Preparation of Zonal Development Plan of North Zone (N1 and N2) for Jodhpur Development Authority
Jodhpur
2031
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1 INTRODUCTION OF THE CITY

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.

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 48°C in summer to 4°C in winter.

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.
Map 1.1: Location Map of Jodhpur
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-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 HISTORICAL BACKGROUND

The Jodhpur city is the administrative headquarters of the district. Jodhpur with strategic location is one of the important cities of western Rajasthan famous as Sun City established on 12th 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.
Demography of 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 which is the highest rate of growth in past decades.

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

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Year</th>
<th>Population</th>
<th>Difference</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1911</td>
<td>79754</td>
<td>645</td>
<td>0.82</td>
</tr>
<tr>
<td>2</td>
<td>1921</td>
<td>73480</td>
<td>-6274</td>
<td>-7.87</td>
</tr>
<tr>
<td>3</td>
<td>1931</td>
<td>94736</td>
<td>21256</td>
<td>28.93</td>
</tr>
<tr>
<td>4</td>
<td>1941</td>
<td>126842</td>
<td>32106</td>
<td>33.89</td>
</tr>
<tr>
<td>5</td>
<td>1951</td>
<td>180717</td>
<td>53875</td>
<td>42.47</td>
</tr>
<tr>
<td>6</td>
<td>1961</td>
<td>224760</td>
<td>44043</td>
<td>24.37</td>
</tr>
<tr>
<td>7</td>
<td>1971</td>
<td>317612</td>
<td>92852</td>
<td>41.31</td>
</tr>
<tr>
<td>8</td>
<td>1981</td>
<td>506345</td>
<td>188733</td>
<td>59.42</td>
</tr>
<tr>
<td>9</td>
<td>1991</td>
<td>666279</td>
<td>159934</td>
<td>31.52</td>
</tr>
<tr>
<td>10</td>
<td>2001</td>
<td>860818</td>
<td>194539</td>
<td>29.19</td>
</tr>
<tr>
<td>11</td>
<td>2011</td>
<td>1138300</td>
<td>277482</td>
<td>32.23</td>
</tr>
</tbody>
</table>

Table 1.1: Population Growth during 1911-2011

1.3 MASTER DEVELOPMENT PLAN – 2031

Map 1.2: Proposed Land Use Plan Jodhpur- 2031

Source: Jodhpur Development Authority
**Land use classification**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Land Use</th>
<th>Area (in Ha)</th>
<th>Percentage of U-1 Area</th>
<th>Percentage of Urbanisable Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Residential</td>
<td>41795.08</td>
<td>51.58</td>
<td>27.33</td>
</tr>
<tr>
<td>2</td>
<td>Commercial</td>
<td>1334.23</td>
<td>1.65</td>
<td>0.87</td>
</tr>
<tr>
<td>3</td>
<td>Industrial</td>
<td>14884.91</td>
<td>18.37</td>
<td>9.73</td>
</tr>
<tr>
<td>4</td>
<td>Mixed land use</td>
<td>7736.15</td>
<td>9.55</td>
<td>5.06</td>
</tr>
<tr>
<td>5</td>
<td>Government and Semi-government</td>
<td>468.84</td>
<td>0.58</td>
<td>0.31</td>
</tr>
<tr>
<td>6</td>
<td>Recreational</td>
<td>1265.34</td>
<td>1.56</td>
<td>0.83</td>
</tr>
<tr>
<td>7</td>
<td>Tourist Facility</td>
<td>1318.32</td>
<td>1.63</td>
<td>0.86</td>
</tr>
<tr>
<td>8</td>
<td>Public and Semi-Public</td>
<td>3842.02</td>
<td>4.74</td>
<td>2.51</td>
</tr>
<tr>
<td>9</td>
<td>Circulation</td>
<td>8391.01</td>
<td>10.35</td>
<td>5.49</td>
</tr>
<tr>
<td></td>
<td><strong>Total Area of U-1</strong></td>
<td><strong>81035.90</strong></td>
<td><strong>100.00</strong></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Special Schemes</td>
<td>11469.28</td>
<td></td>
<td>7.50</td>
</tr>
<tr>
<td>11</td>
<td>U-2</td>
<td>44831.02</td>
<td></td>
<td>29.31</td>
</tr>
<tr>
<td>12</td>
<td>Hilly Area and Hilly Conservation Zone</td>
<td>5328.92</td>
<td>-</td>
<td>3.48</td>
</tr>
<tr>
<td>13</td>
<td>Water bodies</td>
<td>2613.12</td>
<td>-</td>
<td>1.71</td>
</tr>
<tr>
<td>14</td>
<td>Forest Area and Plantation</td>
<td>3519.73</td>
<td>-</td>
<td>2.30</td>
</tr>
<tr>
<td>15</td>
<td>Government Reserved area</td>
<td>4138.18</td>
<td>-</td>
<td>2.71</td>
</tr>
<tr>
<td></td>
<td><strong>Total Urbanisable Area</strong></td>
<td><strong>152936.15</strong></td>
<td><strong>100</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Report – Jodhpur Master Plan – 2031

Table 1.2: Proposed Land Use Classification as per Master Development Plan – 2031

### 1.4 ZONAL DEVELOPMENT PLAN

Zonal Development plan of a City is a comprehensive micro level detail plan document to guide the long term physical development of a particular specified area of the city. It needs to be viewed as an integral part of an overall regional city development strategy, i.e. recognizing the intrinsic and symbiotic relationship of the city and its functional region.

