

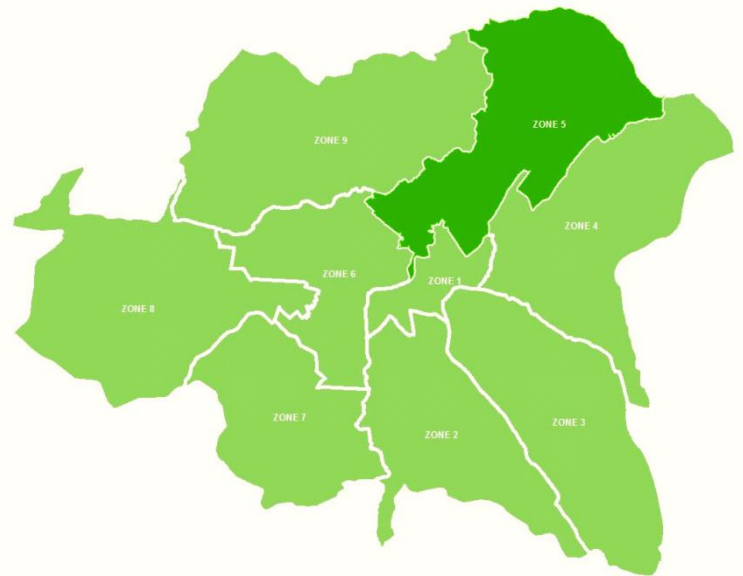


MDDA

MUSSOORIE DEHRADUN DEVELOPMENT AUTHORITY

# ZONE-5

## ZONAL DEVELOPMENT PLAN



DRAFT

2015

CONSULTANT

**CYIENT**

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### Note:

- Zonal Development Plan (ZDP) is a broad land use document. Due to small scale of map only important land use are proposed in the plan. The classification of land uses are in details when compare to Master Plan.
- Proposal of reconsidered land use are based on policy, it is not based on individual land ownership and “*Sajra* maps”.
- Classified land use are kept into important land use classes as per the guidelines of UDPFI in accepted Dehradun Master Plan -2025
- Proposed Zonal Development Plan is prepared based on latest high resolution satellite image and GIS maps retaining originality to the maximum possible extent.
- It is natural to exists difference in the diagram of different land uses, size of sites, dimension of features; routes etc. between map and GIS based recent base maps in the Master Plan 2025
- The boundaries have been modified for different sites of large size represented in the GIS based map. Existing sites of small size whose clear drafting is not possible on the

level of zonal development plan has not been marked on the map. On the field site's boundary will be assumed as per original ground position.

- Keeping in view those parameters of base maps and records of forest land obtained from the forest department are of same type so forest boundary has been drawn correctly to the possible extent.
- In any important land use class, in the case reserved forest are found on the ground then related place will be considered under forest area. In the case boundary of any forest area shared by the private land or vice versa land use will be fixed after the confirmation of the forest department as per the need
- Because of unavailability of map related to the boundary of cantonment, the boundary of cantonment has been shown as it is in the Master Plan 2025.
- Proposed commercial region on important routes have been discussed along with their considered average depth, route name and proposed route rights and have been listed in the appendix of the report of the Master Plan.
- The alignments of the proposed routes /expressway have been kept as it is to the possible extent but existing routes have been kept as per their alignment in the GIS based maps.
- The described river-drainage in the Master Plan report where both side 10-10 metre land has to be kept aside for afforestation not been shown in the Master Plan map this provision will be ensured through bylaws.
- If any error is found in the map as per above described provision then it will be interpreted as drafting error and a modification in the Master plan.
- All those episodes of land use change which has been depicted in the Master Plan map in the expectation of issuance of notice will be assumed under corresponding use only after the completion of the process of the act.

## 1. INTRODUCTION

### 1.1 Introduction:

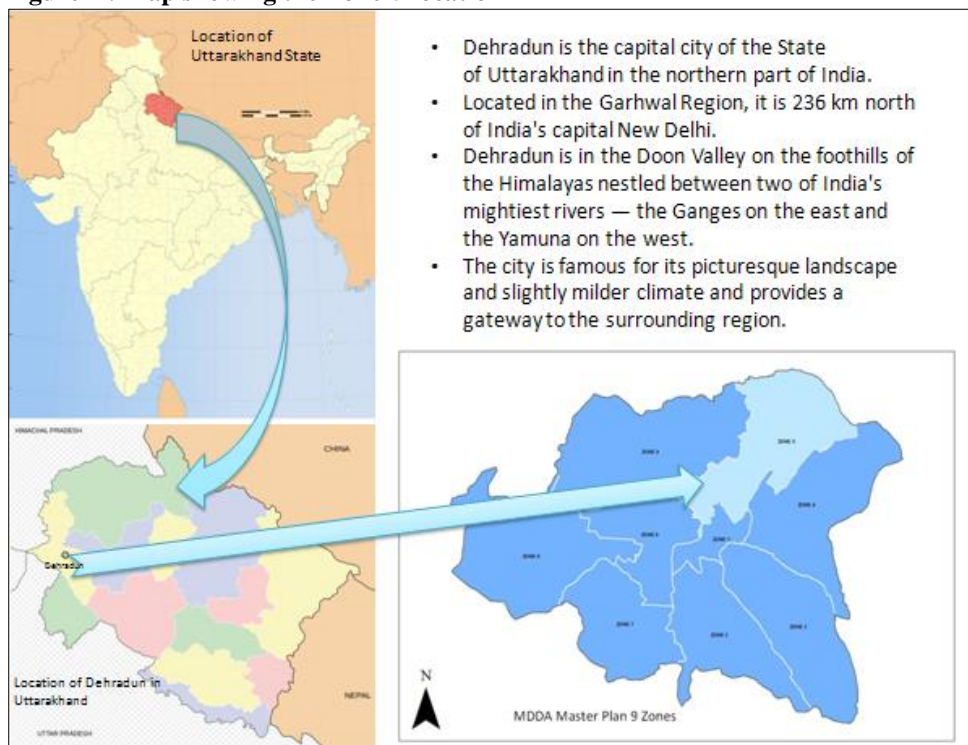
Mussoorie Dehradun Development Authority (MDDA) area includes Dehradun Urban Agglomeration, Mussoorie Municipal area, Dehradun Cantonment, FRI, Census Towns and surrounding 185 Revenue Villages in Dehradun District. The limits of this development area coincide with the Dehradun District Boundary in the north, forest area in the south and west, and river Song in the east.

Mussoorie Dehradun Development Authority (MDDA) has timely initiated the exercise for the preparation of Zonal Development Plans for 9 Zones as defined in the approved Dehradun Master Plan 2025 (amended). Master plan area spread over an area of about 360 Sq.km. having a population of 9.37 lakhs as per 2011 census and the Master Plan was prepared for Dehradun City only.

Dehradun lies at 30.3180° N, 78.0290° E, foothills of the Himalayas which makes its climate moderate i.e., neither too hot nor too cold. The scenic beauty all around makes Dehradun location more attractive. This zone is situated between Lat Long values at-

NW - 30°25'13.16"N 78° 0'50.55"E & SE - 30°19'34.67"N 78° 7'46.60"E

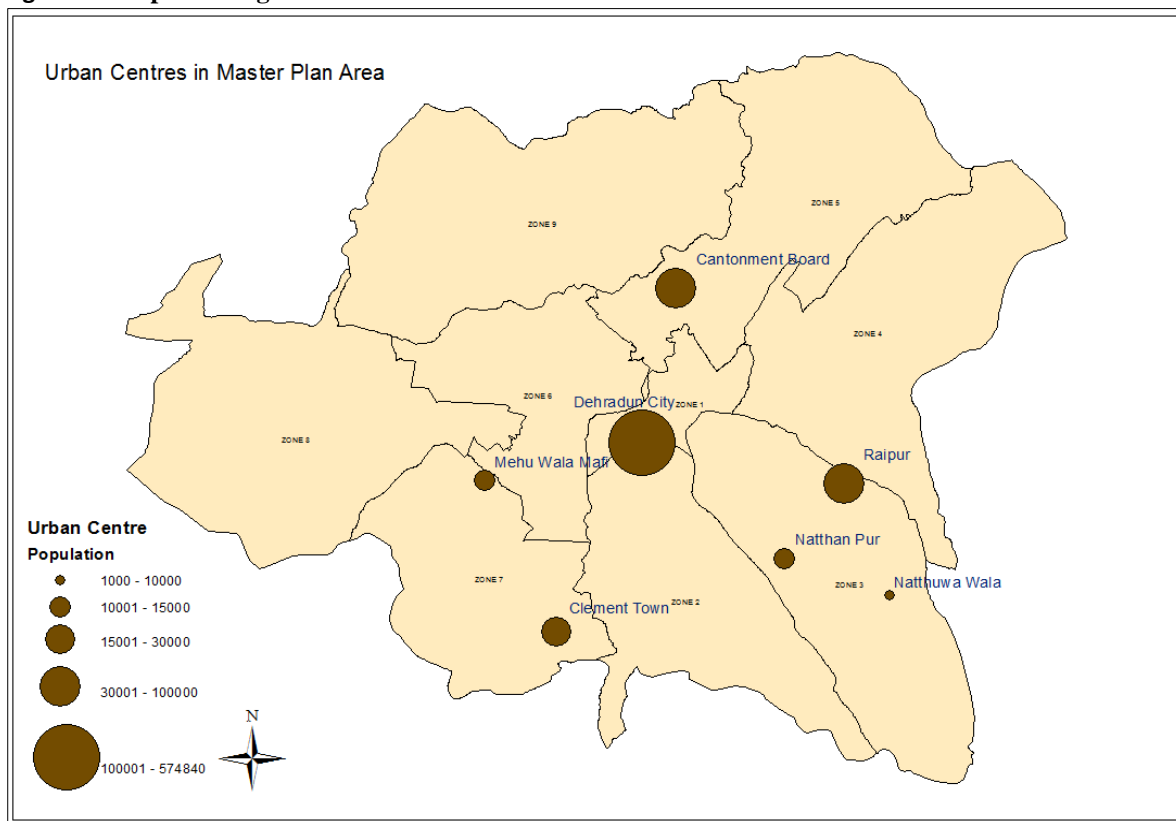
**Figure 1 : Map showing the Zone-5 location in MDDA**





## 1.2 Urban Centers:

**Figure 2 : Map Showing the Growth Centers in MDDA**



The MDDA Master Plan region comprises major urban centers in it besides Dehradun Municipal Corporation. Other important urban centers are Dehradun Cantonment Board, Raipur, Clement town, Forest Research Institute, Balawala, Raipur etc. This entire region developed as multi-functional as clusters of this region are around the institutions and along the major state and national highways.

## 1.3 Approach and Methodology

Extensive primary survey starting with the reconnaissance survey to understand the physical, social and economic structure of the study area has been taken up. This study also gives an idea of history, heritage, the level of development, status of existing infrastructure both physical and social and living environment of the region. Under this process, Recent High Resolution Satellite Data from NRSC/ Master Plan and digital Revenue cadastral maps (Sajra) will be collected from MDDA and other respective departments which will be further carried out for inventory process. Field survey will be carried out for base map updation as well as for land use data collection.



The attributes of each feature will be collected by maintaining a unique ID, where the corresponding feature is represented by the same ID in the digital data. Finally, existing land use map was prepared based on the UDPFI guidelines and data will be analysed for report.

Detailed proposed land use map was prepared at the zonal level, without changing the approved Master Plan proposals. Comprehensive analysis of existing land use and Master Plan proposal, identifying the deviation from the ground to be analysed and the proposals have been drawn up for the perspective period of 2025.

Proposals for conservation of forest and hill area, scenic spots have also been included. Outlook of various uses encompassing residential, commercial, industrial, educational and public and semi-public uses has been indicated in the form of a land use map both for existing and proposed development scenarios.

#### **1.4 Dehradun Master Plan-2025:**

The MDDA, Dehradun has been divided the Master plan area into 9 Planning Zones designated from '1' to '9' in the Master Plan for Dehradun-2025, The Master Plan covers the City of Dehradun, a few more urban centres and the surrounding rural areas. Master plan area spread over an area of about 360 Sq.km. having a population of 7.14 lakhs as per 2011 census. The planning zones as delineated by the MDDA in Master plan of the region comprise urban areas, revenue villages, developmental activities and natural boundaries as existed in Approved Master plan.

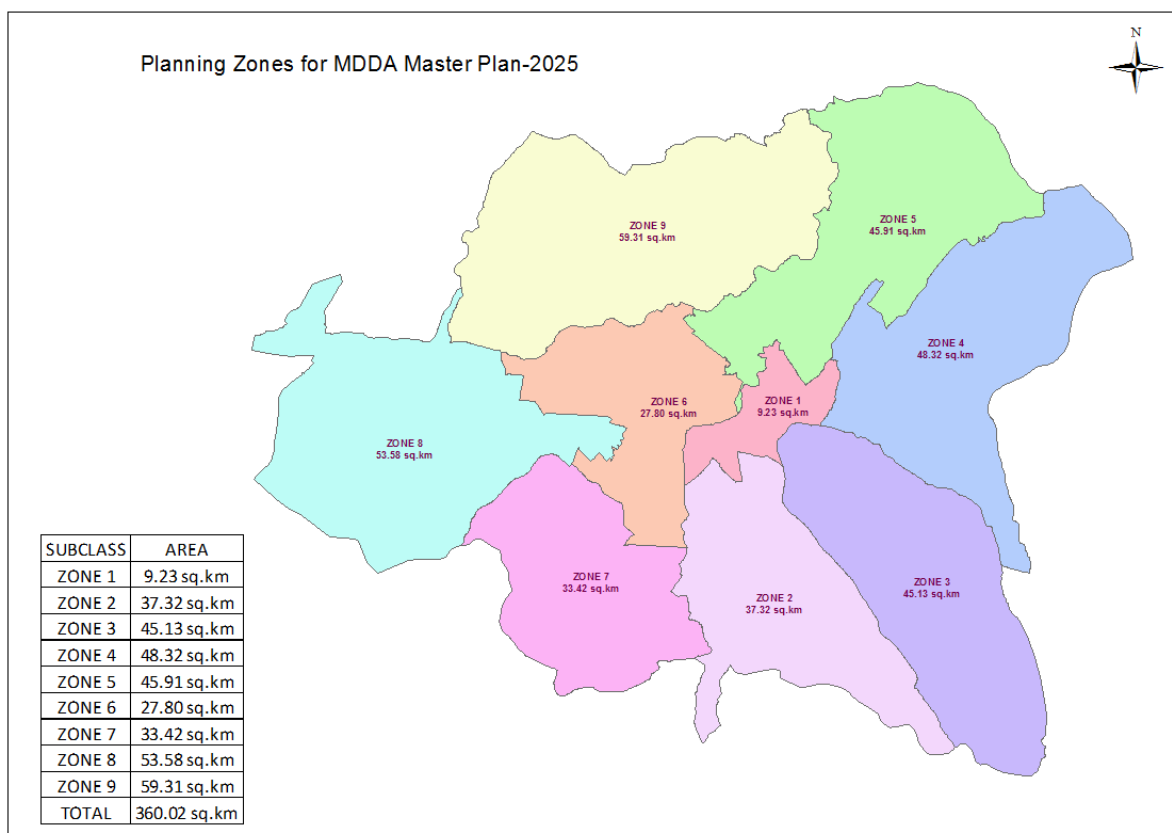
Dehradun is facing a many problems like housing shortage; tremendous pressure on the existing urban infrastructure and, problem of traffic congestion. In the changed scenario, MDDA has taken up various planning proposals-both short term and long term, to mitigate the existing problems and to adequately cope with future requirements of the Master Plan area. The Authority is entrusted with the responsibility of promoting and securing the development of all of the areas included in the development area according to a plan and, dispose of land and other properties to carry out development and other operations, to execute work in services and amenities and, generally, to do anything necessary or expedient for the purpose incidental thereto.

The specific objectives the Authority strives to accomplish are as follows:

- To carry out the civic survey and prepare a comprehensive development plan for the development area under the jurisdiction of the Authority.
- To prepare Zonal development plan for each of the zones into which the development area is divided.
- To promote and secure the development of areas situated in this urban region according to the Master Plans and Zonal development plans.
- To control the use of land for various purposes by acquisition, development and disposal of land.
- To carry out development works such as roads, buildings, water supply, sewerage and other schemes within the development areas so as to provide infrastructure facilities within it, and
- To co-ordinate and regulate the activities of various agencies of the State, Central and Local authorities within its jurisdiction.

