CONTENTS

List of Tables

List of Figures

ABBREVIATIONS

ADB	Asian Development Bank (ADB)
ASI	Archeological Survey of India
BOT	Build Operate Transfer
BOD	Biochemical oxygen demand
CBD	Central Business District
CDP	City Development Plan
CMP	City Mobility Plan
CNG	Compressed Natural Gas
CSS	Centrally Sponsored Scheme
DPR	Detailed Project Report
ERA	Economic and Reconstruction Agency
FSI	Floor Space Index
GSDP	Gross State Domestic Product
HFL	High Flood Level
JDA	Jammu Development Authority
JMC	Jammu Municipal Corporation
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
LAC	Land Acquisition Committee
LPA	Local Planning area
LPCD	Litres per Capita per Day
MGD	Millions of gallons per day
MLD	Million litres per day
MoUD	Ministry of Urban Development
MSL	Mean Sea Level

NBC	National Building Code
NH	National Highway
OG	Out growth
OHT	Overhead Tank
PWD	Public Works Department
ROW	Right of way
RTO	Regional transport Office
STP	Sewerage Treatment Plant
SWM	Solid Waste Management
TDR	Transfer of Development Rights
TOD	Transit Oriented Development
UEED	Urban Environmental Engineering Department
UFW	Unaccounted-for water
URDPFI	Urban and Regional Development Plan Formulation and Implementation
WFPR	Work Force Participation Rate

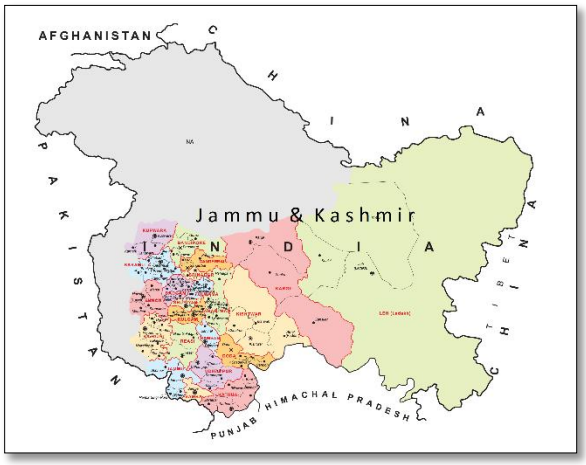
1. INTRODUCTION

Jammu and Kashmir is the northern most State of the Union of India situated amidst the Himalayan Mountains. The State has unique geographical, climatic, environmental characters and natural features like the rivers, lakes, glaciers, plateaus and valleys. Jammu and Srinagar are the two capital cities— while Srinagar is the Summer Capital, Jammu is the winter Capital of the J&K state.

The city of Jammu is also known as the 'City of Temples'. It is believed that Raja Jamboo Lochan originally founded the city in the 14th century B.C eventually, which came to be known as "Jamboo" after his name. The name was later distorted to Jammu as it is called now. The Jammu city actually took shape in 1962 and its municipal limits were extended on both banks of the river Tawi over an area of 16.87 sq. km. which increased to 112 sq. km as per Master plan 2021.

Jammu has a planning legacy which dates back to early 1970s when the first Master Plan was prepared in 1974. The Master Plan was remodeled to meet the changing needs and aspirations of the city planning in 1994. Due to large migration from Kashmir valley, which took place from 1989 onwards, the city's scenario changed drastically. Hence, the Master Plan was remodeled to meet the changing needs and aspirations of the city in 1994. In the process of city planning, it is vital to review the Master Plan presently in vogue. An insight into the successes and failures is imperative for drawing up the appropriate lessons. The implementability and operational difficulties to regulate growth and development is also likely to get manifested from a comprehensive review of the master plan proposals. During the last decade, large influx of pilgrims to Sh. Mata Vaishno Devi and Shri Amarnath Yatra has been observed, thus increasing the demand for residential, commercial, recreational development and transit facilities in the city. It has also added dynamism to city which warrants channelization of urban growth in a planned manner.

Figure 1-1: Location of J&K State in India



Source: Census of India, 2011.

For purposes of understanding the fallacious and reasons of tardy implementation of the Master Plan, a detailed review of the Master Plan Jammu-2021 has been carried out to find out a way-forward for conceiving the Revised Master Plan of Jammu for 2032. The document is an overall

blue print for planned development of Jammu Local Planning Area-2032. Further, based on existing analysis detailed proposals have to be drawn out for physical and social infrastructure facilities along with detailed landuse analysis.

1.1 Review of Earlier Master Plans

1.1.1 Master Plan Jammu (1974-94)

Jammu city had its First Master Plan (FMP) approved in 1978 for a plan period of 20 years from 1974-1994. The Master Plan had inherent drawbacks of time span, and its approval in 1978 has created a planning vacuum of four years regardless of the implications of estimates, projections and proposals on the operation and success of the Master Plan. Regardless of solving some city problems due to inherent drawbacks, the Master Plan remained merely a sprawling improvisation of failed legacy of plan as it did not encourage implementation on account of host of issues. The various issues which could be spelt out include unprecedented growth of population, encroachment on Nazool land, non-implementation of zonal plans, gross violation of prescribed landuses, non-availability of serviced land for housing, poor enforcement of development controls and zoning regulations, absence of unified control and lack of timely review.

Being a perspective plan, the life span of the first master plan expired in 1994. JDA meanwhile though initiated the process of revising the Master Plan-1994 in 1989 as provided in the Jammu and Kashmir Development Act-1970 for its continuity but it unfortunately did not materialize up to 2001 creating another planning vacuum of seven years which made the growth of city virtually directionless and highly informal.

1.1.2 Second Master Plan -2001-2021

The formulation of the Second Master Plan (SMP) for Jammu which is presently in vogue actually initiated in the year 1989 when the consultancy services of Town and Country Planning Organisation, Government of India, New Delhi were requisitioned. The Second Master Plan was completed by the Consultants around 2003 and was approved in 2004 almost after a gap of more than a decade since initiating the process. The plan which was to be framed for a period of 20 years was cut short of perspective period and planning procedure, itself involves significant aberration in the planning of Jammu city. The delay in the preparation and approval seems to have not been noticed by anyone. In true sense Jammu city has enjoyed a plan holiday from 1994 to 2004 which has no parallel in the city planning. The city was either regulated on the basis of policies enunciated in the outlived Master Plan of 1974-94 or was essentially let loose to the vicious urban forces. The ramifications of such a fallacious approach towards the city have resulted into discordant and unplanned growth of Jammu. The Master Plan of Jammu (2001-2021) has been recast to meet the changing local needs and aspirations of the people. The Consultants conceived the Master Plan 2001-2021 for an estimated population of 19.29 lakh indicating quantum jump in its size, share and status. Basic postulates of Second Master Plan-2021 taking into consideration the size of population were;

i) Jammu to be planned in its regional context stressing on location, linkages, phenomenal population growth and urban sprawl is poised to become an important regional center;

ii) Maintaining of ecological balance;

iii) Declaration of old city as special zone;

iv) Decentralization of core activities (CBD functions)

v) Preservation of heritage

vi) Remodeling of mass transportation system of the city urban development to be low rise medium density and hierarchical;

vii) Organisation mechanism for bringing effectiveness in implementation through single window system.

A detailed introspection of the enunciated proposals of the JMP-2021 indicate that the postulates laid as foundation for conceiving the Master Plan have merely remained utopian and have not been tried to achieve in the planning proposals. These have more or less proved as theoretical elaborations and have not in reality been tried to realize. Some of the broad features of JMP-2021 are:

Designation of Special Area

The Master Plan-2021 has designated the core of Jammu city Jammu as a 'Special Zone' and has allowed mixed land use in it. In order to keep the core city vibrant and ensure it does not confront the problems of urban decay, the Master Plan had missed to provide specific development control regulations to discipline the growth in the Special Zone. It had made the regulation of activities too vague leaving scope for many grey areas. Absence of building regulations has made interpretation of land uses very open ended defeating the very purpose of declaring the old city Jammu as Special Zone has been diluted.

Designated Roads

The JMP-2021 had also proposed all the Roads with ROW more than 40 feet as designated Roads permitted for mixed landuse without specifying the nature and extent. However, no detailed mixed landuse policy had been provided to support the proposal. Dimensions of mixed development were not made clear which made it too loose. Earmarking designated uses should have been carried out on the basis of Right of Way and nature of Roads so that ill effects of the jumble of activities which came up along these Roads did not affect the mobility on these Roads.

Lack of Zonal Plans

The JMP-2021 had divided the Local Planning Area of the Jammu into ten Planning Divisions with a purpose to sustain and harmonise the development. However, the micro level plans i.e. Zonal Plans and the Development Plan for Special area as recommended in the JMP-2021 were not framed which has left the city development at the mercy of normative proposals making city growth unbridled in nature.

Change in Building Lines

Building lines prescribed in the Master Plan 1994 were changed in the Master Plan-2021 for a number of city Roads which has rendered the legitimate development already permitted along such Roads as an aberration and violative in nature without understanding the importance of continuity of planning proposals in the overall master plan process. These utopian ideas away from ground realities pointed finger towards the efficacy and relevance of Master Plan proposals.

Discrepancies in Landuse Plan

The JMP-2021 in many areas of Jammu city had not have taken cognizance of the prevailing land uses which led to the incorporation of wrong details and conception of landuse plan with inbuilt discrepancies and ambiguities. For example Channi Rama, Suriya Vihar/ Durga Nagar, Mattoo Colony, South X, a colony developed by the Housing Federation etc. were shown as green areas despite these being the existing residential areas. Warehouse/ Nehru Market up to Tawi Bund was proposed as residential whereas the area was an existing commercial area. Similarly, the Kanak Mandi area was also proposed as green area without realizing the historicity and the economic importance attached to it for the core city. Depiction of residential area as defence use at Kalu Chak, Greater Kailash, Chowadi, Birpur, Sunjwan and other areas are other examples of landuse discrepancies. These aberrations were to be removed to make city functional and planned.

Eco–preservation of Natural Drainage/ Channels/ Hill slopes

Jammu city's topography is characterized by innumerable natural drainage channels or seasonal rivers dominating its landscape. Since the city exists in the foot-hills of Himalayas on east side, the conglomerate of small boulders with silt often gets carried away by the incessant rains causing heavy damage to the services and infrastructure. Besides, there are extensive forest areas which hold significant importance for the city environment.

Due to rapid urban growth, hill slopes as well as forests have been encroached with serious implications on the ecologically fragile areas. The drainage channels have fallen prey to the accelerated urban growth for there has been no standardized regulations provided in the Master Plan-2021 to regulate development in their vicinity.

These drainage courses are of critical importance for the city of Jammu and need to be preserved as viable element of its planned development. Their importance can hardly be underscored in view of the recent wide spread destruction caused by the floods.

Lack of provision of services and amenities

The Master Plan Jammu-2021 had also not made appropriate provisions for the amenities and services; as a result, most of the new areas of the city are devoid of such essential requirements of life. In most of the new areas quality of life is depressingly low which has to be addressed in the revised Master Plan-2032.

Conservation and Urban Regeneration

The Master Plan-2021 had envisaged urban regeneration of Jammu core city on the one hand and allowed it to be developed as mixed use zone by designating it as a Special Zone permitting wide range of competing urban activities which defeated the idea of conservation and regeneration. Also the plan had not tried to achieve the much needed urban regeneration, and the idea remained merely utopian without any way forward accomplishing it. The revised Master Plan Jammu-2032 would require dealing with this issue in a realistic manner so that cultural and natural heritage of the old city is preserved and the glory of the historical areas is safeguarded.

Institutional and legislative Framework

The Master Plan-2021 completely lacked in to give consideration to the institutional requirements, resource mobilisation, legislative reforms etc to guide and channelize this new stage of urban development. The city in the absence of appropriate mechanism has not only made the implementation tardy but in the process has added to its problems.

Unauthorized and Illegal Constructions

The steady trend of migration from rural areas around Jammu to main city, breaking up of the joint family system, rising per capita income and mass migration from the Valley to Jammu resulted in the mushrooming of colonies on the periphery of the city. A large number of plots in these colonies are so small that they do not have enough land for the prescribed setbacks. Due to the demand for rental properties, additional stories over the existing buildings have been added.

The zonal plans and other proposals could not take off as JDA did not undertake land acquisition. The city does not follow the tradition of land pooling mechanism. As a result only 10-15% of the proposals could be implemented over a period of time which undermined the physical environment.

The inherent aberration in landuse of the Master Plan-2021 on account of out-dated data inputs used as bases for the formulation of Master Plan vitiated the Master Plan objectives. The plan also lacked the realistic vision, policy directives, realistic targets, continuity in planning, zonal plans, private initiatives and involvement and participation of stakeholders at every stage of planning and implementation strategy. As a consequence, Revision of the Master Plan has been necessitated for the Jammu city mainly to look into the inadequacies of the JMP-2021 and growing requirements of the city due to its prominent increase in population, areal expansion and challenges ahead.

1.2 Objectives of the Jammu Master Plan-2032

The primary objective of the Revised Master Plan is to develop spatial decision framework, which can support urban and economic growth with adequate infrastructure development, in conformity with existing natural resources, land utilization and ecological aspects. The specific objectives of the study are to:

- Carry out existing situation analysis and prepare a base map for the planning area;
- Revision of Jammu master plan-2021.

- Formulate Development Control Regulations; and
- Prepare project implementation strategies

1.3 Proposed Local Planning Area under Revised JMP-2032

With rapid pace of urbanization and development of economic activities in Jammu, the city's influence has been increasing in range and impact. Growth of Jammu Urban Agglomeration (7.05 lac[1]) has been very fast which can be adjudged from the trend of decadal change in the urban population in its adjoining tehsils. Many villages in Bishnah, Samba, RS Pura and Jammu tehsils have already been engulfed by the sprawl of Jammu city. In view of the large horizon period upto year 2032, the projected population growth cannot be limited to the existing boundaries; hence limits to contiguous areas of Jammu & Samba Districts.

The proposed Jammu LPA-2032 spreading over an area of 652.33 sq. km includes 355.113 sq. km of Net-Proposed Area (54.43%) and 297.217 sq. km of Undeveloped Area (45.57%) includes the whole Municipal Corporation of Jammu, Municipal Committees of Ghomanhasan, Bishnah M.C, Bari Brahmana M.C and Vijaypur. Total villages included in JMP are 324 which also include 103 villages of extended local area of JDA (Notified vide SRO no. 83. Dated 9th March, 2016.)

[1] Figures for 2011 were collected from Census Department Jammu

Table 1-1: List of Villages notified as Extended Local Area of JDA vide SRO no. 83. Dated 9th March, 2016.

Sl. No.	Name of a Village	District	Sl. No.	Name of a Village	District
1	Chak Daulat	**Jammu**	32	Chak Jafar	-do-
2	Dhami	-do-	33	Chak Mahani	-do-
3	Kahliyan	-do-	34	Gurha Singo	-do-
4	Ram Bagh	-do-	35	Harsch Tokriyan	-do-
5	Dond Pur	-do-	36	Yaswan	-do-
6	Khandwal	-do-	37	Paryal	-do-
7	Laliyal	-do-	38	Sama Chak	-do-
8	Mokhra	-do-	39	Gho Manhasan	-do-
9	Bhadur Khan	-do-	40	Hari Pur	-do-
10	Nougaran	-do-	41	Karlup	-do-
11	Sikander Pur	-do-	42	Rattan Pur Gurdyal	-do-
12	Sultan Pur	-do-	43	Kangdel	-do-
13	Chak Sardar Desa Singh	-do-	44	Chak Abtara	-do-
14	Kotli Charkan	-do-	45	Chak Mian Sahb Singh	-do-
15	Prithvi Pur	-do-	46	Jhumian Jattan	-do-
16	Khwas Khan	-do-	47	Khairi	-do-
17	Bhan	-do-	48	Khojpur	-do-
18	Darap	-do-	49	Ratnal	-do-
19	Bhalwal	-do-	50	Chak Mian Sukha Singh	-do-
20	Nand pur Rakwala	-do-	51	Chak Murar	-do-
21	Sapuran Pur	-do-	52	Baag Jhogian	-do-
22	Prahlad Ppur	-do-	53	Bishnah	-do-
23	Karpal Pur Charkan	-do-	54	Chak Bana Brahmana	-do-
24	Mandal	-do-	55	Chak Bhana Jattan	-do-
25	Chak Nuiade	-do-	56	Chak Qadar	-do-
26	Chak Hira	-do-	57	Chak Subha	-do-
27	Baran	-do-	58	Dulehan	-do-
28	Kheri	-do-	59	Fatwal	-do-
29	Nandni	-do-	60	Jhomian Brahmana	-do-
30	Chak Dina	-do-	61	Jindor Khurd	-do-
31	Rattan Pur Paras	-do-	62	Kanhal	-do-

63	Mohammadpur	-do-	84	Gho Manhasan	-do-
64	Mujua Lakhmi	-do-	85	Rada	-do-
65	Atmapur	-do-	86	Radi	-do-
66	Ban Sultan	-do-	87	Rakh Abtal	-do-
67	Tindey Kalan	-do-	88	Rakh Rada	-do-
68	Khalas	-do-	89	Vijaypur	-do-
69	Kharian	-do-	90	Palli	-do-
70	Langotian	-do-	91	Chak Bana	-do-
71	Rattian	-do-	92	Chak Salarian	-do-
72	Chak Alwal	-do-	93	Kandal	-do-
73	Darso Pur	-do-	94	Burj Sheru	-do-
74	Gazian	-do-	95	Rattanpur	-do-
75	Kotli Mian Fateh	-do-	96	Langthat	-do-
76	Malik Pur	-do-	97	Basi Khurd	-do-
77	Tutrey	-do-	98	Makhu Mera	-do-
78	Makhan Pur Gojran	-do-	99	Kerali Kalan	-do-
79	Maralian	-do-	100	Bandhral	-do-
80	Badali	**Samba**	101	Dwal	-do-
81	Chak Bagian	-do-	102	Gho Brahmana	-do-
82	Gadwal	-do-	103	Chak Hira	-do-
83	Ghagour	-do-			

2. JAMMU CITY- A PROFILE

Jammu district falls in sub-mountainous region at the foothills of the Himalayas. The Shivalik range rises gradually in the north part of the district and merges with the Indo-Gangetic plains in the south. The district comprises of four tehsils i.e. Jammu, R.S. Pura, Akhnoor and Bishnah. The entire district can be divided into two distinct parts. The area forming north of Jammu-Akhnoor Road and Jammu-Pathankot Road, also known as Kandi area, is comparatively under-developed and is mostly rain fed. The southern part of these Roads is largely fed by canal and tube wells for irrigation purposes and is relatively more prosperous. The details of the Jammu district have been described below.

