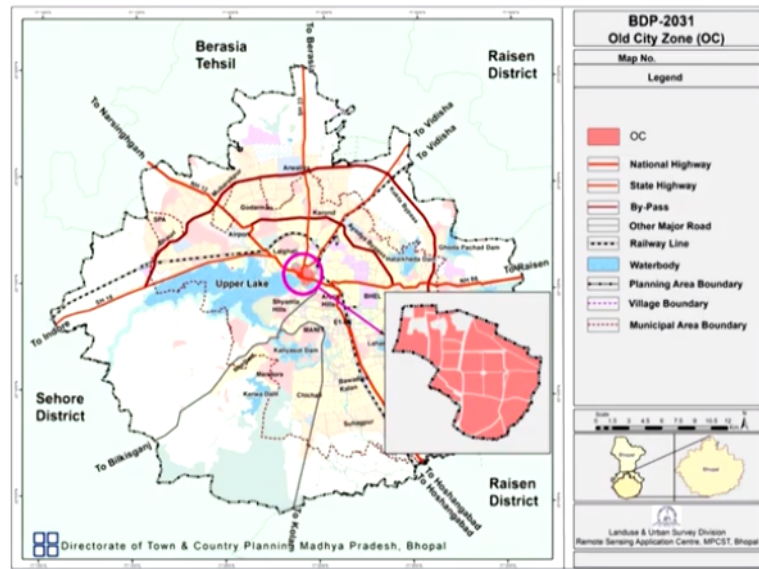
Further, in the Development Plan we see that zones for Transit Oriented Development has been provided. In order to promote compact Transit Oriented Development in the city and to integrate land use and transportation interface, Transit Oriented Zone (TOZ) is introduced this is particular about the Development Plan here, what has been proposed.

**(Refer Slide Time: 18:14)**



The TOZ is an effective tool to promote compact Transit Oriented Development within the walking distance of Public Transit Nodes such as BRTS and MRTS stations. Sustainable Transit Oriented Densification is planned to be achieved through TDR. TOZ is identified as 500 meters' buffer distance on either side of metro lines 1 and 2. It is anticipated that TOZ will induce, encourage people to prefer the use of Public Transit. It will provide housing, employment, entertainment and civic functions within walking distance of Transit Nodes, will encourage residence and workers to drive their cars less and ride Public Transit more. Further, in the Development Plan, Old City Heritage Zone is provided.

**(Refer Slide Time: 19:21)**



This zone has been exclusively identified to delineate the core walled city with its distinct character and heritage features and fabric that need to be conserved. The intention in the plan is to incentivize the conservation of heritage area. The heritage designation of whole city is based on presence of properties of heritage importance with distinct character of conservation nature.



(Refer Slide Time: 19:51)



In the map we can see this spatial location of this Old City Zone identified in Bhopal planning area. We can also see the delineated boundaries of Old City Zone based on the heritage conservation and management plan prepared by appropriate authority. The plot owners within the zone shall be incentivized to undertake preservation, conservation of the heritage properties through receipt of heritage TDR.

So like we had seen, when we discussed in the previous session, the heritage what the city has. So you look at the proposals how we are trying to conserve the heritage of the area. Likewise, we see in the plan, commercial area has been identified. Three Commercial Zones have been identified.

(Refer Slide Time: 20:48)

