

# Zonal Development Plan of Nagar Nigam North Zone 2031



**JODHPUR DEVELOPMENT AUTHORITY, JODHPUR  
GOVERNMENT OF RAJASTHAN**



**ACRO VENTURES PVT. LTD.**



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## 1 INTRODUCTION

### 1.1 REGIONAL SETTING

**Jodhpur** is the second largest city in the state of Rajasthan. It is located 335 km west from the state capital Jaipur and 200 km from the city of Ajmer. It was formerly the seat of a princely state of the same name, the capital of the kingdom known as Marwar. Being a place of princely palaces, magnificent forts as well as age old temples, this city of Rajasthan is among the famous tourist destinations in the state as well as India. Positioned in the Thar Desert's stark landscape, Jodhpur experiences a bright and sunny weather all through the year. For this, the city is also known as "Sun City".

It is also referred to as the "Blue City" due to the vivid blue-painted houses around the Mehrangarh Fort. The old city circles the fort and is bounded by a wall with several gates. However, the city has expanded greatly outside the wall over the past several decades. Jodhpur lies near the geographic centre of Rajasthan state, which makes it a convenient base for travel in a region much frequented by tourists.

Jodhpur city is one of the major cities of Rajasthan. It is well connected to the rest of Rajasthan by airways, road and rail links. This city basks in the golden history and heritage of the state and is located at the fringe of the great Thar Desert. The city was founded in 1459 A.D by the Rathore rulers.

#### 1.1.1 PHYSIOGRAPHY

Jodhpur district is located in western part of Rajasthan, located between 26°00' to 27°37' North latitude and 72°55' to 73°55' East. Climate of Jodhpur remain extreme hot in summer season, extreme cold in winter season. Day and night temperatures increase gradually and reach their maximum values in May and June respectively. The temperature varies from 48oC in summer to 4oC in winter.

#### 1.1.2 REGIONAL CONTEXT

The city has well-established rail, road and air networks connecting it to other major cities of the country. Jodhpur railway station is the Divisional Headquarters of the North Western Railways (NWR). Jodhpur Airport is one of the prominent airports of Rajasthan. It is primarily a military airbase with a civil enclosure to allow for civilian air traffic. Due to Jodhpur's strategic location, this airport is regarded as one of the most important ones for the Indian Air Force.



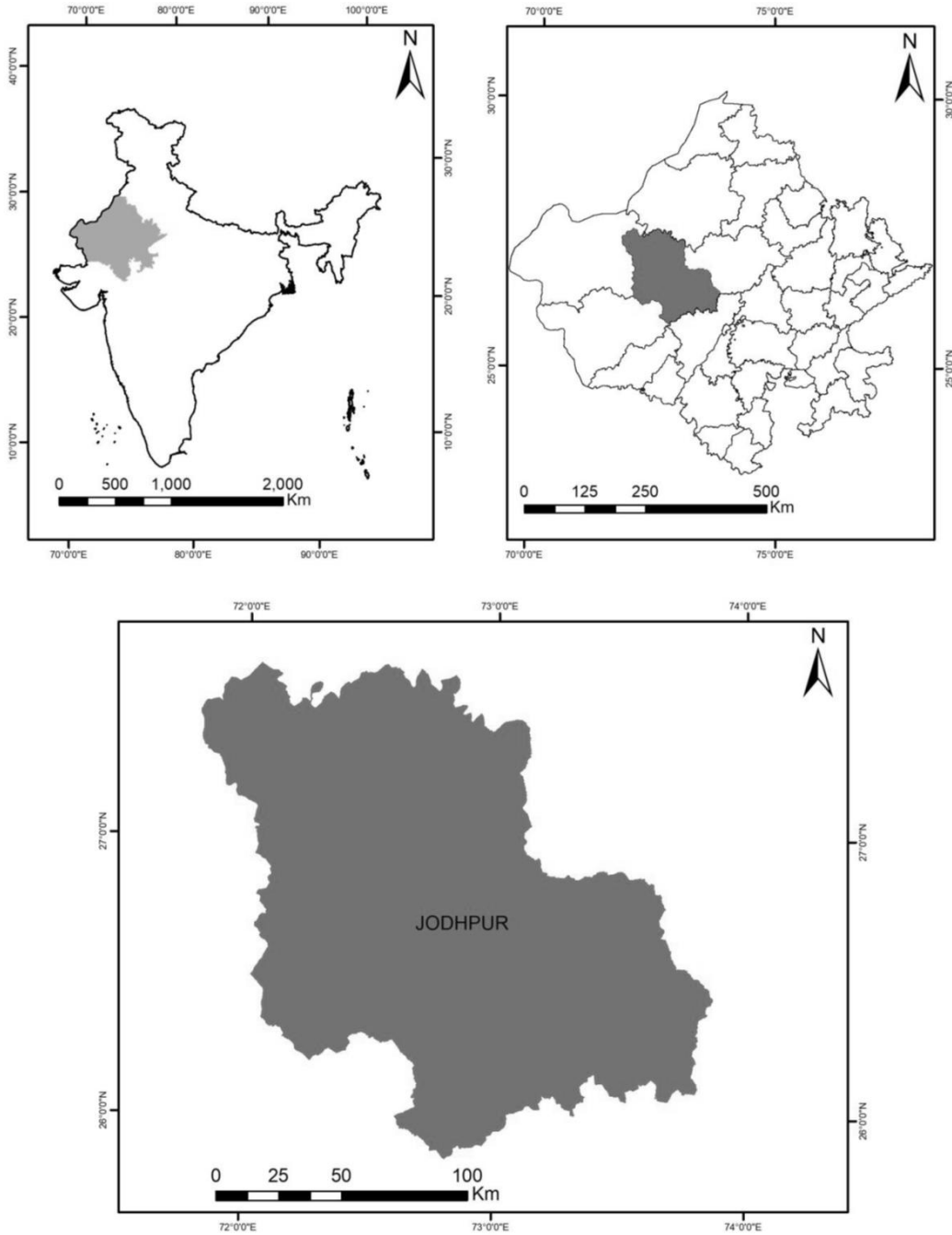


Figure 1 Location of Jodhpur

### 1.1.3 ROAD LINKAGES

Jodhpur is connected by road to all major cities in Rajasthan and neighboring states like Uttar Pradesh, Madhya Pradesh, Haryana and Gujarat. Jodhpur is connected to the National Highway network with three National Highways and connected to the Rajasthan State Highway network with four state highways. Details of above are as follows:

### **National Highways**

- NH-62, Ambala-Kaithal-Hissar-Fatehpur-Jodhpur-Pali
- NH-25, Junction with NH-125 near Bar connecting Jaitaran-Bilara-Kaparda-Jodhpur Kalyanpur Pachpadra-Balotra-Tilwara-Kher-Bagundi Dhudhwa-Madhasar-Kawas and terminating at its junction with NH 15 near Barmer.
- NH-125, Junction with NH-62 near Jodhpur connecting Balesar - Dechhu and terminating at its junction with NH-15 near Pokaran.