Jammu is located at 74º 24' and 75º 18', East longitude and 32º 50' and 33º 30' North latitude. It is situated on the bank of river Tawi. Jammu city is at an elevation of 1,030 feet above the mean sea level. It is located on the National Highway–44 to the North-West of Delhi. Due to its locational advantage, Jammu has assumed importance as a transit place as it is located at the vertex of linkage corridors to Rajouri, Poonch, Kishtwar, Doda and serves as the gateway to Kashmir Valley, Ladakh and pilgrim places of Sh. Mata Vaishno Devi (Katra) and Shri Amarnath shrine (Pahalgam).

2.1 Historical Development of Jammu City

Genesis of Jammu City has been collected from historical records, listed in a chronological order at annexure 'A' and presented graphically in the Evolution Map of Jammu City. The periods of development of the city have been broadly grouped in to:-

a) Traces of development in Ramayana's period.
b) Raja Bahulochana's and Jambulochana's period.
c) Growth of the city from 9th Century A.D to early 19th Century A.D.
d) Growth of the city during the Dogra Rule.
e) Development of the city in post-independence period.

2.1.1 Ramayana's period

Narsingh Dass Nargis, the author of "Tarikh-i-Dogra Desh" has termed Pirkho as old as Ramayana. Pirkho according to him was a sacred cave of Hindus on right bank of river Tawi.

2.1.2 Bahulochana's and Jambulochan's period.

The first recorded history "Raj Tarangni" does not make any mention of Jammu as a city or settlement. According to Sofi, the author of "Kashir", Vayusarva S/o Raja Agnivarna (then Raja of Parol) first extended his territory from Kathua to foot hills of Jammu Tawi, but there is no mention in his book that Jammu existed as a city or a settlement at that time. He attributed the existence of a fort at Bahu to Bahulochana, who was the son of Raja Agnigarbha-a Raja fifth in succession after Raja Vayusarva. This indicates that there was no settlement as such on Tawi on its right bank in the period of Bahu-Lochana. After his death his younger brother Jammbulochana founded Jammu on right bank of Tawi, which he first named as jambupora .In his book "KASHIR"

Sofi traces the reign of Jambu lochana from Hutchinson and Vogel's history as in 900 A.C, but Moulvi Hashmat-ullah Khan Lakhnavi in his book "Mukhatsar –Tarikh", Kahan singh Billawaria in his book "Tikarh-i-Dogra Desh" have testified that Jambulochana has ruled Jammu in about 1350 B.C.

The legendary story of the Goat, Lion and a pond attributed to Jambulochana and the origin of Jammu City has significance in so far as the site of pond is concerned. The pond should have formed the nucleus of Jammu city, as the original settlements of Shivalik hills have grown on nallah banks and around natural ditches.

Narsingh Dass in his book " Tarikhi Dogra Desh" states that there were six big tanks in old Jammu .A base map of Jammu city prepared in 1903 by Shri B. R. Sawhney , the then President Health Officer of Jammu Municipality indicates existence of 5- no. tanks , one each at Karan Nagar , New Secretariat, Old Secretariat ,Rani Talab and Mohalla

Kalithian. The one at Khatikan – Talab was obviously filled up sometime between 9th Century A.D to 18th Century A.D.Out of all these tanks, Talab –Khatikan falls nearer to Purani Mandi which owes its origin to Raja Jambulochan and physically approves of the origin of jambulochana's city somewhere in this area within a radius of about 1,000 feet from Talab-Kathikan closer to River Tawi at a commanding site

2.1.3 9th Century A.D to 18th Century A.D

Growth of the city in pre-medical period, include Roshan Wali Shah's shrine in 9th century A.D and the temple of Parmeshari Devi at Paki Dhaki built in 1094 A.D. In medieval period structures like the Rampart was built around old city punctuated by Gumat Gate on west, Dennis Gate on south west and Jogi Gate on south side of the city respectively .Baradari in Puranimandi and the stone at Kalijani during Raja Maldev's period (1360-1410 A.D).Ramnagar fort during Raja Kapoor Dev's period (1530-1550 A.D),mosque at Bahu during Jahangir's period (1605-1627 A.D) and Nanki-di-samadhi and Bawli during Raja Hari Dev's period (1610-1657 A.D) have come up and the city has expanded around such structures over a period of three centuries.

The layout of lanes of the area lying between Puranimandi and Roshan Wali Shah's shrine is medieval in character. Although Jammu city is not completely a walled city, the rampart around the city-in part can well be identified as defensive measure characteristic with the development of medieval period, made by some raja who has built it. On other sides of the city where walls are not built the precipitous topography of the land has been obviously been relied upon for defence purposes. Narrow alleys open in most parts of the city into well-formed squares-living examples of which are found at Puranimandi, pucca danga, Fatuchogan, Jain –mandir chowk and many places in the interior of old city. The layout indicates that there has been a deliberate effort on the part of someone to plan the old city initially in an orderly manner. The lanes and drains have been combined and intestines of the city (drains) have not been allowed to get choked.

During early renaissance period not much physical expanse of the city appears to have taken place, for the history reveals that only mohalla Afgana was built for Muslims in 1725 A.D. Mastgarh mosque and fort owe their existence to early 19th century A.D.

Fredric drew who visited Jammu in 1862 in Maharaja Ranbir Singh's period puts the physical form of the Jammu city in his book " Jammu and Kashmir Territories" in the following words :-

"After passing the entrance we advance on a more level ground along a wide street or Bazar which gives a promise of a comfortably built town but a little farther and one suddenly becomes lost in a maze of narrow streets and lanes of low single storeyed houses and little narrow shops. The way is crowded and business is brisk and most of the people have a very well to do look .A mile or so of this on a gradual rise brings us to Centre of interest of the place at an open irregular square called the mandi or public place. Mandi spot of all Government business surrounded by Government Buildings on three sides' public offices built with considerable taste. All the city is single storeyed houses, but there rise among them a few large houses what may be called mansions, which have been built by some of the Court people or of the richer merchants of the place. At one edge of the town in a picturesque position overlooking the river valley or a few houses built after the fashion of those that Englishmen live in India. These, the Maharaja has erected for the accommodation of European travelers, whether stray visitors or guests of his own who now and then reach Jammu."

2.1.4 Dogra Rule

Dogra rule started in 1846 with Maharaja Gulab singh as the first ruler of Dogra dynasty. During his period buildings like the old secretariat complex at a comminding height, and temples of savtri and Devi Trikuta on the slops of Jullakha mohalla on looking Tawi River have been constructed.

The city transformed from medieval character to feudal system with the seat of the Government at the highest commanding point, nobles lying in the close proximity of the palace, Agora- the market place at the centre and the lowest class of the society towards the outskirts.Maharaja Ranbirsingh (1857-1885 A.D) contributed in building temple complexes at different places in the city- Raghunath temple, Gadadhar's temple, Maha Luxmi temple,Hanuman temple, Luxmi Narayan temple at Dhaki- Sarajan,Baldev ji's temple at Dhounthly have given a vertical from to jammu city which to this date dominate the city structure as a whole. In fact the Jammu city is still remembered as the city of temples.During the period of Maharaja Ranbir Singh a settlement near Satwari appears to have also grown across Tawi on its left bank where during his rule temple namely Ranbirnath was constructed.

The growth of the city has taken fillip during Maharaja Partap Singh's period (1885-1925 A.D)- Tawi Bridge, Mission House, Ranbir Public Library, Mission School, Military Hospital, Prince of Wales Collage (now G.G.M Collage) Dak Bungalow at Residency Road,Silk Factory, Sardar Hospital, S.R.M.P. High School, Leper Asylum are his contributions to Jammu city. Besides,this magnificient achievements in respeof physical development of the city, he has added to its infra-structure on modern lines, dug the famous Ranbir canal, constructed the power house on the canal, installed the pumping stations at Tawi,supplied the piped water to the city and

constructed the Banihal Cart Road connecting the two capital cities of the state. Temples of Luxmi Narayan at Panjtirthi and temple Radha-Krishan at Paki- dhaki have also been added to the cityduring his regime.

The physical character of the city has considerably improved in its lateral form by construction of new roads and provision of infrastructure. This sort of compressive layout of infrastructure appears to have necessitated formation of a municipal government and therefore a municipal system has taken into capital cities of the state during his period. The then municipal president Mr. B.R. Sawheny has, it appears, made an attempt on drawing up a layout plan for housing colony in Roulki indicating regular plots, grid-iron pattern of road system, and open spaces. The feeling of planned development of the city has thus originated in Jammu right with the origin of Municipality in the rule of Maharaja Pratap Singh. But such an attempt has not materialized.

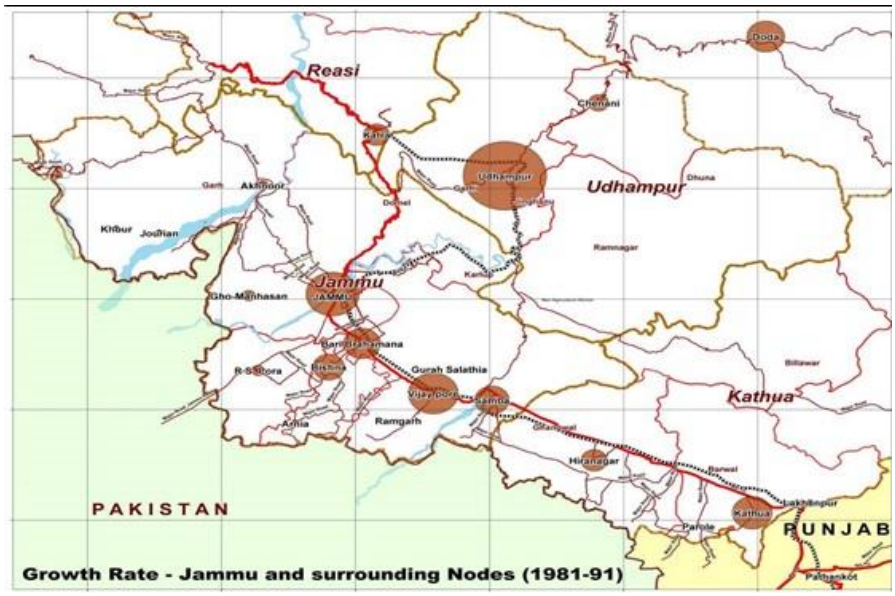
Development in the Maharaja Hari Sing's period indicate that his attempts of extension of city were, inter-alia, oriented towards expansion of industry and provision of infrastructure and community facilities. Construction of Uttam Flour mill, Drug Research Laboratory, Cold Storage and general Mills are among his contributions towards industrial development in Jammu city. In his period Aerodrome at Satwari S.M.G.S Hospital and reservoir at Parade Ground were constructed.

The city within its Municipal limits is spread on both banks of river Tawi over an area of 16.87 sq. Kms as per Revenue records. Urban Conurbation around municipal limits have spread in all directions which has warranted delineation of the local area extending upto village Keran, Chenur and Gurha Brahimna in the north; villages Chak-Kalu Babiliana Bhor and Chetta in the south; village Bahu, Chani Rama and Thangar in the east; and villages Patoli- Brahmna, Barnai, Muthi, Bagh Huzori, Chak Ghulami, Gol and Rakh Raipur in the west.

2.2 Regional Connectivity

Jammu city is well connected with other parts of the States and adjoining areas through Road, rail and air network. It is connected to Srinagar by Road and air. Jammu-Tawi railway station is located at 2 km from city centre; the railway station connects the state with rest of the country. Some of the important trains plying to and from Jammu Tawi railway station are Jammu Tawi Express, Shalimar Express, Jhelum Express, Andaman Express and Amarnath Express, etc. Close to the railway station is the bus stand, which offers bus services for various destinations within and outside the state. Jammu airport connects to places like Srinagar, Leh, Delhi, Chandigarh and Amritsar. The city is approximately 600 km away from the National capital (Delhi) and about 290 km from summer capital (Srinagar) of the State. It connects with all parts of J&K as well as with other major cities/towns of Punjab & Himachal Pradesh. The city has a good Road network which is used by state transport buses or private luxury coaches. Being located enroute to the Shri Mata Vaishno Devi Shrine, Holy Amarnath Cave, scenic spots in the Pirpunjal range, the Kashmir Valley and Ladakh, it has attained the status of a transit city of immense transit character.

Figure 2-1: Growth Rate of Jammu and Surrounding Nodes (1981-91)



2.3 Regional Population Distribution

The nature of where and how people live has a profound impact on the well-being of individuals, households and communities, and their ability to participate in, and make a contribution to society. Cities are integral to our economy and our future prosperity. They support and rely on our regions. A positive future for our cities is important for the future of our regional areas. According to the Census of India 2011, the J&K State having population of about 12.5 million is the 19th most populated state in India. The state is spread over an area of about 2, 20, 000 sq. km. making it the 10th largest state in the country in terms of area. Out of total population of Jammu and Kashmir, 27% people live in urban areas.

The urban population in the last 10 years has increased by 36.42% which is higher than 19.42% decadal growth rate in case of rural areas at the State level. While Jammu Region is having 26% of the State's total geographical area, it accounts for 55% of its total population load. In the Jammu Region, Jammu District has the highest share of population followed by Udhampur-located on the north eastern side of Jammu and Kathua-located in the south west in the Jammu and surrounding nodes. Among settlements in the region, the highest decadal population growth rate has been observed in Lakhanpur during 1971-81 and the highest population density has been observed in Ranbir Singh Pura. In the Jammu Province, Jammu city has attained the status of a primate city constituting around 64% of total urban population of the region in 2011.

2.4 Physiography

The Jammu City falls in the Sub-Himalayan region divisible into two physiographic units; the Outer Plains and the Outer Hills of Shivaliks.

Outer Plains: The altitude of this tract varies from 280-400 above MSL. The outer plains lie parallel to the mountains in Jammu. The lower slope of Shivalik hills having an altitude of 320-400 MSL constitute Kandi area, which is formed due to the reworking of upper Shivalik boulder beds. This region is characterized by thirsty soils, very deep water table and acute shortage of water. Every shower of rain deprives the soils of its clay contents and more and more pebbles, boulder beds are exposed due to rampant erosion. The areas including Gandhi Nagar, Shastri Nagar, Sanjay Nagar, Satwari, New plots, Patoli, Paloura, Railway Station and University Campus fall within Kandi belt. For most of the year, these ravines, locally called Khads are transformed into gushing torrents. The areas located on left bank of River Tawi and area between Jewel Chowk and Bhori (Talab Tillo) on the right bank of River Tawi fall in the outer plains of Jammu.

The Khads are important geographical feature dominating the landscape of Jammu city. The Khads comprise major streams, ravines, rills and gullies emerging from these mountains along with the adjacent areas in their proximity. They run across and dissect the Jammu LPA into a series of sub-plains. Predominantly seasonal in nature, the Khads during monsoon period contribute significantly towards the drainage system of Jammu city and hold greater importance in safeguarding the city from flash floods.

However, it is imperative to clearly dissociate the actual drainage channels of - *Gair Mumkin Khad* - which otherwise constitute a major part of the planning region. Releasing of abutting land along the channels within Gair Mumkin Khads will help in creating land banks for JDA for its planned development. The development of Khads other than actual drainage channels which shall be redefined and demarcated on the basis of HFL will safeguard the prime agricultural lands and forests from the onslaught of urbanization by encouraging future sprawl within the urbanisable limits of the city.

Foot Hills: To the northeast and southeast of outer plains, stands the outer most range of the Shivaliks. These are also called the foot hills. The Shivalik hills have gentle slope and it is covered with boulders and pebbles. The Shivalik hills like the outer plains are also dissected by ravines and on this account they represent the appearance of isolated hills and broken hills ranges. Most parts

falling on right bank of River Tawi such as Mubarkmandi, Pacca Danga, New Janipur, Roopnagar and Bantalab lie along these foot-hills. However, for extension of the city towards Bajalta, Ray, Vijaypur, Nagrota etc, these outer hills constitute a prominent feature which is ecologically very sensitive as most the area is under demarcated forest.

2.5 Forests

The hilly state of Jammu and Kashmir comprises of three regions, viz, Kashmir valley, Ladakh and Jammu. The State of Jammu and Kashmir has a total geographic area of 2, 22,236 sq. km. The recorded forest area of the state is 20,230 sq. km which is about 9.1% of total geographical area. The category wise classification shows reserved forests area as 87.21%, protected forest as 12.62% and unclassed forests as 0.81% of the total area.