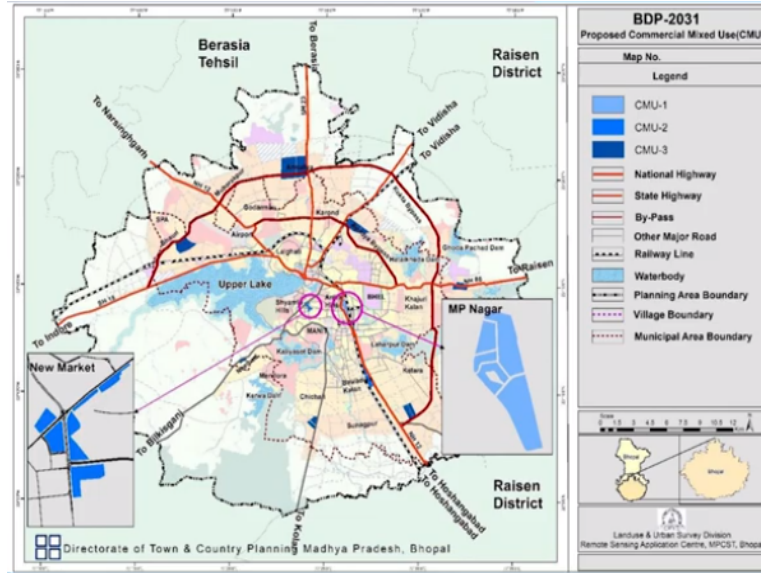
## Zoning and Development

### Zoning proposals: Commercial Zone

1. Commercial mixed use Zone 1 (CMU-1)
2. Commercial mixed use Zone 2 (CMU-2)
3. Commercial mixed use Zone 3 (CMU-3)

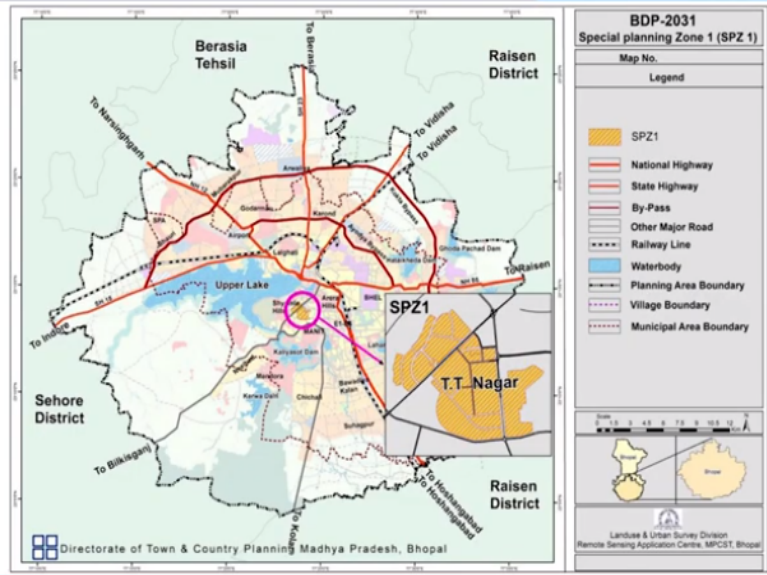
We see Commercial Mixed Use Zone 1, 2 and 3

(Refer Slide Time: 20:53)



Commercial Mixed Use Zone 1, CMU 1, shown in the sky blue colour in the map. Purpose of this zone is to upgrade current commercial center of MP Nagar to CMU 1 with higher FAR. Commercial Mixed Use Zone 2, CMU 2, shown in dark brown colour in the map includes the areas currently zoned as Sub-City Centers in Bhopal Development Plan for 2005. New market and others (21:29) to promote Mixed Use Development. The Commercial Mixed Use Zone 3 shown in indigo colour map, this includes proposals Sub-City level areas as per the permissible activities. The purpose of this zone shall be at additional purpose zone with the provision of Commercial Mixed Use allowing the market to function as per the demand. Further, we see that the distribution of FAR will be 1.5 in CMU 1 and 1.25 in CMU 2 and CMU 3 as a base FAR which can be extended up to 3 to 5 for the purpose of redevelopment by the way of TDR and Premium FAR.

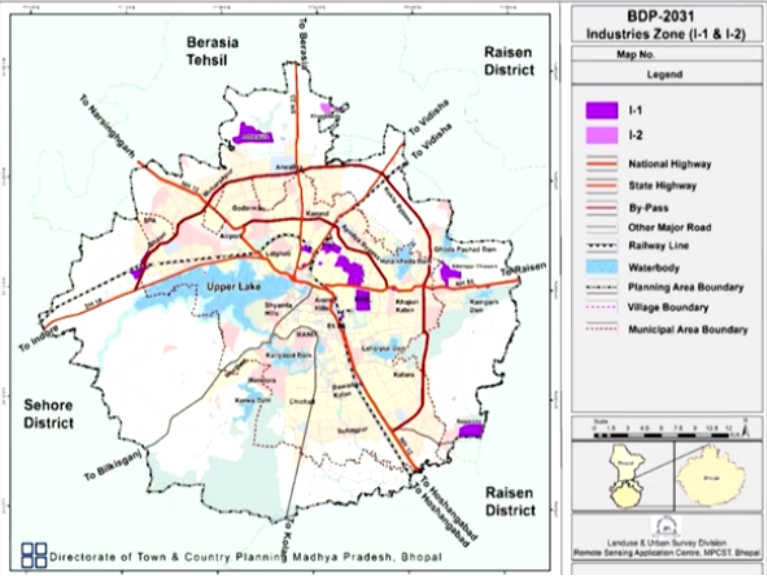
As we saw in the concept about the flexibility and being market oriented. So this step we see is something which is allowing flexibility and also allowing development to be market oriented.  
**(Refer Slide Time: 22:29)**



Further, in the zoning we see Special Purpose Zone proposed at the Development Plan. It is recommended that the ABD area of the Smart City Zone be integrated with the Development Plan with a set of regulations and also the new schemes proposed by the Government be incorporated under this zone as and when it is proposed. The Bhopal Smart City Development Corporation, BSCDL limited, has recognized special regulations for the development of this zone as high density area with mixed land use.