### **State Highways**

- SH-58 connects Jodhpur with Bheem in Rajsamand district.
- SH-61 connects Phalodi in Jodhpur district of Rajasthan with Mandal in Bhilwara district.
- SH-63 connects Banar to Kuchera via Bhopalgarh
- SH-68 connects Dangiyawas to Balotra via Kakelao, Khejarli, Guda Kakani, Luni, Dhundhara, Rampura, Samdari.

## **1.2 About the city**

The Jodhpur city is the administrative headquarters of the district. Jodhpur with strategic location is one of the important city of western Rajasthan famous as Sun City established on 12<sup>th</sup> May 1459 by Rao Jodha. Jodhpur is the second largest city in Rajasthan, after Jaipur, and one of the most visited. The city was the capital of the once great kingdom of Marwar - the most powerful of all the Rajput kingdoms and the Meherangarh fort rated as one of the mightiest castles ever built, anywhere. Jodhpur history revolves around the Rathore Clan. Rao Jodha, the chief of the Rathore clan, is credited with the origin of Jodhpur in India.

He founded Jodhpur in 1459. The city is named after him only. It was previously known as Marwar. Even today, the fort is an awesome sight, especially when seen from the old town.

Jodhpur has culturally been known by the name of Jodhana by the locals.<sup>[27]</sup> The city is famous for its food and its popularity can be judged by the fact that one can find sweet shops named "Jodhpur Sweets" in many cities throughout [India](#).

The city is also home to several educational institutions, the most prominent being All India Institute of Medical Sciences, Jodhpur, Indian Institute of Technology Jodhpur, Dr. Sampurnanand Medical College, DSRRAU Jodhpur, and National Law University, Jodhpur, and many research institutes, such as Indian Space Research Organisation, Defence Research and Development Organisation, Central Arid Zone Research Institute, Arid Forest Research Institute, and Desert Medicine Research Centre are also located in the city.



### 1.2.1 DEMOGRAPHY OF THE TOWN – GROWTH TRENDS

Jodhpur is the second largest city of the state. It has registered 10 times increase in population during 1901 to 2001. During 1971-1981 there was phenomenal increase in population with 59.42 percent increase.

Table below gives the details of population increase in Jodhpur city during various decades.

Table 1-1 Population Growth during 1911-2011

S. No.	Year	Population	Difference	Growth Rate
1	1911	79754	645	0.82
2	1921	73480	-6274	-7.87
3	1931	94736	21256	28.93
4	1941	126842	32106	33.89
5	1951	180717	53875	42.47
6	1961	224760	44083	24.37
7	1971	317612	92852	41.31
8	1981	506345	188733	59.42
9	1991	666279	159934	31.52
10	2001	860818	194539	29.19
11	2011	1138300	277482	32.23

Table 1-2 Ward Wise population

Ward Number	Population (Census 2011)
1	7702
2	6426

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3	8854
4	6462
5	7454
6	8329
7	5912
8	7328
9	5932
10	5929
11	7409
12	7457
13	7463
14	7129
15	6974
16	6862
17	7847
18	6354
19	10289
20	6744
21	6319
22	6462
23	5873
24	6821
25	6510
26	4777
27	5975
28	5436
29	4845
30	5423
31	6270
32	4751
33	6244
34	6443
35	6029
36	5875
37	6828
38	5932
39	5848
40	5088
41	7421
42	6399
43	9975
44	6805
45	9349
46	11530
47	7089
48	5639
49	6201

50	6064
51	6645
52	6076
53	5114
54	6353
55	6701
56	6194
57	6006
58	4278
59	4096
60	4974
61	5283
62	5291
63	6019
64	4292
65	7051
66	6506
67	7156
68	8373
69	10253
70	4304
71	5009
72	4274
73	4180
74	2805
75	9310
76	7671
77	4013
78	6307
79	6722
80	8749

Source: Census 2011

### 1.3 MASTER DEVELOPMENT PLAN – 2031

Master Development Plan of Jodhpur Area Approved vide Gazette Notification order no F-37/D.I.R (P)/JDA/General/2021/1221 Dated Feb. 18 2021. Zonal Plans are being prepared under Jodhpur development authority act in order to detail out proposal of master development plan.