Table 2-1 Area under Forest

Region	Geographical Area (GA) (in sq.km)	Very Dense Forest	Modified Forest	Open Forest	Total	% of GA	Change	Scrub
Jammu District	3,097	0	210	672	882	28.48	0	43
State	222,236	4,140	8,760	9,639	22,539	10.14	2	2,105

Source - District Statistical Hand Book

2.6 Rivers and Lakes

The Tawi River is a major left bank tributary of river Chenab which flows through the City of Jammu. It is considered sacred and holy, as is generally the case with most rivers in India. Tawi River originates from the lapse of Kali Kundi glacier and adjoining area southwest of Bhadarwah in Doda District. The catchment area of the river up to Indian border (Jammu) is 2,168 sq. km and falls in the districts of Jammu, Udhampur and a small part of Doda. The length of Tawi River is about 141 km prior to merging with Chenab. The river in general flows through steep hills on either side except the lower reach for about 35 km (22 mi). The river is about 300 m (980 ft) wide near the bridge in Jammu city. After flowing through the Jammu city, the river crosses over Pakistan's Punjab and joins Chenab River. It flows from the Jammu region of Jammu and Kashmir into the eastern plains of the Punjab in Pakistan.

Mansar Lake – Situated 62 km from Jammu, Mansar is a beautiful lake fringed by forest-covered hills, over a mile in length by half-a-mile in width.

Figure 2-2: Tawi river and Mansar lake

Surinsar Lake – The beautiful lake Surinsar located in the proximity of Jammu is surrounded by thick forests in the backdrop of hilly terrains. The lake is a prominent tourist destination in Jammu region.

2.7 Mineral Deposits

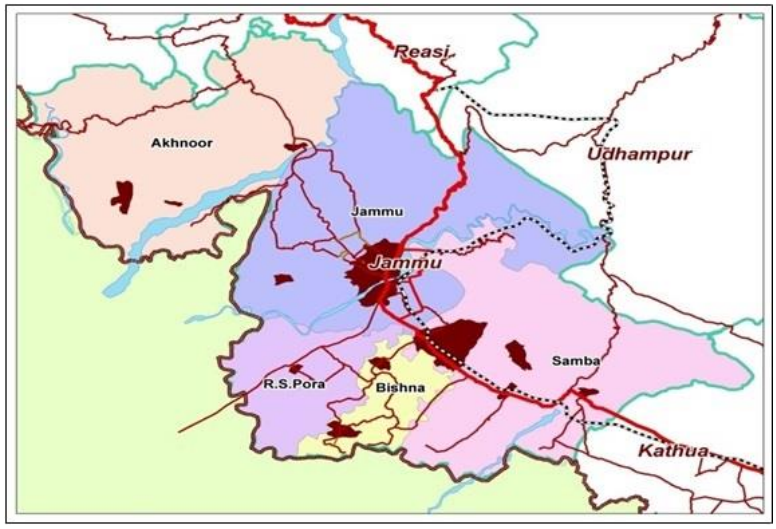
Mineral wealth of Jammu region includes coal, bauxite and lime. Coal reserves to the extent of 3.68 million cubic tons at Kalakote, bauxite of the order of 12.2 million metric tons in Reasi and 500 to 600 million metric tons of lime stone reserves in Kalakote coal belt and Basohli are available. Such resources in the region will have impact on the development of industries in Jammu area.

3. DEMOGRAPHY

3.1 Demography

The Population of Jammu and Kashmir State according to the 2011 census stands at about 12.54 million, making it the 19th most populated state in India. The State is spread over an area of about 220,000 sq. km. making it the 10th largest state in the country in terms of area. The density of population per sq. km. is about 56 which is fairly below the national average of 382 per sq. km. The State has a growth rate of about 23% which exceeds the national growth rate of about 17%. Out of total population of Jammu and Kashmir, 27% people live in urban areas. The total figure of population living in urban areas is 3,433,242 of which 1,866,185 are males and 1,567,057 are females. The urban population in the last 10 years has increased by 36.42% higher than the national average. The macro-level spatio-demographic variations observed at the regional level as per Census 2011 reflect that Jammu Region with 26% of the State's total geographical area counts for 55% of its total population load. Against the State's average urbanisation of 27%, the Jammu Region has 23% of its people living in urban areas.[2] As per the census 2011, the Jammu (Municipal Corp. + Outer Growth) accounts for 38% of the total urban population of the Jammu District. Among 22 districts, Jammu is the second highest urban (50%) district after Srinagar which has 95% of its people living under municipal limits. As per census 2011, about 12% of states'population resides in Jammu district thereby making it the most populous district of the State. Of this, nearly half population resides in urban area while the remaining 50% population resides in rural areas of the district (Census of India 2011).

Figure 3-1: Location of Jammu city in the District



Jammu, the city of temples and the Winter Capital of J&K State, is a symbol of ancient values and presents aspirations. In J&K State, Jammu has a distinct image due to its heritage, location and linkages. With rapid pace of urbanisation and development of economic activities in Jammu, the

2 Census of India 2011.

city's influence has been increasing in range and impact. Growth of Jammu Urban Agglomeration (7.7 lac[3]) has been increasing which can be adjudged from the trend of decadal change in urban population in adjoining tehsils of Jammu city. Many villages in Jammu Samba and Districts have already been engulfed by the sprawl of Jammu city. JMP-2032 is proposed to be extended from 305 sq. km. to 652 sq. km which include the Municipal Corporation of Jammu, Municipal Committee of Ghomanhasan, Municipal Committee Bishnah, Municipal Committee Bari Brahmana and Municipal Committee of Vijaypur, and as many as 324 settlements in Jammu, & Samba District.[4]

Table 3-1: Population Growth Rate in JMP-2032

Sl. No.	Area	Population 2001	Population 2011	Growth Rate (in percentage)
1	Jammu (M Corp. + OG + 4 ULB's in LPA)	631737	765128	21.12
2	Rural Population	292545	340616	16.43
	Total	**924282**	**1105744**	**19.63**

Source: Primary Census Abstract, 2011.

Spreading over an area of 652 sq. km., the proposed Jammu Master Plan LPA is inhabited by a population of 12,85,500 persons (Census of India 2011) including the overhead population of around 1.80 lac (approx.) which includes the Defence, Daily Yatris, Service and Darbar (Secretariat) Move population in base year 2011 as per following:

Table 3-2: Floating Population-2011

Sl. No.	Floating Population	Population
1	Darbar (Secretariat) Move Population	30,000
2	Defence population[5]	99,756
3	Service Population@30%[6]	35,000
4	Peak Daily Yatra Inflow[7]	15,000
	Total	**1,79,756**
Source: Calculated Values.		

3 Figures for 2011 collected from Census Department Jammu

4 Details of Local Area JDA are placed in Annexure-A.

5. It may be noted that one lac defense population precisely estimated includes four Brigades at Satwari, one Brigade each at Sunjwan and Kulu Chak (Bari Brahamana) as well as presence of CRPF and BSF at Bantalab (Keran) and Paloura.

6. As calculated in the Master Plan Jammu-2021, the service population is estimated around 35,000 in the base year 2011.

7. Jammu city is an important transit for Katra bound yatris though opening up of the Udhampur –Katra Railway Link will have a long-term impact on Jammu city in terms of yatri inflows. As per the available information, about 0.78 crore yatris visited the Shri Mata Vaishno Devi shrine in 2014 with peak flow from April to August. Assuming 50% of yatris visiting and staying at Jammu, the peak daily yatris to Jammu is estimated at around 15,000.

As such, the sum total of population worked out for the proposed JDA Local Area for the base year is 12, 85,500 (approx.). The density of population for the proposed Local Area is calculated at 2010 per Sq. Km. (including yatra population) and 1855 per Sq. Km. without Yatra population.[8]

Table 3-3: Total JMP Popultion Projection including Floating Population.

Sl. No.	Population	Population
1	Jammu Local Planning Area	11,05,744
2	Total Floating Population	1,79,756
	Total	**12,85,500**

Source: PCA, 2011 & Calculated Values

The tehsil wise rural-urban distribution of population shown in Figure 3-2 in the proposed Jammu LPA as per census 2011 depicts that 70% of the total population is urban with more than 92% of it residing in Jammu Tehsil only 92%. The Jammu tehsil accounts for more than 82% of the total population of the proposed Jammu LPA of Jammu Development Authority. During last decade (2001-2011), urban population in the LPA of previous master plan has increased form 6.32 lac to 7.65 lac at the annual growth rate of 21.12%. While as the rural population has increased from 2.93 lac to 3.41 lac during the same decade with an annual growth rate of 16.43% only.

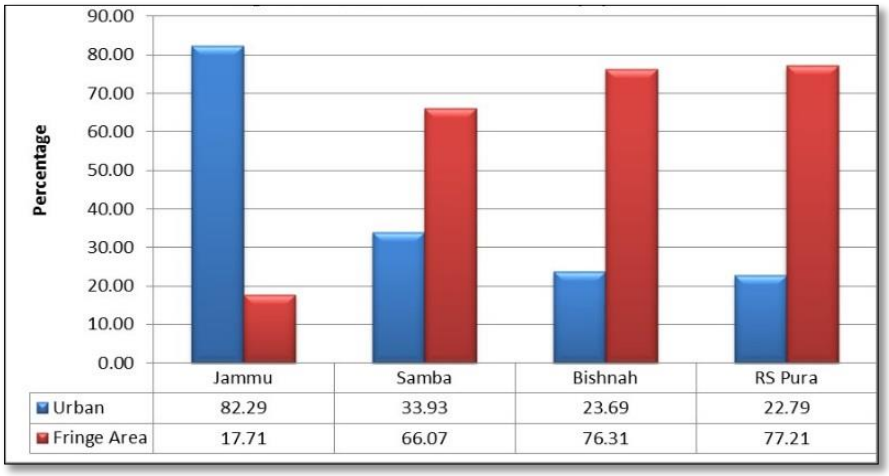
Census 2011 depicts that 69.20% of the total population is urban in the proposed Jammu LPA 2032. The Jammu tehsil accounts for more than 82% of the total population of the proposed JMP-2032.

Jammu city in terms of impact of urbanisation on its hinterland which is spread across Samba, Vijaypur, Bishnah and RS Pura with around 60% of the total population in these tehsils living in rural areas, the proposed Jammu LPA 2032 is viewed as a potential urban destination over next few decades and the supremacy of Jammu city in the settlement system of Jammu Province. The policy programmes in urban sector for Jammu and Samba Districts need to be tuned to meet the requirements of this region over next two to three decades. More than 70% households in proposed Jammu LPA 2032 are urban, though the average household size in urban and rural areas is five (05) persons. As per Census 2011, the proposed planning region has 2,08,985 households with 1.53 lac in urban areas.

8. Since yatra population being an input for supporting tourist infrastructure, it is deemed not to affect the size and structure of residential dwelling units in Greater Jammu. As such population density has been shown “with & without” yatra population in Jammu.

It has been found that the household formation rate (2.5%) for the region is higher than its population growth which will have direct implications on the housing demand in the area[9].

Figure 3-2: Tehsil wise distribution of population JMP-2032



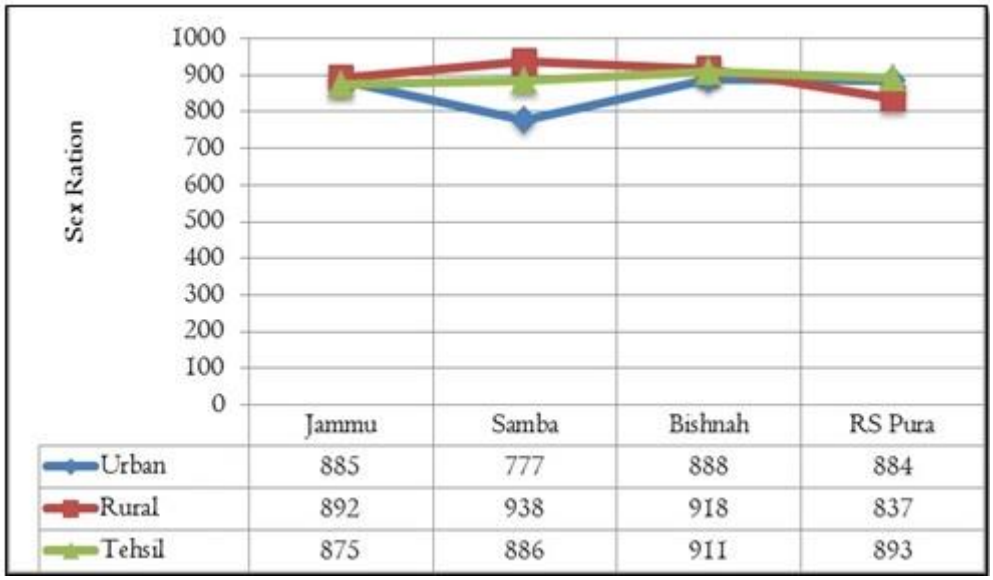
Source: PCA-2011

Sex Ratio is an important demographic indicator of social and economic development of female population in any region or country. As per the Census 2011 figures, the urban sex ratio for the proposed Jammu LPA is 859 against the rural sex ration of 896[10]. The sex ratio worked out for Jammu, Samba, Bishnah and RS Pura tehsils for the area falling within the proposed Jammu LPA is shown in Figure 3.3. It can be inferred from the figure that Samba is having the lowest urban sex ratio (777) against its rural of 938 which is higher than Jammu rural (892) in Jammu LPA 2032. Unlike Samba which depicts wide disparity in rural-urban sex ratio, the sex ratio for the settlements in Jammu tehsil falling in the Jammu LPA 2032 present a fairly balanced picture for both rural and urban areas. Similarly, unlike other tehsils, RS Pura tehsil within the Jammu LPA 2032 has lower rural sex ratio of 837 against its urban sex ration of 884.

9. The change in comparable geographies within the Jammu LPA-2032 due to redefinition of municipal ward boundaries in 2004 and delimitation of administrative units has been done away with by comparing the data at unit level like a village settlement. However, the same could not be applied to the Jammu Urban Agglomeration because of lack of such database.

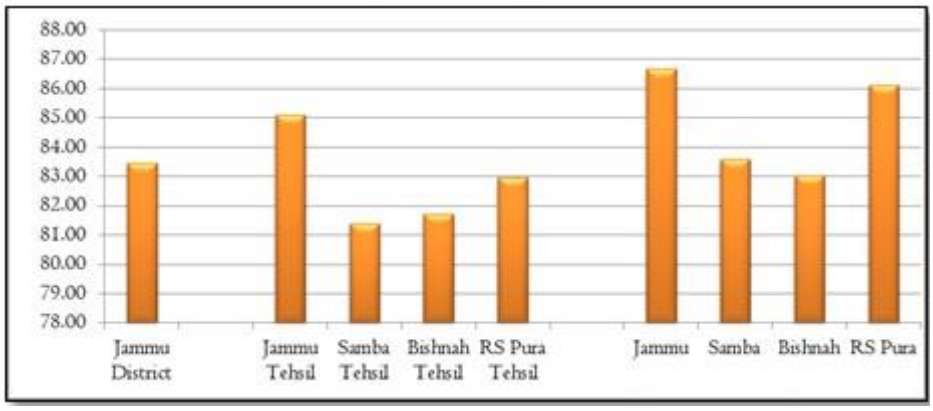
10. The definition of Sex ratio adopted in the Master Plan is "as the number of females per 1000 male population". As per the census 2011, the sex ratio for Jammu District is 878 which is lower than the state average of 889.

Figure 3-3: Tehsil wise Sex ratio in Jammu LPA 2032



Literacy Rate is another equally important demographic attribute. Figure 3.4 shows the tehsil-wise literacy rates of Jammu, Samba, Bishnah, RS Pura as well as the literacy rates of these tehsils for the proposed Jammu LPA . The literacy level for the area ranges from 83% to 86%. Jammu tehsil is having the highest literacy among all tehsils followed by RS Pura. For the planning region, the same pattern is observed with Samba showing higher literacy than Bishnah in JAMMU LPA 2032. The higher literacy rates for the region are a potential ingredient for improving the local economic development.

Figure 3-4: Literacy Rate

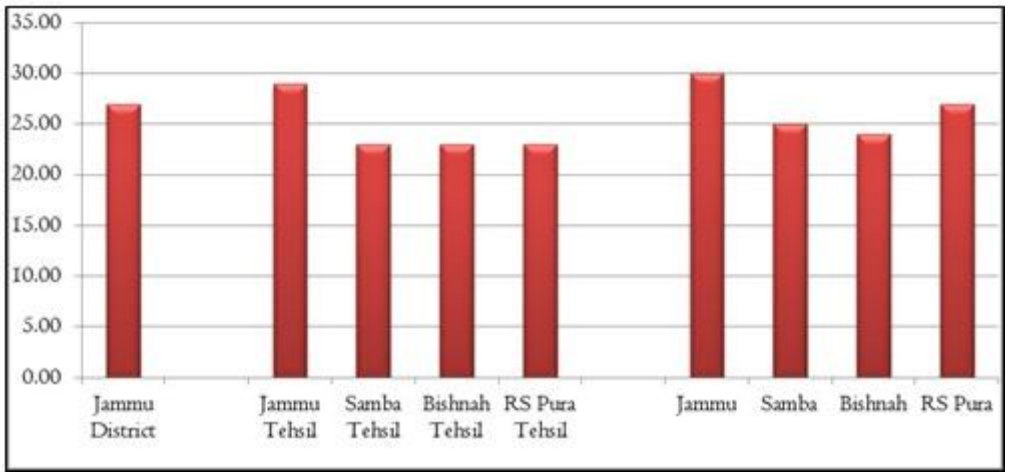


3.2 Work Force Participation Rate (WFPR).

The capacity of a city to provide variety of jobs and to absorb its working population in various sectors of economy is an indicator of economic viability as a spatial entity. For Jammu District, the share of gainfully occupied persons—Work Force Participation Rate (WFPR)— against the dependent and non-working population as per the census 2011 is 27% against that of an average of 24.50%. WFPR observed for the proposed Jammu LPA shows a marginal upward shift

for all tehsils. The average WFPR for the region is just 26.50% up from 26% observed for the same area as per the census 2001. Such workforce participation is fairly low when compared with other productive cities in India. It is alarming to note that about 69% of the population in proposed Jammu LPA is constituted by non-workers (Census of India 2011) which depicts very high rate of unemployment in the area. The seasonal employment in the region is also very low (the average rate of seasonal employment is just around 5%) for the region. By conservative estimates, the WFPR for a metro city like Jammu should not have been less 40% of the total population. It is interesting to see that WFPR for Jammu District and Jammu tehsil has remained almost constant during last decade. While it was 27% for district in 2001 and 2011, during the same period the tehsil had 29% workforce participation which is fairly very low for a city like Jammu.