Further, in the Development Plan the proposal is made for different industrial zones to enable and support industrial activities. We had earlier seen that how many industrial zones were there in the city so how that industrial promotion has to be undertaken. So through this proposal they take care of all these aspects.

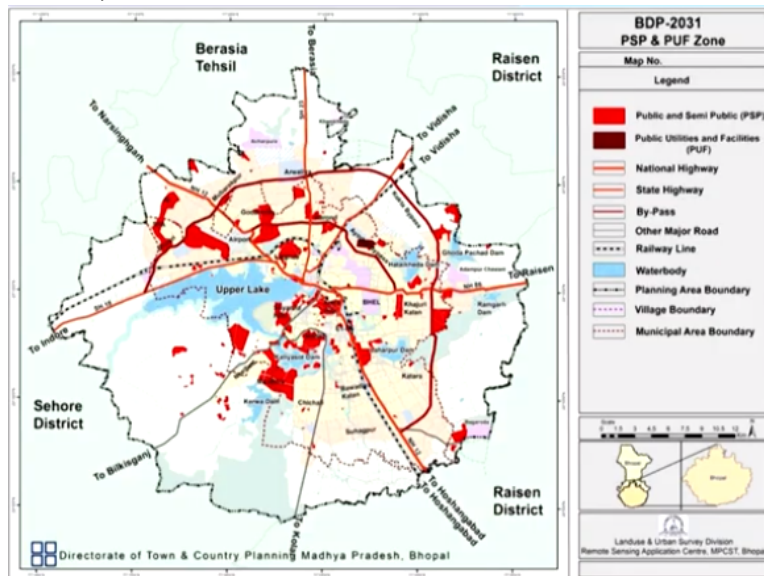
**(Refer Slide Time: 23:28)**



The basic consideration for economic development proposed is based on the principle of supporting diverse economic activity through promotion of primary, secondary and tertiary

sectors and need of each sector to be fulfilled through proposals and recommendations, like setting up of new investment regions, industries and their required infrastructure. Two industrial zones are identified. We see Industry 1 Zone, Industry 2 Zone. Industry 1, this is the industrial area it includes light, medium and heavy industries. Industry 2 Zone which includes the area demarcated under the obnoxious industries. The intention of locating these zones in proximity to each other is for facilitating, scaling up of economic activities of this zone for industrial and allied activities. Likewise, in the proposal the zone for public utility and facility is provided. In the zone areas of public utilities like crematoriums, sub-stations, treatment plants and other services will be included, preferably these activities will be accommodated on the Government Plan. Public utility and facilities like STP, WTP, sub-stations are to be installed on the available Government land, primarily based on the suitable location.

**(Refer Slide Time: 25:06)**



Likewise, proposal is also given for public and semi-public purposes. In this zone the existing and the proposed areas of public and semi-public facilities like social, cultural, administrative, educational and health is included. Preferably even these activities like what we saw in a previous section are proposed on Government land. All government land available will be kept reserved for the Government schemes it is envisaged primarily for the development of key infrastructure with limited mixed use permissible based on specific conditions.

**(Refer Slide Time: 26:29)**

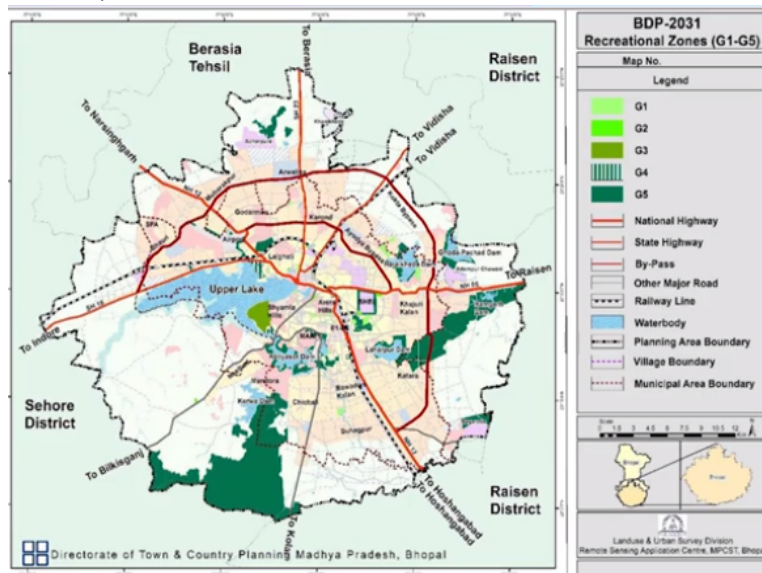
## Zoning and Development

### Zoning proposals: Recreational Zone

- Recreational zone G-1: Parks & Gardens
- Recreational zone G-2: Playfield & Stadium
- Recreational zone G-3: Zoological/Botanical Garden
- Recreational zone G-4: Lakefront Development
- Recreational zone G-5: City Forest/Afforestation