As Master Development Plan-2031 (Jodhpur Region), main objective is to execute Master Development Plan in time bound in stages; it is proposed to prepare Zonal Development Plan.
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** (S1, S2, S3, S4)
- **North Planning Zone** (N1, N2, N3, N4)
- **West Planning Zone** (W1, W2, W3, W4)
- **East Planning Zone** (E1, E2, E3, E4)

![Map showing Planning Zones for Jodhpur](http://jda.urban.rajasthan.gov.in/)

Map 1.3: Map showing Planning Zones for Jodhpur

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. N1, N2 is awarded to YASHI CONSULTING SERVICES PVT. LTD JAIPUR
2 ANALYSIS OF N1, N2 ZONE

2.1 PHYSICAL FEATURES

The Zonal Development Plan of N1, N2 consists of part of North Zone covering about 22281 hectares area. The N1, N2 area is located in the north side of Jodhpur region. The region is delineated in the North West by 90m wide ring road connecting Nagaur road. The north eastern boundary of the region is formed by 60m wide inner ring road connecting Nagaur road and Jaipur Road. The southern boundary of eastern part of zone is formed by broad gauge railway line and the western part of the region is delineated in the south by Keru road. Between eastern and western part of the zone, Nagar Nigam North zone is situated. The important landmarks within the north zone in the eastern part are Jojari River, Krishi Upaj Mandi, Transport nagar, Ricco Industrial Area, 440KV Grid Station, and Army Cantonment Area and in the western part of the zone important landmarks are Indo Tibetan Border Police are and CRPF Zone. Hilly and rocky area is engulfed between eastern and western part of North zone falling in village Paldi Khichiyan and Madore. There is a gradual slope towards south in rest of the area. Jojadi River flows from North to South in the study area.


Map 2.1: Location of Zonal Development Plan of N1, N2 area
2.2 LAND USE ANALYSIS (AS PER EXISTING CONDITION)

The base Map of the zone is prepared on GIS based platform. In the base Map all the physical Infrastructure and Building Footprints are digitized. The Existing Land Use Survey was conducted and on the basis of survey the Existing Land Use Map is prepared marking all the Land Uses as per the prevailing Land Use Classification.

Details of various Land uses are given below:

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Land Use</th>
<th>Area (In Ha.)</th>
<th>Percentage of Developed Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Residential</td>
<td>304.81</td>
<td>1.37%</td>
</tr>
<tr>
<td>2</td>
<td>Commercial</td>
<td>42.53</td>
<td>0.19%</td>
</tr>
<tr>
<td>3</td>
<td>Industrial</td>
<td>1336.74</td>
<td>6.00%</td>
</tr>
<tr>
<td>4</td>
<td>Government/Semi-Government</td>
<td>726.94</td>
<td>3.26%</td>
</tr>
<tr>
<td>5</td>
<td>Recreational</td>
<td>7.81</td>
<td>0.04%</td>
</tr>
<tr>
<td>6</td>
<td>Hilly &amp; Rocky Area</td>
<td>1024.572</td>
<td>4.60%</td>
</tr>
<tr>
<td>7</td>
<td>Public &amp; Semi-Public</td>
<td>125.58</td>
<td>0.56%</td>
</tr>
<tr>
<td>8</td>
<td>Circulation</td>
<td>1021.74</td>
<td>4.59%</td>
</tr>
<tr>
<td>9</td>
<td>Water Bodies</td>
<td>298.64</td>
<td>1.34%</td>
</tr>
<tr>
<td>10</td>
<td>Vacant Land</td>
<td>17391.4</td>
<td>78.06%</td>
</tr>
<tr>
<td></td>
<td>Total Area</td>
<td>22281</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Table 2.1: Analysis of Existing Land Use of N1, N2 Zone