Figure 3-5: Work force participation rate in Jammu



The WFPR of the proposed Jammu LPA as per Census 2011 is not healthy and indicates significant decline for rural areas in JMR except for the settlements in RS Pura. The low level of WFPR in Jammu LPA is also attributed to its skewed nature with more than 90% male workers in the region for all tehsils except for Jammu. Similarly, the disparity in the proportion of rural-urban workers in the planning region (Jammu LPA 2032) is also reflective of the fact that it is skewed towards urban workers though RS Pura is an exception to it with 26% urban WFPR and 27% rural WFPR (Refer Figure 3-5). This trend is alarming as it is indicative of the economic well-being of geographical entity. The trend needs to be arrested and the WFPR should substantially increase to at least 40% during the plan period to increase the employability of the region.

3.3 Occupational Structure

The study of Jammu metro city‘s economy indicates major trends in its development which have relevance in the process of urban planning. Analysis of the city‘s scope of development in Primary, Secondary and Tertiary Sectors is imperative to provide a guideline for its overall development and creation of potential centres of development. In the absence of a detailed study of the economic base of the region, an analysis of workforce characteristics will give a fair idea about the relative

working importance of the different sectors of the economy and its functional orientation; thereby throwing some light on the directions of future growth of Jammu city. Workforce of an area is composed of all persons who are actually or potentially gainfully employed or engaged in productive activity. Primary Sector consisting of cultivators and agricultural labourers as per census 2011 accounts for 16% of the total workers at the district, 15% at the tehsil level and 7% at the local area level. The decrease in the share of primary workers at the local area level is indicative of growing influence of urban forces in the area. The corresponding share of workforce resulting because of decrease has been mainly engaged in tertiary sector which predominantly constitutes the services sector. The fact can not be denied that service sector is growing as a dominant contributor to GDP in developing countries, but diversification of economy and multiplier effects are found more in secondary sector.

Figure 3-6: Tehsil wise WFPR in Jammu LPA 2032

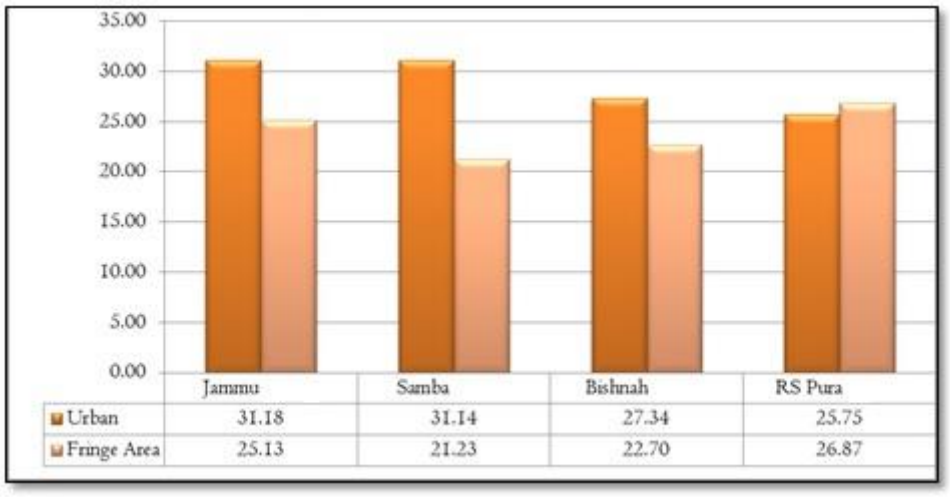
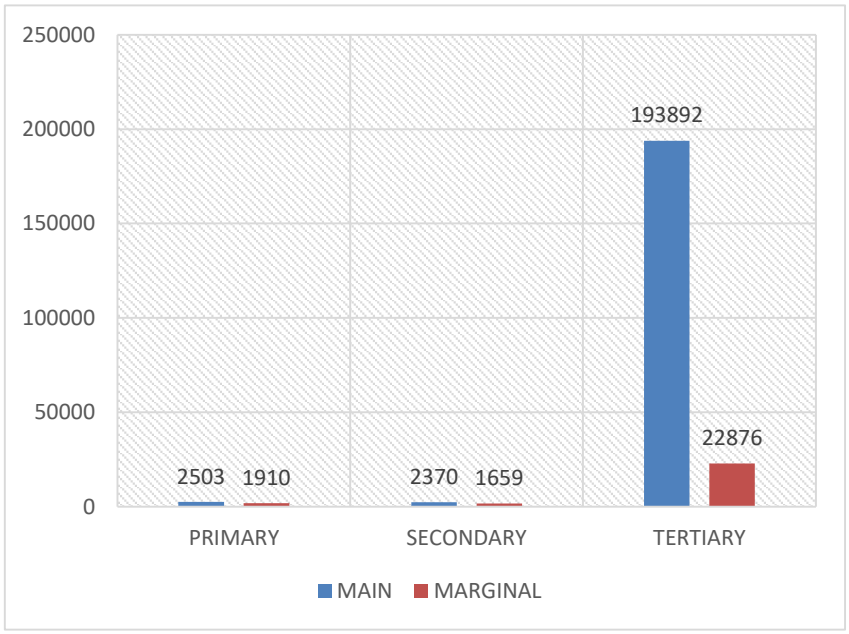


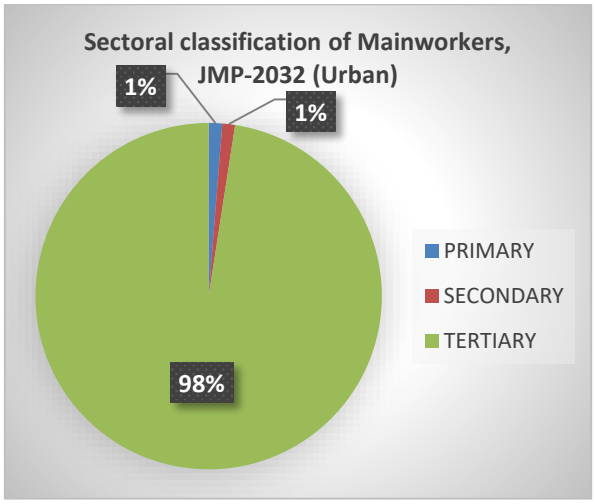
Table 3-4: Existing Sectoral Classification of Workforce (Urban)

Sl. No.	Sectoral classification	Workforce	Main	Marginal
1	Primary	4413	2503	1910
2	Secondary	4029	2370	1659
3	Tertiary	216768	193892	22876
	Total	**225210**	**198765**	**26445**

Source: Primary Census Abstract, 2011.

Figure 3-7: Sectoral Classification of Workforce Jammu Master Plan-2032 (Urban)





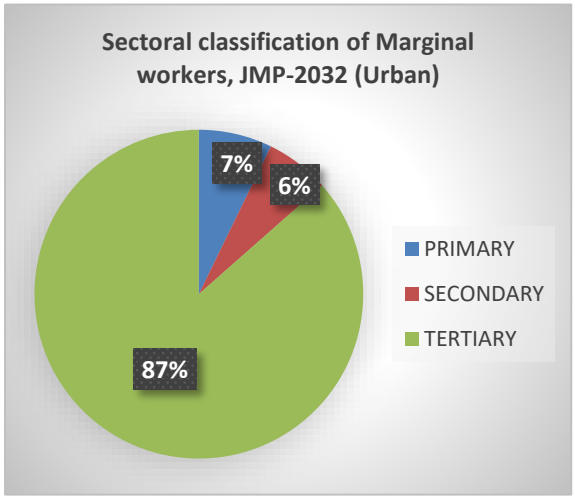
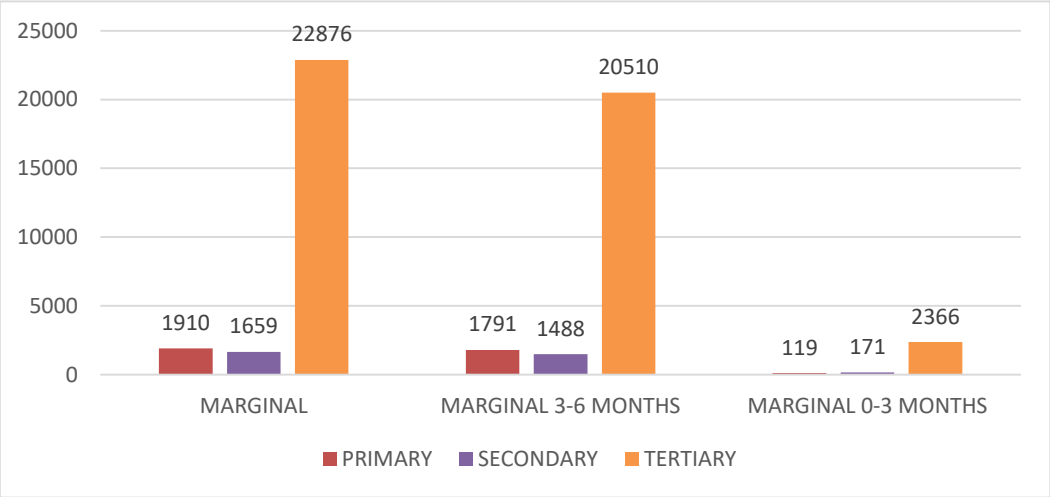
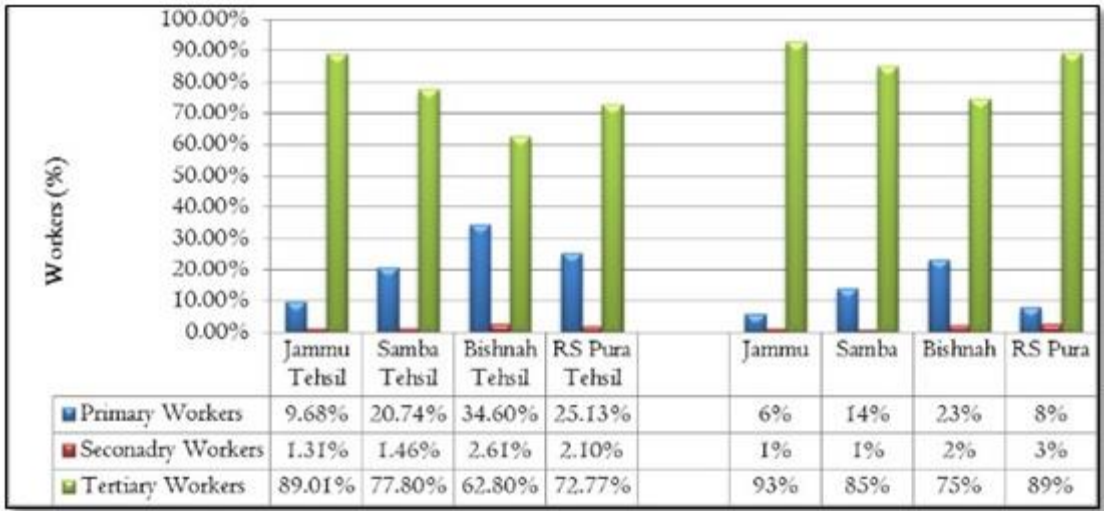


Figure 3-8: Sectoral classification of Marginal workers, JMP-2032 (Urban)



Secondary sector also indicates insignificant share of workers with not more than 1.5% workers engaged in the sector in 2011. Unfortunately there has been no significant surge in the secondary sector in Jammu and Samba districts during last decade which is reflected by poor economic base of these districts. This trend is not healthy and is reflective of the underdevelopment of industries. Tertiary sector on the other hand, accounts for a major share of about 84% of the total workforce at the tehsil level and 91% at the local level (Jammu LPA-2032). The trend of the exorbitant increase in the employment in tertiary sector is indicative of the engagement of workers mainly in the services sector like government/private jobs, businesses, informal sector jobs etc. The careful interpretation of the occupational structure in Jammu LPA-2032 is viewed as highly unbalanced and the economic prosperity of the region is yet to take- off. The Master Plan as such needs to envisage industrialization as an economic driver for the region and accordingly proposes policies fostering its industrial growth.

Figure 3-9: Occupational Structure at Tehsil & Local area Level



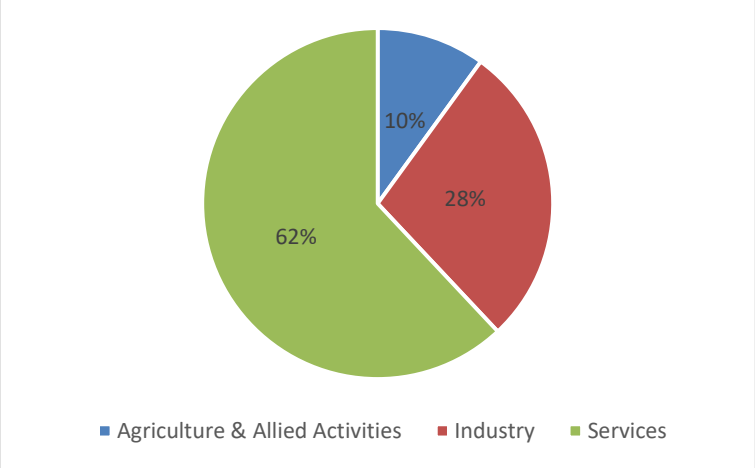
3.4 Economic Base

3.4.1 Key Economic Drivers

Industry is mostly traditional in nature and comprises mainly small-scale and cottage industries. Food processing and agro based industries (excluding conventional grinding/extraction units) thrive in the state because of an excellent climate for horticulture and floriculture. Almost 45% of economic return in agriculture sector account for horticulture produces. Horticulture provides employment to 6 lakh households with 30 lakh of people involved directly or indirectly. The state has suitable agro-climatic conditions for a variety of flowers. The floriculture industry of the state caters to both the domestic and international markets. Handicrafts, being the traditional industry of the state, has been receiving priority attention from the state government in view of the sectors for large employment base and export potential. Kashmiri silk carpets are famous the world over and earn substantial foreign exchange for the country. The state is famous for small-scale and cottage industries such as carpet weaving, silks, shawls, basketry, pottery, copper and silverware, paper machine, walnut wood. The state is a leader in the production of apples, walnuts, pears, almonds and apricots, and has a huge potential for the exports of processed food and allied services. Jammu & Kashmir has witnessed a strong inflow of investments in the power and services sector. Wood from Kashmir, popularly known as Kashmir willow, is used to make high-quality cricket bats.

Handicraft is a predominant cottage industry and provides direct and gainful employment to 0.3 million people in the state. The state has established the Jammu & Kashmir Handicrafts Sales and Export Promotion Corporation and the J&K State Handloom Development Corporation to promote the development and growth of the handicrafts sector.

Figure 3-10: GDP Contribution across sectors in J&K



Jammu & Kashmir is well known for its wool industry, particularly for products such as shawls and carpets. During the year 2011-12, the total wool production estimated for the State was 75.295 lakh Kgs. The State produces 6.4 million kg of wool annually, valued at around Rs.1843.21 crore. The Government woolen mill at Srinagar is another established manufacturing unit, which has a capacity of 2,018 woolen and 1,576 worsted spindles. During 2013-14, upto November 2013, 1,021 MT of cocoons were produced generating income of Rs. 2,026.00 lakhs for these silkworm rearers.

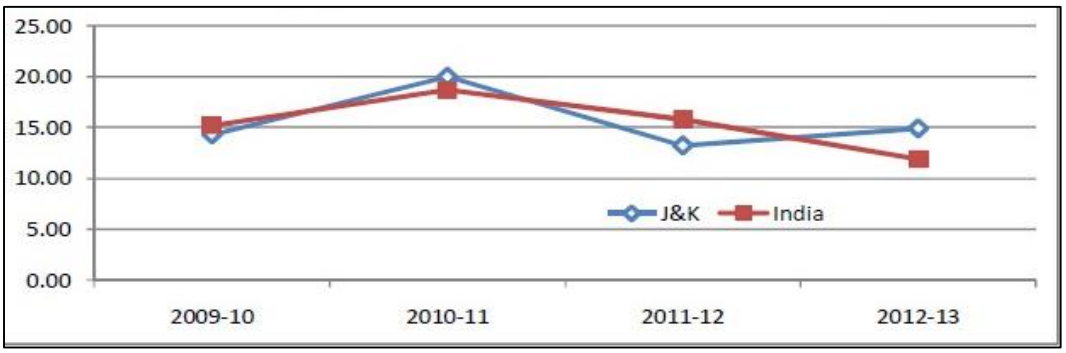
The Government procures for the development of sericulture, procurement of cocoons, cultivation of mulberry plantations on private lands, etc.