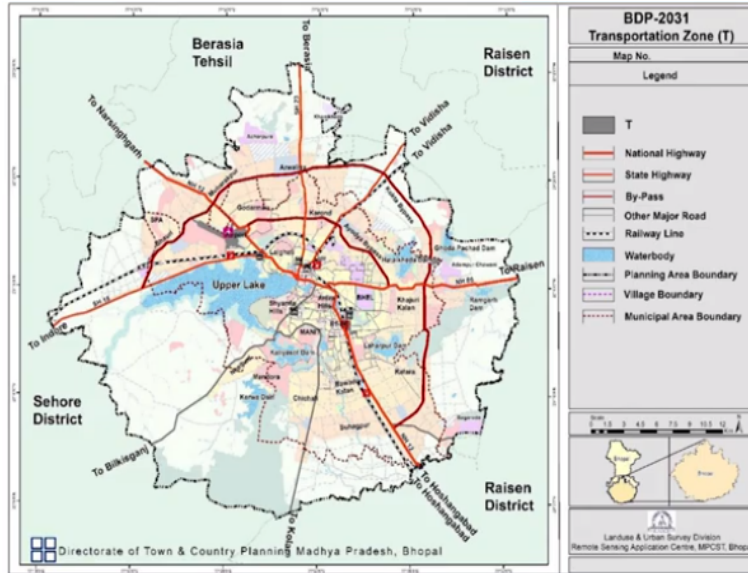
Further we see the recreational zones ranging from 1 to 5 are proposed. These zones include city, forest, garden, parks, stadiums and playgrounds.

**(Refer Slide Time: 26:46)**



The purpose of this zone is to increase green cover in Bhopal Planning Area. Development of 10% recreation zone is ensured in each Mixed Use Zone under the Development Plan. Likewise, we see that transportation zone has been proposed inter and intra-city transportation network is included in this zone, major transportation elements of the city have been identified under this zone. Transportation zone includes bus stops, railway areas, airport areas, roads and other related activities which support transport infrastructure in Bhopal Planning Area.

**(Refer Slide Time: 27:23)**



This particular zone is identified on the principle of integrating land use and transport as mentioned in the Principles of Preparation of the Development Plan. The transport infrastructure includes fixed infrastructure like road, segment and junctions together making network terminals, great separators and right of ways along with designated parking facilities. The 5 categories of roads identified are based on functional hierarchies are Bypass, Arterial, Sub-Arterial, Collectors and Local Streets.

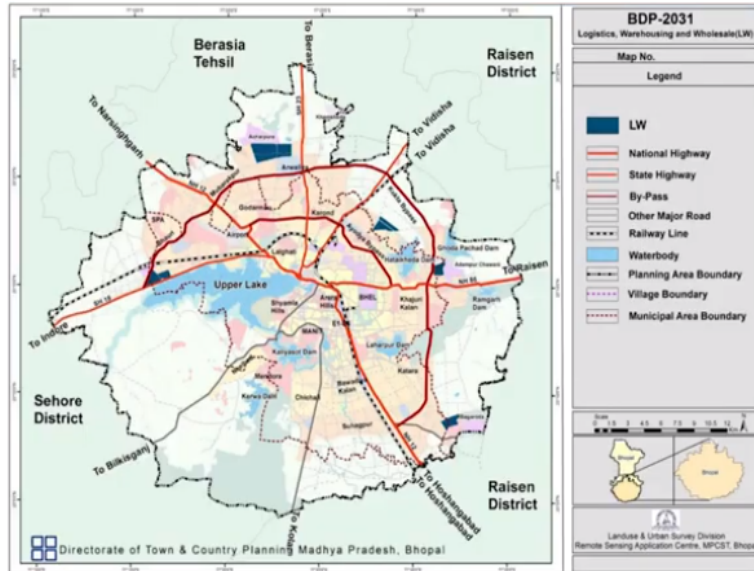
(Refer Slide Time: 28:01)