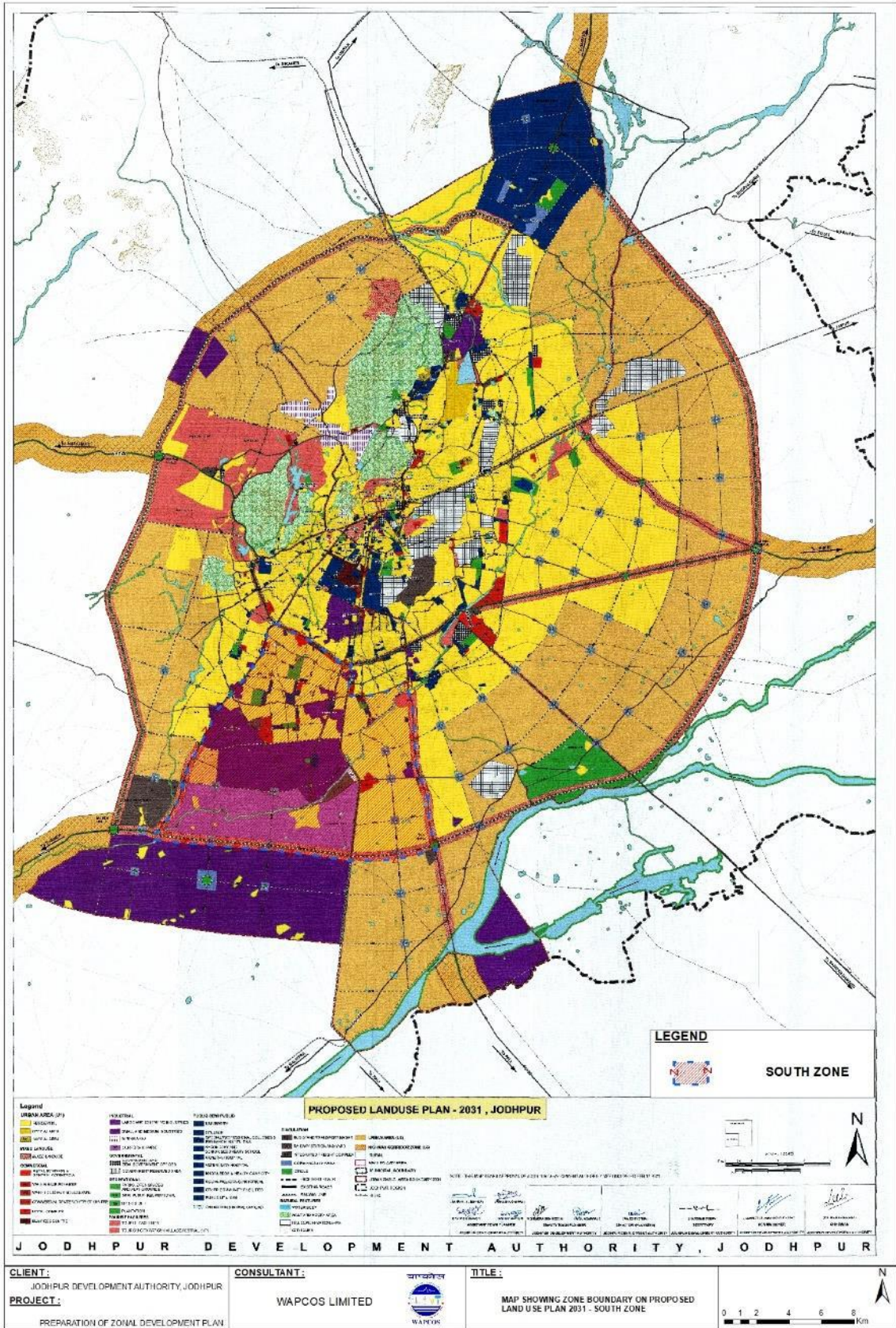


Figure 2 Proposed Land Use Plan Jodhpur- 2031

Source- Jodhpur Development Authority

Table 1-3 Land Use as per Master Development Plan – 2031

S. No.	Land Use	Area (in Hectare)	Percentage of Urbanisable Area (%)	Percentage of Urban Area (%)
1	Residential	3960	37.31%	34.11%
2	Commercial	222.4	2.09%	1.91%
3	Industrial	3621	34.11%	31.19%
4	Government / Semi-Government	174	1.63%	1.49%
5	Recreational	1717	16.1%	14.78%
6	PSP	478	4.5%	4.11%
7	Circulation	441	4.1%	3.79%
8	Special Planning Area	0	0	0
<b>Urbanisable Area</b>		<b>10613</b>	<b>100.00%</b>	<b>91.38%</b>
9	Agricultural, Plantation and Vacant Area	278		2.39%
10	Low lying Area	0		0
11	Government Reserved	375		3.23%
12	Water bodies /Nalah	343		2.95%
<b>Urban Area</b>		<b>11609</b>		<b>100.00%</b>

## 1.4 Zonal Development Plan

The Master Plan – 2031 for Jodhpur Urban Area shows the proposed land uses required at the city level based on the population projection for the horizon year 2031. However, in the absence of proposals for zonal level land uses, the requirement of zone level facilities is not ensured while approving layout plans. It is therefore, felt necessary to prepare Zonal Development Plan in order to provide proper infrastructure and urban facilities in accordance with the requirements of the growing population of the zone and to ensure a healthy environment for the public. Urban Development, Housing and Local Self Government Department, Government of Rajasthan, has issued the guidelines for the preparation of Zonal Development Plans which will detail out the proposals of Master Plan and thus will act as a link between the layout plans and Master Plan, containing a zonal base map, existing land use map, land uses as per Master Plan, land use, facilities, road network plan required at zone level and land reservations for water bodies & forests etc. as per revenue record and other specific provisions as per zone requirement, if necessary. The Zoning Regulations will further ensure the zone level social infrastructure facilities and will provide guidelines to permit various uses / activities in the proposed use zones of Zonal Development Plan.

### 1.4.1 DELINEATION OF ADMINISTRATIVE ZONE

Jodhpur Master Plan 2013-2031 is proposed for an area of 446733.94 hectare with 395 Revenue Villages & Jodhpur city. They are as below:

- South Planning Zone
- North Planning Zone
- West Planning Zone
- East Planning Zone

### **SCOPE OF WORK**

Preparation of base map showing all Physical and Social features of certain area such as buildings and property line, roads, railway line, water bodies, culverts, bridges, high/low tension lines, layouts, parks, playgrounds, wetlands, etc. via Drone imagery.

Base Map Vetting for the preparation of existing land use plan for the town.

Preparation of existing land use map along with the analysis of land uses those are residential, commercial, industry, government, other community facility, public utility, parks, playgrounds, circulation, water bodies, bus and truck terminals, transport Nagar, agriculture etc. on the basis of land use survey using land use classification as given in the master plan.

Superimposition of existing land use map on village wise khasra map.

Superimposition of Master Plan Proposals on the existing land use map.

Existing land use analysis indicating the deviation/violations of Master Plan uses. (if any).

Preparation of Draft Zonal Development Plan for the particular Town.

### **1.4.2 DELINEATION OF WORK AREA**

As per Jodhpur Master Development Plan 2031, there are 4 Major zones which are further subdivided into 18 zones Planning Zones.

Nagar Nigam North is assigned to Acro Ventures Limited Pvt. Ltd.

The extension of Preparation of Zonal Plan Nagar Nigam North. Covering about 11609 hectares.