The service sector in 2012-13 contributed to 55% of G.S.D.P, trade, hotels, restaurants and transport and storage both as the core sectors related to tourism contribute about 6.87% & 5.20% in year 2012 & 2013 respectively. Tourism has been considered as the backbone of economy in Jammu & Kashmir. The state, especially the Kashmir Valley and surroundings, has always attracted national and international tourist to this place. Jammu city has been attracting the pilgrims going to Shri Mata Vaishno Devi, especially the ones who have to halt for a day or so, prior to getting the yatri slips / registrations for yatra.

3.4.2 Gross Domestic Production for Jammu and Kashmir State

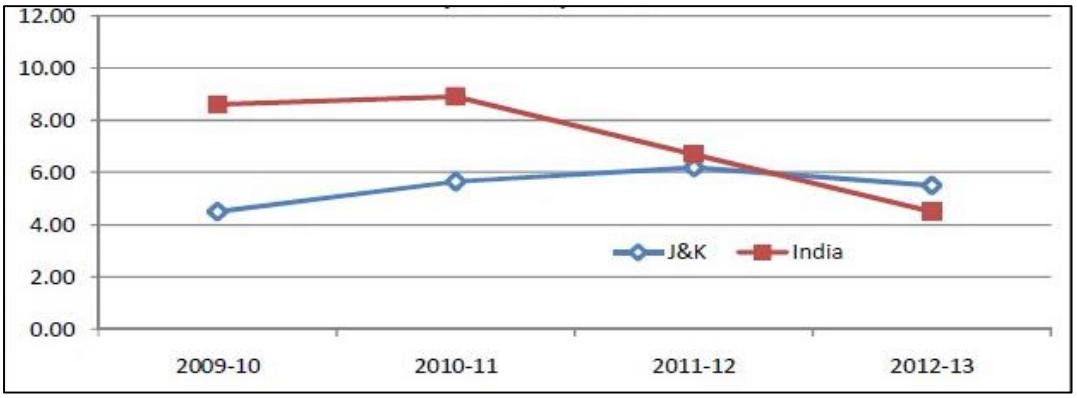
Jammu and Kashmir State stands 19th rank in India contributing to GDP. The total contribution of GDP is 0.7%. Per capita income of Jammu & Kashmir is Rs. 28, 333. The maximum contribution of the GDP in the state is from the services sector (46.42%). Jammu & Kashmir's economic performance has been impressive, driven by all three sectors of the economy. The gross state domestic product (GSDP) of Jammu & Kashmir during 2012-13 (at current prices) has increased to Rs.75574.31 crore (quick estimates) from Rs.65758.52 crore (quick estimates) of 2011-12 registering a growth of 14.93% during 2012-13. In 2007–08, agriculture was the highest contributor to the GSDP among all sub-sectors, while Agriculture and allied sector is expected to have growth at 1.44% during 2013-14 (AE) against 0.13% achievement made during 2012-13 (QE). The tertiary sector, driven by public administration, is the largest sector in the GSDP. The secondary sector, driven by manufacturing, construction, electricity, gas & water, witnessed the highest growing sector.

Figure 3-11: Percentage Growth of GDP in J&K & India at current prices.



Source: Jammu & Kashmir Economic Survey 2013-2014

Figure 3-12: Percentage growth of GDP of J&K & India at constant (2004-05) prices.



Source: Jammu & Kashmir Economic Survey 2013-2014

Jammu has a number of small industries, many of them set up as informal industries, in residential areas. The formal/designated industrial estates located in Gangyal and Bari Brahmana are the largest one in the entire State.

3.4.3 Agriculture

Jammu District has a sub-tropical climate with hot dry summers and cold winters. Minimum and maximum temperatures are around 4^0C and 47^0C respectively. Maximum rainfall is received from June to August. Average rainfall in the district is about 1,246 mm. About 55.86% of the population resides in rural areas and their economy mainly sustains on agriculture. Production of rice and wheat has decreased over the years from 2001, as the area shown has decreased. The total area under food grains, fruits and vegetables, oil seeds and fodder has decreased over the years. Production of rice, wheat and oil seeds has decreased from 2001 to 2008, whereas other food grains and maize production has increased during this period.

3.4.3.1 Average Size of Land Holding at District Level

The average land holding size has been observed as 0.83 ha. The average minimum holding size is below 0.5 ha which is about 48.5% of the total no. of holdings, followed by a range of 0.5-1 ha and 1-2 ha range wherein nearly 25.4% and 17.8% hold land in these ranges respectively.

Table 3-5: Average Size of Land Holding – District Level

Sl. No.	Size Class (ha.)	Holdings		Average Holding Size	As Percentage of Total	
		Number	Area		Holding	Area
1.	Below 0.5	86,767	23,351.33	0.27	48.54%	15.71%
2.	0.5-1.0	45,465	35,010.70	0.77	25.44%	23.56%
3.	1.0-2.0	31,923	47,136.50	1.48	17.86%	31.73%
4.	2.0-3.0	10,464	25,655.33	2.45	5.85%	17.27%
5.	3.0-4.0	2,928	10,062.69	3.44	1.64%	6.78%
6.	4.0-5.0	753	3,394.79	4.51	0.42%	2.29%
7.	5.0-7.5	335	1,934.43	5.77	0.19%	1.31%
8.	7.5-10.0	61	525.97	8.62	0.04%	0.36%
9.	10.-20.0	20	259.82	12.99	0.01%	0.18%
10.	20.- above	22	1,216.74	55.31	0.01%	0.81%
All Size Classes		**178,738**	**148,548.30**	**0.83**	**100.00%**	**100.00%**

Source Agriculture Census (2000-2001).

3.4.3.2 Area under High Yielding Crops at District Level

Area under high yielding variety is observed maximum and has increased over the years in Maize crop. Total area under high yielding variety crops has decreased from 199,000 ha to 169,000 ha, whereas Paddy area of HYV of seeds decreased from 53,000 ha to 45,000 ha. Apart from that, areaunder Wheat and other Crops HYV seeds have also decreased.

Table 3-6: Area under High Yielding Variety Programme (ha)

S. No	Year	Paddy	Maize	Wheat	Others	Total
1	2000-2001	53.45	11.92	82.91	50.94	199.22
2	2001-2002	46.78	8.19	73.26	38.46	166.69
3	2002-2003	39.67	11.78	75.25	42.73	169.42
4	2003-2004	40.50	11.62	74.63	41.29	168.04
5	2004-2005 (P)	53.70	15.12	91.78	53.57	214.17
6	2005-06	55.45	15.00	96.15	55.84	222.44

7	2006-07	45.00	12.00	73.75	40.37	171.12
8	2007-08	45.00	12.33	71.00	40.90	169.23
9	2008-09	45.00	14.92	71.00	38.58	169.50

Source Agriculture Census (2000-2001).

3.4.3.3 Irrigation Facilities

Irrigation is one of the major infrastructure departments in the State of Jammu and Kashmir. There exist various kinds of irrigation facilities like canals, springs/tanks, well/tube wells and others. The maximum area is irrigated by canals which increased from 2000 to 2007. The source of Ranbir Canal is Chenab River & Tawi Canal Lift Irrigation is Tawi River. Almost 80 sq. km area is irrigated by the Chenab River and 11 sq. km area is irrigated by the Tawi River. Nathwal, Salmerah villages are irrigated by the Tawi canal lift irrigation which rendered them highly fertile. The western part of the JDA Local Area is irrigated by the Ranbir Canal and is highly fertile. Villages like Aquilpur, Ismailpur, Bhor Camp, Tilakpur and Ranjitpur are under the Ranbir canal irrigation area. These areas are high yielding and fertile. Paddy and wheat are the most common crops of the area. The net result of the above irrigation projects was the draining of marshes and reclamation of large areas for cultivation which is essential while looking at the growth of the population.

Table 3-7: Area covered under irrigation.

Year	**Net Area Irrigated By**					**Gross Area Irrigated By**				
	Canals	Spring / Tanks	Wells / Tube Wells	Other	Total	Canals	Spring / Tanks	Wells / Tube Wells	Other	Total
2000-2001	52,470	40	264	2,135	54,909	94,641	67	586	3,687	98,981
2001-2002	52,445	40	264	2,057	54,806	92,448	78	601	2,867	95,994
2002-2003	51,981	40	262	2,038	54,321	91,630	77	596	2,842	95,145
2003-2004	58,533	43	293	2,300	61,169	103,180	86	675	3,204	107,145
2004-2005(P)	60,216	44	302	2,366	62,928	106,148	88	694	3,296	110,226
2005-06	54,224	-	273	2,169	56,666	108,207	-	707	3,450	112,364
2006-07	53,595	40	270	2,104	56,009	106,952	89	699	3,321	111,061
2007-08	50,281	38	254	1,974	52,547	98,603	82	644	3,062	102,391
2008-09	48,087	7	105	1,555	49,754	98,603	15	215	3,188	

Source Agriculture Census (2000-2001).

3.4.4 Existing Industrial Profile

Industries play a vital role in the development of economy. Unfortunately, J&K has not been able to attract investments in industries and remained as an industrially backward state. The state does not have a strong industrial base though many small and medium-scale industries have come up in the traditional sectors and in areas like food processing, agro-based units and metallic and non-metallic products.

Table 3-8: Industrial Estates

Industrial Estates	No. of Estates	No. of Units	
		Functional	Non Functional
Estates under DIC	32	425	267
Estates under SIDCO	11	217	103
Estates under SICOP	7	324	211

Source: Industrial Statistics, J&K 2000-2001.

Jammu and Kashmir State Industrial Development Corporation Limited (SIDCO) is the nodal agency for promotion and development of medium and large-scale industries in the state. The corporation has been entrusted with various assignments for the development of industries in the state. It is responsible for the development of infrastructural facilities of small, medium and large scale industry projects, identification of technically feasible and financially viable projects for the state, conducting seminars/workshops/industrial exhibitions within and outside the state for the promotion of industries, and assisting quick clearance of the envisaged proj ects by various regulatory authorities. SIDCO has also been acting as a nodal agency for the Ministry of Food Processing Industries, Government of India and operating as the virtual office of Agricultural and Processed Food Products Export Development Authority (APEDA), Ministry of Commerce, in the state It has also been assigned the responsibility of providing grant of financial assistance to industrial projects having investment up to Rs.4 50 lakh and participation in the equity of selected joint or assisted projects. SIDCO has developed a number of industrial estates in Jammu and Kashmir. The corporation has been able to generate employment opportunity for 8,000 persons and expects to create an additional opportunity for 10,000 persons, with an additional investment of Rs. 2,000 crore in the pipeline.

J&K Small Scale Industries Development Corporation Limited (SICOP) was established in 1975 as a wholly owned company of the Government of J&K. It has been entrusted with a variety of roles for the development of small-scale industries (SSI) in the state. The corporation, along with SIDCO and Directorate of Industries and Commerce (DIC), has been responsible for developing industria l infrastructure in the state. SICOP is managing six industrial estates located at Gangyal, Birpur and Kathua in Jammu Division and Zainakote, Zakura and the Sports Goods Complex, Bejbehara in Kashmir Division. In addition, SICOP is also managing an Industri al Infrastructure Development Centre (IIDC) at Battal Ballian in Udhampur (Jammu Division). Around 535 units have come up in these estates (A H andbook of Industrial Statistics, J&K 2000-01). The corporation has established a network of raw-material depots in all districts of the state for the procurement and distribution of raw materials to small industrial units. It also functions as the consignment agent of Indian Petrochemicals Ltd. (IPCL) at Jammu, Srinagar and Leh and handling agent of Steel Authority of India Ltd. (SAIL) at Pampore (Kashmir) and the consignment as well as its handling agents at Leh. Besides, it also provides marketing support by selling the end products of the industries to the government. The state government, to this effect, had reserved fifteen items for exclusive purchase by the government departments from SSI through SICOP in 1997. A total of 944 units are registered with the corporation under this activity. It also provides testing and qua lity inspection facilities for SSI units through testing centres.

Small Industries Service Institute (SISI) I) was set up to provide technical support services to small scale industries in the country. Along with various developmental efforts, SISI has been conducting entrepreneurial development programmes as well as promotional programmes to promote SSIs in the country. SISI and its branches have common facility workshops in various trades attached to it. SISI, Jammu has been providing techno managerial, economic and marketing services to prospective and existing entrepreneurs in the state. The entrepreneurs are guided in product identification and diversification, selection of machinery and their procurement. It has also undertaken the preparation of project reports like: Industrial Profile of J&K state, State Profile on Agro-based industries, Technical Reports on the prospect of glass and ceramic industry in J&K, etc. Besides, SISI provides consultancy services to prospective entrepreneurs and conducts training courses/seminars.

Directorate of Industries and Commerce (DIC) performs various functions to promote industrialization in the state. The directorate is the implementing agency for various policies and programmes meant for the development of industries. It provides incentives (under the package of incentives announced by the government both state and central) and marketing assistance to existing as well as new industrial units in the state, organizes and participates in exhibition and fairs, seminars, workshops and awareness campaigns to promote industrial development in the state. DIC facilitates interface between industrial associations and agencies engaged in industrial development, financial institutions and banks. The directorate has also developed industrial estates with facilities to set up industrial units. Along with promotional functions, DIC maintains statistical information regarding industrial development in the state. There were 32 industrial esta tes with 692 units in the state under Directorate of

Industries and Commerce's (DIC) control in March 200. Under the control of SICOP there were 7 estates with 535 industrial units and 11 estates with 320 units under SIDCO's control. However, the number of functional units is much less than the total number of units. A total of only 581 units were functional out of 1547 units set up in the estates.

An Industrial Sector is one of the main nerves for socio-economic development of the state. For the development of Industrial Sector the Government of India has set up District Industries Centre, Jammu during the year 1979. Accordingly, to tackle the problem of unemployment & make self-sufficient in production of goods & their services, educated unemployed youths of District Jammu are being motivated for setting up of their own ventures & vailing the benefit of following package of incenitives being offered by State/ Central Govt. from time to time. The Government of India has set up District Industries Centre, Jammu during the year 1979. Accordingly, to tackle the problem of unemployment and make self-sufficient in production of goods and their services, educated unemployed youths of District Jammu are being motivated for setting up of their own ventures. The benefits/incentives being offered by State / Central Government include:

State Incentives

- Subsidy on DG sets
- Subsidy on testing equipments
- Subsidy on project reports
- Toll tax
- VAT Remission
- Interest subsidy on term loan to technocrats
- Subsidy on pollution control devices

Central Incentives

- 3% on working capital
- 30% Capital investment subsidy on plant and machinery
- Transport subsidy

Industrial Units which are being established in District Jammu are classified as Micro, Small and Medium Scale Units.

- Micro Enterprises having investment in plant & machinery up to Rs. 25 lakhs
- Small Enterprises having investment of Rs. 25 lakhs to Rs. 5 crore
- Medium Enterprises – Investment from Rs. 5 crore to Rs. 10 crore

In addition to incentives, the Industrial Estates have also been established and land being allotted to the prospective entrepreneurs for establishment of their industrial units. Jammu district has about 884 agro-processing units and 1,060 number of units engaged in textile and garment manufacturing. Rice milling cluster is the major cluster of existing MSME. Pharma industry is also identified as major cluster with an expected turnover of Rs.250 crores.

Table 3-9: Industrial unit's registered.

Sr. No.	Category of Unit	No. of Units
1	Medium & Large scale	40
2	Dairy Plants	7
3	Milk Products	49
4	Polythene Bags	58
5	Brick Kiln	167 (Jammu =142 & Samba =25)
6	Menthol Units	23
7	Cement Plants	19
8	Wooden base	472
9	Edible Oil	118
10	Pharmaceuticals	43

Source: Office of General Manager, DIC, Jammu

3.5 Population Projection

After the synthesis of existing database available on socio-economic parameters of the city and its region, projections of these parameters is the major essential input for the allocation of land for different activities. Projections are extrapolation of historical data (population v/s time) into the future. The accuracy of population projections is generally considered directly proportional to the size of the existing population and the historical rate of growth, and inversely proportional to the length of the time projection. It helps to develop the policy and strategies for development. This section will cover the estimation and projections for the future. This section presents the projected population and employment for the Jammu Region, which serves as the basis for land use and infrastructure proposals in the Master Plan.

Table 3-10: Decade wise Population Trend

Sl. No.	Area	Population 1981	Population 1991	Population 2001	Population 2011	Pop. Growth Rate (in percentage from 2001 to 2011)
1	Jammu (M Corp. + OG + 4 ULB's in LPA)	246931	Data not available	631737	765128	21.12
2	Rural Population	170434	Data not available	292545	340616	16.43
	Total	**417365**	**-**	**924282**	**1105744**	**19.63**

Source: PCA, 2011.

3.6 Summary and comparison of population projections by different methods

The comparison of population projections done by different methods reveals that Geometric Increase method shows the highest population forecast with the estimation of nearly 23.26 lakhs population by year 2032 in the LPA followed by Incremental Increase method at 12.86 lakhs and by Arithmetic method at 17.08 lakhs as shown in the table below;

Table 3-11: Summary of Population Projections by different methods

Sl. No.	Type of Method	2021*	2032*
1	Arithmetic Method	1,337,694	1,708,054
2	Incremental Increase Method	1,127,348	1,287,362
3	Geometrical Increase Method	1,155,118	2,325,528
	Average	1,206,720	1,773,649

Source: Calculated Values

The average of all the methods applied for population projection for horizon year 2032 has more relevance to the LPA and shall provide realistic estimates with greater accuracy. Hence, the population estimates derived by taking average of all the three methods has been considered for the LPA. By following this process the population of the LPA shall be 12.08 and 17.74 lakhs for the year 2021 and 2032 respectively.