## Zoning and Development

### Zoning proposals: Logistic, Warehouse & Wholesale (LW) Zone



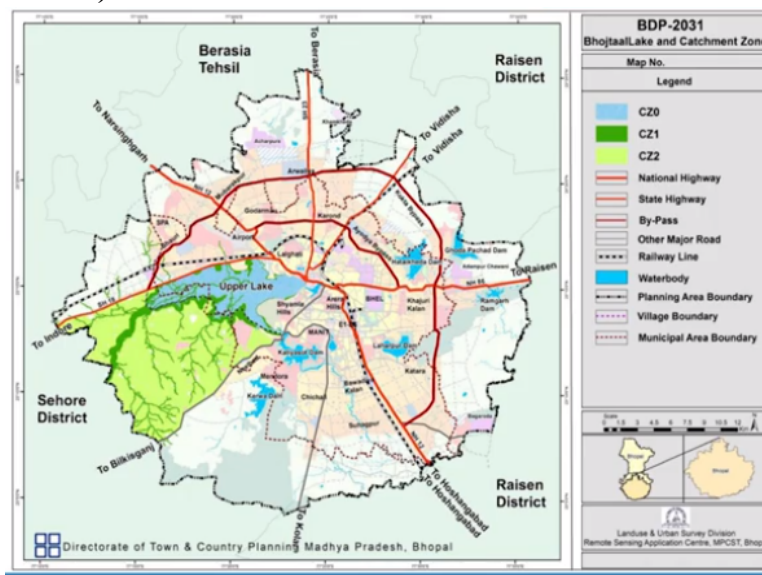
(Refer Slide Time: 28:05)



Similarly, we see that in the Development Plan, logistic, ware house and wholesale zone has been proposed. This includes logistics, warehousing and wholesale. This zone is demarcated to support commercial and industrial activities in Bhopal Planning Area. We see that this zone is proposed in all directions of planning area to cater to the need of population equally and in a distributed manner.

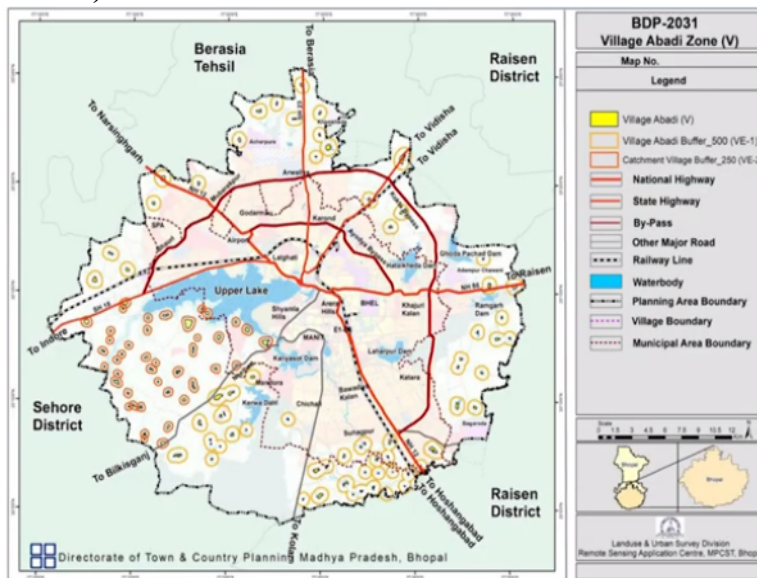
The zone primarily incorporates the area under Kokta that are identified to be developed as transport nagar and areas near the proposed industrial zones.

**(Refer Slide Time: 28:45)**



Further, we see that Special Zones are proposed for water bodies and buffer zones as we had seen while seeing the characteristic of Bhopal that it is rich in environment. Therefore, this zone includes the water bodies and buffer catchment areas and villages in the catchment areas to protect these water bodies. To incentivize the conservation of water bodies green TDR will be provided. The objective of the delineation of these zones are to address the following aspects: urban and environmental improvement, creating high quality public spaces like; lake fronts, botanical parks, providing adequate public access to water bodies like delimiting of water bodies, rehabilitating the slums and informal economic activities in buffer zone, creating vibrant urban environment, promoting recreational activities.

**(Refer Slide Time: 29:59)**



Likewise, we see proposals are made to include the existing villages in the planning area through creation of Village Abadi and their extension. As the planning area increases we see many of the villages come in the planning zone so how these villages can be included. It includes the existing village in planning area and the extension of villages up to a periphery of 500 meters, which is limited to 250 meters in the catchment area of Bhojtal.

In order to improve the primary sector in the Bhopal Planning Area, zoning of appropriate agriculture land has been introduced. There was a need to identify the villages in catchment areas and their buffers as they all are part of conservation of the catchment areas. This will also protect the areas like buffers of streams and channels for its conservations. The plan proposed implements the zones through preparation of detailed Local Area Plan, existing old structure shall be incentivized to redevelop higher FAR. Local Area Plans prepared for this zone shall ensure improved street networks, infrastructure, parking management and regulation to achieve desired urban character and form. The permissible activities are with respect to the road widths. Further we see that URDPFI guidelines recommend that Comprehensive Mobility Plan should be developed. The Comprehensive Mobility Plan should include mass transportation system and land uses, interfaces, TOD development with priority for non-motorized vehicle around the nodes, integration of proposed Comprehensive Mobility Plan. So we see that the Bhopal Development Plan provides comprehensive transportation and Mobility Plan to enable high



quality, well connected and integrated transportation network for health growth, thriving economy and high livability standard for the city.