2.3 LAND USE ANALYSIS (AS PER MASTER PLAN)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Land Use</th>
<th>Area (In Ha.)</th>
<th>Percentage of Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Residential</td>
<td>6505.5</td>
<td>29.20</td>
</tr>
<tr>
<td>2</td>
<td>U2</td>
<td>10093</td>
<td>45.30</td>
</tr>
<tr>
<td>3</td>
<td>Special Area</td>
<td>14</td>
<td>0.06</td>
</tr>
<tr>
<td>4</td>
<td>Commercial</td>
<td>114.8</td>
<td>0.52</td>
</tr>
<tr>
<td>5</td>
<td>Industrial</td>
<td>572.2</td>
<td>2.57</td>
</tr>
<tr>
<td>6</td>
<td>Govt./Semi Govt.</td>
<td>204.5</td>
<td>0.92</td>
</tr>
<tr>
<td>7</td>
<td>Recreational</td>
<td>479.3</td>
<td>2.15</td>
</tr>
<tr>
<td>8</td>
<td>Public &amp; Semi-Public</td>
<td>213.2</td>
<td>0.96</td>
</tr>
<tr>
<td>9</td>
<td>Mixed Land use</td>
<td>1020</td>
<td>4.58</td>
</tr>
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</table>
Table 2.2: Analysis of Proposed Land Use as per Master Plan–2031ofN1, N2

<table>
<thead>
<tr>
<th></th>
<th>Core Facilities</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>54</td>
<td>0.24</td>
</tr>
<tr>
<td>11</td>
<td>Circulation</td>
<td>1027.8</td>
<td>4.61</td>
</tr>
<tr>
<td>12</td>
<td>Govt. reserved</td>
<td>921.7</td>
<td>4.14</td>
</tr>
<tr>
<td>13</td>
<td>Mining Area</td>
<td>289.7</td>
<td>1.30</td>
</tr>
<tr>
<td>14</td>
<td>Hilly &amp; Rocky Area</td>
<td>414.2</td>
<td>1.86</td>
</tr>
<tr>
<td>15</td>
<td>Water Bodies</td>
<td>278</td>
<td>1.25</td>
</tr>
<tr>
<td>16</td>
<td>Plantation</td>
<td>79.1</td>
<td>0.36</td>
</tr>
<tr>
<td></td>
<td>Total Area</td>
<td>22281</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Master Plan Land use

Proposed Land use in the N1, N2 is the same as given in the Jodhpur Development Plan 2031. It primarily includes U2, Residential, Special Area, Industrial and Army Cantonment Area. The other proposed land uses are tourist facilities, commercial center, Parks and Playgrounds and senior and senior secondary schools, other community facilities, core facility and mixed land use. Industrial activities are predominant in the West, Army Area in the Central North and Transport Nagar in the Central East. Proposed Krishi Mandi lies in the Central East part of the zone.

Ring Road

The outer ring road with a right of way (ROW) width of at least 90m would be a regional ring circumscribing Jodhpur master development plan area.
3 PLANNING PARAMETERS

For Provision of Physical, Social, Infrastructure and other facilities in Zonal development plans, the following norms dated 4th April 2019 order no:F18(35)UDD/Sector plan/2015(2967-3207) were set w.r.t URDPFI Guidelines issued by MoUD and as per Rajasthan Land Allotment Policy. For the approval of layout plan under Zoning Regulation and Township Policy, the provisions of facilities as per the above norms are necessary.

3.1 TRANSPORT & CIRCULATION

The standard level set for the right of way of various roads.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Minimum Right of Way (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>National Highway and State Highway</td>
<td>60m and 30m, Plantation Corridor on both side of ROW</td>
</tr>
<tr>
<td>2</td>
<td>Arterial Road</td>
<td>30-36</td>
</tr>
<tr>
<td>3</td>
<td>Sub Arterial Road</td>
<td>24-30</td>
</tr>
<tr>
<td>4</td>
<td>Major /Collector Road</td>
<td>18-24</td>
</tr>
<tr>
<td>5</td>
<td>Local Street / Road</td>
<td>12-18</td>
</tr>
<tr>
<td>6</td>
<td>Internal Road</td>
<td>09-12</td>
</tr>
</tbody>
</table>

Table 3.1: Norms for Road as per category and ROW

3.2 PUBLIC & SEMI- PUBLIC AND INFRASTRUCTURE FACILITIES

The quality of life in any urban area depends on the availability of social, infrastructure and access. These include the following infrastructure:

Social Infrastructure Facilities:

a) Educational Facilities  
b) Health Facilities  
c) Socio- cultural facilities  
d) Recreational Facilities  
e) Sports Facilities  
f) Security Facilities  
g) Community Center  
h) Banks, etc.

Note: The area of land for social infrastructure facilities as mentioned above can be kept as described in the following tables, according to the Land Allotment Policy 2015 and as per the orders the State by Government and as per norms / requirements issued by concerned department.
### Educational Facilities

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Population Per unit</th>
<th>Area (in sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary/ Middle School</td>
<td>4000- 5000</td>
<td>2000- 3000</td>
</tr>
<tr>
<td>2</td>
<td>Secondary/ Senior Secondary School</td>
<td>7500- 10000</td>
<td>4000- 8000</td>
</tr>
<tr>
<td>3</td>
<td>School for Specially Abled</td>
<td>As per Requirement</td>
<td>2000- 4000</td>
</tr>
</tbody>
</table>