The projections of all relevant inputs including population have therefore, been made for the horizon years 2017, 2022, 2027 and 2032. In view of rapid transportation and the flux in economic activity and extraneous inputs, the population projections have been based on major assumptions.[11]

a) The future population growth rate for the proposed Jammu LPA will remain consistent with the existing growth rates of the area up to 2017;

b) The growth rate from 2017 to 2022 will gain momentum both in urban and fringe areas in Jammu LPA-2032; while 2.0% is assumed for urban area, it is 2.5% for the rural area in Jammu LPA-2032;

c) From 2022-2027, the population is assumed to grow @ 2.5% for the urban area and 3.0% for the rural area;

d) Finally from 2027 onwards for the remaining plan period up to 2032, the growth rate for the urban is estimated to be constant while it will be 2.75 for the rural areas reducing from 3.0%.

e) Assuming there will be no change in territorial annexation of municipal Corporation of Jammu.

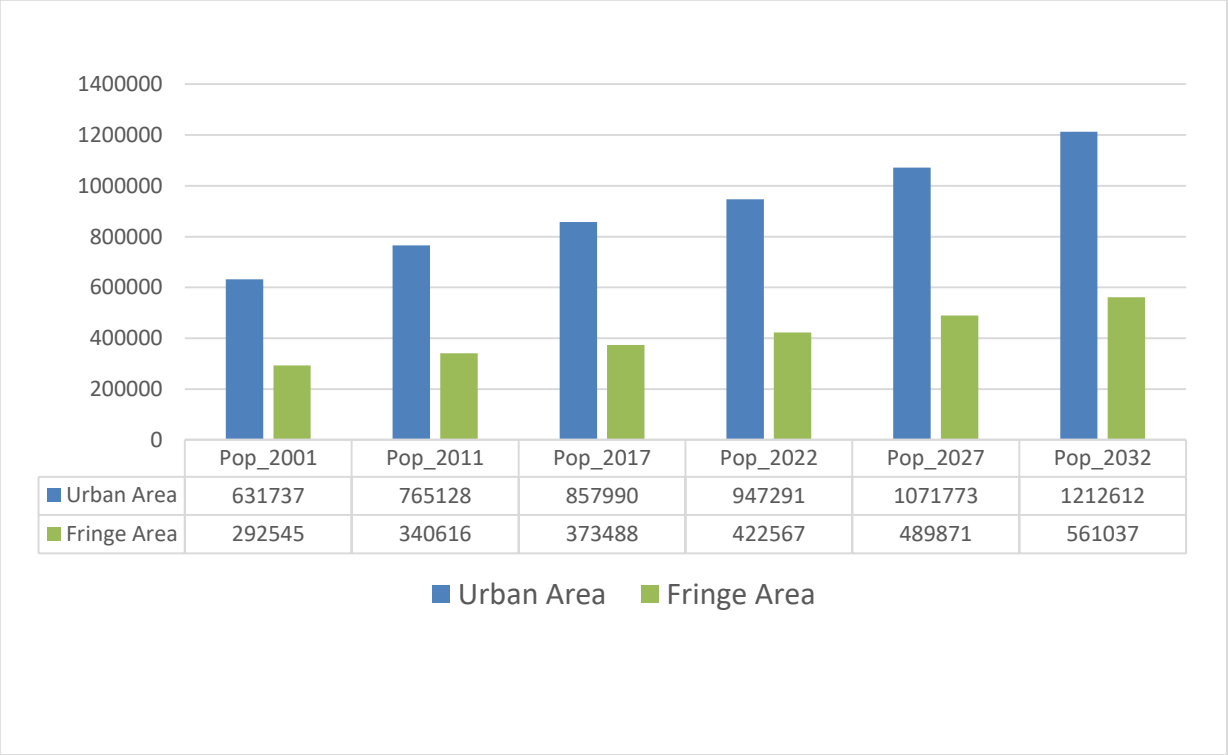
11 The differential growth rates for the Metropolitan Region of Jammu have been assumed keeping urbanisation and economic development of the region in view. The growth rates assumed are based on conservative estimates and consistent with other cities of similar category. These figures are also based on the premise that the proposals in the Master Plan will give impetus to the growth of the region.

Table 3-12 Projected population in Jammu LPA-2032 excluding overhead population.

Sr. No.	Type of Area	Pop_2001	Pop_2011	Pop_2017	Pop_2022	Pop_2027	Pop_2032
1.	Urban Area	631737	765128	857990	947291	1071773	1212612
2.	Fringe Area	292545	340616	373488	422567	489871	561037
	Total	**924282**	**1105744**	**1231478**	**1369858**	**1561644**	**1773649**

Source: Calculated Values

Figure 3-13: Projected Population in Jammu LPA-2032 for Horizon Year 2032.



As per Figure 13, the base year population of the region in 2011 is 11.05 lac which was 9.24 lac in 2001 registering an absolute decadal change of 1.81 lac at the decadal growth rate of 19.63%. Adding overhead population like defense, Darbar move, daily yatra and service population etc. of 1.80 lac, the total base year population for the region is estimated to 12.85 lac. Based on adopted growth rates, the basic population for Jammu LPA-2032 is projected from 11.05 lac in 2011 to around 17. 74 lac by 2032.

Based on these parameters, the overhead population is projected as follows:

Table 3-13: Overhead population projections

Sl. No.	Floating Population	Population
1	Darbar (Secretariat) Move Population @2%	40,000
2	Defence population (constant)	1,00,000
3	Service Population@5%	81,351
4	Peak Daily Yatra population (to decrease by ½)	20,000
	Total	**2,41,351**

Source: Calculated values

Table 3-14 Projected Population Jammu-LPA for Horizon Year 2032(inculding overhead population).

Sl. No.	Floating Population	Population
1	Projected population in JMR-2032	1773649
2	Overhead Population	241351
	Total	**2015000**

To sum up, the JMP 2032 is expected to have a total population of 20.15 lac in 2032 up from 12.850 lac in 2011 including projected overhead population of 2.41 lac for horizon year 2032.

Note: The basic population has been projected as per the growth rates assumed above, the overhead population is projected as follows:

a) Constituting roughly 3% of the total population, Service population is projected to grow 81351 from 2017 onwards since Jammu by 2032 is going to be a metropolitan city with huge metro region.
b) Darbar-move population is projected to grow @ 2% during the plan period from 2017 onwards.
c) Defence population is assumed to be constant (1.0 lac) as an incompatible use in urban area.
d) Number of Yatris to Jammu visiting the SMVD shrine at Katra is expected to decrease during the plan period owing mainly to the operationalization of Udhampur-Katra Railway Link.

3.7 Structural Changes in Workforce Participation in Proposed Jammu LPA-2032

Every economic activity has a physical and spatial dimension as almost all activities manifest on terra-ferma and at the centre of all, is shelter and human habitat. The study of economic base therefore, becomes inevitable for understanding and evaluating the effect of economic development on physical environment. For the study of the economy of Jammu LPA-2032, a general description of the economic structure of the region at present and how it has developed in the past will give inputs for the possible future economic structure. This is being used in the absence of a long term policy document for the economic development. Major trends have to be analyzed to appreciate their relevance to physical planning.

Understanding development trend of different sectors of economy during the last two decades or so is prerequisite for the forecast of reliable occupational structure. From the figures, it is evident that the change in economic structure observed during last decade is not a healthy characteristic for proposed Jammu LPA. If the growing share of the primary and tertiary sectors is not arrested and the secondary sector with insignificant share is not given impetus, the city will not be vibrant economic and growth centre in its region. Consistent with this policy of growth, the primary and tertiary sectors will have to register percentage reduction in the share of occupational structure. Physical planning and urban growth directly affect the area under non-urban activities like cultivation which in turn results in reduced potential to hold employment in agriculture sector. Therefore, to ensure high productivity and employability of the district at large and create a balance between secondary and tertiary sectors, macro-level distribution of work force in 2017, 2022, 2027 and 2032 are given in subsequent sections.

3.8 Projected Workforce

As discussed in the preceding section, the probable occupational structure for the horizon years is used as a policy measure to alleviate the economic problems of the region. The estimate of prospective work force structure has been based on certain assumptions and the explanation of underlying assumptions is necessary to ensure the realization of the objectives of the Master Plan in totality. Emphasis has been laid on the strategy to give impetus to the secondary sector so that there is shift from agriculture sector to secondary sector rather than tertiary sector.

The basic assumption for projection of WFPR in the region is that the primary workers will decrease in absolute number during plan period. In order to restructure the Sectoral workforce, the tertiary sector is expected to decline from 91% to 78% in next twenty years. The secondary sector is proportionately increased to 20%.

3.8.1 Primary Sector

Primary sector constituting mainly cultivators and agriculture labourers engaged in agriculture and allied sectors has been observed declining @ about 3% during 2001 & 2011. Given the natural rate of decrease in primary workforce in Jammu LPA-2032, it is projected to engage around 11,000 workers (only main workers considered) by 2032 against existing 21329 workers in 2011

decreasing by about 47% over next two decades. The percentage of primary sector is estimated to be about 2% of the total workforce by 2032. The decline in primary sector is attributed to reducing agricultural land, mechanization of farming and migration of people from rural areas to urban areas etc.

3.8.2 Secondary Sector

The Master plan proposes to increase the Secondary sector from 1.5% in 2011 to 20% by 2032 which will add up another 1.40 lac new industrial jobs in the area. Undoubtedly industrial sector has to play a major role if employability is to be increased. Secondary sector is proposed to provide the platform for the economic development of the region shifting the dependence from marginal jobs in the tertiary sector to substantial jobs in secondary sector. The city is already in the focus of industrial development.

3.8.3 Tertiary Sector

Tertiary sector will continue to play an important role in the local and regional economy of Jammu primarily because of its insignificant industrial base and huge unemployment presently existing in the region. Employment in the tertiary sector is forecast to add as many as 2.90 lac new jobs during next two decades. These jobs will be created in sectors like Retail and Wholesale Trade, Warehousing Storage, Transport and Communications, Commerce, Services and allied activities including the informal sector. Tertiary sector which is the predominant feature of all district headquarter towns will continue to play an important role in the economy of Jammu city but at the same time is expected to decrease proportionately in its share as compared to the secondary sector from 91% in 2011 to 78% by 2032 although in absolute terms the share will increase from 2.95 lac to 5.60. The targets which have been set as policy measure are pre-requisite to arrest the deteriorating economic base of the city. Correction to the basic economic structure has become inevitable and has to be supplemented by proper infrastructure to streamline its economy during plan period of twenty years.

Considering the base year population in 2011 and the net land available for urban development under uses viz. residential, commercial, industrial, public & semi-public and transportation & communication, the population density comes to around 60 persons per hectare (PPH) for basic population and 70 PPH for total population including overhead population of 1.80 lac. Assuming that in future the gross density shall be around 31 persons per hectare, the net land required for urban development within the above use (i.e. residential, commercial, industrial, public & semi-public and transportation & communication) shall be around 355.113 sq.km including defense and other overhead population.

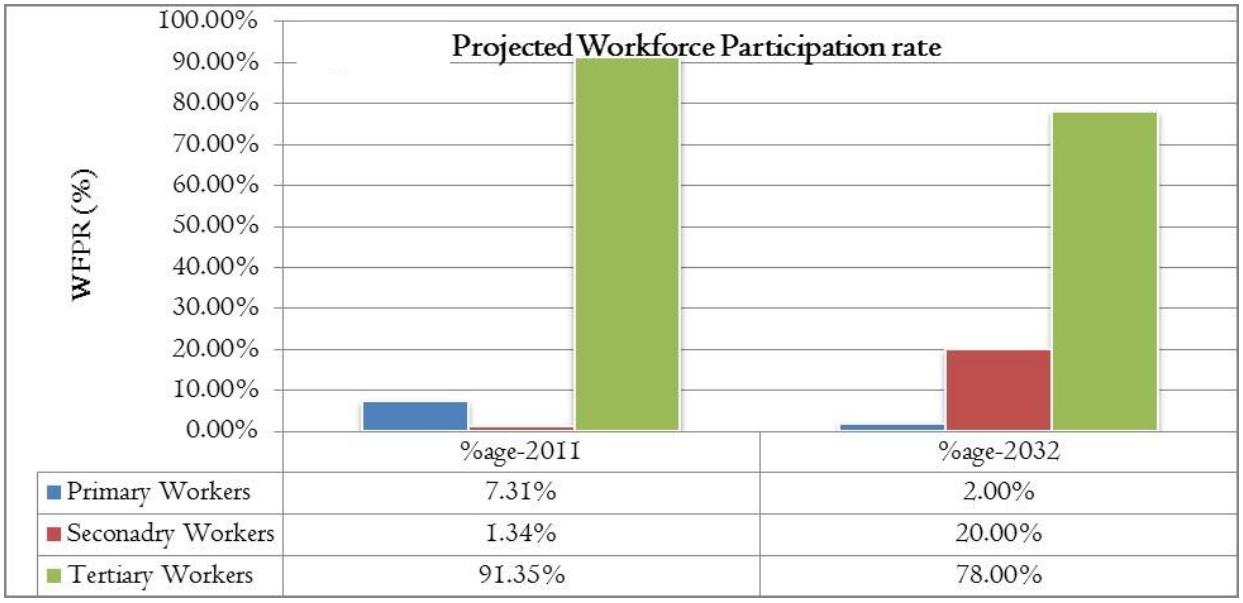
The list of villages to be covered under this area of 652.32 sq. km. has been provide in the ***Annexure A.***

Table 3-15 Work force Projection

Sl. No.	Sector-wise Workforce	Projected Growth rate (%)	Projected Workforce
1	Primary Workers	2.00	11,000
2	Secondary Workers	20.00	1,11,000
3	Tertiary Workers	78.00	4,29,000
	Total	100.00	5,50,000

Source: Calculated Values & Census 2001 & 2011.

Figure 3-14: Projected Workforce Participation Rate



Source: Calculated Values & Census 2001 & 2011.

3.9 Tourist Population Projection

The tourist population as per year 2010 was about 87.00 Lac per year with peak daily flow of 24, 000 pilgrims/ tourists. Jammu being of transit importance in its region and a gateway to Kashmir receives both pilgrim and leisure tourists from across India. The tourist flow to Jammu can be projected based on the following assumptions:

a) 25% of the Katra bound pilgrims will visit Jammu for one-day halt. It is assumed that 10 million pilgrims will visit MVD shrine Katra annually by 2032[12].

b) 25% Kashmir bound tourists are expected to stay at Jammu for one day. As provided in the Twenty (20) Year Perspective Plan For Sustainable Development of Tourism in J&K prepared by M/s Santek Consultants Pvt. Ltd. New Delhi for Ministry of Tourism GoI, the Valley can sustain a maximum of 20.00 lac tourists by 2020.

c) Jammu is also expected to receive 4,000 pilgrims daily (@50% of pilgrims visiting the Shri Amarnath Shrine Pahalgam during June, July and August months for 50-55 days.

As per these assumptions, the total tourists and pilgrims visiting Jammu shall be around 30 lakh with per day peak flow ranging from 8, 000 (off the Amarnath yatra period) to 12, 000 visitors during the Amarnath Yatra period which shall be expected in the months of April, June, July & October each Year.[13]

12 It is desirable that for preservation of environmental sustainability in the area, the State Government shall apply mandatory capping on daily pilgrim flow to SMVD shrine by restricting to maximum 10 million pilgrims visiting annually. The tourist population visiting Katra and Vaishno Devi is very high and nearly one crore tourists visit Vaishnoo Devi temple every year. Of this, around 50% of the tourists also visit the surrounding tourist destinations. Till 2014, all tourists to Katra had to travel through Jammu but with the development of the rail link, it is expected that majority of the pilgrims would directly go to Katra and therefore, Yatri inflow to Jammu city would get reduced in the coming years.

13 The daily peak tourist flow estimated above is inclusive of leisure tourists who visit Jammu itself also.

4. EXISTING LANDUSE

4.1 Old/Core City

The Old/Core city grew around the temples and shrines constructed by Hindus and Muslims under the patronage of different kings. The Dogra rulers took keen interest in the construction of temples and the development of city centred around these temples. The physical development of the city was carried out by Mahraja Pratap Singh (1885-1925). Construction of Tawi bridge, Sadar hospital, Mission Home, Ranbir Public Library, Mission School, Military Hospital, Prince of Wales (GGM Science College), SRMP High School, Leper Asylum, Silk Factory & Dak Bungalow at Residency road are his major contributions to develop the city. Infrastructure was also added on modern lines by constructing Ranbir Canal - a life line for agriculture of Jammu district, power house, a pumping station near Dogra Chowk to supply piped water to the city and the Banihal road connecting Jammu with Srinagar. The physical character of the city improved considerably in a lateral form with the construction of new roads and provision of infrastructure. This comprehensive layout of infrastructure appears to have necessitated formation of Municipal Council.

There is not much historical evidence of the growth of city except that the city grew around the temples and shrines constructed by Hindus and Muslims under the patronage of different kings. Growth of the city is of medieval character with a wide bazaar and narrow streets and lanes, multi storied buildings adjoining each other. The city divides into various mohallas named after the dominant community/caste.