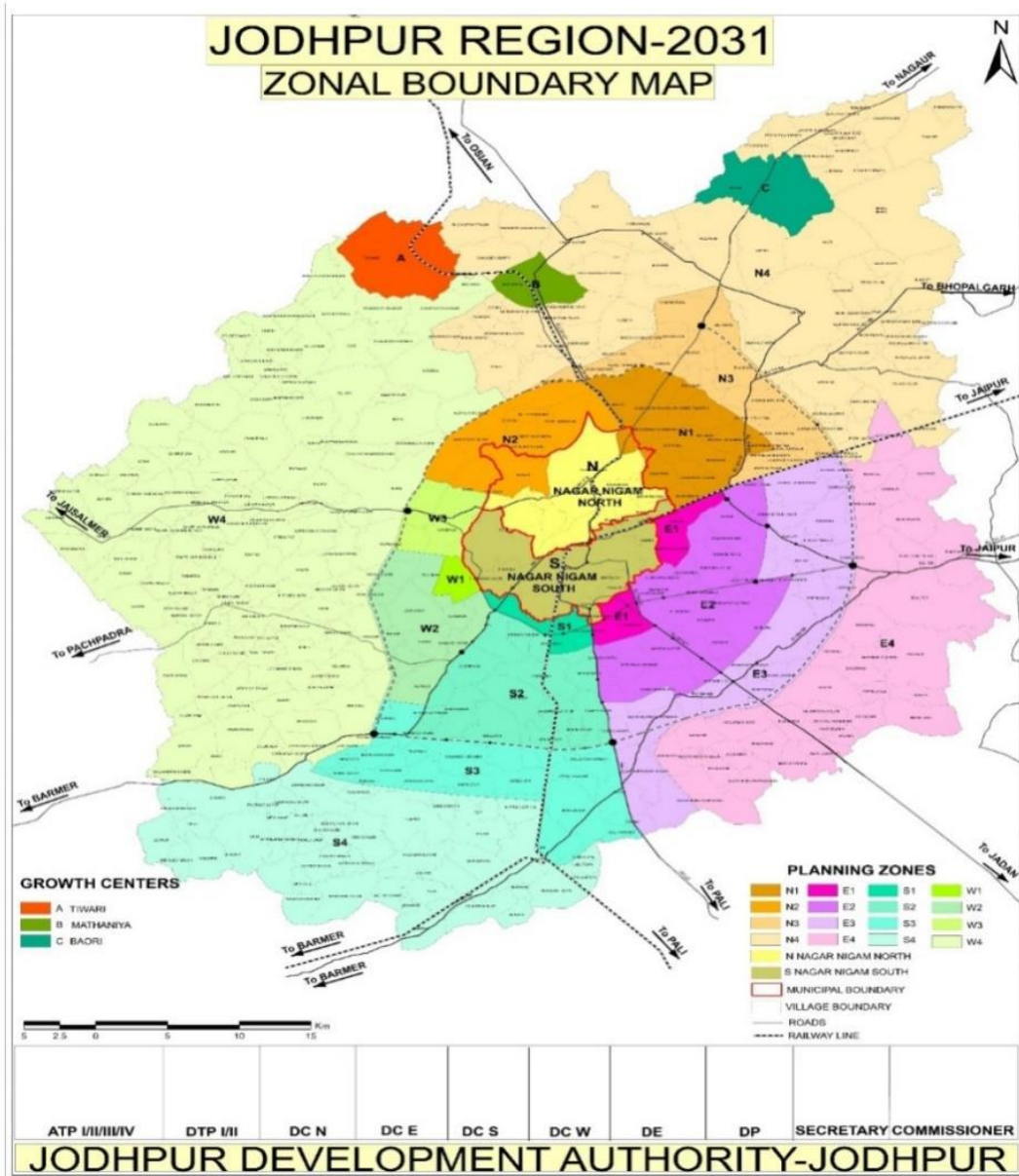


Figure 3 Map showing Planning Zones for Jodhpur

## 2 ANALYSIS OF NAGAR NIGAM NORTH ZONE

Nagar Nigam North Zone is lies in the centre of the Jodhpur city. NH 62 and MDR 104 is passes through the zone.

The zone consist of following villages:-

1. Gewa
2. Basni Malyan
3. Basni Tamboliyan
4. Pundla
5. Chainpura
6. Bhadwasia
7. Jodhpur
8. Bagan
9. Golasni
10. Mandore

### 2.1 Land use analysis as per Master plan

Proposed Landuse in the Master Development Plan 2031 of the Nagar Nigam North Zone includes majorly residential, commercial center, industrial and corporate park area. The other proposed land uses are tourist facilities, Parks and Playgrounds and secondary and senior secondary schools, other community facilities, core facility and mixed land use.

Table 2-1 Analysis of Proposed Land Use as per Master Development Plan – 2031

S. No.	Land Use	Area (in Hectare)	Percentage of Urbanisable Area (%)	Percentage of Urban Area (%)
1	Residential	3960	37.31%	34.11%
2	Commercial	222.4	2.09%	1.91%
3	Industrial	3621	34.11%	31.19%
4	Government / Semi-Government	174	1.63%	1.49%
5	Recreational	1717	16.1%	14.78%
6	PSP	478	4.5%	4.11%
7	Circulation	441	4.1%	3.79%
8	Special Planning Area	0	0	0
<b>Urbanisable Area</b>		<b>10613</b>	<b>100.00%</b>	<b>91.38%</b>
9	Agricultural, Plantation and Vacant Area	278		2.39%
10	Low lying Area	0		0
11	Government Reserved	375		3.23%
12	Water bodies /Nalah	343		2.95%

<b>Urban Area</b>	<b>11609</b>	<b>100.00%</b>
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## 2.2 Land use analysis (as per Existing conditions)

Base Map and existing land use map has been prepared using Ground Survey by DGPS and TOTAL STATION with establishment of control points in project area and by using very high resolution latest Satellite Imagery for digitizing all buildings along with their existing use, roads, railway lines, water bodies, culverts, bridges, high/low tension lines, parks, playgrounds, wetlands, important landmarks, heritage buildings, vacant lands etc.

Table 2-2 Existing land use classification

S. No	Land use		Area (in Ha.)	Percentage of Total Area (%)	
1	Residential	Residential	1593	13.72	
2	Commercial	Retail Business and General Commercial	60.66	0.52	
		Warehousing and Go downs	1.72	0.01	
		Wholesale Business/Malls/Hotels/Others	36.69	0.32	
3	Mixed Use	Mixed Use	115.43	0.99	
4	Industrial	Small & Medium	125.77	1.08	
5	Government	Government & Semi-Government Office	398.45	3.43	
6	Recreational	Parks / Open Space	86.5	0.74	
		Stadium	9.12	0.08	
7	Public – Semi Public	Social Infrastructure	Educational	159.67	1.37
			Health Care	9.01	0.07
			Religious / Social-Cultural	56.31	0.48
			Other Community Facilities	90.54	0.78
		Physical Infrastructure	Public Utilities	89.8	0.77
			Others	0	0.00
8	Circulation	Railway Station / Bus Stand/Parking lots	9.51	0.08	
		Roads	725.27	6.25	
<b>Developed Area</b>			<b>3567.45</b>	<b>30.73</b>	
9	Open/ Agricultural/Vacant	Open/Agricultural/Vacant	7865.65	67.75	
10	Water Body	Water	176	1.52	
<b>Total Developed Area</b>			<b>8041.65</b>	<b>69.27</b>	

<b>TOTAL AREA</b>	<b>11609.1</b>	<b>100</b>
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### 2.2.1 RESIDENTIAL

Residential Use accounts to 1593 hectare of area, making it 13.72% of the total area.

S.No.	Name of Activity	Number	Area (Ha.)
1	Plotted & Flatted / Group Housing	5081	1592.26
2	Individual Housing	22	0.74
<b>Total</b>		<b>5103</b>	<b>1593</b>

### 2.2.2 COMMERCIAL

Commercial use shares only 0.85% of the total area, contributing to 99.07 hectare of land.

**Table 2-3: Analysis of Existing Commercial Land Use**

S. No.	Land use		Area (in Ha.)	Percentage of Developed Area (%)
1	Commercial	Retail Business and General Commercial	60.66	0.52
		Warehousing and Go downs	1.72	0.01
		Wholesale Business/Malls/Hotels/Others	36.69	0.32
<b>Total</b>			<b>99.07</b>	<b>0.85</b>

### 2.2.2 MIXED LAND USE

Zone has prevalent mixed land use character constituting to 115.43 hectare i.e., 0.99% of total area.

### 2.2.3 INDUSTRIAL

As per existing land use, Industrial land use comprises of many Industrial use occupied plots and 125.77 Hectare land i.e., 1.08% of the total area of the zone.