## 1.5 Regional Setting

Figure 3 : Map showing the Planning Zones in MDDA



Dehradun is very well connected to all the major urban centers in and outside the region. It is very well connected by roads and rails and also airstrips. It is only 235 kms away from the national capital Delhi. The nearest airport is situated 25km away from Dehradun at the outskirts of the town. Distances from some of the major urban areas are as in below table.

**Table 1: Distance from major cities**

City	Distance (in kms)
Delhi	235
Chandigarh	170
Haridwar	54
Mussoorie	34
Rishikesh	43
Agra	382
Shimla	221
Yamunotri	279
Nainital	297
Kedarnath	270

The city is very well connected by daily trains coming from Delhi, Calcutta, Mumbai, Varanasi, Lucknow and other places.

## 2. PROFILE OF MASTER PLAN AREA AND ZONES

### 2.1 Profile of Master Plan area:

As per data released by Govt. of India for Census 2011, Dehradun is an Urban Agglomeration coming under category of Class I UAs/Towns. Dehradun city is governed by Municipal Corporation and is situated in Dehradun Urban Region.

MDDA established in 1984 with 185 villages and Dehradun Municipality and Other Census Towns. MDDA includes part of 3 blocks namely Raipur, Sahaspur and Khandoiwala. MDDA has prepared Master Plan for Dehradun area in 2005. Master Plan area divided into 9 zones on the basis of physical attributes, and all these zones are incorporated as a part of MDDA Zonal Development Plan preparations, which includes built up areas and non-built up areas. Presently Master Plan area comprise of Dehradun city, Dehradun Cantonment Area, Forest Research Institute (FRI), Clement Town, Raipur Town, other census towns and surrounding villages. Presently about 133 villages exists in Master Plan area as villages and others are converted or merged into urban areas.

### 2.2 Population:

As per 2011 census total population of the MDDA Master Plan area is 9, 37,597. Out of this population 76% of the population i.e., 7, 25,000 live in urban areas, in that 61% comprises Dehradun Municipal Corporation and another 16% in Census Towns and remaining lives in rural areas i.e., villages. Urban area population includes 7 Census towns and Dehradun Municipal Corporation. Below are the names of the census towns.

**Table 2: List of Urban areas and population in Master Plan area**

Sl. No	Level	Name	Population
1	Municipal Corporation	Dehradun	574840
2	Census Town	Raipur	32900
3	Census Town	Cantonment Board	52716
4	Census Town	Clement Town	22557
5	Census Town	Mehu Wala Mafi	13475
6	Census Town	Natthan Pur	13905
7	Census Town	Natthuwa Wala	9206
8	Census Town	FRI	5601
<b>TOTAL</b>			<b>725200</b>

Source: Census of India 2011

**Table 3 : MDDA Master Plan Urban and Rural Population**

Area	Population				2011	
	1981	1991	2001	2011	%	GR
<b>Census Towns</b>	69995	94534	124292	150360	16.00	20.97
<b>Dehradun M.Corp</b>	211563	270562	426674	574840	61.30	34.72
<b>Other Villages</b>	72776	115327	140467	212397	22.70	51.20
<b>MDDA TOTAL</b>	<b>354334</b>	<b>480423</b>	<b>691433</b>	<b>937597</b>	<b>100.00</b>	<b>35.60</b>

Source: Census of India 2011

### 2.3 Population Growth

The total population growth of MDDA Master Plan area is about 37.2% from 2001 to 2011, whereas Uttarakhand state growth is 18.8% only. It explains that after formation of state capital in 2000, the city attracted the population for various employment opportunities to live in. Whereas, other towns such as Raipur, Clement Town including FRI and Cantonments are grown at the rate of 20%, but villages in MDDA area are having high amount of growth rate i.e., 59% of growth rate. Villages surrounded by Dehradun city have grown with high growth rate due to land availability for residential, industrial, offices and education institutions.

**Table 4 : Population Growth Rate 1981-2011**

Year	Growth Rate			
	MDDA	Dehradun M Corp	Census Towns	Other Villages
<b>1981-91</b>	30.07	27.88	35.05	21.43
<b>1991-01</b>	48.59	57.69	31.47	41.84
<b>2001-11</b>	35.60	34.72	20.97	51.20

Source: Census of India 2011

**Table 5 : Zone wise population 1981 to 2011**

Zone No	Area in Sq.km	Proportionate Population			
		1981	1991	2001	2011
1	9.23	98764	135435	158384	163287
2	37.32	40363	68329	79936	140906
3	45.13	45607	60717	104159	157085
4	48.32	13555	19047	32055	47673
5	45.91	40487	47985	74115	96466
6	27.80	46010	53386	111188	158465
7	33.42	27307	40500	56301	84327
8	53.58	16213	21487	34314	42956
9	59.31	26024	33537	40981	46432
<b>Total</b>	<b>360.02</b>	<b>354334</b>	<b>480423</b>	<b>691433</b>	<b>937597</b>

Source: Census of India 2011

**Table 6 : Population Density in MDDA Master Plan area**

Area	Area in sq.km	Population -2011	Density
Municipal Corp	31.08	574840	18495
MDDA Master Plan Area	360.02	937597	2604
MDDA- Excluding Municipal Corp	328.94	362757	1103

Source: Census of India 2011

While calculating the density zone wise, zone 1 having high density followed by zone-6 because these two zones having municipal area and zone 4, 8, 9 having low density due forest and hilly areas.

**Table 7 : Zone wise Population Density**

Zone No	Area in Sq.km	Population	Density persons/Sq.km
1	9.23	163287	17691
2	37.32	140906	3776
3	45.13	157085	3481
4	48.32	47673	987
5	45.91	96466	2101
6	27.80	158465	5700
7	33.42	84327	2523
8	53.58	42956	802
9	59.31	46432	783
<b>Total</b>	<b>360.02</b>	<b>937597</b>	<b>2604</b>

Source: Census of India 2011 and Master Plan

## 2.4 Profile of Zone-5

### 2.4.1 Population

Zone-5 is a normal density zone out of 9 zones. Major development in this zone is along the Rajpur Road and Mussoorie road. Large size educational institutions such as DIT University, Pestle Weed College, IMS Unison University, Unison World School and Gyani Inder Singh Institute of Professional Studies are developed in this zone. Zone-5 comprising of 31 villages fully covered and 5 villages partially covered. It also comprised of 5 wards of Dehradun Municipal Corporation and Dehradun Cantonment Board. The total area of this zone is 45.91 sq.km. 80% of the population under urban and 20% is under rural.

Below table shows the ward names and population details-

**Table 8: Zone-5 population according to wards**

Sl.No	Ward No	Ward Name	POP_2001	Population-2011			Literacy-2011			Work_Force-2011		
				M	F	T	M	F	T	M	F	T
1	1	Rajpur	8746	5541	5099	10640	4514	3817	8331	2966	935	3901
2	2	Sahastradhara	7586	8036	7002	15038	6594	5167	11761	4014	926	4940
3	3	Jakhan	5087	4668	4037	8705	3879	3067	6946	2253	722	2975
4	4	Hathi Barkala	7243	3850	3552	7402	3370	2855	6225	2046	532	2578
5	8	Krishan Nagar	6147	4918	4218	9136	4258	3440	7698	2400	677	3077
<b>TOTAL</b>			<b>34809</b>	<b>27013</b>	<b>23908</b>	<b>50921</b>	<b>22615</b>	<b>18346</b>	<b>40961</b>	<b>13679</b>	<b>3792</b>	<b>17471</b>

**Zone-5 Population**

Sl. No	Village/City	POP_2001	Population-2011			Literacy-2011			Work_Force-2011		
			M	F	T	M	F	T	M	F	T
1	Dehradun (CB)	26838	14804	11554	26358	12598	9211	21809	8658	1615	10273
2	Bagradhauran	124	72	70	142	55	44	99	37	36	73
3	Bagral Gaon	425	406	232	638	363	179	542	161	53	214
4	Bhagwant Pur	154	162	140	302	139	108	247	98	19	117
5	Bhandar Gaon	137	113	108	221	101	75	176	56	15	71
6	Brahman Gaon	61	30	21	51	30	18	48	16	5	21
7	Chalang	736	336	337	673	248	238	486	166	167	333
8	Chandrothi	301	212	178	390	185	144	329	114	24	138
9	Danion Ka Danda	125	82	64	146	64	43	107	42	8	50
10	Dhanaula	291	187	166	353	141	99	240	97	10	107
11	Dumal Gaon	205	123	91	214	108	59	167	42	7	49
12	Gujrara Mansingh	278	297	277	574	267	236	503	137	34	171
13	Guniyal Gaon	134	81	75	156	73	55	128	45	25	70
14	Jamoliwala	270	220	201	421	167	138	305	117	27	144
15	Johari	1387	921	926	1847	804	758	1562	445	191	636
16	Kairwan Karanpur	150	66	65	131	54	41	95	40	4	44
17	Khala Gaon	136	321	99	420	304	72	376	94	23	117
18	Kheragopiwala	57	8	6	14	6	4	10	4	1	5
19	Khuranwa	176	135	112	247	106	70	176	73	7	80
20	Kirsali Gaon	25	111	329	440	77	291	368	62	46	108
21	Kishan pur	246	111	129	240	99	83	182	70	21	91
22	Kulhan Karanpur	117	90	74	164	77	58	135	44	6	50
23	Kuthal Gaon	140	77	60	137	66	44	110	42	5	47
24	Makhti	381	0	0	0	0	0	0	0	0	0
25	Makka Wala	120	1112	570	1682	1085	531	1616	87	10	97
26	Malsi	725	1024	489	1513	833	414	1247	767	78	845
27	Marautha	189	141	138	279	111	90	201	74	6	80
28	Nagalhat Nala	421	279	217	496	238	144	382	135	33	168
29	Punkal Gaon	311	209	202	411	179	149	328	107	35	142
30	Salan Gaon	266	136	151	287	119	119	238	67	16	83



31	Saloniwala	118	51	46	97	44	43	87	23	18	41
32	Sinaula	630	463	427	890	384	329	713	232	42	274
33	Sindhauwali Dhauran	41	233	90	323	211	55	266	85	17	102
34	Tarla Nagal	423	640	564	1204	430	313	743	327	70	397
35	Utari Gaon	184	129	120	249	101	88	189	67	13	80
36	Vijepur Gopiwala	1226	683	846	1529	596	736	1332	251	91	342
37	Vijepur Hathibarkala	1759	1072	1234	2306	954	1054	2008	376	114	490
<b>TOTAL</b>		<b>39307</b>	<b>25137</b>	<b>20408</b>	<b>45545</b>	<b>21417</b>	<b>16133</b>	<b>37550</b>	<b>13258</b>	<b>2892</b>	<b>16150</b>
<b>GRAND TOTAL</b>		<b>74116</b>	<b>52150</b>	<b>44316</b>	<b>96466</b>	<b>44032</b>	<b>34479</b>	<b>78511</b>	<b>26937</b>	<b>6684</b>	<b>33621</b>
<b>Profile</b>		<b>Sex Ratio</b>		<b>850</b>		<b>Literacy Rate</b>		<b>81%</b>	<b>Work Force</b>		<b>35%</b>

Source: Census of India 2011 and 2001

#### 2.4.2 Sex Ratio

Zone-5 sex ratio is 850, which is below than Master Plan area. Male population is high due to major portion of the zone occupies military population, which in general having male employment and also large amount educated youth migrates to this zone because of employment facilities in IT Park, Tourism and Educational institutions.

#### 2.4.3 Density

The density of Zone-5 is 2101 persons per sq.km, which is very below than the Master Plan area average because this zone having 60% of undeveloped land in which 40% is not suitable for development and terrain of the area is not suitable for high rise constructions.

#### 2.4.4 Literacy Rate and Work force

Literacy rate for Zone-5 is 81% which is higher than the Master plan area. Work force participation rate for this zone is 35%. The employment opportunities in military area as well as educational institutions, hospitals, shopping malls, IT companies and tourism attracts the population giving better work participation rate than other zones.

#### 2.4.5 Population projection (Zone-5):

Master Plan population projections have been done using Arithmetic Mean method and Geometric Mean method and finally Projections using geometric mean method was considered suitable for Master Plan of MDDA; hence for further land use and infrastructure Projections population projected in Geometric Method has been used for total Master Plan are population projections.

While projecting the zone wise population projections, growth rate calculations made with analysis of previous decade's growth trend as well the present land use analysis. The total

projected population of 2025 of individual zones is matched with Master Plan projections. In this scenario Zone-1 is having least population growth and whereas Zone-3 is shows highest population growth rate. Below table illustrates the zone wise population growth rate.

**Table 9: Table shows population projections of MDDA Master plan zones**

Zone	1981-1991	1991-2001	2001-2011	Proj GR	REMARKS
1	37.13	16.94	3.10	5%	Reached Saturation and no vacant land for further development
2	69.29	16.99	76.27	45%	Medium growth rate due to area covered forest areas
3	33.13	71.55	50.81	72%	High growth rate due accessibility and vacant lands
4	40.51	68.29	48.73	35%	Medium growth rate due to this zone covered Forest areas
5	18.52	54.46	30.16	45%	Medium growth rate due to this zone covered Forest areas and rivers
6	16.03	108.27	42.52	30%	Medium growth rate due covered FRI and defence areas
7	48.31	39.01	49.78	60%	High growth rate due accessibility and vacant lands
8	32.53	59.70	25.18	30%	Medium growth rate due to covered with Hilly areas, agriculture lands and forest areas
9	28.87	22.19	13.30	30%	Medium growth rate due to this zone covered forest areas and rivers
<b>MP</b>	<b>35.90</b>	<b>37.92</b>	<b>38.20</b>	<b>31%</b>	<b>As per Master Plan</b>

Based on the above population growth for each individual zone, below table explains the projected population for all zones.

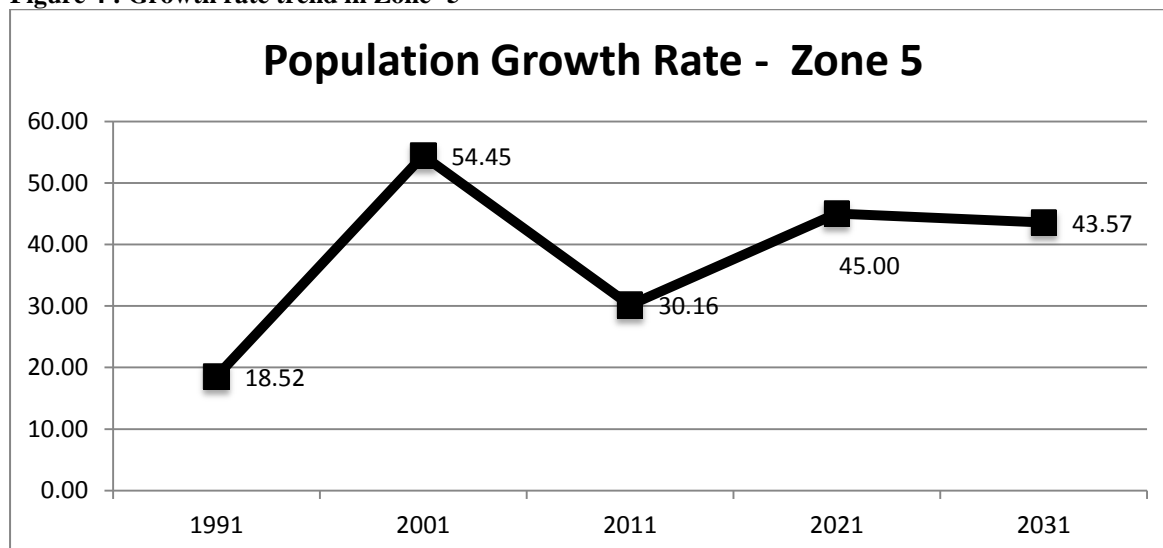
**Table 10 : Projected Population of all zones**

Zone No	Area in Sq.km	Proportionate Population			
		2011	2021	2025	2031
1	9.23	163287	171451	174880	180024
2	37.32	140906	204313	241090	296255
3	45.13	157085	270186	348000	464720
4	48.32	47673	64360	73370	86886
5	45.91	96466	139875	165053	202819
6	27.80	158465	206005	230725	267806
7	33.42	84327	134924	167306	215878
8	53.58	42956	55843	62544	72596
9	59.31	46432	60361	67605	78470
<b>Total</b>	<b>360.02</b>	<b>937597</b>	<b>1307319</b>	<b>1530572</b>	<b>1865453</b>

While doing population projection for this zone, it is observed that 45% growth has happened

in last decade i.e., 2001 to 2011 and 1991 to 2001 it has 54.45% growth. This high amount of growth can see due to various reasons such as water availability in that area, land availability, natural scenic environment and also important is this zone falls between Dehradun and Mussoorie.