Table 3.2: Norms for Educational Facilities

### Health Facilities

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>No. of Beds</th>
<th>Population Per unit</th>
<th>Area (in sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Large Hospitals</td>
<td>above 51</td>
<td>15000</td>
<td>8000</td>
</tr>
<tr>
<td>2</td>
<td>Dispensary / Small Hospitals/ Nursing Homes / Health Centre / Veterinary / Rehabilitation Centre</td>
<td>25- 50</td>
<td>5000- 15000</td>
<td>500- 4500</td>
</tr>
</tbody>
</table>

Table 3.3: Norms for Healthcare Facilities

### Socio-cultural Facilities

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Population Per unit</th>
<th>Area (in sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anganwadi / Creche</td>
<td>As per Requirement</td>
<td>200-300</td>
</tr>
<tr>
<td>2</td>
<td>Community Hall</td>
<td>5000</td>
<td>1000</td>
</tr>
<tr>
<td>3</td>
<td>Community Hall ,Barat Ghar,Library</td>
<td>15000</td>
<td>2000</td>
</tr>
<tr>
<td>4</td>
<td>Religious Place (Temple, Devra, Ashram, Mosque)</td>
<td>As per Requirement</td>
<td>400</td>
</tr>
<tr>
<td>5</td>
<td>Cremation / Burial Grounds</td>
<td>As per Requirement</td>
<td>4000</td>
</tr>
</tbody>
</table>

Kabristan and shamshan to be proposed in the perimeter control area as much as possible. With the site, the facilities like religious places, open area, public utility facilities etc. should also be ensured.

Table 3.4: Norms for Socio-cultural and Religious Facilities

### Recreational Facilities

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Population Per unit</th>
<th>Area (in sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Proposed Park per zone</td>
<td>10000- 15000</td>
<td>Till 10000</td>
</tr>
<tr>
<td>2</td>
<td>Proposed Playground per zone</td>
<td>10000- 15000</td>
<td>Till 10000</td>
</tr>
</tbody>
</table>

Table 3.5: Norms for Recreational Place

### Police, Fire Safety

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Population Per unit</th>
<th>Area (in sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Police Chawki</td>
<td>50000 as per URDPFI</td>
<td>500</td>
</tr>
</tbody>
</table>
Table 3.6: Norms for Police Facilities and Fire Safety Facilities

**Distribution Services**

Petrol Diesel/CNG Filling stations will be permissible in the Zonal Development Plan as per rules in the following areas (except restricted area)

a) Community/ commercial center (Filling Station only)

b) Residential and Industrial Area

c) National and State highway

d) Developed Rural Area

e) Freight Complex

f) Major roads

**Other Distribution Services**

<table>
<thead>
<tr>
<th>Category</th>
<th>Population</th>
<th>Gas Storage Capacity (in kg)</th>
<th>Area of Plot (Sq.m.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPG / Cooking Gas Godown</td>
<td>As per requirement excluding Residential Areas</td>
<td>2000-10000</td>
<td>1000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10000-12000</td>
<td>1200</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12000-15000</td>
<td>1500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15000-20000</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20000 above</td>
<td>2500</td>
</tr>
</tbody>
</table>

Table 3.7: Norms for Other Distribution Services

**Other Facilities**

Provision for other facilities like special educational facility, specific market, transport related facilities, parking, grid sub-station, water supply point, sewage pumping station, etc., to be kept as per the requirement of area.
Guidelines for fire Station and other firefighting facilities:

a) It is necessary to have a fire station located in an area so that fire service can reach site within a maximum time of 3-4 minutes.

b) Fire stations may be located on the corner plot and main road and it is necessary to have two exit gates.

c) Provision should be made for proposal of underground pipeline for fire hydrant in newly developed area.

d) In areas where it is not possible to set up a fire station (extreme dense area) necessary provision of fire hydrant and water pipelines should be made in the underground or on the site.

e) It will be necessary to get approval from the fire office before the fire agency makes fire provisions.

3.3 SOCIO-ECONOMIC FACILITIES

Commercial /Professional Structure

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Category</th>
<th>Area (Ha.)</th>
<th>Population</th>
<th>No. of Shops</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Local Market</td>
<td>0.15</td>
<td>5000</td>
<td>1 no. per 100 persons</td>
</tr>
<tr>
<td>2</td>
<td>Local Market, Service Centre, etc.</td>
<td>0.46</td>
<td>15,000</td>
<td>1 no. per 200 persons</td>
</tr>
<tr>
<td>3</td>
<td>Weekly Market</td>
<td>0.40</td>
<td>1 or 2 Place / 1 Lakh</td>
<td>As per requirement</td>
</tr>
<tr>
<td>4</td>
<td>Informal Spaces / Vending Zone</td>
<td>As per requirement</td>
<td>On the basis of survey</td>
<td>1 per 10 plots</td>
</tr>
<tr>
<td>5</td>
<td>Milk distribution centre / Dairy Booth</td>
<td>As per requirement</td>
<td>As per requirement</td>
<td>As per requirement</td>
</tr>
</tbody>
</table>

Table 3.8: Hierarchy and Norms for Commercial Centers

Infrastructure Planning:

a) Parking and other open spaces in commercial center shall be proposed in such a way that weekly market can be established there at other times.

b) Solid waste management and other public facilities should also be proposed along with the informal sector.