### 2.2.4 GOVERNMENT AND SEMI-GOVERNMENT

Government offices like Bank office, Police station etc. are situated in this zone area covering an area of 398.45 hectare and 3.49% of the total area of the zone.

## 2.2.5 PUBLIC SEMI-PUBLIC

The public semi-public land use in the zone occupies 405.33 Hectare area of land, which is around 3.49% of the total area and includes social and physical infrastructure facilities present in Zone.

### 2.2.5.1 Social Infrastructure

#### 2.2.5.1.1 Educational

Educational facilities stand out to be 159.67 hectare of land and 1.37 % of total area of zone which comprises of primary, secondary and senior secondary schools, Colleges, Universities, Professional Colleges, Institutes.

**Table 2-4: Detailed Analysis of Existing Educational Facility**

S.No.	Name of Activity	Number	Area (Ha.)	Percentage of Developed Area (%)
1	Primary / Secondary School	117	54.05	0.465
2	Senior Secondary School	40	13.445	0.116
3	College/ I.T.I.	51	92.17	0.794
<b>Total</b>		<b>208</b>	<b>159.67</b>	<b>1.37</b>

#### 2.2.5.1.2 Healthcare

Area towards Healthcare Facilities contribute to a least of 9.01 hectare area of land and 0.07% of total area of the zone having Private Hospital and Government Hospitals both.

**Table 2-5: Detailed Analysis of Existing Healthcare Facility**

S.No.	Name of Activity	Number	Area (Ha.)	Percentage of Developed Area (%)
1	Dispensary/ Hospital/ Sub-Health Centre / Nursing Home/ Others	123	8.51	0.07
2	Veterinary Hospital	1	0.5	0.004
<b>Total</b>		<b>124</b>	<b>9.01</b>	<b>0.07</b>

#### 2.2.5.1.3 Social, Cultural and Religious and Other Community Facilities

Social, Cultural and Religious facilities together contribute to 1.26 % of the total area of the Zone having an area of 146.85 hectare including Fort, dharamshalas, parks & religious places like Mandir and Masjid.

**Table 2-6: Detailed Analysis of Existing Social, Cultural & Religious Facility**

S. No.	Name of Activity	Number	Area (Ha.)	Percentage of Developed Area (%)
1	Religious	79	30.61	0.26
2	Socio-cultural	13	25.7	0.22
3	Other Community Facilities	132	90.54	0.78
<b>Total</b>		<b>224</b>	<b>146.85</b>	<b>1.26</b>

### 2.2.5.2 Physical Infrastructure

Public Utilities account for 89.8 Hectares and 0.77% of the total area of the zone which includes Electric Sub-Station, Power House, water works, Community water tanks, etc.

#### 2.2.5.2.1 Water supply

Currently water is supplied in the zone using tube wells and overhead tanks. Presently there are around 50 Elevated Service Reservoirs present in this zone and 135 LPCD is being supplied in this zone.

#### 2.2.5.2.2 Power Supply

Electricity is distributed through L.T lines and H.T. lines, from Power stations.

#### 2.2.5.2.3 Drainage System and Sewerage System

Efficiency of the drainage system is lacking in the North area of Nagar Nigam, Jodhpur. There is one STP located in Salawas in south zone with capacity of 100 MLD

### 2.2.5.3 Recreational

Zone has prevalent recreation land use character constituting to 95.62 hectare i.e., 0.82% of total area. This Recreational use consists of Playgrounds, Parks and Stadiums.

**Table 2-7: Detailed Analysis of Existing Recreational Facility**

S. No.	Name of Activity	Number	Area (Ha.)	Percentage of Developed Area (%)
1	Parks / Open Spaces	106	86.5	0.74

2	Stadiums	6	9.12	0.08
<b>Total</b>		<b>112</b>	<b>95.62</b>	<b>0.82</b>

### 2.2.5.4 Transportation

Circulation is one of the important components, which comes under major land use category. This zone has the main Jodhpur junction railway station. This zone has important roads on the periphery such as NH-62, SH-16, Soorsagar Bypass, Surpura Bypass. Existing roads consists of BT/CC roads, katcha rasta.

#### 2.2.5.4.1 Railway

There is the main Jodhpur junction Railway station in the zone and Railway Track stretching from the station to other zones passes through various wards of the zone including their overpasses at many areas.

#### 2.2.5.4.2 Public Transportation – Bus Services, Autorikshaw, Cycle etc.

The main Bus stand of the city is present in the zone, there is no public transport facility other than private auto rickshaws. DPS circle serves as temporary bus stop

#### 2.2.5.4.3 Parking

There is lack of designated parking space in the Zone. Presently majority of vehicles are parked along roads which include all types of modes i.e. two wheelers, cars, trucks etc. This situation finally leads to the decrease in the effective carriageway width, which in turn creates bottlenecks at some locations and hampers the movement of traffic.

#### 2.2.5.4.4 Forests, Hills and Water Bodies

The major waterbodies present in the zone are Kailana Lake, Balasamand lake, Baiji ka Talab, Toorji ka Jalra (Stepwell). The Major hill on which Mehrangarh Fort is located is situated in the Zone. There are forests and a major Botanical Zoo Forest that is Machiya Biological Park is also present in the zone near Kailana lake.

### 3 PLANNING POLICES AND PARAMETERS

In order to have planned, balanced and integrated development of the zone certain planning parameters are proposed to be followed, these parameters will be the guidelines for Proposed Zonal Development Plan.

#### 3.1 RESIDENTIAL

Residential development for the zones could be considered on the basis of density or the building height. The below table show the density from which residential area can be proposed. These densities have to be followed while proposing the residential development.

Table 3-1: Hierarchy and Norms for Residential areas

S. No.	Category of Density	Classification	Color Code
1	R1 (0-75 PPA)	Low Density	
2	R2 (75-150 PPA)	Medium Density	

#### 3.2 COMMERCIAL & MIXED

##### 3.2.1 COMMERCIAL, MIXED, WHOLESALE, WAREHOUSING

It is recommended that single plot depth or 1.5 times of the road width whichever is less could be considered for mixed development on National and State Highway roads. Property depth above 0.5 times of road width could be considered by the competent statutory committee.

The sub Zonal Development Plan shall be prepared as per requirement for specific area function Traffic Management Plan, Street Vendor's Plan, Redevelopment Plan, and Heritage Management Plan.

Table 3-2: Hierarchy and Norms for Commercial Centers

Unit	Category	Area (Ha.)	Population	No. of Shops
Housing Area	Convenience Shopping	0.15	5000	1-110 persons
Neighborhood	Local Shopping Centre	0.46	15,000	1-200 persons
	Weekly Market	0.40	1 or 2 Place per 1 Lakh	As per requirement



Community	Informal Spaces / Vending Zone	As per requirement	On the basis of survey	1 per 10 plots
	Milk distribution centre / Dairy Booth	As per requirement	As per requirement	As per requirement

### 3.2.2 URBAN STREET VENDORS

The informal and un-organized sector is a major source of employment in the economic fabric of the city for which the following approach is proposed:

- Earmarking of 'Hawking' and 'No Hawking' Zones at neighborhood and cluster levels.
- New areas for informal retail shops to be developed and integrated with housing, commercial, institutional and industrial areas.
- Provision of common basic services like toilets, water points, etc.
- Area for essential retail outlets e.g., Milk Booth, Fair Price Shop, Bank ATM, Restaurant etc. may be provided.
- Provisions for informal retail units and weekly market to be made, wherever necessary by the local body / development authority.
- Vegetable markets are to be earmarked by the local body/ development authority / at neighborhood level.