**Figure 4 : Growth rate trend in Zone- 5**



This zone still has vacant lands for further growth and most of the open areas are in planned residential developments. Considering these factors, the population growth rate is considered 45%.

## 2.5 Economic Profile of Zone 5

Major Landmarks falling in this zone are Information Technology (IT) Park, DIT University, Pestle Weed College, Pacific Mall, Sahastradhara tourist place, Malsi Deer Park, National Institute of Visually Handicapped and Max Super Specialty Hospital. This zone has potential to develop large size public places such as colleges, shopping malls, hospitals, IT Parks and other resorts due to availability of vacant lands as well as scenic beauty of forest hills. This zone is having potential to attract the educated skilled for employment opportunities in education, medical and It sectors. Dehradun cantonment board occupies majority of the portion which is giving opportunities in service sector. This zone is having 62% of work force participation rate giving its potential in employment opportunities. 98% growth rate has seen in Sahastradhara area in last decade which explains the opportunities in developmen

### 3. INFRASTRUCTURE

Infrastructure is the term used for the basic services and facilities which are integral part of urban development. It is the backbone of any settlement. So the quality of infrastructure is a good indicator of quality of life of people. It has also got a strong relation with the growth and development of the region.

Physical infrastructure is very important for growth and development of a city. Some of the major aspects that are covered under this are water supply system, drainage and sewerage network.

#### 3.1 Water supply

In the year 1885, the first piped water supply was introduced from Kolukhet springs situated about 25 km. away from Dehradun. This was a gravity flow system. Subsequently, more surface water sources were tapped and more area was covered under gravity flow in the northern part of Dehradun.

Main sustainable source of water for Dehradun Municipal Corporation is ground water which meets about 77% of its total supply. Rest 23 % drawn from the various sources of surface water.

Zone 5 is falling under outskirts of the city and has gravity type of pumping methods and per capita supply is 70-135 LPCD. Cantonment area has its own water supply system and this also having 5 Municipal wards, where water supply maintained by Municipal Corporation. Other areas fall under rural, where water supply maintained by panchayat and PWD.

#### 3.2 Sewerage and Sanitation

Zone 5 has demands on sewerage system. The existing population as well future population requires more demand on sewerage and sanitation facilities. There is no authentic data available for this zone, but based on primary surveys and visual interpretations it is observed that 30% of the sewerage flow into nalas. Other areas have septic tanks and soak pit systems.

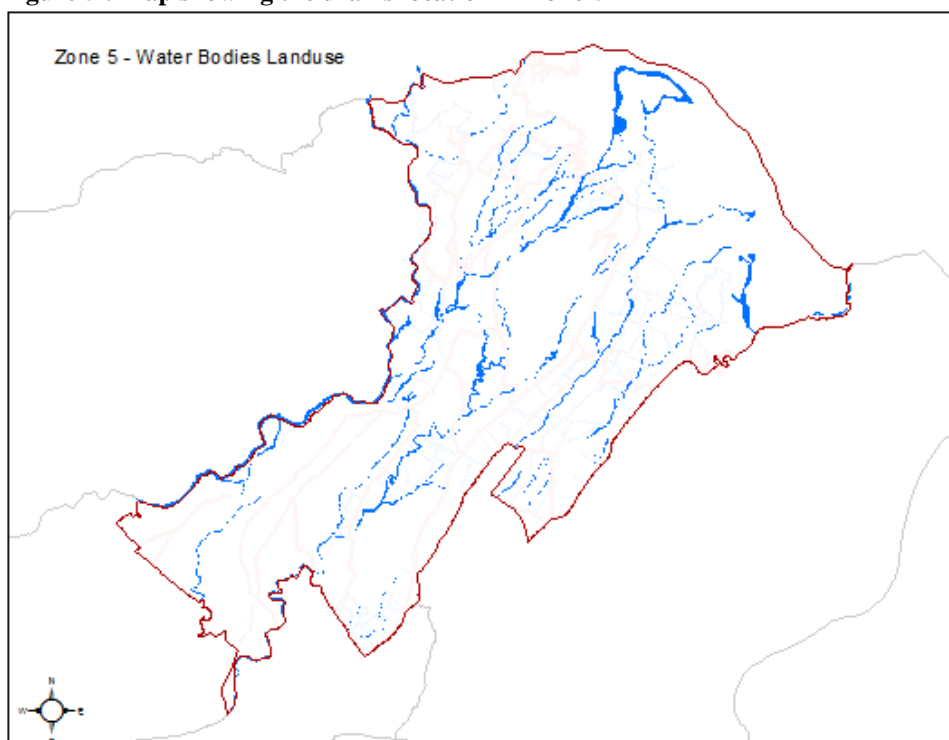
The treatment of sewerage is essential to check the decay in the environment as well as to provide hygienic conditions for the population. There are no sewerage and sanitation facilities in the surrounding villages of the Dehradun city which come under the planning area.

At present, around 30 % of the population is covered with sewerage system. The probable reason was the effectiveness of septic tank and soak pit systems due to the higher depth of water table (80-100 m) and the availability of sandy-gravel strata. The collected sewage is used for sewage farming or discharged directly to nalas.

Due to upliftment in economic and social status of inhabitants and rapid increase in population of the town in last five years, the public demand for health sanitary condition has been gathering mass attention. The construction of new sewerage systems and STP are therefore an urgent need of today.

### 3.3 Drainage

**Figure 5 : Map showing the drains location in Zone-5**



Major portion of the zone is having open drainage, where the sides of the roads and planned drainage facilities in some parts of the city. There is no drainage facility in the surrounding villages of the Dehradun city which comes under the planning area.

Although the natural topography of the city helps in gravity drainage, there are pockets of water logging; besides, natural drainage courses require rehabilitation, as they are choked with disposed solid waste and encroached upon, particularly by the urban poor.

Due to hilly terrain, Dehradun City has a natural drainage pattern with sufficient gradients to drain off storm water easily in to the two main natural drainage channels passing north to

south i.e. Bindal River and Rispana River.

Zone 5 has surrounded by these two rivers. This zone drainage is fully depends on these rivers only. Due to ups and downs slopes in this zone some areas disturbing the water flow creating water logging.

### **3.4 Solid Waste Management**

Municipal solid waste (MSW), also called urban solid waste, is a waste type that includes predominantly household waste (domestic waste) with sometimes, addition of commercial wastes collected by a municipality within a given area. Recent study shows that composition of waste by Dehradun.

Existing solid waste collection system mainly comprises of (i) collection from the doorstep by means of hand-carts/cycle-rickshaw and (ii) collection through community bins/containers. Municipal Corporation sweepers and sanitary workers engaged by the Mohalla Swachhata Samities sweep solid wastes from the streets. They accumulate the collected waste into small heaps and subsequently loaded manually or mechanically on to the solid waste transportation vehicles for onward transportation to the disposal site.

The existing solid waste disposal site is located at Dateda Lakhond on Sahashradhara Road and at a distance of about 7 km from the town. The site (area approx. 4 ha) is being used for last 3 years. DNN has identified 15 acres of land at Selaqui, located at a distance of about 22 km from the city for future solid waste disposal.

### **3.5 Social Infrastructure:**

Development of Social Infrastructure facilities play an important role in the community development and are expected to provide a cohesive living condition for the population in Zone 5 area. Social Infrastructure facilities are essential to satisfy the immediate requirement of inhabitants and provide community needs such as education, health facilities etc. considering the development of the town.

Social Infrastructure facilities include Education, Public Health, Recreational, Market and Other facilities.

Social Infrastructure facilities support many welfare activities especially for the urban poor and economically weaker sections. Therefore strengthening this function so as to provide satisfactory level of services becomes top priority for the municipal authority.

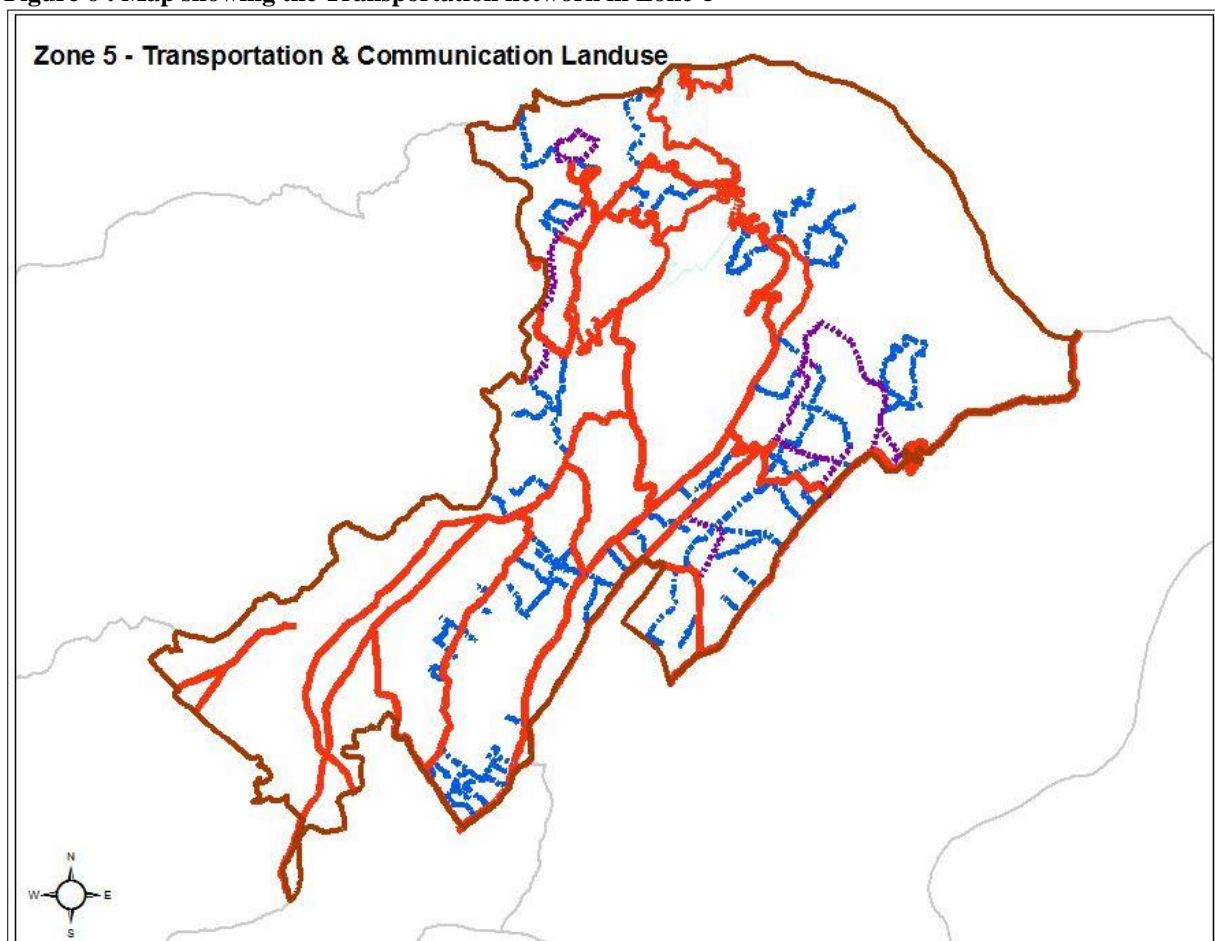
## 4. TRAFFIC AND TRANSPORTATION

Dehradun is state capital and hub of many national level institutions and centre for trade and commerce of surrounding region. Being the gateway to the Himalayan region of the State, Dehradun attracts large number of tourists on their onward journeys to different hill destinations as well city level tourist spots. Thus, a large volume of traffic is generated/ attracted from/to the city. Dehradun is well connected by rail, road and air.

### 4.1 Road Network

Dehradun city has basically radial pattern originating from city core (i.e. Clock tower). Rajpur road, Haridwar road, Saharanpur road and Chakrata road forming the major travel corridors which originate from the city core. This zone has one of the important road passing i.e., Rajpur road, which is also route to Mussoorie. This road has heavy traffic volume of tourist buses, cars and other vehicles.

Figure 6 : Map showing the Transportation network in Zone-5



The traffic carrying capacities are low due to limited widths of existing roads. Below is the

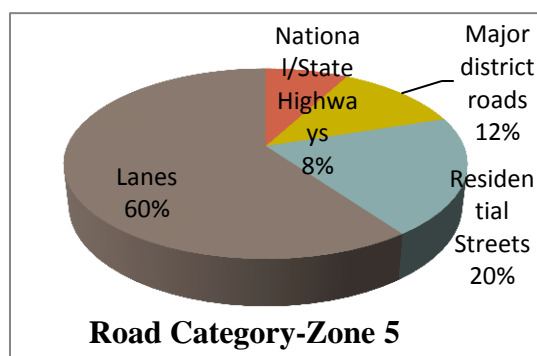


total length of roads in km with category wise and surface wise.

**Table 11 : Existing roads by category wise**

Category	Length in km
National/State Highways	21.30
Major district roads	32.50
Residential Streets	53.970
Lanes	161.31
<b>Total</b>	<b>269.08</b>

Source: Existing Master Plan and ZDP- 2015

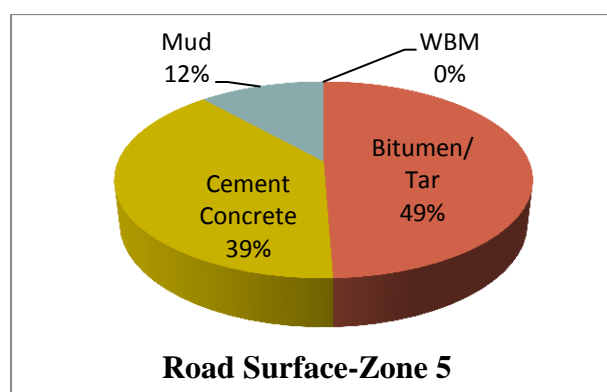


Total roads by category wise in Zone-5 are divided into National Highway, Major district roads, Residential streets and Lanes. 60% portion of the roads is small lanes, 20% of the roads are residential streets, 12% covers major district roads and 8% is under National Highway.

**Table 12 : Existing roads by surface wise**

Category	Length in km
Bitumen/Tar	132.95
Cement Concrete	104.90
Mud	31.07
WBM	0.16
<b>Total</b>	<b>269.08</b>

Source: Existing Land use map-2015



Zone 5 roads are almost covered with bituminous topped (BT). Existing total length of roads in Zone 5 is about 269.08 km of which 49% of roads are bituminous topped (BT), 39% of roads are cement concrete roads, 12% of roads are mud roads and small amount of WBM roads.

#### 4.2 Public Transport System:

Uttarakhand Transport Corporation has a fleet of 430 buses in Dehradun for intra city and inter-city travels. UTC buses mainly serve long distance as well as medium distance inter-city trips from ISBT and few from near Railway Station. Private Buses also make long and medium distance intercity trips from different parts of the city. Presently they operate from

Parade Ground, near Clock Tower. Long distance private buses do not have any authorized off- Street parking or terminals. So they are seen to occupy the carriageway of roads causing problems to traffic movements.

In addition to this, more than 300 tourist buses also come to the city daily during the peak tourist season. About 300 City Buses operate all around the city on 15 routes.

Mini buses and Tempos / Vikrams are permitted on fixed routes and fixed fare basis (fixed by RTO) for intra- city trips within the city, while auto rickshaws are permitted within 25 km of radius in the city without any fixed rate. Mini buses and tempos do not have proper terminal facilities or amenities for passengers.

#### **4.2.1 Bus Terminals**

Uttarakhand Transport Corporation (UTC) has bus terminal and Inter State Bus Terminal (ISBT) located on Saharanpur-Haridwar Road junction and another one at near the Railway Station. Apart from UTC terminals, a private bus terminal for medium and long distance buses is also operating from Parade Grounds. There are about 800-850 bus schedules that originate daily from these terminals. These terminals are inadequate to handle the bus traffic and over the years, the terminals had witnessed growth in buses as well as passenger traffic resulting in congestion and inefficient operation. In addition, about 300 tourist buses also come to the City daily during the peak tourist season.