The Old/Core city is bounded by B.C on the western side & by River tawi from Norhern, Eastern & Southern side. Various important places like **Mubarak Mandi Complex, Purani Mandi, Old Secretariat (in Mubarak Mandi), Hari Singh Palace, Library, Museum, Raghunath Temple, Ranbireshwar Temple, Panjvakather Temple** and many other temples and shrines in the city are very old and have high heritage value.

4.2 Spatial Growth Pattern of Jammu

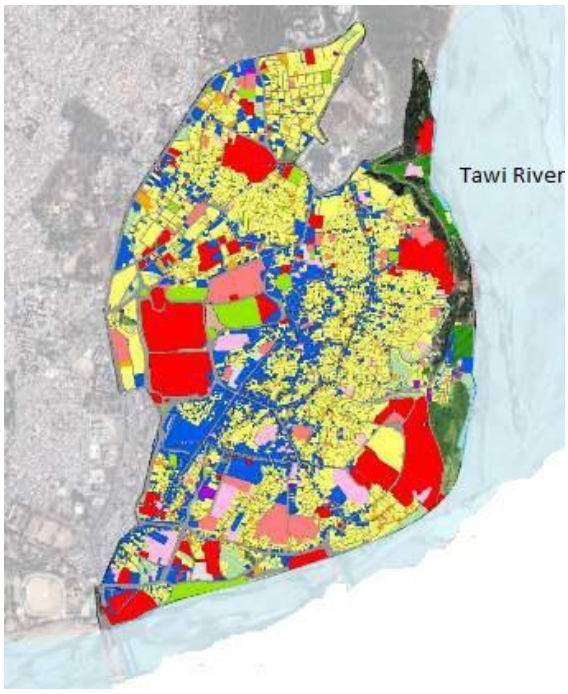
Spreading over an area of 21.42 sq. km in 1971, the Jammu Master Plan 1974-94 had proposed extension of Jammu city over an area of 130.36 sq. km to accommodate 5.52 lakh population by 1994. Satellite imageries taken in 1986, 1990 and 1995 indicated that area under urban agglomeration has increased tremendously to 73.12 sq.km, 93.42 sq. km and 143.52 sq. km respectively. Urbanization is engulfing more and more area under agriculture, forests and wastelands to accommodate the fast growing population of the city. The city has experienced lateral expansion along the NH-44 and Railway line towards the South and along the Akhnoor Road towards North. Most of the new developments have taken place outside the JMC limits along the Southern corridor, Akhnoor Road and Ambgrota Road and Jammu Bye-Pass.

Jammu Municipal Corporation was set up in 2003 and its limits were extended up to 112 sq. km vide SRO 291 dated 5/9/2003. Municipal area extended up to Bhalol Nallah in the South, Narwal

Bala and Channi Himmat in the East, Patoli Brahamana and Bantalab in the North and village Muthi and Aquilpur in the West.

Figure 4-1: Old/Core city area delineation.

Figure 4-2: Old City area delineation & Landuse Plan



Source: Primary Survey

The old city comprising 23 wards was further divided into 48 wards, and 23 new wards were added, thus raising the total number of wards to 71. The Master Plan-1994 had divided the city into three Planning Divisions (A, B & C) and 126 Development Zones. The extension of Jammu urban area by 2021 was envisaged to be around 287.92 sq. km in the North-west and South-east directions.

The genesis of growth of Jammu lies in its rapid urbanization mainly after the seventies. A large number of rural properties are being divided and sub-divided to be used for residential, industrial and commercial purposes. The agricultural areas falling within the limits of the Jammu Master Plan 1994 have extensively been converted into unauthorized residential colonies. The green belt is continuously intruded by urban growth. Area under protected forest is being encroached upon by the unscrupulous colonisers. The more the city grows, the more complex become its problems of land, housing, transportation and provision and management of essential infrastructure.

Jammu at present is facing all these problems and if a well-planned strategy is not adopted to restrain sprawl, the city problems may become alarming and unmanageable. Therefore, the strategy lies in regulating the urban growth within a specified boundary to save agricultural land and to channelize the city growth. This calls for regional development planning approach by developing Akhnoor, Gajansoo, Ghomanasa, R.S. Pura, Arnia, Bishnah, Vijaypur, Samba, etc., where work centres may be created to attract workforce from urban areas of Jammu and provide education, health facilities, recreation, cultural activities and physical infrastructure parallel to Jammu city.

4.3 Existing Land Use of Jammu Local Planning Area

At present, the total area of Jammu Local Planning Area is around 652.337 sq. km. Of this, around 71.73% is undeveloped area and about 28.27% is Developed area. Considering the existing population of 2011 i.e. 11, 05,744 and the land available for urban development is 467.91 sq. km. The city has been growing in a linear fashion towards southern side with major development taking place along Jammu-Delhi National Highway. Since the old city area with many historical temples is already saturated with high density, the major development has been observed outside it.

Table 4-1: Existing landuse 2011.

Sl. No.	Landuse	Landuse Classification	Area (sq. km.)	Percentage
1	**Residential**	Residential	52.86	8.103
		Mix Used	4.77	0.731
		Sub-Total	**57.63**	**8.834**
2	**Commercial**	Commercial	25.15	3.855
		Sub-Total	**25.15**	**3.855**
3	**Industrial**	Industrial	6.04	0.926
		Sub-Total	**6.04**	**0.926**
4	**Public & Semi-Public**	Institutional	7.64	1.171
		Graveyard	0.01	0.002
		Public & Semi-public	8.15	1.249
		Public Utility	0.71	0.109
		Religious/Temple/Trust/Ashram	2.1	0.322
		Sub-Total	**18.61**	**2.853**
5	**Recreation**	Buffer	0.08	0.012
		Open Space	22.33	3.423
		Recreation	2.25	0.345
		Vacant land	7.85	1.203
		Sub-Total	**32.51**	**4.984**
6	**Traffic & Transport**	Airport	1.54	0.236
		Railway	0.51	0.078
		Road	15.74	2.413
		Transport & Communication	1.28	0.196
		Sub-Total	**19.07**	**2.923**
7	**Waterbody**	Canal	0.8979	0.138
		River & Nala	32.79	5.027
		River & Nala Dry	6.26	0.960
		Waterbody	0.47	0.072
		Sub-Total	**40.4179**	**6.196**
8	**Agriculture**	Agriculture	346.83	53.167
		Allied Activities	0.21	0.032
		Brick Klin	2.25	0.345
		Nursery/Orchard	1.94	0.297
		Vegetation	31.96	4.899
		Sub-Total	**383.19**	**58.741**
9	**Forest**	Forest	44.3059	6.792
		Sub-Total	**44.3059**	**6.792**
10	**Defence**	Defence Land	25.414	3.896
		Sub-Total	**25.414**	**3.896**
	Total		**652.3379**	**100.00**

Source: Primary Survey & Calculated Values.

Table 4-2 Existing landuse 2011 (Net-Developed Area)

Sl. No.	Existing Landuse (Net-Developed Area)		
	Landuse	Area (sq. km.)	Percentage
1	Residential	57.63	31.249
2	Commercial	25.15	13.637
3	Industrial	6.04	3.275
4	Public & Semi-public	18.61	10.091
5	Recreation	32.51	17.628
6	Traffic & Transport	19.07	10.340
7	Defence	25.414	13.780
	Total	**184.424**	**100.000**

Source: Primary Survey & Calculated Values.

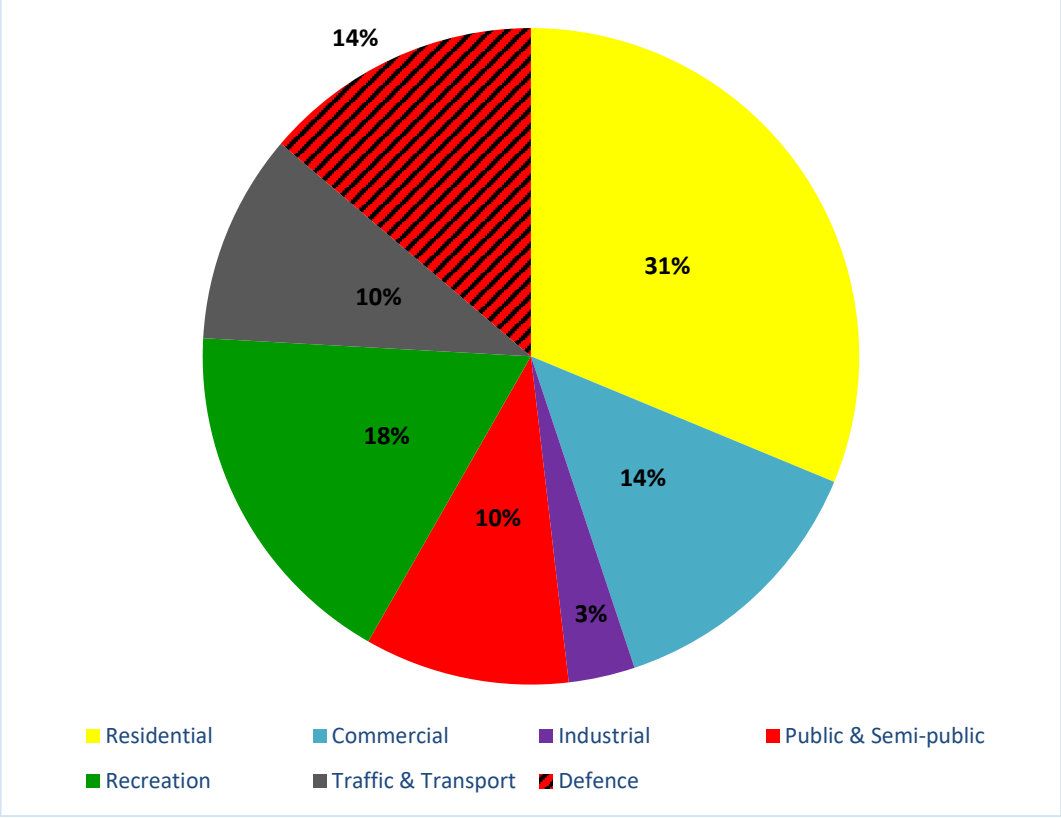
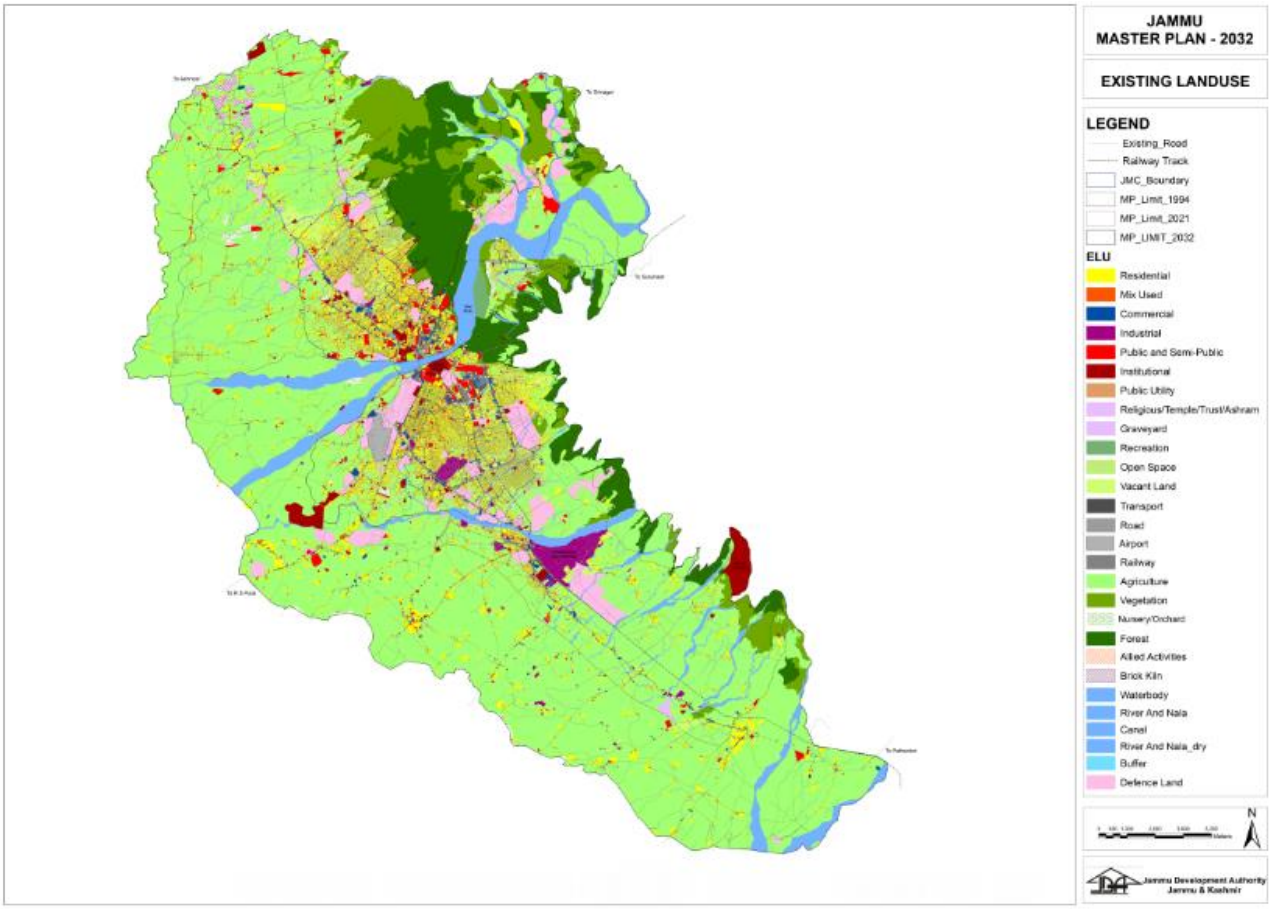


Figure 4-3 Existing Landuse-2011, (Net Developed Area).

Figure 4-4: Existing Landuse Jammu LPA 2011



5. EXISTING INFRASTRUCTURE ANALYSIS

5.1 Physical infrastructure

5.1.1 Water Supply

The present sources of water supply to Jammu city are river Tawi and ground water tapped through tube-wells installed in various parts of the city. The present water supply to the city is 193 MLD[14]. Tube wells are the main source of water supply which constitutes 75% of the total water supply. The remaining 25% water supply is met from surface water. Most of the water supply projects constructed during the period 1950s to 1970s have exceeded their original design life and have leaking distribution networks. Although the production capacity has been increased to meet the increased demand. About 35% of water produced is lost through leakage and wastage and substantial number of illegal connections. This results in lower discharge level than desired. The problem is further compounded due to old pumps and tube wells, which are unable to operate at their rated capacity and due to the problem of low voltage and frequent cuts in the power supply. A rehabilitation programme has therefore, been undertaken through Asian Development Bank (ADB) assistance and is under progress. The ADB assisted programme envisages plugging of leakages in distribution system. The replacement of machinery having out lived its designed life, taking corrective measures for erratic power supply, measures in case of failure of power supply as also partly supplementing the depleting discharge of water supply sources which have grown old and becoming defunct with the passage of time. The present water supply to the city is (193 MLD) as per details given below:

Table 5-1: Sources of water

Surface water	Ground water	Total
17 MGD	25.50 MGD	42.50 MGD

Source – CDP of Jammu city 2012

[14] CDP (Revised) of Jammu city

The present grand total water demand including O&M loss and firefighting is 195 MLD which is 2 MLD higher than present supply rate.

There is inequitable supply in the city due to the use of ground reservoirs located at high elevations, which results in high supply pressures with corresponding high leakage losses, near the service reservoirs but low pressure supply at the tail-end of the system due to the over-extended branched distribution network. The water supply to the city is intermittent with approximately 45 minutes of supply in the morning and evening hours.

Per capita water supply: Around 80% of the population of Jammu receives water at the rate of 90 lpcd which is 45lpcd and 60lpcd less as compared to desired service level benchmark of 135 lpcd of MoUD and 150lpcd requirement of URDPFI guidelines respectively.

Key Issues: The broad issues for water supply in Jammu can be outlined as:

- The entire water supply of Jammu is unmetered. In the absence of metering system, major wastage has been observed due to high Unaccounted-for Water (UFW) in city. There are high distribution losses (35%) due to leaks and high revenue losses due to water losses and illegal connections.
- Coverage of piped Water Supply connections in Jammu city is near around 94% but outside municipal area, the urban settlements and villages within LPA with less than 5% coverage.
- Treatment plants and tube wells not working to rated capacity due to old equipment and pumping machinery etc. and lack of effective Operation and Maintenance.
- Frequent cuts and low voltage in power supply which results in lower discharge of water supply.
- Inequity in supply due to extended branched distribution network.
- Complaints of dirty water from distribution network
- Coverage of entire population under water supply.
- Strengthening of distribution system

5.1.2 Sewerage and Sanitation

The city does not have a planned and a full-fledged sewerage system. Presently conservancy system of using bucket latrines which necessitates carriage of night soil from latrines by sweepers to cart trucks and then to the disposal site is practiced in few parts of the city. In most parts of the old city, night soil is flushed into Roadside drains and natural water channels causing fly nuisance and unhygienic conditions.

The sullage waters in these areas are directly disposed into River Tawi or other water bodies without any treatment. Discharging untreated raw sewage either on land or into water bodies severely pollutes the environment like water bodies viz. Lakes and streams, ground water as well as air and results in health hazards to the community exposed to it. Septic tanks are being used by the

middle and higher income groups but safe disposal of the effluent is still lacking. Many poor people resort to abominable defecation in open fields.