The township policy makes provisions for informal sector in upcoming township schemes. As per norms 6 % commercial area is to be earmarked in townships and accordingly

- 2% area from 6% commercial to be set apart for convenient shopping/ Kiosks / informal sector.
- Colonies developed by Jaipur Development Authority/ RHB/ provides for 2% towards informal sector.
- Residential complex provides for 1.5% plinth area reserved for informal sector (Kiosk) on stilt level. The space shall be allotted at concessional price.

### 3.2.3 NORMS FOR URBAN STREET VENDORS

The informal sector retail commercial activities should be incorporated in the planned development in various use zones. The provision of informal sector trade units should be ensured at the time of sanction of building plans / layout plans as per the norms given in the Table

Table 3-3: Norms for Informal Shops / units for Urban Street Vendors

S. No.	Use Zone/Use Premises	No. of Informal Shops /Units
(i)	District Centre, Community Centre, Convenience Shopping Centre,	2 to 3 units per 10 formal shops (to be provided in informal bazaar/service market components)
(ii)	Government and Commercial Offices	5 to 6 units per 1000 employees
(iii)	Wholesale trade and Freight Complexes	3 to 4 units per 10 formal shops
(iv)	Hospital	3 to 4 units per 100 beds
(v)	Bus Terminal	1 unit for two bus bay
(vi)	Secondary/Senior Secondary	2-3 units
(vii)	Parks Community Park District Park	to 3 units to 4units at each major entry
(viii)	Residential	1 unit/10 plots
(ix)	Industrial	5 to 6 units per 1000 employees

Source: URDPFI Guideline

### 3.3 SOCIAL INFRASTRUCTURE

Location of social infrastructure should be decided by taking into account of preferable 300m – 800m walkable distance (located within 5-15 minutes" walk) in each neighborhood level.

Thus, neighborhood level facility requirement can be derived by taking maximum of 800 m distance buffer to the existing facilities of neighborhood and simultaneously the proposed population with respect to the proposed density of that zone.

#### 3.3.1 EDUCATIONAL

Determination of Educational facilities should not only be made on the basis of threshold population given in the table below, but also by considering literacy rate, in and dropout rate of pupils.

Table 3-4: Hierarchy and Norms for Educational Facilities

Planning unit	Category for Educational facilities	Area (Ha.)	Population
Housing Area	Primary School / Upper Primary	0.2 – 0.30	5000
Neighborhood	Secondary School / Senior Secondary School	0.40– 0.80	7500
Community	School for Specially Abled	0.2 – 0.40	As per Requirement

### 3.3.2 HEALTHCARE

As per the recommendations made in URDPFI guidelines, considering the Indian Public Health Standards, the calculation of number of beds is recommend as 4 beds per 15,000 population and category-wise details of area of various Healthcare Facilities with respect to population are given below as per URDPFI guidelines:

Table 3-5: Hierarchy and Norms for Healthcare Facilities

Planning unit	Category for Healthcare Facilities	Area (Ha.)	Population
Neighborhood	Dispensary / Sub-Health Centre / Nursing Home / Small Hospital (25-50 beds)	0.05 – 0.45	5000 - 15000
Community	Hospital (more than 50 beds)	0.08	15000

### 3.3.3 SOCIAL, CULTURAL AND RELIGIOUS

Table 3-6: Hierarchy and Norms for Socio-cultural and Religious Facilities

Planning unit	Category for Socio-Cultural and Religious	Area (Ha.)	Population
Neighbourhood	Anganwadi / Child Care Centre / Creche	0.02 to 0.03	As per requirement
	Multi-purpose Community Room	0.1	5000
	Community Hall (Barat Ghar)	0.2	15000
	Religious Facility	0.04	As per requirement

### 3.3.4 OTHER COMMUNITY REQUIREMENTS

#### 3.3.4.1 Cremation / Burial Ground

Cremation and Burial Grounds are preferred to be proposed in the periphery control belt and these facilities may include ancillary facilities like place of worship, open area, public utility facilities, etc. within the premises.

Table 3-7: Norms for Cremation and Burial Ground

Category for Distribution Services	Area (Ha.)	Population
Cremation Ground/ Burial Ground	0.40	As per requirement

Police & Safety facility

Table 3-8: Norms for Police Facilities

Category for Distribution Services	Area (Ha.)	Population
Police Post	0.05	50,000
Police Station	0.20	1 Lakh
Traffic Police Control Room	As per site	As per requirement

Source: URDPFI Guidelines

#### 3.3.5 SAFETY MANAGEMENT

Fire stations should be located so that the fire tenders are able to reach any disaster site within 3- 5 minutes of time and should be located on the corners plots of main roads with minimum two entries as far as possible.

In new layouts, concept of underground pipelines for fire hydrants on the periphery exclusive for firefighting services should be considered and necessary provision for laying underground/ over ground firefighting measures, water lines, hydrants etc. may be kept wherever provision of fire station is not possible.

Table 3-9: Norms for Safety Facilities

Planning unit	Category for Distribution Services	Area (Ha.)	Distribution of Population
Neighborhood	Sub-Fire Station / Fire	0.60	Within 2-4km radius

	post		
Community	Fire Station	1.0	2 Lakh / within 5-7 km radius

Source: URDPFI Guidelines

### 3.3.5.1 Distribution Services

Table 3-10: Distribution Services

Planning unit	Category for Distribution Services	Area (Ha.)	Population
Neighborhood	Petrol / Diesel Filling and Service Centre	A per prevailing Bylaws and Government Orders	As per requirement
	Compressed Natural Gas (CNG) Filling Centre	0.108 (36m x 30m)	As per requirement
	Milk Distribution / Dairy Booth	As per requirement	As per requirement

Planning unit	Category for Distribution Services	Area (Ha.)		Population
Community	LPG / Cooking Gas Godown	Gas Godown Capacity (in kg)	Area of Plot (Sq.m.)	As per requirement except in Residential Areas
		2000-10000	1000	
		10000-12000	1200	

Source: URDPFI Guidelines

## 3.4 PHYSICAL INFRASTRUCTURE

### 3.4.1 WATER SUPPLY

The recommended maximum water supply level as per the CPHEEO standards, for cities provided with piped water supply where sewerage system is existing / contemplated is 135 lpcd, whereas in metropolitan and mega cities with same system is 150 lpcd and in towns provided with piped water supply without sewerage system is 70 Lpcd.