#### **4.2.2 Goods Terminals:**

Dehradun City is an important centre of trade and a trans-shipment node for goods exported to the hill areas of the State. The trade in the City has followed two main channels; one between the valley and the plains and, the other between valley and hills. Lime is the main export of the Dehradun District. Being a major transportation head, the exchange of agricultural and industrial products in the region is controlled by the City.

The major wholesale and retail markets are located in the centre of the City. The major commercial activities take place along Saharanpur Road, Chakrata Road, Haridwar Road and Rajpur Road. The commercial activities have developed in a ribbon form along the roads resulting in various traffic and transportation problems. Ashlay Hall, Gandhi Road and Pipal Mandi are among other important commercial areas.

As Dehradun has commercial and industrial importance though the city lacks any planned transport terminal due to which trucks are parked along the roads. Therefore, the loading and

unloading activities and transportation of goods in trucks and handcarts often create traffic jams.

A Transport Nagar has been planned along Saharanpur Road near the New Bypass Road Junction with provision for truck terminal, MDDA office and it is in advance stage of implementation.

#### **4.2.3 Rail Network:**

Dehradun is the last station for Northern railways in this region. Planning area covers around 20 Km of broad gauge lines which connect Dehradun city to Haridwar, Udham Singh Nagar, Ram Nagar, Haldwani etc. cities of the state.

According to MDDA survey, per day around 15000 passengers travel through the train and around 1/3<sup>rd</sup> of the goods transportation are done through goods trains from Dehradun city.

#### **4.2.4 Air Network**

The only airport of the state capital is located 26 Km from the City at Jolly Grant. This airport connects the city to all metropolitan cities i.e. Bangalore, New Delhi, Mumbai and Chennai and also to other major cities like Jammu, Ranchi, Coimbatore, Ahmedabad etc. in India through air services.

## 5. LAND USE

Zone level existing land use map has prepared based on satellite image and ground survey. Digitized all buildings, roads, railway lines, water bodies, culverts, bridges, high/low tension lines drainage lines, layouts, parks, playgrounds, wetlands, etc. on geo-referenced satellite image and same updated with ground survey details such as usage of building, landmarks, heritage buildings, road widths, road material, condition of buildings, vacant lands.

### 5.1 Land Use Structure

The term Land use means the function of a given area of land. Categories of land use include residential, commercial, industrial, public and semi-public, recreational, transport and communication, forest, agricultural use and water bodies. Land use coverage depends upon the population density, functional domination of the settlement, special development thrust, location of the settlement in a regional setting and workforce composition.

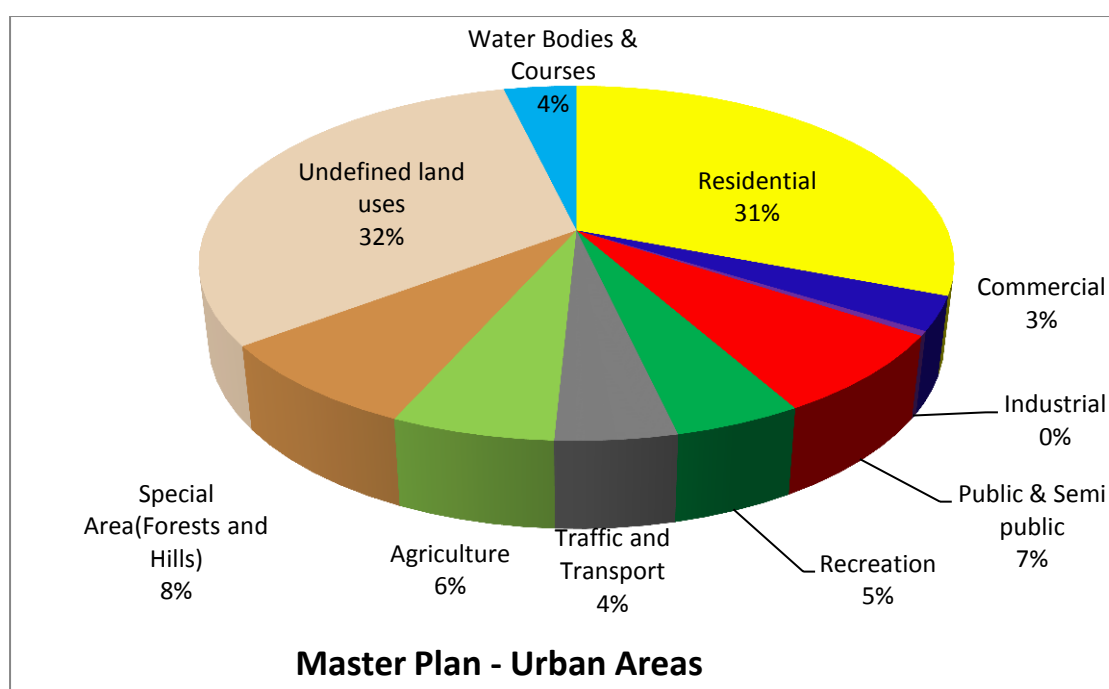
### 5.2 Land use pattern as per Master Plan 2025 and Zone-5

The quality of urban life and functional efficiency of a city is dependent on proper disposition of activities, inter-relationship it establishes between the work centres, living areas, community facilities and recreational areas. In order to conduct a systematic analysis of the problems regarding disposition of various activities expressed as land use, analysis has been done for various zones.

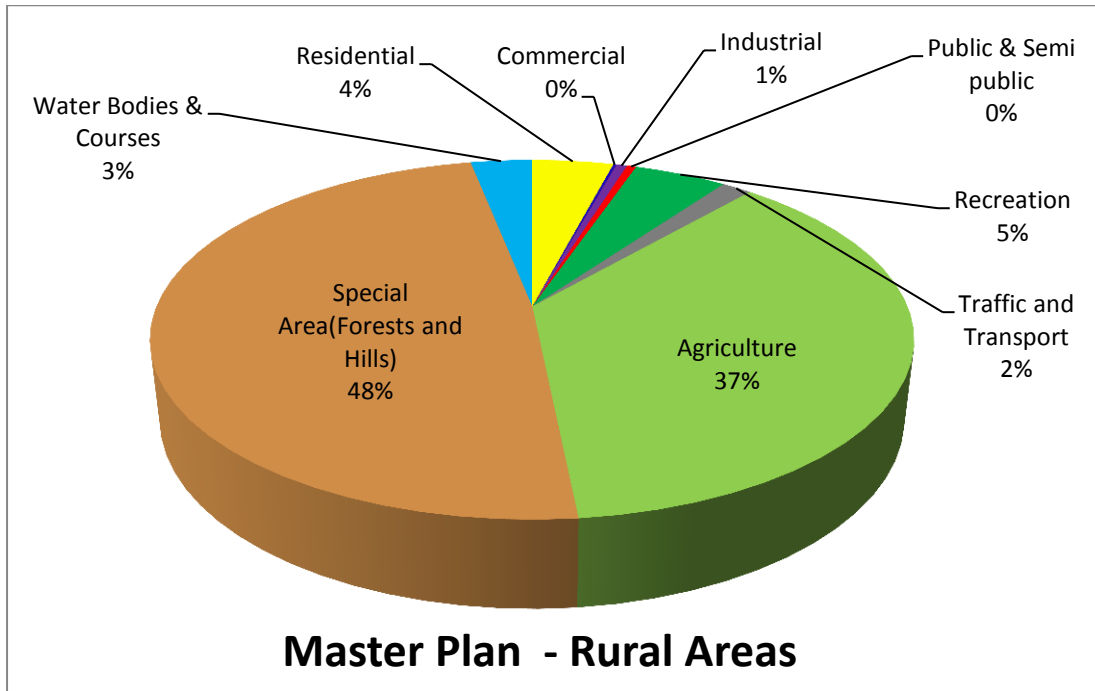
**Table 13: Existing Land use as per 2025 Master Plan and Zone-5**

S.no	Land Use	MASTER PLAN						ZDP	
		Urban area		Rural area		Total		Area in Ha.	%
		Area (Ha)	%	Area (Ha)	%	Area (Ha)	%		
1	Residential	2989.30	31.00	1082.50	4.11	4071.80	11.30	1153.53	25.13
2	Commercial	298.52	3.10	42.91	0.16	341.43	0.95	72.43	1.58
3	Industrial	40.50	0.40	142.94	0.54	183.44	0.51	8.20	0.18
4	Public & Semi public	723.73	7.50	124.59	0.47	848.32	2.36	376.21	8.20
5	Recreation	448.12	4.60	1236.00	4.69	1684.12	4.67	34.36	0.75
6	Traffic and Transport	425.18	4.40	396.78	1.51	821.96	2.28	183.62	4.00
7	Agriculture	571.76	5.90	9722.89	36.90	10294.70	28.60	226.88	4.94
8	Special Area(Forests and Hills)	781.76	8.10	12774.30	48.50	13556.00	37.60	2207.26	48.08
9	Undefined land uses	3058.82	32.00	0.00	0.00	3058.82	8.49	108.06	2.35
10	Water Bodies & Courses	360.58	3.70	818.67	3.11	1179.25	3.27	219.81	4.79
	<b>TOTAL</b>	<b>9698.27</b>	<b>100</b>	<b>26341.50</b>	<b>100</b>	<b>36039.80</b>	<b>100</b>	<b>4590.36</b>	<b>100</b>

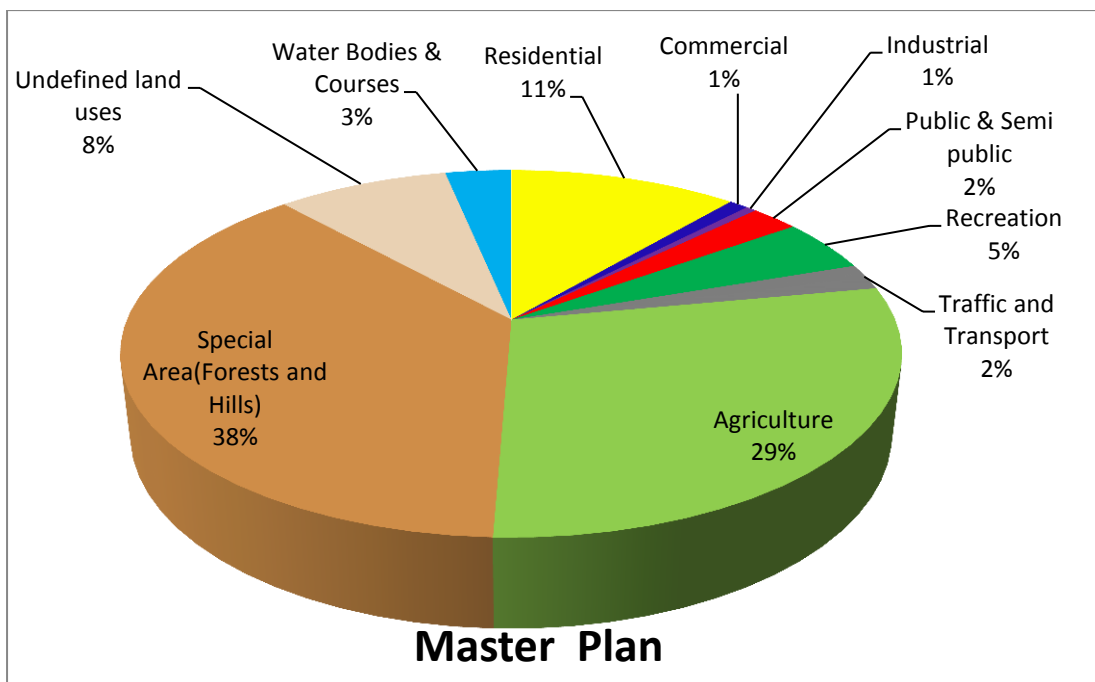
Source: Master Plan 2025 and ZDP

**Master Plan -Urban Area**

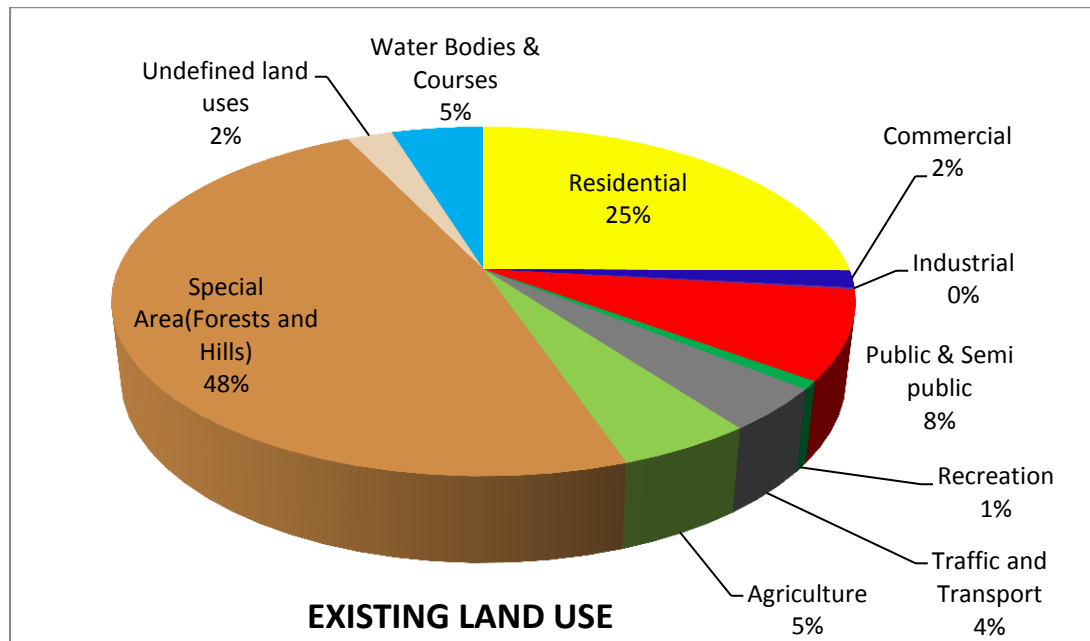
**Master Plan- Rural area**



**Total Master Plan Area**



### **Zone-5 Existing Land Use**



The above pie-charts shows the land use distribution for whole MDDA Master Plan Region and in specifically with Rural and urban land uses. Land use segregation of rural and urban area is considered separately for comparing and analysing each zone on the basis of major portion coming under urban or rural areas.

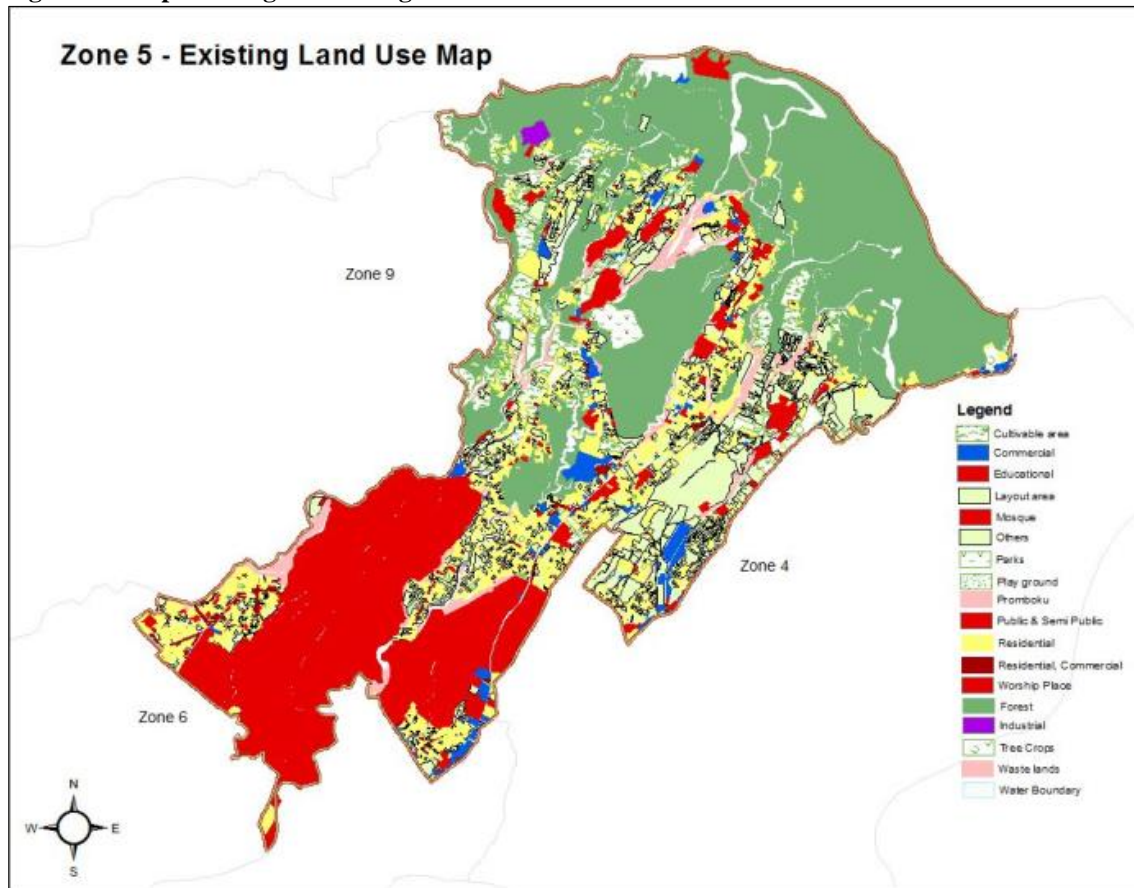
According to different characteristics of rural and urban areas much area difference in different types of land use can be seen. In urban areas major part of land is occupied by Residential with 31% and undefined land uses with 31.54% of Urban area whereas in rural areas major use of land comes under Hills and forest with 48 % and Agriculture land use with 37% of rural area.