Permitted activities in commercial zone of proposed area plan- retail trade, informal shopping, commercial office, cinema, hotel, guest house, bank, ATM, nursing home, auditorium, library, weekly
market. Local government and non-government office, electric sub-station, Post office, Sub-fire station, police station, shopping center.

**Norms for Incidental Trade**

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Use Zone/Use Premises</th>
<th>No. of Informal Shops /Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Retail Trade Centre</td>
<td>3 to 4 units per 10 formal shops</td>
</tr>
<tr>
<td>2</td>
<td>Government and Commercial Offices</td>
<td>5 to 6 units per 1000 employees</td>
</tr>
<tr>
<td>3</td>
<td>Wholesale trade and Freight Complexes</td>
<td>3 to 4 units per 10 formal shops</td>
</tr>
<tr>
<td>4</td>
<td>Hospital</td>
<td>3 to 4 units per 100 beds</td>
</tr>
<tr>
<td>5</td>
<td>Bus Terminal</td>
<td>1 unit for two bus</td>
</tr>
<tr>
<td>6</td>
<td>School: Primary/Secondary/Senior Secondary</td>
<td>3-4 units</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5-6 units</td>
</tr>
<tr>
<td>7</td>
<td>Parks</td>
<td>2-3 units</td>
</tr>
<tr>
<td>8</td>
<td>Residential Area</td>
<td>1 unit/10 plots</td>
</tr>
<tr>
<td>9</td>
<td>Industrial Area</td>
<td>5-6 units per 1000 employees</td>
</tr>
<tr>
<td>10</td>
<td>Railway Station</td>
<td>As per Situation</td>
</tr>
</tbody>
</table>

Table 3.9: Norms for Informal Shops / units for Urban Street Vendors

**Demarcation of Vending Zones**

Zonal Development plan will have to mandatorily determine the boundaries of Vending zone, restricted vending zone and Non-restricted vending zone

### 3.4 PARKS & OPEN SPACES

a) Formulation of work plan to ensure development of 15% (minimum) green cover in cities.

b) The development of the park located in the urban area by the each urban local body to ensure dense plantation with public support at open sites. Reserved land for Parks/ open space proposed in Master Plan to be demarcated and developed on PPP model or other suitable methods and ensure dense plantation.

c) In urban areas, dense plantation along major roads and in median to be ensured.

d) Minimum one Children Park to be developed each year in every city.

e) Major Park situated in urban area to be developed as Central Park. Facilities for children and senior citizens should be ensured in the central park.

f) The parks available in schemes of urban areas to be listed and in each scheme at least on park per year should be developed for children and senior citizens with necessary facilities.
4 PROPOSALS- STRATEGIES AND POLICIES

Methodology Adopted in Plan-Making of Jodhpur Zonal Plan

While venturing to prepare the Zonal Development Plan for Jodhpur, basic studies were made in the form of a survey. Primary studies related to existing village population, site conditions, those related to water source like river, nallas /water table, forest land, etc were also carried out.

On the selected area, a thorough analysis was made of the given assets and constraints. In addition to the above Proposed Master Plan roads and Land uses were studied.

4.1 LAND USE PLANNING

The distribution of the land uses is a major phenomenon which controls the spread of the city as well as mobility within the city. This is the basis for Implementation of the Master Development Plan/Zonal Development Plan. Following is a general description of Land Use Classification

LAND USE DISTRIBUTION

Classification of Land uses

- Residential
- Commercial
- Industrial
- Governmental
- Public and Semi-Public
- Recreational facilities
- Circulation

Sub Classification of Land uses

1. Residential
   - Plotted development
   - Group Housing
   - Slum Areas (Katchi Basties)

2. Commercial
   - Retail business & General commercial
• Wholesale business
• Warehousing & godowns

3. Industrial
• Large and Extensive Industries
• Small and Medium Industries

4. Governmental
• Government and Semi Government offices
• Government Reserved Areas

5. Public & Semi-Public
• University / College / Professional College
• Secondary, Senior Secondary School
• Hospital / Other Health Centre
• Veterinary Hospital
• Social, Cultural / Religious Place
• Historical Monument
• Other Community Facilities
• Public Utilities
• Cremation / Burial Ground.

6. Recreational
• Parks, Open Spaces & Playground / Stadium
• Fair Ground / Tourist Facility

7. Circulation
• Airports
• Bus Terminals / Truck Terminals
• Railway Line / Railway Station
• Road Network (Hierarchical)

Infrastructure
Physical infrastructure
• Water Supply
• Sewage
• Drainage
• Electricity
• Solid waste Disposal

Social infrastructure
• Educational facilities
• Health care facilities
• Socio- Cultural facilities
• Police
• Fire

4.2 PROJECT- DEVELOPMENT STRATEGY

Development strategy

Development strategy is the process of formulating a strategy for bridging the gap between where the city is and where it wishes to go which depends entirely on the context and initiative of each city.