Table 3-11: Proposed Water Supply Requirement of the Zone

S. No.	Sector	Standard Demand
--------	--------	-----------------

1	Domestic	135-150
2	Public	20
3	Industrial	30
4	Commercial	10
5	Water Loss	20
<b>6</b>	<b>Total</b>	<b>215-230</b>
7	Fire Fighting	1% of total demand

Source: URDPFI Guidelines

### 3.5 Power supply

Low voltage lines (less than 11kv)- a minimum horizontal clear distance of 1.2 m from nearest conductor of low voltage electrical lines having capacity less than 11 KV shall be mandatory from any structure or projected part of a building including balcony. The minimum safety corridor shall be marked as “NO CONSTRUCTION ZONE” in layout plan. No road, pathway, hoardings or signage or plantation or any other construction shall be permissible into the minimum safety corridor others – Public Facilities.

Public toilets in public areas / open areas, parks, plazas, parking areas, fuel stations etc. shall be provided at every 1 km and shall be disabled-friendly and in 50-50 ratio of male-female, along with proper signage, helpline numbers, modes – pay and use or free and proper maintenance.

#### 3.5.1 DRAINAGE SYSTEM

As per CPHEEO manual on Sewerage and Sewage Treatment System, sanitary sewers are not expected to receive storm water. Strict inspection, vigilance, proper design and construction of sewers and manholes should eliminate this flow or bring it down to a very insignificant quantity. Therefore, it is evident to plan a separate system to carry storm water.

#### 3.5.2 SEWERAGE SYSTEM

As per Central Public Health and Environmental Engineering Organization (CPHEEO) manual 80% of the water supply may be expected to reach the sewers. However, it recommends designing the system by considering minimum waste water flow of 100 liters per capita per day.

Least water intensive sanitation and sewerage systems with decentralized sewage treatment plants should be incentivized. It has been emphasized that if sewage from the urban and semi- urban areas were reused for a variety of non-potable uses, the demand on the potable water supply would be reduced.

### 3.6 Solid waste management

Municipal Solid Waste Management (MSWM) refers to systematic process that comprises of waste segregation and storage at source, primary collection, secondary storage, transportation, secondary segregation, resource recovery, processing, treatment and final disposal of solid waste.

Zero Land-fill for Solid Waste Management projects to maintain environmental sustainability. In fact, each project should aim to improvement in the environment, rather than on „minimizing the damage“. Measures to be taken for recycling and reuse in the solid waste management system.

### 3.7 RECREATIONAL

#### 3.7.1 ORGANIZED GREEN SPACES / SPORTS FACILITIES

Considering open spaces, including recreational space, organized green and other common open spaces, all require provision of minimum 10 to 12 sq. m per person as a desirable area for small towns, 14 to 16 sq. m. for medium towns and 12 to 14 sq. m. for large and metropolitan cities, whereas in the built up areas minimum norms as per National Building Code suggests 3.0 sq. m. per person. Along with the above mentioned norms, category-wise organized green space area requirement is detailed out in the table given below:

Table 3-12: Hierarchy and Norms for Organized Green Spaces

S.no.	Category	Population per Planning unit	Number of Organized Green Spaces	Area Requirement (Ha.)
1	Housing Cluster Park	10000-15000	1 or 2 parks of 0.50 ha.	1.0
2	Housing Cluster Playground	10000-15000	1 or 2 playgrounds of 0.50 Ha.	1.0

Source: URDPFI Guidelines

In addition to the above norms and standards, any recreational space shall have minimum area of 450.00 sq. m. and its minimum average dimension shall not be less than 7.5 meter and length shall not exceed 2.5 times the average width. Also, if at all any building line is lining close to the recreational space then shall at least 3 meter away from the boundary of the recreational open space.

Green areas and other associated activities to be preferably proposed on Government reserved land. In case government land is not available and is to be proposed on privately owned land, then the local authority / body shall provide fair compensation as per laws or otherwise can work out a feasible model offering fair means of income along with fulfilling the purpose of developing and maintaining green spaces.

Table 3-13: Hierarchy and Norms for Sports Facilities

S.no.	Category	Population per Planning unit	Area Requirement (Ha.)
1	Housing Cluster Play area	5000	0.50
2	Neighborhood Play area	15000	1.50

S.no.	Category	Population per Planning unit	Area Requirement (Ha.)
3	Community Sports Centre	1 Lakh	8.0
4	City / District Sports Centre	10 Lakh	20.0

Source: URDPFI Guidelines

## 3.8 TRANSPORTATION

### 3.8.1 ROAD

Table 3-14: Minimum Standard for ROW of various road widths

S.no.	Category	Minimum Right of Way (m)
1	National Highway	60 ROW and 30m Plantation Corridor on either side of ROW
2	State Highway	
3	Arterial Road	30-36
4	Sub Arterial Road	24-30
5	Major /Collector Road	18-24
6	Local Street / Road	12-18
7	Internal Road	09-12

Source: URDPFI Guidelines

Table 3-15: Carriageway Width for each type of road



S.no.	Category of roads	Minimum Lanes	Width of car lane (m)	Width of Bicycle Track (m)	Width of Green Belt (m)
1	National Highway/State Highway	6	3.0-3.5	-	30
2	Arterial Road	6	3.0-3.5	1.9-2.5	30-36
3	Sub Arterial Road	4	3.0-3.5	1.7-2.0	24-30
4	Major / Collector Road	4	2 lanes of 3.0-3.5	1.5	18-24
5	Local Street / Road	1-2	2.75-3.0	1.5	12-18
6	Internal Road	1-2	2.75-3.0	1	09-12

## 4 PROPOSALS – STRATEGIES AND POLICIES

The Planning and Building Act understands public participation as an individual's or a group's right to take part in and influence public assessment and decision-making processes. This means that those who live in a community get involved in planning its future.

### 4.1 PROJECT DEVELOPMENT STRATEGY

Public participation in a planning process is mindful of the best possible plan", and will, as described in the guide, aim to:

- Ensure good solutions that pay attention to everyone's needs
- Enable all affected and interested parties to present their views
- Promote creativity and enthusiasm, and be an arena for democratic participation in the local community
- Provide a solid basis for decision-making

Public participation is a basic condition in local democracy. It allows the population to participate and contribute to bring about better planning solutions. The population's active role in planning and decision-making processes is highlighted to safeguard our shared values and basic living conditions in a sustainable society. Good facilitation of public participation in planning is vital in securing well-functioning and efficient planning processes. Commencing too quickly, without sufficient involvement from the affected groups and interests, does not necessarily lead to more efficient planning processes.

The development of the city ultimately depends upon the expectations and encouragement of its residents. In order to achieve the objectives, set out in the Zonal Development Plan, the active participation and cooperation of its residents is required. The citizen awareness could enable the city to become self-competent and sustainable. Therefore, it is necessary for the city's residents to provide their full support in implementing the programs proposed in the Zonal Development Plan. PPP and BOT are also proposed to be initiated for basic infrastructure and public amenities.