**(Refer Slide Time: 32:03)**

---

### Transportation, Network, and Mobility Plan

---

#### Bhopal: Transport Network

---

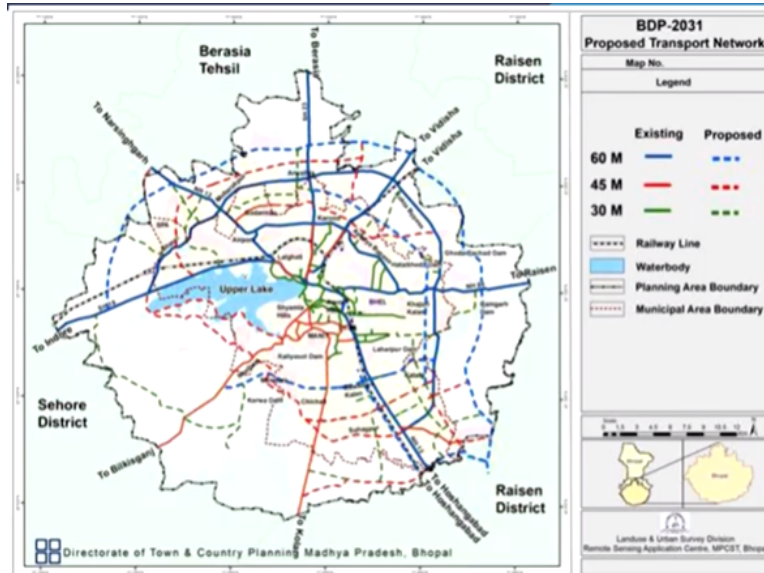
S.No	Category	Existing Length in km	Proposed Length in km
1	BRTS Roads	121.64 Km.	-
2	Development plan Roads	515.78 Km.	795.61
3	Metro Rail Route(Phase -I)	27.8 Km.	95.82

(BDP-31, 2021)

The proposal includes BRTS Development Plan of roads, metro rail road's similar to the other Indian metropolitan cities, Bhopal is also facing severe problems such as traffic congestion, travel delays, unsafe travel condition, parking issues, encroachments, increase in vehicular traffic volumes, long travel time, lack of integration between land use and transportation system, congestion and bottle neck on major junction's, inadequate blogged or unusable sidewalks, absence of well-defined street classification system.

We also see incomplete street sections with undefined address and unorganized margin space, we see lack of integration between modes of public transport, absence of pedestrian and bicycle network is seen in the city, unused and insufficient cycle lanes not connected with the destination are also seen. We also see inadequate on street and off street parking facilities, inefficient logistic facilities in and around the city. It is also observed that the existing road network has not been developed based on a specific pattern.

**(Refer Slide Time: 33:20)**



Through TDR, Micro Level Planning Tool is being explored for network of 2005 which has not been implemented completely which led to a mismatch between the current growth pattern in the city and the Development Plan Proposal. Proposal for improvement of transport network is proposed for different categories of services and are covered in the later part of the Course. We will look into the details like how these things are provided to a certain extent, how these things are looked into.

(Refer Slide Time: 33:53)



It also provides details for street design and demarcates. It also proposes concepts of complete street.

(Refer Slide Time: 34:02)

## Transportation, Network, and Mobility Plan

### Bhopal: Road Network



Complete Street

(BDP-31, 2021)

As we can see here in the image. It has proposal for improving existing street and road network. (Refer Slide Time: 34:08)

## Transportation, Network, and Mobility Plan

### Bhopal: Proposed Logistics, Warehousing and Wholesale

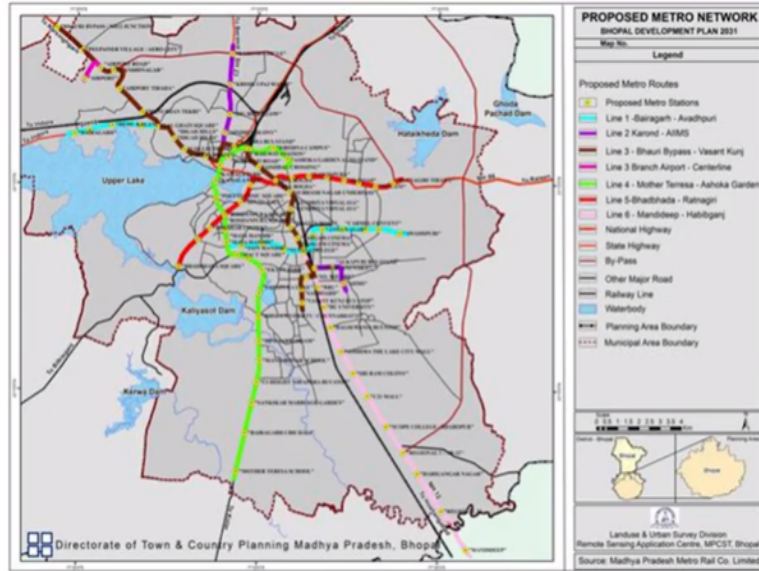
#### Location of proposed Logistics Hub

S.No	Location	Area in Ha.
1	Kolukhedi	170.71
2	Acharpura	439.96
3	SewaniOmkar	80.18
4	Kokta	23.62
5	Bangrasia	120.41
	Total	929.92