Combination of both the areas gives a different overall picture of the Master Plan region so the analysis is being done considering the local characteristics of a particular zone.

#### **5.3 Zone-5 Existing Land use**

The land use categories in the Zonal Development Plans are adopted from the approved Master Plan for Dehradun, and they include broadly residential, commercial, industrial, public and Semi-public places, parks and play grounds, traffic & transportation areas, hills and forests, water bodies, open spaces, agriculture and others. In this zone major part of the area is under residential use where as in other zones Commercial and Public and semi-public uses are predominant.



**Figure 7 : Map showing the existing Land use**

The quality of urban life and functional efficiency of a city is dependent on proper disposition of activities, inter-relationship it establishes between the work centers, living areas, community facilities and recreational areas. In order to conduct a systematic analysis of the problems regarding disposition of various activities expressed as land use, analysis has been done for various zones.

### 5.3.1 Distribution of Existing Land use scenario 2015

The predominant use across the zone is residential. For a comfortable living environment, a time tested use composition as evolved in the UDPFI guidelines is desirable. For otherwise, though the impact by way of psychological stress and strains may be invisible, overtime, it will affect physical and mental health of a human being and more so of those occupied in economic activities like commercial, services, industrial, institutional and the like. For stress relief and relaxation, recreational options and, parks and playgrounds do play the crucial role.

As discussed previous, this zone has been developing from last decade, as it is more suitable environment for large scale public institutions.

In order to arrive at a rationale for future spatial structure and Land use pattern, it is necessary

to study the existing Land use to identifying the existing spatial structure. The existing developed area is substantially low in comparison to the planning area.

The land use planning for Zone-5 is based on the optimum land required for development to support economic and population growth. Sustainable land use principles are adopted and the objectives of the Master Plan are translated onto the land use plan that will chart the future growth for this zone. Overall, the main land use of this zone will be forest and Hill area with 48.08% of the total land and residential use is 25.13% of the total land in this zone.

**Residential:** As mentioned in the above table about 25.13% of total area is under Residential area by which we can determine that residential development is not fully developed.

Developed Residential Land use covers apartments, residential colonies, Layout Areas and Plotted residential areas. Major portion of the open spaces category are vacant plots and will be developed as residential purpose only.

**Commercial:** Commercial Land use occupies 72.43 Ha, which constitutes 1.58 % of zone area. Commercial zone is mostly along the Rajpur road. Most of the district commercial centers like malls, braded companies retail outlets are formed along the road.

**Industries:** Information Technology (IT) Park is the major land use coming in this category under service industry. It is spread over around 8.2 Ha in this zone constitutes 0.18%.

**Public and semi-public:** One of the important categories of land uses in this zone is Public & semi Public and it excludes the education category. Public & Semi-public Land use occupies 376.21 Hectares, which constitutes 8.2% of zone area and Historical land use occupies religious places like including Temple, Ashram, Dharmashala and Dharbar.

Major educational centres such as Universities and colleges at regional importance are located in this zone.

**Traffic and Transportation:** Transportation Land use occupies 183.62 Ha which constitutes 4% of zone area. Transport (Roads) is one of the important components, which comes under major land use category. Roads are occupying major share in transportation & communication land use followed by railway line/railway premises and Bus terminals/parking. This zone provides easy accessibility with in the zones as this is zone is abutting by major road Rajpur Road. This zone has connectivity with other major centers such as Mussoorie on north.

**Recreation:** In this category separate land use details calculated for open spaces and parks and playgrounds. Open spaces (vacant plots) between buildings are merged into open spaces category. Zone has some beautiful parks for recreation purpose of tourists and local residents.

Recreation Land use occupies 34.36 Hectares which constitutes 0.75% of zone area.

**Water Bodies:** In this zone two rivers are flowing namely Rispana River and Bindal River. The amount of land use under this category occupies 219.81 Ha which constitutes 4.79% of the land in this zone.

**Special Area:** In this zone Defence, Forest and Hill areas are major land use categories covered. forest land covers 2207.26 Ha which constitutes 48.08% of zone.

**Undefined land uses:** Vacant lands which are not into any specific zone are considered into undefined land uses. This area is about 108.06 Hectares which constitutes 2.35%.

#### 5.4 Proposed Land use-Master Plan (2025) Vs ZDP-5

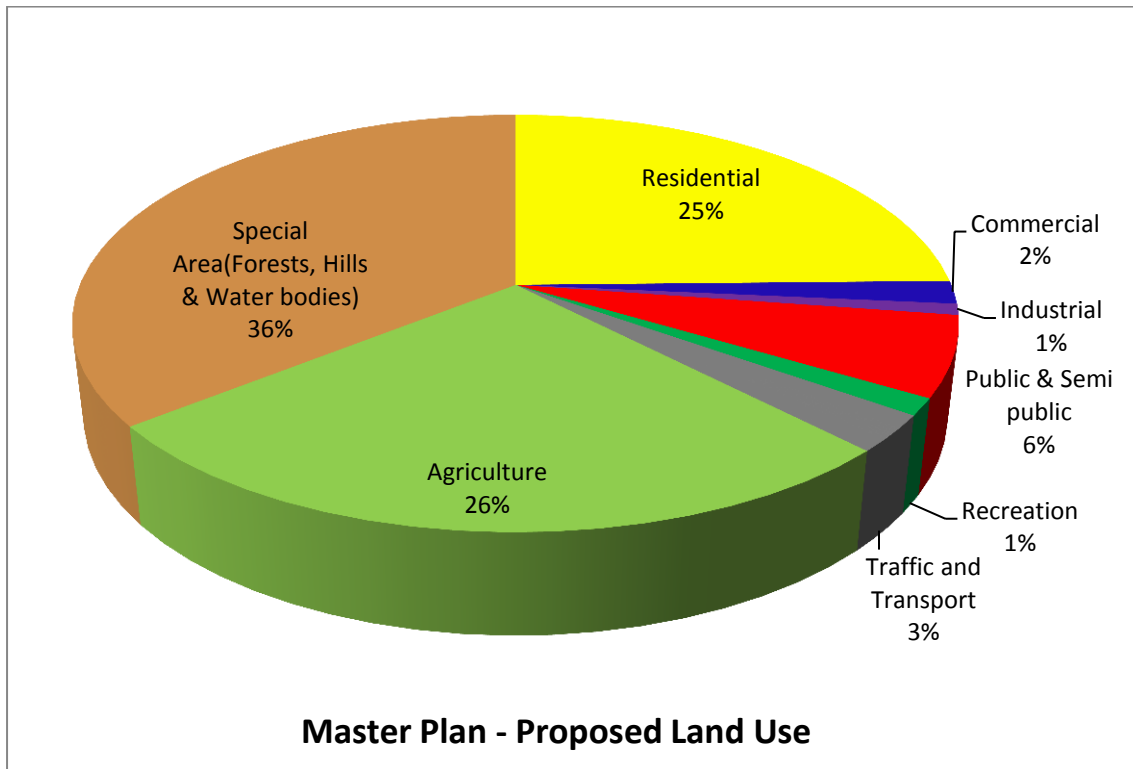
In the Master Plan 2025, the area under residential use zone has been enhanced to cover about 11% to 25%, taking into consideration the developmental potential in the future based on the trend in the past and present. In doing so, the uses in developed as 'mixed' with more than one use built over or expanded over basically original residential uses have been stream lined to the commercial units inserted in the residential units. The Master Plan recommended 1.7% of the zone area under commercial use, 6.1% of the zone area under Public and semi-public use, 2.8% under Transportation and 1.3% for Recreation.

In this proposed land use structure Public and semi-public use having major weightage. Being a capital city and hub for national level institutions, this land use plays key role in future development.

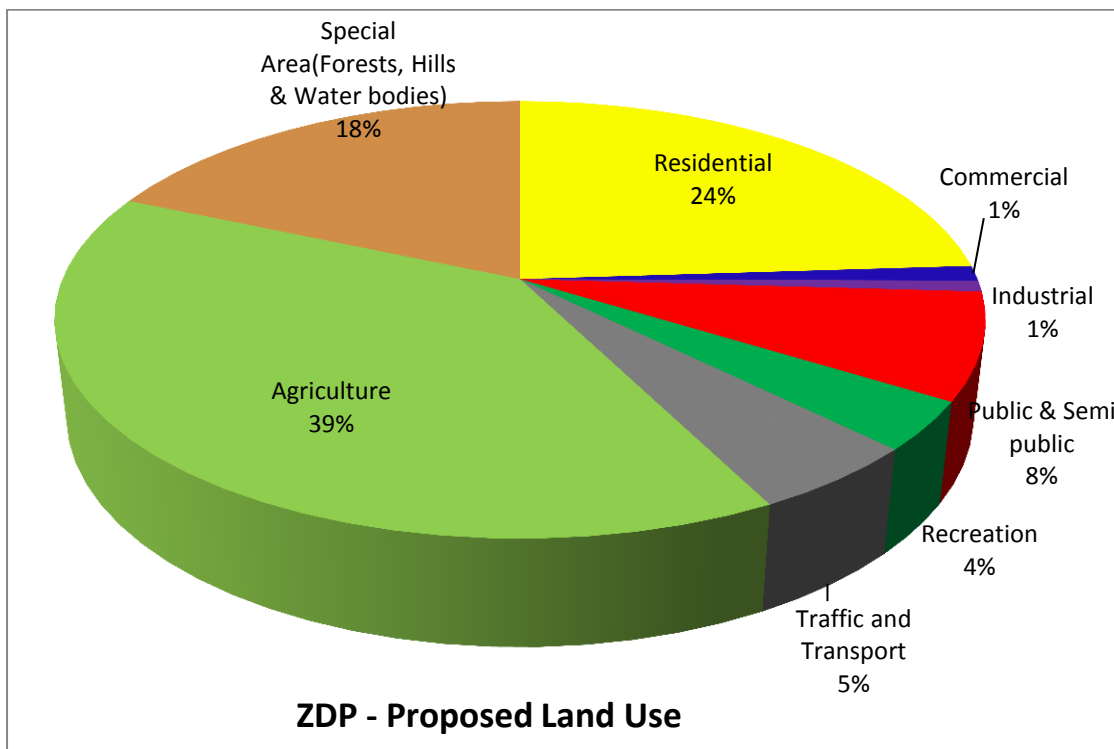
**Table 14: Proposed Land use as per Master Plan 2025 & ZDP Zone-5**

Sl.no	Land use component	MASTER PLAN		ZDP Zone-5	
		Area (Ha)	Percentage	Area (Ha)	Percentage
1	Residential	8887.07	24.68	1101.18	23.99
2	Commercial	638.93	1.77	51.38	1.12
3	Industrial	310.47	0.86	37.61	0.82
4	Public & Semi public	2229.19	6.19	361.10	7.87
5	Recreation	470.58	1.31	164.57	3.59
6	Traffic and Transport	1027.53	2.85	214.71	4.68
7	Agriculture	9589.42	26.64	1810.92	39.45
8	Special Area	12849.05	35.69	848.89	18.49
<b>TOTAL</b>		<b>36002.24</b>	<b>100</b>	<b>4590.37</b>	<b>100</b>

**Master Plan 2025**

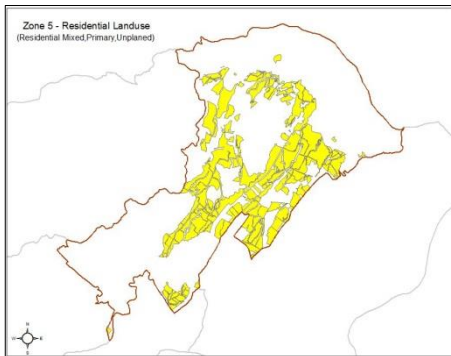


**ZDP – Proposed**



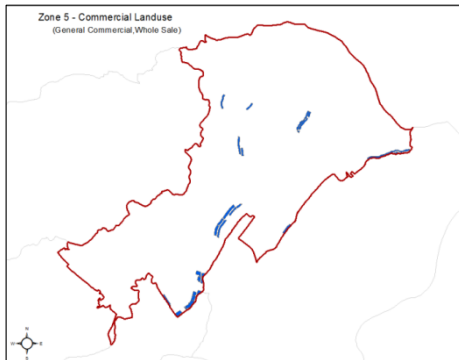
### 5.5 Proposed land use as per Master Plan 2025 Vs ZDP-5

#### A) Residential Use:



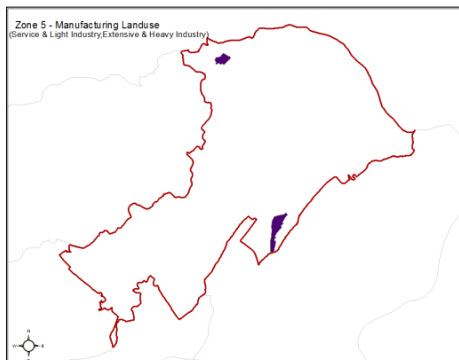
In the Master Plan-2025 about 8887 ha (24.68%) has been proposed for residential use, where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Residential area comprises of 1101.18 Ha (23.99%).

#### B) Commercial use:



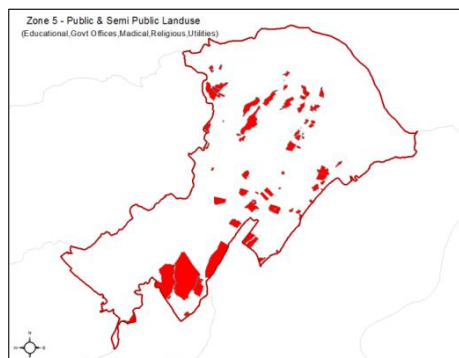
In the Master Plan-2025 about 638.93 ha (1.77%) has been proposed for commercial use, where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Commercial area comprises of 51.38 Ha (1.12%).

#### C) Industrial use:



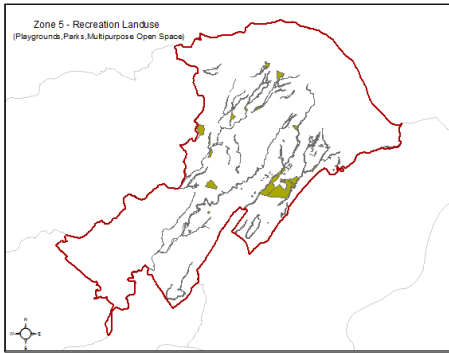
In the Master Plan-2025 about 310.47 ha (0.86%) has been proposed for this use, where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Industrial area comprises of 37.61 Ha (0.82%).

#### D) Public And semi Public use:



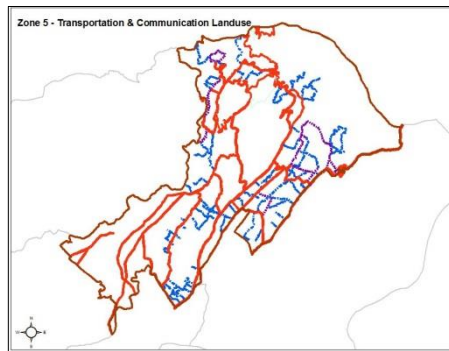
In the Master Plan-2025 about 2229.19ha (6.19%) has been proposed for this use, where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Public and semi-public area comprises of 361.1 Ha (7.87%).