It consists of

• Planning strategies and
• Development policies

The most important step for development is the provision of urban infrastructure, initially physical infrastructure.

Connectivity in the form of road network, provision of water supply, electricity triggers growth in any area. Road network would lead to development of economic activities further leading to development of settlements.

To enable easy development of upcoming areas, accessible and cheap public transportation plays an important role.

It is necessary to have excellent and cheap connectivity with mother city i.e., from private vehicle dependent city to public transport oriented development.

Planning Strategy for Zonal Plan

Master Plan: The Master development plan for any town is a long term plan meaning thereby that the implementation will take a long period of 20 years. This document is also a generalized document and gives broad scheme of different land uses. Such proposals need to be detailed out so that these can be
implemented in a phased manner. The detailing of such proposals and final implementation goes through different stages / levels of planning.

The planning levels can be

1) Preparation of Zonal Plans
2) Preparation of Sector Plans
3) Preparation of Schemes

Zonal Plans:

The Zonal Plan is a comprehensive plan conceived within the framework of current Master Plan, showing therein the existing and the proposed location and general layout of:

- Residential areas
- Commercial areas
- Industrial areas
- Public parks, playgrounds and other recreational facilities
- Public and semi-public uses
- Transportation Network
- Other land uses which are necessary

Priority of selection of zonal plan is done in accordance with the phasing of Development as proposed in Master Plan.
**Zonal Development Plans in context to Jodhpur Master Development Plan – 2031**

As per proposals in Master Development Plan 2031 and some additional proposals in Zonal Development Plan following are incorporated in N1, N2:

1) Road network of 30M, 24 M and 18M are proposed to develop connectivity between Master plan roads. Deviations and Variation in proposed master plan roads have been listed and as required have been updated and incorporated.

2) A 30 m plantation belt on both sides along Jojari River & after that 18 m road is proposed on both sides of plantation belt along Jojari River.

3) Provision of Safety corridor along High tension lines (11KV-400KV) as per guidelines/circular issued by UDH.

4) A 30 m plantation belt around large water bodies and 9m/30ft. all around small water bodies.

5) National highways and State Highways shall have 60 mts right of way with a plantation corridor of 30 mtrs width on both sides as per Master plan provisions.

6) 9 m wide Strip along both sides of large nallas, drains, etc.

This can be done only after detailed survey and its analysis like confirming and non-confirming land uses their extent, existing social facilities, existing road network and other physical features, collection of revenue records, analysis of Government land ownership to know forest areas, lands under lakes, and identification of suitable lands for facilities etc.

Beside above, the proposals given in the Zonal Plan shall include the following:

i. Road Connectivity has been improved considering the existing alignment of Village Roads. Additional Roads of 30m, 24m & 18m Right of Way are provided in the Zonal Development Plan

ii. Provision of Other Community Facility is made on Govt. Land at suitable location.

iii. Identification of Government Land based on requirement of proposed facility.

iv. Army area buffer of 900m and 500m is proposed.

The study zone is basically an extension of North zone Jodhpur city hence land use analysis and demographic calculations are based on Master Plan 2031 and report of Master Development Plan-2031 Jodhpur region.
4.3 DEMOGRAPHIC CALCULATION- N1, N2 ZONE

For Population calculations projections have been detailed below:

**Population Projection**

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Population</th>
<th>Residential Land use</th>
<th>Area(Ha)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>1740725 (a)</td>
<td>2013(c)</td>
<td>8943.84</td>
</tr>
<tr>
<td>2031</td>
<td>3100000(b)</td>
<td>2031(d)</td>
<td>41,795.08</td>
</tr>
<tr>
<td>b-a</td>
<td>1359275</td>
<td>d-c</td>
<td>32852.00</td>
</tr>
</tbody>
</table>

Total (Res. + U2) Area of N1, N2= 16598.5Ha

Town Level Density as per Master Plan is 21%.

Population as per Town Level Density 21% of 16598.5Ha area = 3,385,558

Table 4.1: Population Projection

4.4 FACILITIES CALCULATION- BASED ON DEMOGRAPHIC

**Social Infrastructure**

Better social infrastructure offering shall be the prerequisite condition for development of a town. Development of physical infrastructure cannot usher in overall development at the desired level if the social infrastructure is not simultaneously developed. Education, Health, Social security, public entertainment etc. sectors has to be developed to ensure proper social infrastructure.

Social Development is usually referred to as the commitment towards realizing the vision of the city. The provision of infrastructure facilities such as educational institutes, health care facilities contributes in the socio-economic development of the city. Better social infrastructure played key role in development of Jodhpur.