(BDP-31, 2021)

Proposal for expanding road network, pedestrian network is also proposed to be created. There is proposal for bicycle tracks and pedestrian facilities in the city. There is proposal for parking management, proposal for logistic, warehousing and wholesale. We also see there are proposals for creating bridges, grade separation and ROB's.

(Refer Slide Time: 34:34)



There is proposal for public transportation including BRT Corridor, non-motorized transport, Mass Rapid Transit Corridors.

**(Refer Slide Time: 34:44)**

## Housing

### Residential Areas and Densities to be achieved

S. No.	Name of the areas	Max. residential density (gross)	No. of DUs based FAR for evolving net residential density
1	Shamla Hills, Charlimli, Areraupto Colony E1 to E5, Vijay Nagar and areas abutting Narsinghar road Gandhi nagar, Kolar Road from junction of main road No. 3 to canal.	Up to 125 persons per Ha (gross)	52
2	Areas west of Kolar road near Up to Kerwa, areas abutting Bilkisganj road.	Up to 25 pph	10 DUs/ Ha.
3	Remaining areas of city	Up to 250 persons	104

Further, as per the URDPFI guidelines infrastructure plan, utility plan should be provided to indicate the layout of plan of trunk infrastructure of each infrastructure and utility at a scale of proposed Land Use Plan. In the Bhopal Development Plan the detailed account of housing provision is being given.

(Refer Slide Time: 35:07)

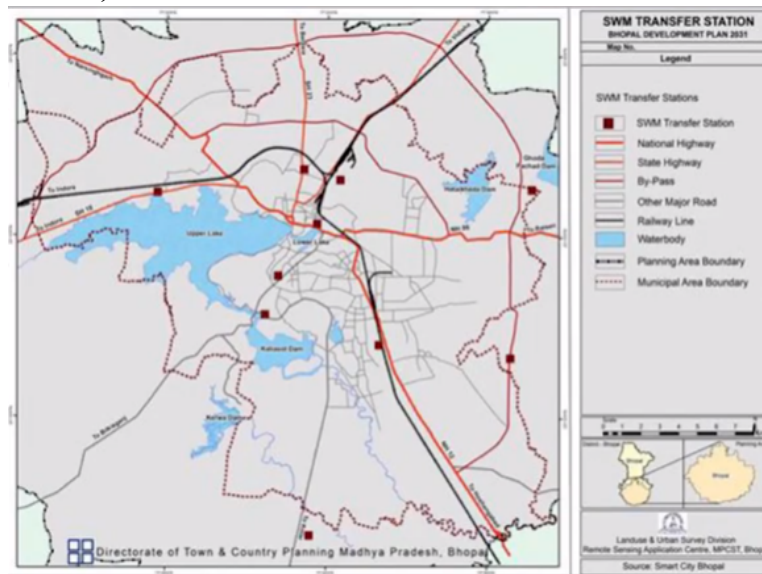
## Water Supply, Sanitation, and Sewerage

### Water Supply- Service Level benchmarking

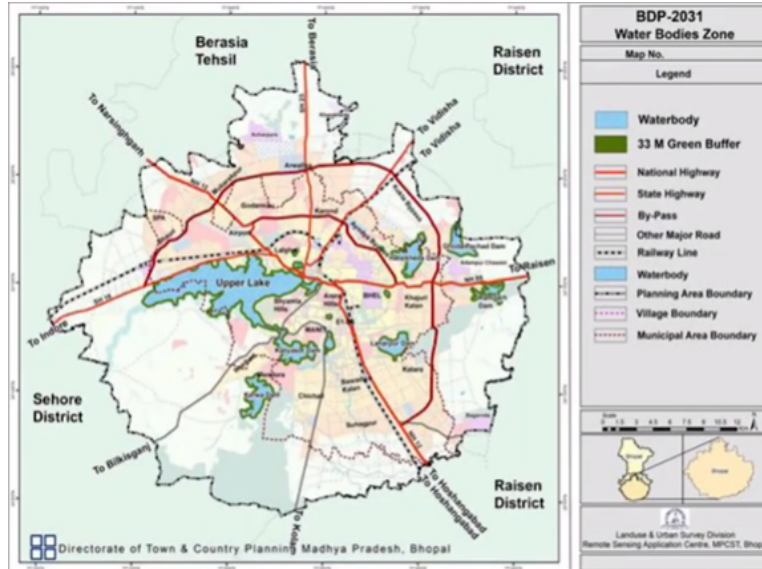
S. No.	Service/ Benchmarks	Year 2015-2016	
		Target	Achieved
1	Total families with connection (%)	100	82
2	Per capita daily consumption (%)	135	135 LPCD
3	Metered connection comparable to total connections (%)	100	60
4	Non- revenue water (%)	15	20
5	Duration of water supply (in hours) (%)	24X7	1 to 2 hours
6	Adequacy of water purification (%)	100	100
7	Water grievance redressal (%)	100	100
8	Revenue generated for facility provision and maintenance cost (%)	75	60
9	Water supply charge bill collection efficiency (%)	90	83