**E) Recreation Use:**



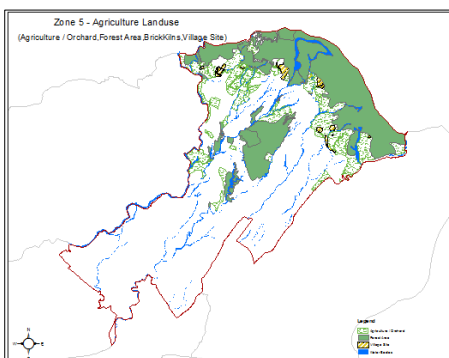
In the Master Plan-2025 about 470.58 Ha (1.31%) has been proposed for this use. where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Recreation area comprises of 164.57 Ha (3.59%).

**F) Traffic and Transportation Use:**



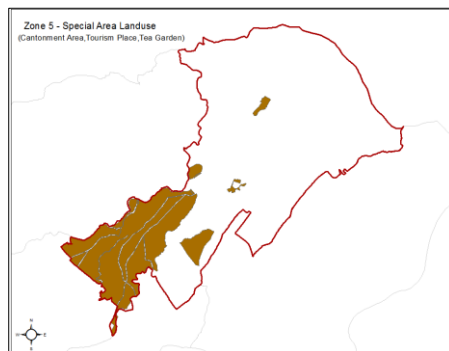
In the Master Plan-2025 about 1027.53 Ha (2.85%) has been proposed for this use, where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Traffic and Transportation area comprises of 214.71 Ha (4.68%).

**G) Agriculture Use:**



In the Master Plan-2025 about 9589.42 Ha (26.64%) has been proposed for this use, where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Agricultural area comprises of 1810.92 Ha (39.45%).

**H) Special Use:**



In the Master Plan-2025 about 12849.05 Ha (35.69%) has been proposed for this use, where as in ZDP-5 of the complete Zone area of 4590.37 Ha, Agricultural area comprises of 848.89 Ha (18.49%).

**Features of proposed Master Plan:**

With a view to translate all the planning policies into development strategies, the Zonal Development Plan focuses on the following salient features.

- (i) A land use plan showing the Zonal Plan level uses.
- (ii) The plan indicates subdivision of entire urban area under into sectors / sub zones for the purpose of development. Each sector / sub zone contains multiple land use categories.
- (iii) The zone plan would be further subdivided into various residential pockets containing neighbourhood level recreational and community facilities.
- (iv) As per Master Plan-2025, the identification of mixed uses area shall be done by the local body as per Mixed Use Regulations. The mixed use would be permissible on streets/stretches already notified by the competent authority. The mixed use areas will be shown in the local area plans.



### 5.6 Proposed Land uses under ZDP (Zone 5)

While detailing out the Master Plan area pertaining to Zone 5, the land use is explained with the help of categories used under zone development plans as per UDPFI Guidelines.

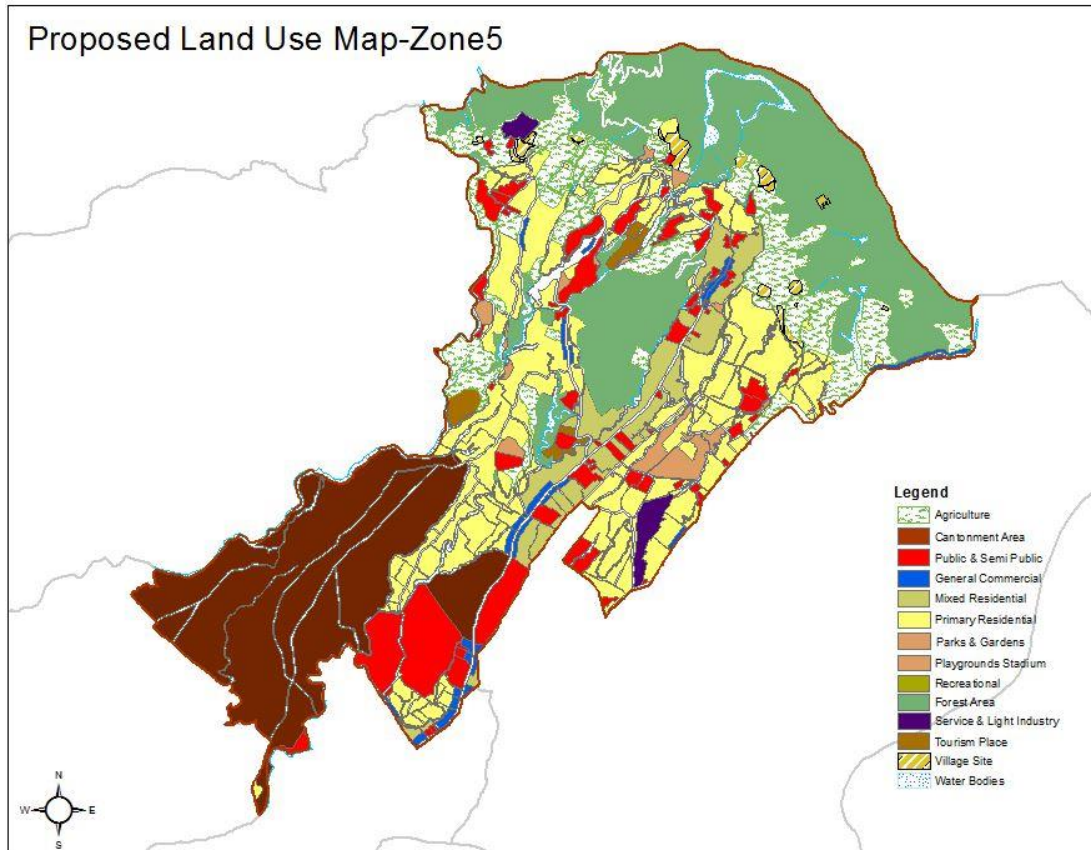
Below table shows the land use classification based on the ZDP level sub categories.

**Table 15: Zone-5 Proposed Land use as per ZDP**

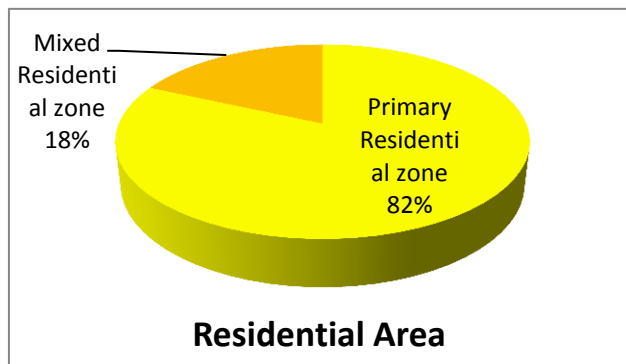
Category	Sub-categories	PLU_ZDP	
		ZONE-5	
		Area (ha)	% on Sub Total
<b>Residential</b>	Primary Residential zone	899.99	81.73
	Mixed Residential zone	201.19	18.27
<b>Sub Total</b>		<b>1101.18</b>	<b>100</b>
<b>Commercial</b>	General Commercial	51.38	100
<b>Sub Total</b>		<b>51.38</b>	<b>100</b>
<b>Industrial</b>	Service & light Industry	37.61	100
<b>Sub Total</b>		<b>37.61</b>	<b>100</b>
<b>Public &amp; Semi-public</b>	Public & Semi-public	361.1	100
<b>Sub Total</b>		<b>361.1</b>	<b>100</b>
<b>Recreation</b>	Playgrounds, stadium, Sports complex	6.89	4.18
	Parks & Gardens(Public Open Space)	101.55	61.71
	Multipurpose Open space (Maidan), Recreation	56.13	34.11
<b>Sub Total</b>		<b>164.57</b>	<b>100</b>
<b>Transportation &amp; Communication</b>	Roads	214.71	100
<b>Sub Total</b>		<b>214.71</b>	<b>100</b>
<b>Agriculture</b>	Agriculture	502.23	27.73
	Forest	1043.87	57.64
	Village settlement	40.15	2.22
	Water Bodies	224.67	12.41
<b>Sub Total</b>		<b>1810.92</b>	<b>100</b>
<b>Special Area</b>	Cantonment Areas	825.42	97.23
	Tourism Place	23.47	2.77
<b>Sub Total</b>		<b>848.89</b>	<b>100</b>
<b>Grand Total</b>		<b>4590.36</b>	

Source: ZDP Proposed Land use

Figure 8 : Map showing proposed Land use

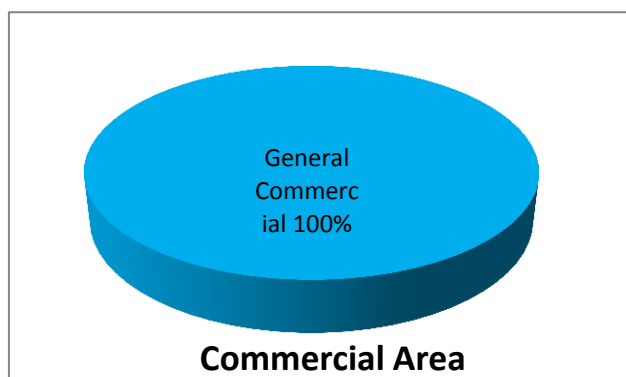


**A) Residential Use:**



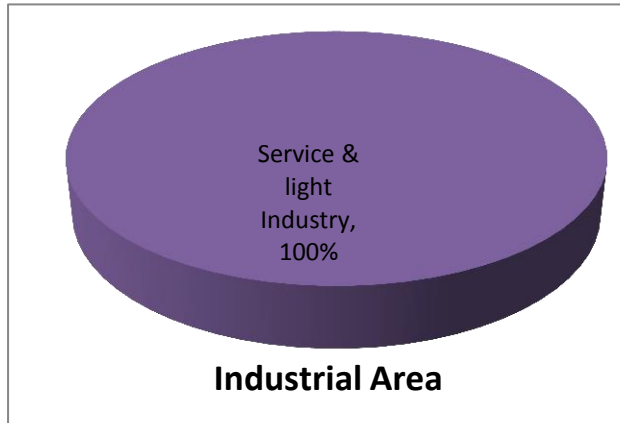
As per Zone-5 Proposed landuse, total 1101.18 Ha area has been proposed for Residential use, in which Primary Residential area comprises of 899.99 Ha (81.73%) and Mixed Residential area comprises of 201.19 Ha (18.27%).

**B) Commercial use:**



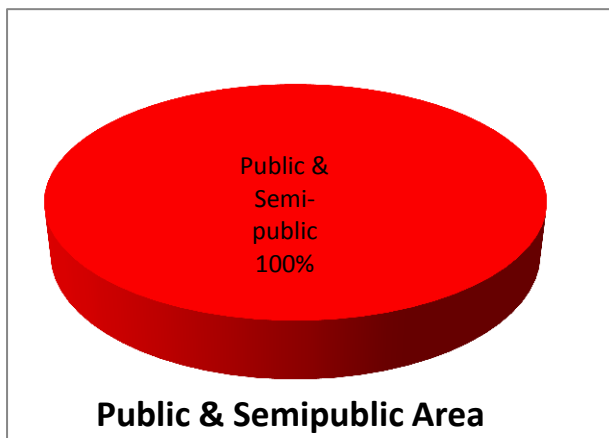
As per Zone-5 Proposed landuse, total 51.38 Ha (100%) area has been proposed for Commercial use, which is for General commercial area landuse.

**C) Industrial use:**



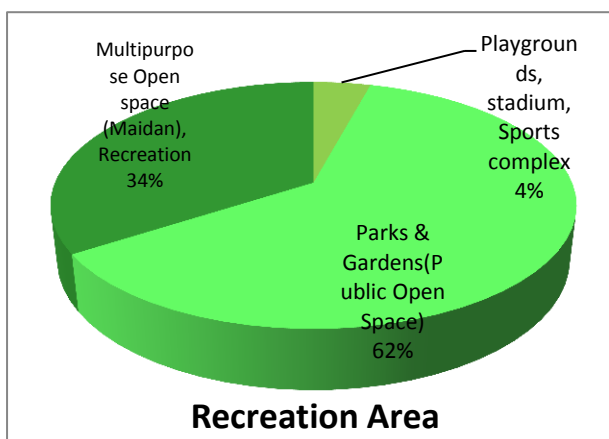
As per Zone-5 Proposed landuse, total 37.61 Ha (100%) area has been proposed for Commercial use, which is for Service & light Industry landuse.

**D) Public And semi Public use:**



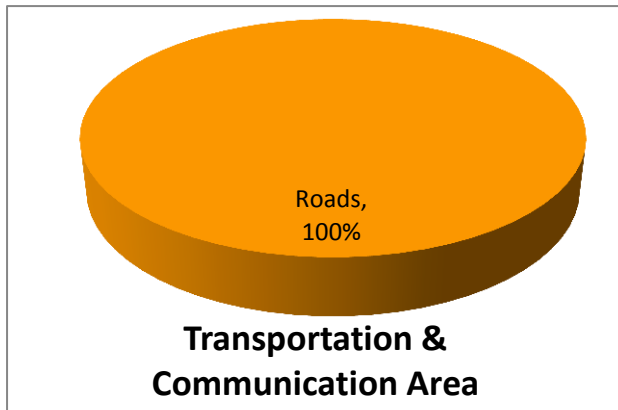
As per Zone-5 Proposed landuse, total 361.1 Ha (100%) area has been proposed for Public & Semi-public use.

**E) Recreation Use:**



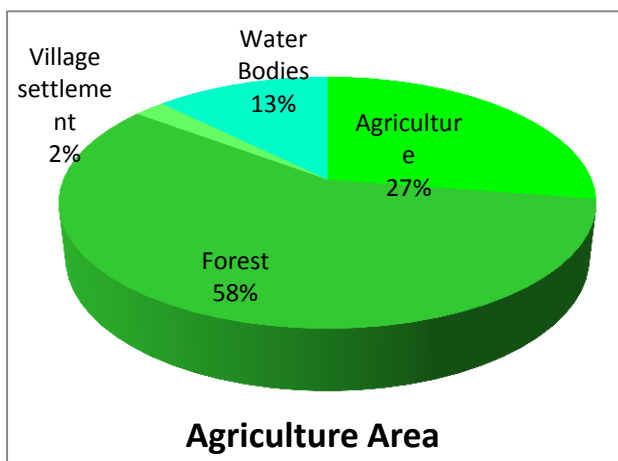
As per Zone-5 Proposed landuse, total 164.57 Ha area has been proposed for Recreation use, in which Playgrounds, stadium, Sports complex area comprises of 6.89 Ha (4.18%), Parks & Gardens area comprises of 101.55 Ha (61.71%) and Multipurpose Open space & Recreation area comprises of 56.13 Ha (34.11%).

**F) Traffic and Communication:**



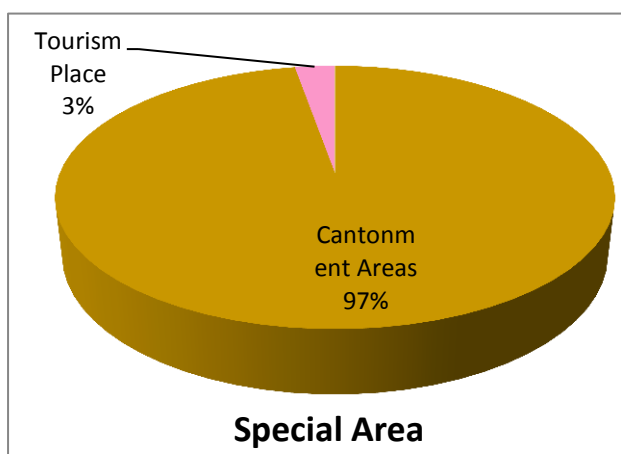
As per Zone-5 Proposed landuse, total 214.71 Ha (100%) area has been proposed for Traffic and Communication use, which is for Roads landuse.

**G) Agriculture Use:**



As per Zone-5 Proposed landuse, total 1791.58 Ha area has been proposed for Agricultural use, in which Agriculture area comprises of 502.23 Ha (27.73%), Forest area comprises of 1043.87 Ha (57.64%), Village Settlement area comprises of 40.15 Ha (2.22%) and water bodies area comprises of 224.67 Ha (12.41%).