### 4.2 POPULATION PROJECTION 2031

The existing population was 519082 for North Nagar Nigam according to Census Data 2011. North Nagar Nigam is the developable area of the city, 30% growth rate is assumed for which the projected population comes out to be 674806 for 2021 and 877248 for 2031 which is again with the assumed growth rate of 30%.

Table 4-1: Estimated population projection for North Nagar Nigam Zone, Jodhpur

POPULATION PROJECTION						
Population 2011 (Census.) (North Nagar Nigam Zone)	Growth Rate (%)	Incremental Growth from 2011-2021	Population 2021 (North Nagar Nigam Zone)	Growth Rate (%)	Incremental Growth from 2021-2031	Population 2031 (North Nagar Nigam Zone)
519082	30	155724	674806	30	202442	<b>877248</b>

### 4.3 FACILITIES CALCULATION AS PER PROJECTED POPULATION

Table 4-2: Existing Zone Level Facilities of Nagar Nigam North Zone

Category of Facilities		Norms/Guidelines		Existing Facilities		Master Plan		Facilities Required	Gap /Surplus	Deficiency if any
Indicator	Sub Indicator	Req. Facilities for Proposed Population	Total Required Area	Total No. of Facilities	Total Area (Sq.m.)	Proposed Facilities	Area (Sq.m.)	Total no. of facilities required for projected population (8,77,248)		
Educational Facilities	Primary	One for 4000-5000 population	2000-3000	169	54050	-	-	175	-6	Yes
	Upper Primary									
	Secondary	One for 7500-10000 population	4000-8000	40	134450	29	611456.3	88	-19	Yes
	Senior Secondary									
Degree College/Professional College	80000 to 1 Lac Population	-	51	921700	12	1200884	9	+54	No	

<b>Health Facilities</b>	General Hospital	One for 15000 population	8000	61	70292	6	38445.2	58	+9	No
	Dispensaries/ Medical Stores	One for 5000 - 15000	500 - 4500	62	14831.3	-	-	58	+4	No
	Veterinary Hospital	one for 5 Lac Population	--	1	4994.5	--	--	2	-1	Yes
<b>Recreational</b>	Parks/ Stadium/Playground	10000-15000	--	112	956270	16	1277697	88	+40	No
<b>Socio-Cultural</b>	Community Facilities + Religious	One for 15000 population	--	224	1468500	24	885369	58	+190	No
<b>Civil Defence Services</b>	Police Chowki	One for 50000 population	500	7	1061	-	-	17	-10	Yes
	Police Station	One for 90000 population	2000	11	19619.6	-	-	10	-1	Yes
	Traffic/ Police Control Centre	As per Requirement	On Site	1	1441.2	-	-	-	-	No
	Fire Station/ Fire Post/ Control Centre	1 in every 2-4 km Radius	Till 0.6 Hectares	3	12474.3	-	-	3	-	No
<b>Distribution Facilities</b>	LPG Godown/ Gas Godown	40000-50000	520	7	3640.8	-	-	17	-10	Yes

#### 4.4 PROPOSED FACILITIES FOR NORTH NAGAR NIGAM ZONE

##### PROPOSED ZONAL FACILITY AREA:

As per the gap analysis of existing infrastructure in the North Nagar Nigam Zone of Jodhpur, it is analysed that the zone requires additional social infrastructure provision especially for the projected population. Zonal Facility Area is proposed for the allotment of land for the future development of social infrastructure to meet the needs of the zone as per the Zonal Development plan 2031.

These Zonal facility Area is proposed in two areas that are Mandore and Gewan with the areas of 2.36 Ha in Mandore, 2.65 Ha in Gewan. The Khasra numbers for the two zones are 129 and 59 respectively.

## PROPOSED ROADS

Proposed Sub Collector and local roads on the either side of the Tiwari Road, proposed a road link connecting the upper part of the Kailana lake parallel to the Kailana Road. The Road widths of the proposed roads are shown in the below table.

**Table 4-3: Details of the proposed road linkages along with ROW**

<b>S.No</b>	<b>Road link Connected to</b>	<b>Existing ROW (in Meters)</b>	<b>Proposed ROW (in Meters)</b>	<b>No of Links Proposed</b>
1	Tiwari road (Right side)	Road does not exist	18 M	4
2	Tiwari road (Right side)	Road does not exist	24 M	3
3	Tiwari road (Left side)	Road does not exist	12 M	1
4	Tiwari road (Left side)	Road does not exist	18 M	2
5	Parallel to Tiwari Road	12 M	30 M	1
6	Tiwari Road (Left Side)	Road does not exist	30 M	1
7	Parallel to Kailana Road (Connecting upper part of the Kailana Lake)	Road does not exist	24 M	1

**PROPOSED SAFETY FACILITIES:**

Safety Corridor marked along H.T. Lines & road is proposed after safety corridor. The proposed Corridors are of 26-Meter-Wide covering 13 Meters on the either side of the Road along the HT Lines. The areas covered by these proposed safety corridors along the HT Lines are shown in the table below

Table 4-4: Details of the Proposed Safety Corridor along the HT line

<b>S.No</b>	<b>Location of the HT line</b>	<b>Length of the Corridor (in M)</b>	<b>Width of the corridor (in M)</b>
1	Parallel to Kailana Road Stretch (Crossing Hathi Nahar)	3622.4 M	13 M (on Both sides)
2	Along Salori Balaji Road to Old Fort	2337 M	13 M (on Both sides)
3	Parallel to Tiwari Road	1427.5 M	13 M (on Both sides)
4	Parallel to Banand Road (Near Anganwa)	2384 M	13 M (on Both sides)
5	Parallel to Banand Road (Near Anganwa)	1840.5 M	13 M (on Both sides)
6	Stretch connecting NH 65 and Surpura Bypass Rd (Near Daijar)	2202.7 M	13 M (on Both sides)
7	Stretch connecting NH 65 and Surpura Bypass Rd (Near Daijar)	1438.8 M	13 M (on Both sides)
8	Parallel to Surpura Bypass Road (Right to Surpura Dam)	551.15 M	13 M (on Both sides)

### **PROPOSED PLANTATION:**

- Khasra water bodies and some existing water bodies have been provided with 30m plantation buffer.
- Extension of the canal in linear direction which is located at the hills in the north side of the Mandore. 30 m Plantation buffer is proposed on both sides of the canal. Elongation is proposed upto the NH 65 Road connecting the Mandore area.

### **SPECIAL ROAD**

4 Roads are considered under special road

1. *Nagauri Gate to Mahamandir Circle*
2. *Nagauri Gate to Jyotiba Phule Park*
3. *NLU to Satellite Hospital*
4. *Mandore Police station to Ram sagar Chauraha*