We also see that water supply and sanitation and sewerage detail proposal has been prepared for this. We further see that proposals have been prepared for solid waste management.

(Refer Slide Time: 35:19)



(Refer Slide Time: 35:23)



We also see Eco-Tourism Management Planning has been prepared. In the Development Report, Old City and Heritage Plan Proposal is also prepared. Further we see Special Area Planning is also prepared through and particularly the Smart City Intervention has been done here. We shall cover this in detail in the later part of the Course. We further see development promotion rules and regulations to regulate and develop land use as proposed under the Development Plan have been given, which we shall see in detail in our last segment of the course.

**(Refer Slide Time: 36:00)**

## Bhopal Development Plan 2031

### Annexures

- Detailed scaled maps of prevailing situation
- Detailed scaled maps of existing Land use
- Detailed scaled maps of proposed Land use
- Detailed scaled maps of proposed infrastructure plans and social services
- Detailed scaled maps of proposed Special purpose plans

We further see that while we have seen or gone through all these content, we see that list of scaled maps are to be prepared. The maps which include are the prevailing situation, existing land use, proposed land use, proposed infrastructure, proposed Special Purpose Plan. So we have seen range of maps which are to be prepared for the proposal in this case example.

**(Refer Slide Time: 36:28)**

## Summary

---

- ① Discussed the Development and Intend of the Vision
- ② The Content of the Development Plan
- ③ Case example- Bhopal Development Plan-2031 (Draft)
- ④ Range of Maps Prepared for the purpose of Development plan proposal

So summarizing, we see that, today, we have seen what is the intend of the vision and how the vision is developed for the Development Plan. We also saw what is the content of the development proposal. We saw from what problems they identify to the land use and different zones which we were classified and the details of each kind of transportation to housing and solid waste and all the services have been included.

We saw all of this through the case example of Bhopal Development Plan and we also saw the range of maps prepared. So coming back to the main purpose of the Development Plan we see that it is a Statutory Document and it guides day to day decision making process and so that our everyday action or activity align with our larger goal. So we see that here, how through these kind of proposals and documents we align to the entire development of the city.

**(Refer Slide Time: 37:45)**

## References

---

- URDPFI Guidelines, Ministry of Housing and Urban Affairs,  
<http://mohua.gov.in>
- Bhopal Development Plan (Draft), 2031, Government of Madhya Pradesh,  
[http://mptownplan.gov.in/plan\\_bhopal.html](http://mptownplan.gov.in/plan_bhopal.html)

So for this session these were the references used.

**(Refer Slide Time: 37:49)**

## Suggested Reading and Watch

(to contemplate different layers of Urban and Rural Life)

- <https://www.youtube.com/watch?v=lh54n8W3Hpg>
- <https://www.youtube.com/watch?v=NLKJAmrc1cA>
- <https://www.youtube.com/watch?v=4jagonQkgZM>
- <https://www.youtube.com/watch?v=1CarenOqU2Y>
- [https://www.youtube.com/watch?v=ZORzsubQA\\_M](https://www.youtube.com/watch?v=ZORzsubQA_M)
- <https://www.youtube.com/watch?v=AnoxdlQDESI>



Our coverage was limited with the scope to make you aware of the topic. There are enormous readings and movies are available to explore. Few are suggested here, this is not an extensive list. You may feel free to suggest more from your experience.

**(Refer Slide Time: 38:03)**

 Please feel free to ask Questions.

Let us know about any Concerns you have 

 Do share your Opinions, Experiences and Suggestions.

Looking forward to Interacting and   
Co-learning with you while exploring Cities and  
Urban Planning. 

Please feel free to ask questions, let us know about your concerns you have, do share your opinions, experiences and suggestions. Looking forward to interacting and co-learning with you while exploring cities and Urban Planning, thank you.