**H) Special Area**



As per Zone-5 Proposed landuse, total 848.89 Ha area has been proposed for Special landuse, in which Cantonment area comprises of 825.42 Ha (97.23%) and Tourism Area comprises of 23.47 Ha (2.77%).

Figure 9 : Map showing the road widening proposals

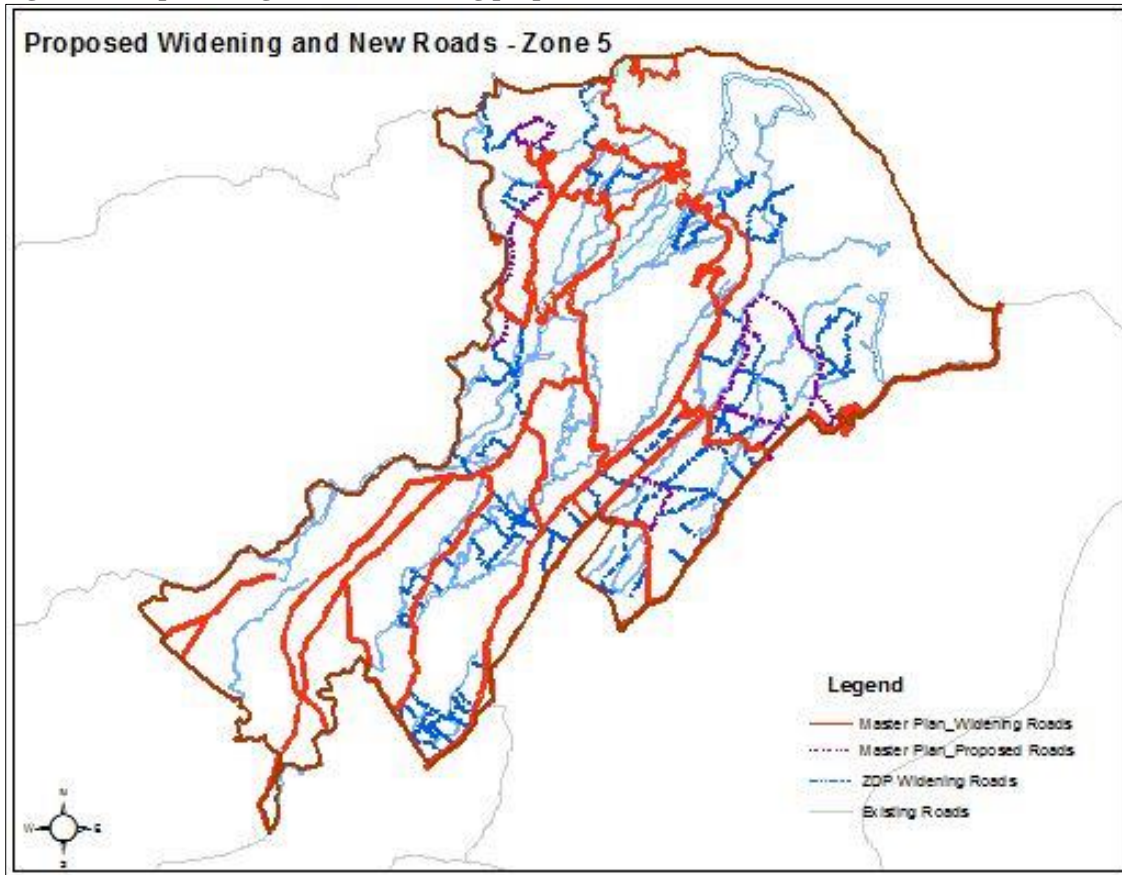
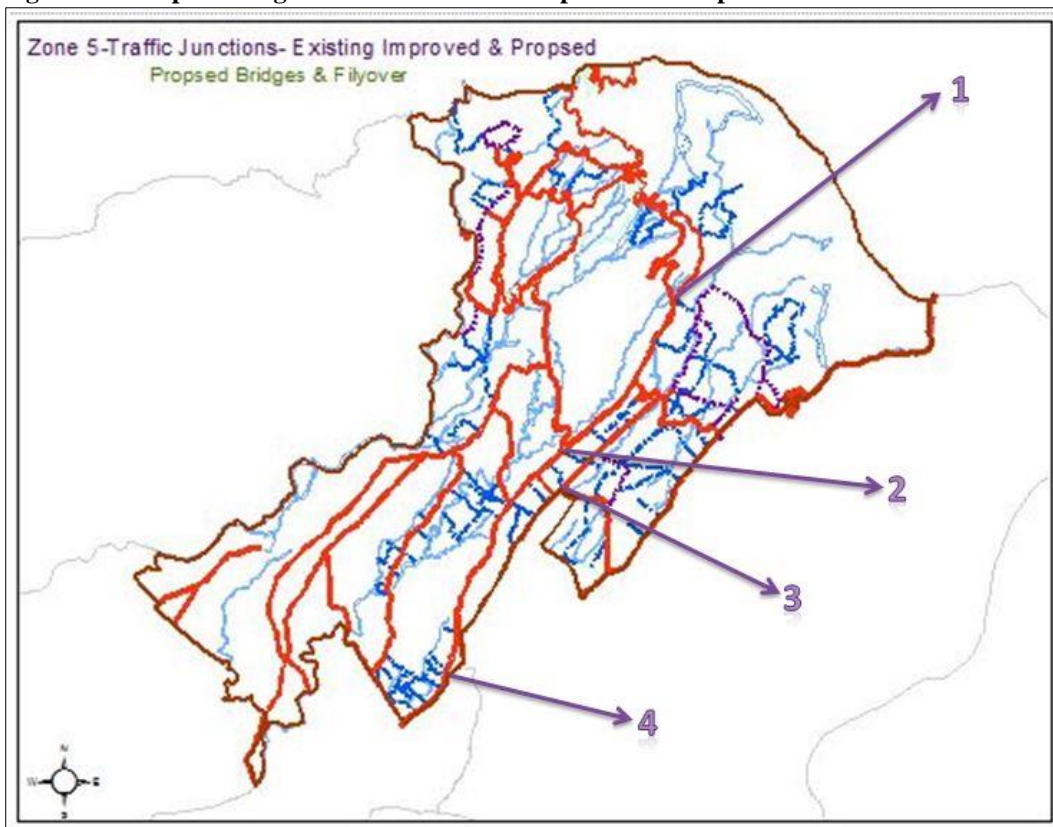
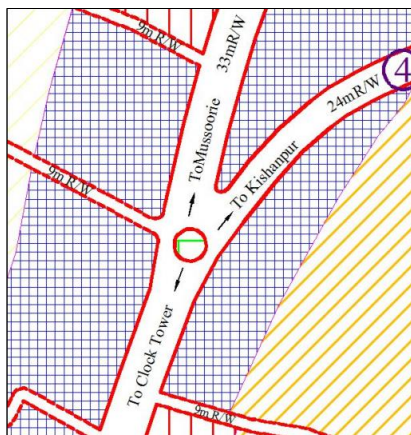
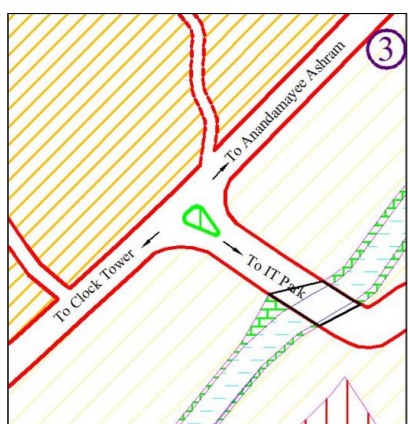
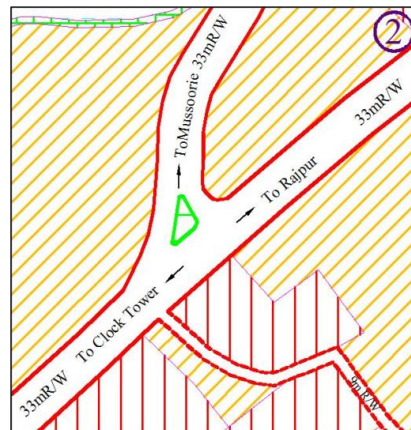
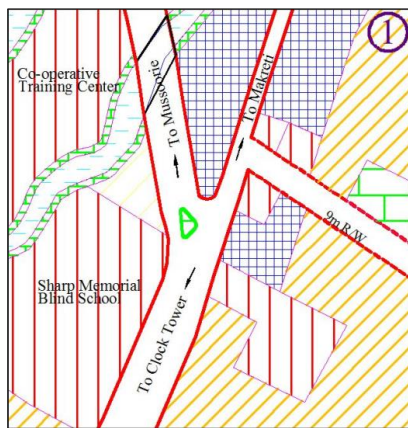


Figure 10 : Map showing the Traffic Junction Improved & Proposed





**Detailed Traffic Junctions :**



Below table shows the proposals on widening roads and there are no new roads proposed in this zone.

**Table 16 : Zone-5 Road Widening Proposals**

Zone 5: Proposed Road – Widening from Existing Road				Units in Meters	
Sl. No	From	Along	To	Road Len	Prop Row
1	Rajpur Road	Along Telephone Exchange, Forest Department, Nivh	Sharp Blind School	7319	33
2	Mussoorie Road	Along Aryan School, Dit/Im's College	Kutalgaon	5430	33
3	Sahastradhara Road	Along Tarla Nagar, Danda Noori Wala, Hulhan Karanpur	Bhagda Dhoran	8722	33
4	Rajpur Crossing	Along Co-Operative Training Cnetre, Swamyram Theerth Asram	Oak Govt. School	7340	33
5	Dhoran Road	Along IT Park	Sahastradhara Road	1737	30

6	Purkul Road	Along Bagrol Gaon,Chaksaloni Wala,Chak Bagawant Wala	Prukul Gaon	2632	30
7	Shaheen Bagh Road	Along Jamoli Wala	River	1645	30
8	Mussorie Road	Sharp Memorial Blind School	Panchayati Bhavan	4415	30
9	Siva Temple	Bhandar Gaon Village	Chak Bhagwantpur Village	2562	24
10	Old Rajpur Road	Along Tarla Nagal	Krissali Chowk	2872	24
11	Garhi Cantt Bypass	Along Johri Gaon,Anarwala	New cantonment Road	3234	24
12	Anarwala Road	Along Anarwala	New cantonment Road	1308	24
13	Anarwala Road	Along Kingston School, Survey Of India	New Cant Road	3902	24
14	Kishanpur Canal Road	Along Jarwan Village	N I V H	5243	24
15	Hathibarkala Road	Along Vijay Colony And Cm House	Rajpur Road	2975	24
16	Johri Gaon	Along Himalaya Garden Wedding Point	Rajpur Road	1603	24
17	Shaheed Kashmir Singh RD	Garhi Road	Sathyanaryana Temple	1745	24
18	Lal Gate	Along Defence Area	Vijay Pur Gopiwala village	4124	24
19	Makka Wala Road	Along Bamangaon	Chak Bhagwantpur	1586	24
20	Lal Gate	Along Defence Area	Restricted area	1745	18
21	Bhagavathi International School	Along Play Ground	Chak Bhagwantpur	319	18
22	Other internal ZDP Roads			6644	12
23	Other internal ZDP Roads			36116	9

#### Zone 5: New Proposed Roads

Sl No	Road Name/ Details		Road Len (mts)	Prop ROW (mts)
	From	To		
1	Dhoran Khas	Dhoran Road	1200	24
3	Uttarigaon	Chaksaloniwala	1038	24
4	Jamoli Wala	Chandroti	657	24
5	IT Park Gate No 2	Kishanpur	1160	18
6	Sundhowali Dhokh	Kulhan Karanpur	605	18
7	Marotha	Nagal Hat Nala	578	18
8	Chialang	Kulhan Karanpur	2022	18
9	Kulhan Karanpur	Chialang	2008	12
10	Dom Gaon	Dom Gaon	1345	12
11	Daniyon Ka Danda	Union World School	1724	12

Source: Proposed Land use map Zone-5

## 5.7 Deviations

It is observed that below are the deviations found while preparing the ZDP existing land use maps when compare with approved Master Plan-2025. Below table shows the deviations on land uses.

**Table 17 : Table shows the land use deviations**

<b>Modified as per feedback</b>			
<b>Sln0</b>	<b>Master plan _2025</b>	<b>ZDP 2015</b>	<b>Remarks</b>
Z5-B1	24m Road (Abhimanyu Cricket Academy)	Road Alignment Changed As per Feedback.	Alignment changed as it is passing through Abhimanyu Cricket Academy
Z5-B2	24m Road	Road Alignment Changed	Alignment changed as it is passing through educational
Z5-B3	City Park	Residential changes incoroprated as per feedback	
Z5-B4	18m Road	Road Deleted	
Z5-B5	Public & Semi public	Educational & Residential	Bhagavathi International School Boundary shape changed as per Ground reality
Z5-B6	Commercial Area	Near Kandoli Village	Commercial area stretched in the mixed residential area by maintaining 150 m gap between as per mdda suggestion
<b>Road Deviations</b>			
<b>Sln0</b>	<b>Master plan _2025</b>	<b>ZDP 2015</b>	<b>Remarks</b>
Z5-C1	18m Road	Alignment changed	
Z5-C2	24m Road	Alignment changed	
Z5-C3	24m Road	Deleted	
<b>MMP</b>			
<b>Sln0</b>	<b>Master plan _2025</b>	<b>ELU 2015</b>	<b>ZDP 2015</b>
Z5-E1	City Park	Open Space	Residential, Park



## 6. ZONING REGULATIONS

### 6.1 Land Use Zoning Regulations

The Master Plan consists of the land use plan as well as the regulation as contained in this chapter. At the draft notification stage, the procedural aspects and the minor components such as the size of drawings and the number of copies of plan to be submitted etc. are omitted. The main provisions of the regulation are explained in a way that can be easily understood by the common man.

It is basic essential to control the constructed building and related activities under proposed different land-use to execute as per the embedded objectives in the Master Plan for the future development of Dehradun. The provision of different land use zone in Dehradun Master Plan has been done keeping in view its unique spatial position, expectations and desires of the running and future population. Only described use will be established in the reserved zone for different land use under Land use zone regulation. Essentially green area and a healthy mix of land use has been proposed along with provision of relevant use of residential, commercial, official, industrial and tourism related use.

The number of proposals made under each section in the report has not been totally converted into space requirement as the land parcel requirement of all this proposals may not become discernable on the map. The land use zones and different uses on each zone are included in the guidelines for implementation. Many of the important proposals particularly relating to residential services have been cost estimated and investment program has been worked out.

### 6.2 Suggestive Development Regulations

For the directed development in present city structure and future pattern total Master Plan area has been divided in eight main land zone where as for important use same zone has been subdivided and regional authorities has been formed keeping in view the permissible-main, relevant and restricted use. The permission for building construction in proposed land use in Master Plan on 24 metre or wider road will be allowed only after leaving aside 4.5 metre or forward set back, whichever is more. More over even on different routes where multi-level market patterns are there and the permission of mixed commercial and residential building's row are concerned, the provision of leaving aside 4.5 metre open area or least essential forward set back whichever is more will be mandatory. After ensuring this only compound wall of any building can be made.

### 6.3 Land use Zone Categories

1. Residential Zone
2. Commercial Zone (Retail and Wholesale)
3. Manufacturing Zone
4. Public and Semi-public Zone.
5. Entertainment Zone.
6. Transportation and Communication Zone (Roads, Railways, Airports and Bus Depots and Truck Terminals)
7. Agriculture Zone
8. Special area Zone (Tourist, Tea garden and Forests)
9. Others (Cantonment area and water Bodies).

Along with above described provision in different zone regulation land uses have been classified in generally permitted use (with relevant use) and those uses which are allowed after the permission of the authority only. After the permission of authority, different uses will be considered under Zonal regulation on the basis of optimum use on minimum land after fulfilling the parameters means there won't be any provision for relaxation. Hence under zone regulation construction and development activities will be allowed according to the permissible described land use only.

Different described activities proposed under different land uses in the Master Plan has been classified in, "permissible", "permissible after acceptance of authority board", "restricted". Below said land use class and their described provisions have been prepared on the basis of UDPFI guidelines.

#### 6.3.1 Residential

Residential area- (Primarily Residential Area, Mixed Residential Area, Unplanned/Unorganized Residential Area). As this zone is merged with hilly area in the North, it is low density zone.