**Educational Facilities**

Education decides the development pattern of any city, it exhibits how urbanize a city is through its literacy level and exposure to different education facilities. It is observed that people expects social infrastructure such as schools and primary and secondary clinics/hospital close to their residential facilities. However, generally people are ready to travel at longer distance for post-graduation and tertiary health care.
Strategies:

- Emphasis on good quality education by providing primary, secondary, high schools, colleges and universities.
- Nursery and Primary schools preferably may be located within 1 Km. distance. Senior secondary school may be located on main roads for use of adjoining regions also.
- Provisions for higher education especially in the scientific fields to become an attractive place to stay.
- Provisions for medical and engineering colleges.
- Professional and vocational colleges need to be given importance for setting up employment development resources through education and training programs.

Health Facilities

Towns outside mother city lack emergency health care services at night. The citizens have to come to Jodhpur for accessing good health facilities in case of emergency.

Strategies

- To reduce the dependency on the mother city for specialized services by providing for an all facility 100 to 300 bedded hospital.
- Provisions of city facilities such as Intensive Care Unit (ICU), Burn Ward, blood bank and a medical college.
- To promote Better Social infrastructure in terms of educational institutes and health care facilities

Recreational Facilities and Open Spaces

Recreation facility improves the quality of life. The URDPFI guidelines recommend that the cities should have provision of 10-12 sq.mt per person for recreation.

Water bodies are an integral part of city open spaces and at the same time it provides at time larger open space to the city. It also maintains eco-system. It provides immense potential to tourism in the city-Jojari river front development which can be considered.
Create Recreation Facilities

- Creating recreational facilities such as parks, maidan, playgrounds, botanical/zoological gardens or other multi-purpose open spaces.

- Instead of small parks, if possible large parks may be promoted. These may be located to include the low lying areas so that the cost of leveling and soil disturbance is kept minimum. Some area can be developed in the lake catchment area as green space/parks as recreation.

- Taking up a tree plantation program along the roads to make city a Green city.

- To preserve and develop the large open spaces, water bodies.

- Private sector participation in revitalization of the existing water bodies of the city to create amusement parks, etc.

- Provision for a sports complex in the Govt. land available.

- Protect or restore existing water bodies, so as to promote biodiversity.

- Set-up nurseries develop some areas as woodlands to effectively manage landscapes, so as to promote biodiversity.

- Enhance the landscape experience by providing amenities like drinking water facilities, toilets, seating, shaded structures and cafeteria (only in parks).
## N1, N2 (Total Area ~22281 Ha) Projected Population -3,38,558

Projected Population Calculated as per Zonal Development Plan Guidelines

<table>
<thead>
<tr>
<th>S No.</th>
<th>Category</th>
<th>Population Per Unit</th>
<th>No. of Beds</th>
<th>Area (Sq. Mt.)</th>
<th>Exisiting Units</th>
<th>Commitment units</th>
<th>Required Units / Area as per 'A'</th>
<th>Area Required in Remaining Facility (Sq. Mt.)</th>
<th>Total Area Required for Remaining Facility hec</th>
<th>Final areas and Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Primary School / Middle school</td>
<td>4000-5000</td>
<td>2000-3000</td>
<td>68</td>
<td>39</td>
<td>3</td>
<td>26</td>
<td>77135</td>
<td>7.7</td>
<td>Requirement fulfilled as per land use proposed in Master Plan-2031</td>
</tr>
<tr>
<td>2</td>
<td>Secondary / Senior Secondary School</td>
<td>7500-10000</td>
<td>4000-8000</td>
<td>34</td>
<td>29</td>
<td>5</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>Requirement fulfilled as per land use proposed in Master Plan-2031</td>
</tr>
<tr>
<td>3</td>
<td>University(college)</td>
<td>125000 as per URDPFI</td>
<td>10H - 60H</td>
<td>3</td>
<td>4</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>-</td>
<td>Requirement fulfilled as per land use proposed in Master Plan-2031</td>
</tr>
</tbody>
</table>