##### **Permissible use**

Residential building, Group Housing, Guest House, Farm House, Hostel, Aanganwadi (child care centre), Middle Schools, Religious Compound, Ashram, Charitable Trust Building, Cultural building, Community centre, Toilet, Park.

In residential building professional office will be in maximum 20 square metre floor area

(such as doctor's clinic, architect, chartered accountant, technical services advisor or land lord's own office etc.) Professional office in residential building will be in maximum 100 square metre or 25 percent of FAR whichever is less and should be on 12 metre wide road in plain area and on 7.5 metre wide road in mountainous area.

Retail shops (maximum in 50 square metre floor area), bakeries and confectionaries, medical clinic and dispensaries, Nursing home up to 20 beds or health centre, yoga centre, health clinic, pathology collection centre.

Educational building (up to inter college), library, research centre;

Inspection building , hotel, commercial institute, club, technical training centre, exhibition, art gallery, should be on minimum on 18 metre wide road and in maximum 1500 square metre land area or permissible land coverage FAR in residential area whichever is less .

Weekly market, hawkers/vendors/thela market, Nursery, police chowki, taxi stand, tricycle auto stand, bus stop, community services and utilities related building ( except services and storage yards) fire brigades, water supply, electricity ,sewer management , telephone, ATM, post office etc. infrastructural facilities and corresponding building.

Impact fee will be 5 percent of the land use change fees of the plot area and imposed on Guest House, petrol-diesel filling station, commercial complex/multy-storeyed commercial building, Hotel with minimum plot area 1500 Sq.m.

### **Permissible after acceptance of authority /board**

Reception house, restaurant, auditorium, night house, petrol-diesel filling station, motor vehicle repairing workshop/ garage, in house industries (as per annexure-1) LPG gas agency;

On 18 metre wide road ,land piece having 24 metre frontage and more than 1500 square metre hotel, mall, lodge, physiotherapy centre, gymnasium / exercise work shop, yoga centre, primary clinic, bank, cinema hall, up to the limit as per considered land coverage or FAR or permissible land coverage in residential area or FAR whichever is less.

The market of retail things ,printing press, repair shop of house hold instruments, local bodies, state and central govt. and public sector offices, bus stand , sewage treatment plant / drainage, water treatment plant , cemeteries. Any corresponding utilization for residential use which is essential for the development of the area and is equivalent to any of the above use is permitted.

**Restricted use**

The Building height in these zones is restricted to 12 mts, as it is a hilly area. Harmful, Heavy, big and largely extended industries ware housing, godown of perishable items, inflammable items, harmful objects, go down pertaining to turnkey yard, bus trucks repairing related workshop.

Slaughter house, dairy farm, mini dairy, hatcheries, animal husbandries, solid waste disposal sites, whole sale market/mandi.

Sports training centre, stadium, shooting range, zoo, botanical garden, birds sanctuary, picnic spot; conference centre, addiction eradication centre, jail, child improvement home , hospital of infectious and mental disease, office and site of paramilitary force ,court, police line, forensic science laboratory , mortuary, post mortem house, crematorium, and other uses which is not equivalent to above described use.

**6.3.2. Commercial use**

Commercial uses will be classified under ,”permissible”, “permissible after acceptance of authority”, “restricted” such as retail market area ,commercial centre, whole sale trade and storage, use in mandi area etc.

**Permissible use**

Retail shop, bakery and confectionaries, shopping centre mall, multiplexes, local shopping centre, weekly market, hawkers, vendors, thela market, whole sale trade/mandi and retails shops are allowed along the road side with 20m depth from right of way or upto Single/Amalgamated Plot depth abutting the Master Plan roads.

In cases where portion of such Single/Amalgamated plot is falling outside the earmarked commercial zone but forms an integral part of a commercial building proposal, such non-commercial areas can be considered for commercial use after approval from Authority Board and payment of impact fee.

Commercial office, offices, bank and financial institution, trade and commerce centre, cinema hall, theatre, indoor stadium, auditorium, banquet hall, restaurant, hotel, guest house, residential building, group housing, boarding house, hostel; Information technology building, college, nursing home, medical clinic, diagnostic centre, pathology lab, research / training centre; Reception house, night house, library, religious site, art gallery, exhibition site, printing press, stock exchange, museum, police station, post office, bus stop, taxi stand,

parking site, multi-level parking, park and open area, playground, recreation centre; Post office, centre/state/local bodies' and public undertaking offices, telephone exchange, gas booking agencies, porting and down loading and uploading sites, weighing sites, cold storage. Fire brigade, water supply, electricity supply sewer management, telephone, ATM, infrastructural facilities and corresponding building; Filling and service station, godown and storage house/service centre/garage/workshop.

### **Permissible after acceptance of authority /board**

Polytechnic and higher technological institute, pollution less odor less light industries, ware housing, storage, godown of perishable items and inflammable substances, storage house, yard of coal, wood and timber, bus and truck depot, junk yards, railway yards, station, athletics, stadium, religious building and hospital, water treatment plant and construction related to public utilities. All those uses which is essential for the area development and is according to the commercial use but not equivalent to above described use.

### **Restricted use**

Heavy, harmful, polluting, industries with odour, extractive industries etc.; Poultry farm, animal husbandry, animal slaughter house, sewage treatment , dumping site, agricultural use, sand- gravel- stone quarrying activities, zoo, botanical garden, bird sanctuary, picnic spot; Game training centre, court, addiction eradication centre, jail, child improvement home, infectious disease hospital/research laboratory; Office of paramilitary force, forensic science laboratory and all other activities which are not equivalent to the above described use.

### **6.3.3 Industrial area**

Different uses will be classified in ,”permissible”, ”Permissible after acceptance of authority/board”, “restricted” under industrial use such as small and service industries, other industries and special industrial region, institutes in information technology etc.

### **Permissible use**

Industrial building, all the industries and information technology building / sites under permissible class, work related to public utilities, filling and service stations, parking , porting downloading and uploading sites, storage house, imperishable goods, nonflammable item's storage/depot, storage site and its corresponding use , cold storage, ice industries, gas godown, bus depot and work shop, cinema hall, park, health centre, restaurant. Impact fee on Cinema hall, hotel, convention center, commercial center, academic institution.

**Permissible after acceptance of authority/board**

Except godown of fast perishable goods and inflammable substance, harmful industries, junk yards; Electricity centres, taxi stand, transport city/ truck depot, helipad, gas storage, sewage treatment plant, sewage farm, oil and LPG refilling plant, service station, workshop/garage; Govt. /semi govt./ private business/ commercial offices, bank and financial institutions, hotel, convention centre, refreshment house; Stadium, playground, religious building, dairy farm, sand, gravel, stone excavation related work, cemeteries, hospital;

Under industrial site residential building of essential worker/watchman, recreation centre, commercial centre, academic institution and all other activities which is permissible and not equivalent to above described activities.

**6.3.4 Public and semi-public areas**

In public and semi-public land use zone (PS) govt. / semi govt. /public office, Govt. land (whose use is not defined) academic and research, health and medication, social cultural and religious utilities and services, crematory sites, cemeteries, and other such related use are considered and allowed.

**Permissible use**

Government office, centre, state, local and semi Govt., public undertaking offices, essential use for government offices; Middle Schools, college, universities and special academic institution, information technology building/site, research and development centre/institute, library; hospital, nursing home / health centre, medical store, clinic; social and cultural institution, social and welfare centre, religious building/site, building related to public use, community centre; habitat centre, convention centre, community centre, reception house; inn, museum, art gallery, exhibition centre, urban art, hawkers thela market, police station/ post, police line, jail, addiction eradication centre, child/women improvement house, court, fire brigade, and the related and subsidiary uses; Defence related site , bus /rail traveller terminal memorial, radio, radio wireless station , telecommunication centre, telephone centre, post office filling and service station; mortuary, post mortem house (dead body dissection house),cremation site/cemetery, solid waste dumping site (marked places in the Master Plan);

**Permissible after acceptance of authority/board**

In the site for the maintenance of public/semi-public activities, residential flats for essential workers and staffs, building and plots; special clinic, nursery school, polytechnic, cultural and

religious site;

Commercial centre, professional office (such as doctor, lawyer, architect, chartered accountant, office of technical services advisor), hotel and restaurant, guest house, hostel Welfare centre, amphi-theatre/open air theatre, playground, entertainment club, LPG gas godown, gas filling depot Bank, post and telegraph office, water supply centre, electricity supply centre, sewage treatment work, service station, railway station/yard, bus/truck depot, helipad, storage/godown, animal slaughter house and other public utility building/site Solid waste dumping site (marked at other places in the Master Plan) The uses corresponding to public and semi-public use which is essential for the development of the area and is equivalent to any of the above described use.

### **Restricted use**

Heavy and large and harmful industries, junk yard, whole sale trade market, servicing and repair workshop, agricultural production's processing and its sale related work, milk and poultry farm and all other activities which is not equivalent to above described use.

### **6.3.5 Entertainment use**

Under the entertainment use zone, playground/stadium/sports complex, park/garden/open public area, and in multipurpose open area below described use/activities are allowed.

### **Permissible use**

Local park, city park, playground, children park, botanical garden, zoo, aquarium, bird sanctuary, picnic spot, multipurpose special park, water park, amusement park, golf course, swimming pool, special entertainment and academic park, gymnasium, skating ring, planetarium, club, indoor stadium, outdoor stadium, shooting range, sports training centre, rope way terminal, library, public utilities and services such as police post, fire post, health centres for players/ worker.

### **Permissible after acceptance of authority/board**

In the site building according to main permissible activities, subsidiary infrastructure and the residence for the worker, staff and watchman for maintenance of entertainment related activities. Scooter / taxi parking, centre for temporary commercial purpose such as trade fair, theatre, circus and other exhibition centre. Public meeting hall, restaurant, Caravan Park, sports stadium, open air theatre. Other corresponding uses which is according to

entertainment use and is essential for the development of the area and is equivalent to any of the above described use.

### **Restricted use**

Any other construction in open area, which is not corresponding to the entertainment purpose. All other activities which are not equivalent to the above described entertainment use.

### **6.3.6 Transport and communication use**

Under transport and communication use road, rail, airport/ strip/helipad, bus depot ropeways , bus and truck terminal, transmission and communication services will be classified into , “permissible”, “permissible after acceptance of authority/board”, “restricted”.

#### **Permissible use:**

Road transport terminal (bus terminal and depot), goods terminal, rope way (along with terminal), parking area, necessary open area for circulation of vehicles, railway station, railway yard, ware housing, godown, airport/air strip/ helipad and corresponding establishment /building. Truck terminal, motor garage, workshop, filling and service station, denting and repairing shop and related services such as night house, boarding house, restaurant, booking office , construction related to transmission and communication, high tension line, wireless centre, radio and television centre, microwave station, weather station and related offices.

#### **Permissible after acceptance of authority /board**

Driving school, tourism agency office, retail shops, inn, motels, primary health centre and other use and activities which is relevant for transport and communication and residence of essential worker/ watchman for maintenance of corresponding services. Other subsidiary use to transport and communication which is essential for the development of the area and is equivalent to any of the above described use.

### **Restricted use**

All other activities under transport and communication which is not equivalent to the any of the above described use.

### **6.3.7 Agriculture and green zone**

Under the agriculture and green zone use cultivable area, orchard – garden, forest covered,



poultry and dairy farm, rural population, brick kiln, quarry region, water body, river/drainage, and below said use will be classified under , “permissible”, “permissible after acceptance of authority / board”, “ Restricted”.

**Permissible use:**

Single residential building inside habitation area boundary mentioned in the revenue records and daily use shops. Farm house and related buildings, agriculture, gardening, orchard, nursery, open picnic spot, wild life park/reserved forest, forest area, social forestry, dairy and poultry farm, animal husbandry , in house industries, storage , refining and selling centre, buildings related to public utilities and services, veterinary hospital. Impact fee on Eco-Resort, Motel.

**Permissible after acceptance of authority /board**

Agro-industries, brick kiln, sewage treatment work, electricity supply centre, sand, gravel, and stone related excavation work, polluting and harmful industries and their subsidiary service industries; Govt school, library, religious building; Slaughter house, repairing and servicing centre, saw machine; Milk freezing centre, pasteurization plant, food park (processing of produced objects, packing) grain mandi, fruit mandi, Hospital for infectious and mental diseases; Shooting range, zoo/zoo-logical park, botanical garden ,amusement park, vocational training center, cold storage, ware housing, godown, storage of explosive and inflammable material; Filling and service station, bus depot and work shop; Eco resort, motel, golf course, sanatorium;

All other use which is according to agriculture and green zone use and is essential for the development of the area and is equivalent to any of the above described use.

**Restricted Use:**

Residential building heavy and harmful industries except agriculture and related use and those activities which is of objectionable and all other activities under agricultural use which is not equivalent to all of the above described permissible use.

**6.3.8 Special Zone****a) Tourism Zone**

According to the specialties’ of the hypothesized planning area in the Master Plan, special marked area under different use zone can be classified as conservation area, legacies, area of scenic importance. Building /sites of historical, legacy and archaeological importance and

natural sites of visual and scenic importance needs to be conserved maximum possible without any disturbance. At the same time encouragement of tourism activities in this region needs to be kept in mind.

**Permissible use**

Tourist residence, Cottages, lodges, rest house, camping, hamlet huts, youth hostel, motel, hotel, mall, multiplexes, shopping area , spa, urban art, craft art centre, tourist village, sell and exhibition site, planetarium, aquarium, community building, cultural building, park, playground, science and adventure park, amusement park, museum, golf club, club house, gymnasium, skating ring, boating club, theatre, tracking institute, art gallery, yoga and health centre, bank, primary health centre, taxi stand, bus depot, rope way, parking, music centre, tourist office, transport booking centre, travelling agency's office, artificial water body. Impact fees on Hotel, Mall and Multiplexes.

**Permissible after acceptance of authority/board:**

Radio broadcasting centre, television studio and sound recording and dubbing studio, filling studio, water and electricity distributing office, information technology related building , telephone centre, post and wireless house, police check post. The uses according to the tourism which is essential for the development of the area and is equivalent to any of the above described use.

**Restricted Use:**

All other use under tourism use which is not equivalent to the above described permissible use.

**b) Tea Garden:****Permissible Use:**

Tea garden, garden, nursery, gardening, afforestation.

**Permissible after acceptance of authority/board:**

Tea processing building, maximum land coverage 250 square metre along with height of pitched roof up to 12.5 metre. Other corresponding uses which is essential for the development of the area and is equivalent to any of the above described use.

**Restricted Use:**

All such activities under tea garden use which is not equivalent to any of the above described

permissible use.

**c) Forest**

**Permissible Use:**

Retaining wall, breast wall, Plantation, nursery, social forestry, park, garden, Green buffer along patches of forest for permitting passive activity.

**Permissible after acceptance of authority/board:**

Development work related to land conservation, area for tourism development , charming sites, wild life sanctuary, picnic spot, camping site, development of scenic sites temporary building material, shelters for tourist made up by light weight building material, huts, construction of refreshment house, construction of footpath and roads, electricity, water supply , sewer, line or pipe laying for telephone.

Before taking the permission of the above said work no objection from forest department will be mandatory.

**Restricted Use:**

All other activities under the forest which is not equivalent to any of the above described use.

**6.3.9 Other Zones**

In cantonment and water bodies use are permitted in the zone.

**a) Cantonment:**

**Permissible Use/Activities:**

Cantonment area precincts it is necessary to obtain specific clearance from cantonment board, after consultation be cantonment committee before undertaking certain kinds of development and re development as specified in zoning regulation, or issued as specific guidelines. The Regulations allow special exemption from land use controls in the interest of cantonment.

**Restricted Use:**

All the developmental activities are prohibited in this zone.

**b) Water Bodies**

Water bodies Zone generally indicates all existing water rivers, lakes, tanks and kuntas as indicated in the topographical sheets published by the Survey of India, the State Irrigation Department or revenue or other competent authorities. The boundary of the water bodies relate to the Full Tank Level as indicated in relevant maps, covering both perennial and non-

perennial parts when such distinction exists. In Water Body zone no constructions is permitted in the water-spread and the buffer belt of minimum 30 metre around the FTL and maintain the 5 m green area of either side of the Major river/stream/canals and 3 m Green are of either side of minor river/stream/canals for permitting passive activity. The only exception is fishing, boating, and picnics along the banks. The only construction allowed is open to sky jetties for boating, platforms for fishing and rain shelters and snack bars each not exceeding 10 Sqm in area not exceeding four in numbers around one water body.