### INSTITUTIONAL FACILITIES

### MEDICAL FACILITIES

### SOCIO-CULTURAL FACILITIES

<table>
<thead>
<tr>
<th>S No.</th>
<th>Category</th>
<th>Population Per Unit</th>
<th>No. of Beds</th>
<th>Area (Sq. Mt.)</th>
<th>Exisiting Units</th>
<th>Commitment units</th>
<th>Required Units / Area as per 'A'</th>
<th>Area Required in Remaining Facility (Sq. Mt.)</th>
<th>Total Area Required for Remaining Facility hec</th>
<th>Final areas and Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Large Hospitals</td>
<td>15000</td>
<td>above 51</td>
<td>8000</td>
<td>23</td>
<td>3</td>
<td>5</td>
<td>116565</td>
<td>11.6</td>
<td>Requirement fulfilled as per land use proposed in Master Plan-2031</td>
</tr>
<tr>
<td>2</td>
<td>Dispensary / Small Hospitals/ Nursing Homes / Health Centre / Veterinary / Rehabilitation Centre</td>
<td>5000-15000</td>
<td>25-50</td>
<td>500-4500</td>
<td>23</td>
<td>9</td>
<td>2</td>
<td>23142</td>
<td>2.3</td>
<td>Requirement fulfilled as per land use proposed in Master Plan-2031</td>
</tr>
<tr>
<td>1</td>
<td>Anganwadi / Creche</td>
<td>As per Requirement</td>
<td>200-300</td>
<td>-</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Requirement fulfilled as per land use proposed in Master Plan-2031</td>
</tr>
<tr>
<td>2</td>
<td>Samudayik Bhawan</td>
<td>5000</td>
<td>1000</td>
<td>68</td>
<td>3</td>
<td>20</td>
<td>45</td>
<td>44712</td>
<td>4.4</td>
<td>Requirement fulfilled as per land use proposed in Master Plan-2031</td>
</tr>
<tr>
<td>3</td>
<td>Community Hall / Library</td>
<td>15000</td>
<td>2000</td>
<td>23</td>
<td>19</td>
<td>-</td>
<td>4</td>
<td>4000</td>
<td>.4</td>
<td>Requirement fulfilled as per</td>
</tr>
</tbody>
</table>
Cremation / Burial Grounds | As per Requirement | 4000 | - | 20 | - | - | - | -

ENTERTAINMENT FACILITIES

| 1 | Parks & Playgrounds | 10000-15000 each | Till 10000 | 23 | 5 | 40 (local parks) | 18 | 180000 | 18 | Requirement fulfilled as per land use proposed in Master Plan-2031

CIVIL DEFENCE SERVICES

| 1 | Police Chowki | 50000 as per URDPFI | 500 | 7 | - | - | 7 | 3500 | .35 | Requirement fulfilled as per land use proposed in Master Plan
| 2 | Police Station | 90000 as per URDPFI | 2000 | 4 | - | 1 | 3 | 6000 | .6 | Requirement fulfilled as per land use proposed in Master Plan
| 3 | Traffic / Police Control Centre | As per Requirement | On Site | - | - | - | - | - | - | -
| 4 | Fire Station / Fire Post / Control Centre | 1 in every 2-4 km Radius | Till 0.6 Hectares | 8 | - | 1 | 7 | 6000 | .6 | Requirement fulfilled as per land use proposed in Master Plan

Table 4.2: Existing and Required Zone Level Facilities

Note: In the zone area, 3 pockets of core facility area have been provided. At Master plan level public and semi public area of 213.2 hectare has also been provided. The various facility and public utility activities like schools, hospitals, police stations, post office, GSS, overhead water tank etc. will be provided in these areas. In addition to above area facility a 1.5 – 2 hectare area for community level facility areas have been proposed in various villages, as per requirement for police station, dispensary/hospital, school, community hall, fire station. The zone area also has existing JDA schemes like Vigyan Nagar Yojana, Mandalnath Yojana, in the north direction of zone area. In Master plan knowledge and health care city has been proposed. This area comprises of major institutes like IIT, NIFT, Ayurvedic College, and Police University. In future more institutes are expected to develop in this area which will further add total facility and green area. A major pocket for park of 69.8 Ha has been proposed in Master Plan which will fulfill the Parks & Playgrounds of the zone. A 30 metre wide Plantation belt has been proposed along Jojri River which will also add to total Parks & Playgrounds area.
4.5 DEVELOPMENT STRATEGY

Development strategy

Development strategy is the process of formulating a strategy for bridging the gap between where the city is and where it wishes to go which depends entirely on the context and initiative of each city.

Salient Features of Zonal Development Plan.

**Connectivity:** Connectivity In The Form Of Road Network, Would Lead To Development Of Economic Activities Further Leading To Development Of Settlements. To promote connectivity roads of 18m, 24 m and 30m are proposed to interconnect Master Plan roads. The zonal roads proposed are to promote Neighborhood concept.

**INFRASTRUCTURE:**

The most Important Step for Development Is the Provision of Infrastructure, Initially Physical Infrastructure and Social Infrastructure.

The quality of life in any urban area depends on the availability of social, infrastructure and access. These include the following infrastructure:

Social Infrastructure Facilities:

- a) Educational Facilities
- b) Health Facilities
- c) Socio-cultural facilities
- d) Recreational Facilities

The facilities provided in Master Plan 2031, Commitment facilities and existing facilities were compiled and the gap analysis as to the need of land required for the calculated population has been calculated.

**Proposed Facilities:**

To conserve natural water bodies and hills following are proposed.

- 30 m Plantation buffer is proposed on both sides of Jojari River.
- 18 m Road after 30 m plantation buffer is proposed generally along both side of Jojari River.
- Khasra water bodies and some existing water bodies have been provided with 9m plantation buffer.
- Safety Corridor marked along H.T. Lines & road is proposed after safety corridor.
- COMMUNITY LEVEL FACILITY AREAS have been proposed in several villages as per requirement for police station, dispensary/hospital, school, community hall, fire station, anganwadi.