Besides the construction of at Bhagwati Nagar which is under progress, the following Sewage Treatment Plants are also under construction/completed:

- 27 MLD under JNNURM (Completed but not Commissioned)
- 36 MLD under Asian Development Bank (50% Completed by ERA)
- 10 MLD under State Government. (Completed & Commissioned)

In Talab Tillo, Sewerage System has been taken up in two phases which include:

- Phase-I - 37 MLD-4 Sectors (Four Sectors executed by NBCC)
- Phase-II - Sector - through UP Jal Nigam

Besides, two Sectors i.e.; Krishna Nagar and Rehari have been taken up by the UEED and four Sectors of Subhash Nagar, Janipur, Bakshi Nagar and Rehari by ERA (J&K).

As per the information collected from UEED and JMC, only 3% of the city population was connected to Sewerage System as in 2011 which is far below the 100% service level benchmark. It has been reported that 12% of the city population is without any sanitation and therefore resorting to open defecation. The situation in old city and in civil line areas is very grim where sullage from houses is drained through open roadside drains which is finally drained directly either into the River Tawi or other water bodies without any treatment.

Table 5-2: Status of sewage treatment system

Present Waste generation	Treatment capacity	Gap
162 MLD	73 MLD	89 MLD

Key issues: The broad issues for sewerage system are –

- Open defecation- 12% of the population is without sanitation facilities and resorting to open defecation. Additionally, there is no facility for community toilets.
- Discharging of raw sewage directly into Tawi River, which not only threats aquatic ecosystem but also humankind.
- Flushing of night soil into roadside drains creates unhygienic conditions. This needs to be addressed by way of providing sewerage system on priority.
- No sewage treatment plant is functioning as on date.

5.1.3 Drainage

The increase in population has created tremendous pressure on the city's natural drainage system. Although the old city has a sloping terrain yet it experiences flooding during rainy season due to the poor condition of most of the nallahs. The entire drainage system needs total revamping. The BOD levels of waters in 90% of city drains indicate that the discharge is comparable to a range of weak to strong domestic sewage[19]. The main issues related to the sector are:

- Storm water drains carry considerable quantities of raw and untreated effluents
- Lack of maintenance, leading to chocked drains.
- Lack of co-ordination in planning and construction of roads and drains
- Rainwater harvesting is not practiced in city.

In Jammu city, the road side drains serve as storm water drains. Because of steep slopes, the surface runoff quickly finds its way into the nearest drains through which it is discharged into larger drains and eventually into the Tawi River. By and large the existing drainage network is the same as the Road network. As per the Revised CDP of Jammu, 20% of the Roads have side drains which cover about 40% of the city area. Not only that most parts of the city area without any drainage system. The problem is further compounded due to chocking of drains by garbage disposals in the areas where such facility exists.

5.1.4 Solid Waste Management

At present, the city generates more than 600 tonnes of solid waste per day. However, only about 80% of it is collected and 66% is disposed off. Household Level Coverage as well as efficiency in collection of Solid waste should be 100% as per MoUD guidelines.

The uncleared waste remains littered on the Roadsides, open spaces and is even dumped into water bodies leading to unhygienic living environment. Due to dumping

In most of the areas of Jammu city, solid waste is manually collected in two stages - initially from streets, lanes and bye-lanes in the absence of garbage bin and taken to any place which is generally an open area, Roadside or at few garbage dumps. It is then taken in trucks or tractors to landfill sites for final disposal. Usually due to delay in disposal of waste, these sites become places of public nuisance.

At present, Jammu Municipal Corporation has in-house mechanism for solid waste management. The collected solid waste is dumped along the Tawi River near Baghwati Nagar, Gol Gujral. Segregation of waste is not practiced in the city. People generally throw their domestic wastes onto the streets or in drains in front of their houses. The sweepers clean these wastes and deposit in the bins provided by the Municipal Corporation.

Solid Waste dumped on land causes the following impact on the environment:

- Ground Water contamination by the leachate generated by the waste dump
- Surface water contamination by runoff from the waste dump
- Bad odour, pests, rodents and wind-blown litter in and around the waste dump
- Generation of inflammable gas within the waste dumps
- Fires within the waste dump
- Erosion and stability problems relating to slopes of the waste dump
- Epidemic through stray animals
- Acidity to the surrounding soil

- Release of greenhouse gas
- Monsoon drift of Municipal Solid Wastes is a common phenomenon
- Waste thrown on hill slopes present unhealthy sanitation
- City is misusing the sanitary landfill site and alternative methods of SWM to be worked out.

5.1.5 Roads and Transportation

The city is divided by the River Tawi into two parts, connected by way of 4 bridges across it. The Dogra-BC Road forms the main regional and intra-city traffic corridor, which includes an elevated expressway over the heavily congested areas and at-grade intersections feeding into the old city from the West. In addition, there is the NH Bye-Pass along the eastern side of the city (which take off from Kunjwani) and crosses the River Tawi to link the NH 44 with the Srinagar Road north of the city.

Minibuses are the backbone of the transport system of Jammu. There are 750 minibuses operating along nearly 50 routes. The total number of registered vehicles in Jammu has steadily increased but the Road network capacity has not expanded to cope up with the increased traffic demand, resulting in frequent traffic congestions. The congestion is made worse by the inadequate public transport system coupled with the absence of effective traffic management and enforcement measures. According to PWD Department, Jammu district has 79% Road connectivity to habitations. The total numbers of habitations are 1269, out of which about 997 habitations have Road connectivity. The number of registered vehicle in the district / tehsil has been provided below:

Table 5-3: Registered Number of Vehicles – District/ Tehsil Level

Region	Buses	M. Buses	Truck/ Trailer	Taxis	3 Wheeler	Cars	Jeeps	2 Wheeler	Others	Total
Jammu - Tehsil	5,759 (1.4%)	7,098 (1.74%)	23,498 (5.77%)	4,000 (0.98%)	14,021 (3.44%)	80,513 (19.76%)	6,496 (1.59%)	250,824 (61.57%)	15,191 (3.73%)	407,400 (100%)
Jammu	6,037	8,604	25,762	7,015	17,069	89,539	7,058	282,089	19,541	462,714
%Jammu tehsil	95%	82%	91%	57%	82%	90%	92%	89%	78%	88%

Source – RTO Jammu

5.1.5.1 Rail Connectivity

Jammu serves as the major centre for carriage of goods and passengers in the northern railways. More than 12 long distance passenger trains start / terminate here. Also a new track has been constructed joining up to Udhampur district and another new railway track has been constructed for railway line between Jammu and Katra for the pilgrimage of Shri Mata Vaishno Devi Shrine.

5.1.5.2 Air Connectivity

Jammu Civil Airport is located at a distance of 8 km. from the city and the other airports in its vicinity are Pathankot 110 km, Amritsar 250 km, Ludhiana 265 km and Srinagar 300 km. Jammu is connected by air with Delhi, Srinagar and Leh.

5.2 Existing Social Infrastructure

Compared to other cities of J & K State, Jammu has the maximum concentration of community facilities and services viz. educational, health, cultural and recreational facilities which cater not only to the local demand but also the demand of the entire Jammu region. Availability of social facilities is a key for quality urban living. Social infrastructure involves much more than the provision of core public services such as schools and hospitals. It includes provision and delivery of facilities and services necessary for a community to develop facilities pertaining to Health, Education, Sports facilities, Socio-cultural activities, Recreation, etc. This Chapter covers an assessment of social infrastructure facilities in Jammu local area which include Educational facilities like pre-primary, primary, secondary, higher education, special institutes, Health facilities like public hospitals and health centers, Recreational facilities, community halls etc., and Fire and emergency services. Hence this chapter focuses on identifying the gaps in provision of social infrastructure services in the city so as to improve the scenario through various mechanisms.

5.2.1 Education

Jammu has a number of academic, technical and medical institutions which include 364 primary schools, 114 middle level schools, 71 high/higher secondary schools, five colleges for academic studies; one Teachers Training College; two medical colleges (one Govt. owned and other private Batra Medical college), one engineering college, four polytechnics (2 no. govt. & 2 no. pvt.) and three industrial training institutes. Among these, include the 140 primary schools, 45 middle schools, 26 high/higher secondary schools and five colleges of general education exclusively for women and Jammu University. As per the data provided by Education Department of Jammu, total number of the primary schools has increased by 5% (total number of female primary schools has decreased), middle schools by 10%, senior secondary schools by 15% and total number of the colleges has increased by 50% in last 8-9 years.

Table 5-4: Existing educational facilities

College		High/Hr. Secondary		Middle Schools		Primary Schools		Total	
Total	Female Only	Total	Female Only	Total	Female Only	Total	Female Only	Total	Female Only
6	2	145	45	271	90	916	280	1328	401
9	2	172	50	300	84	960	127	2436	263

Source: Directorate of School Education, Jammu.

5.2.2 Healthcare Facilities

Health facilities are very important for the well-being of people. A number of hospitals and dispensaries have been added both in the Government and private sector to extend medical facilities and in order to preserve and promote the health standard of people in the city. The age expectancy has reached the level of 65-70 years. With the increase of population, influx of migration from Valley and development of posh localities in the city, many private medical institutions have come up. There is only 1 district level Government hospital and 7 sub-district level hospitals in the Jammu district.

Table 5-5: Health Status of Jammu

S. No.	Items	Nos.
1	Hospitals (excluding military hospitals)	9
2	Primary Health Centers (at Chatha, Gardigarh, Bishna, Bari Brahmana Sarwal and extended areas of Jammu.)	13
3	Dispensaries (Allopathic, Unani and Ayurvedic)	44
4	LCU (at Digiyana)	1
5	LRPU (at Digiyana)	1
6	Evening Clinics	13
7	Medical air Centres	3
8	Primary sub centres (in villages of extended area)	62
9	Leprosy Centre	1
10	STD clinics	2
11	Nursing Homes	17

Source: Revised CDP, Jammu

The total number of beds available in hospitals in the Jammu area is 2,602 in 2008-09. The total number of beds in the government hospitals has decreased. Therefore, it is proposed to increase the bed capacity as per the standard through both public and private ventures.

5.2.3 Recreational Facilities

At present, there are number of facilities such as playgrounds, Parks, Sports clubs, library etc. within the Jammu city limits. As the city is expanding the need for recreational facility would be in high demand so more number of such services shall be made available which can serve well within the JDA limits. Looking at the expansion of the city, the locations for new recreational facilities shall be rationally located within the JDA limit as per the URDPFI standards.

5.2.4 Communication Services and other Facilities

a) Post Office

In the Jammu district 3 head post offices are there. Adequacy of Post Offices is assessed to understand the differential requirement for the projected population of year 2011, 2022 and 2032. According to UDPFI guidelines, one post office is to be provided for 5,000 population.

b) Cultural Facilities

Patronized by Dogra Rulers, Jammu is the nerve centre of various cultural activities. Dogra Art Gallery located in Gandhi Bhawan provides an excellent display of Art of Jammu region. Ranbir Library located in Kachi Chawni and two reading rooms in Hans Raj Park and Sakshinagar meet the scholastic need of people. One stadium of an international standards with seating capacity of 51400 spectators is situated in Old Company Bagh. There is an exhibition ground with 209 stalls, one dining hall, one canteen and other facilities on the right bank of River Tawi. Other important facilities includes the Academy of Art, Language and Culture three clubs Viz Jammu Club, Amar Singh Club and Rotary Club. All these cultural centres are by and large located in old part of the city.

c) Cinemas

There are 7 cinema halls in the city and one in the cantonment area. The total seating capacity of these cinema halls is 7059 persons. This gives a ratio of 1 seat for about every 103 persons. The peripheral localities of the city depend upon cinema in the city center but newly developed colonies also need recreational facilities also.

5.2.5 Issues

1. Distribution of various educational facilities is not uniform all over the city.
2. Many lower order educational facilities are devoid of playgrounds and recreational spaces.
3. Access to the health care facilities is very low.
4. The location of playgrounds is inappropriate and not easily accessible to all the people.
5. There is a lack of organized community spaces at the city level.
6. The community level parks and playgrounds are lacking in old parts of the city.

6. HOUSING & SLUMS

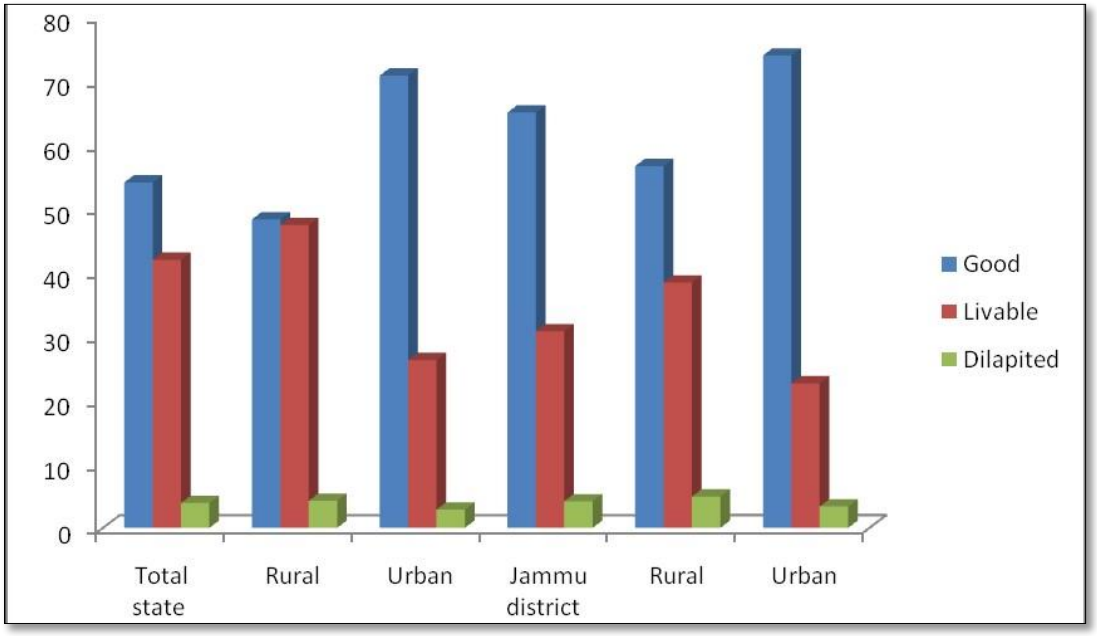
6.1 Housing

Shelter is a basic human need after food and clothing. Housing has a strong spatial relationship to the location of employment, social amenities and other urban land use. The residential development in Jammu LPA-2032 is in the form of small, medium and large settlement pockets. In Jammu district, total number of houses is 502,609, which is 13.95% of the J&K state. Out of the total houses in Jammu district, 50.65% are in rural areas and 49.35% are in urban areas. Out of total houses in urban area 88.84 % of houses are occupied in the Jammu & of these 59.07% are residential in character and 12.52% houses are Shops/Offices. Average Household size has decreased from 6 to 5 in 2001 as compared to 1971 and 1981. In the Jammu district, 70% units are in good condition and 23% units are in livable condition in urban area. While in the Jammu and Kashmir State in rural area, 70% units are good and in urban 26% room are livable.

The physical condition of census houses in Jammu shows that almost 75% of total dwelling units are permanent, 12% are semi-permanent and 12% are serviceable structure. The census data for the state shows that almost 60% housing stock in permanent and semi-permanent condition. The share of permanent houses is more in Jammu tehsil. The material of the wall is mostly bricks in Jammu district. It shows that almost 80% of total dwelling unit‘s wall is made of bricks whereas the State average is 50%. In the Jammu district and in the State, use of concrete is very less. The material of the roof in census houses in Jammu district shows that almost 75% of total dwelling units have concrete roofs, and almost 10% has grass. In the J&K state only 25% of total house roofs are cemented and 25% is made of bamboo and grass. The material of the floor in census houses in Jammu and Kashmir shows that almost 45% of total dwelling units are cemented and almost 50% are made by mud. In the Jammu district almost 60% floors are made by cement and 30% by mud. The district is having more cemented floor in comparison to the state.

The number of rooms in census houses in Jammu district shows that almost 35% of total dwelling units have single room, 30% have double room and 20% have three or more rooms. Whereas on the other side the single room dwelling unit housing share is below 30% in the State. The ownership details in census houses in Jammu district shows that ownership of total households is almost 90% which is similar to the State average. The rural area of the Jammu district is having more than 90% of owned houses. In the State, rented and any other types of houses are very less as compared to owned houses.

Figure 6-1: Residences-cum-Other Uses by their Condition



Source – HLPCA-2011

6.2 Slum Population

Notified slum settlements share small part of Jammu city population. In pursuance to the Notification HUD/Plan-148/2011 dated 6/1/2011, a Committee of officers was Constituted vide Govt. Order No MJ/PS/Com/633-40 dted 7/1/2011 for identification of slum areas as per the guidelines issued for the purpose of Census 2011. However, there are large number of informal housing clusters spread over the city which are predominantly inhabited by the service population. In addition, isolated pockets of nomadic population of Gujjar people are also found in the peripheral areas who have generated pockets of slum like conditions with discernible imprints of ruralisation with the urban ambience. The pockets of illegal growth and areas which have encroached the JDA/government land also have typical characteristics of slums. Overall all these settlements constitute about 10 percent of the city population which needs improvement in living environment. The committee conducted survey of Jammu Municipal Area and outgrowth of JMC and notified the following slums.

Table 6-1: Notified Slums in Jammu

Sr. No	Name of Area	Ward No	No of Household	Approx. Population
1	Dhounthly (lower circular rd)	1	114	600
2	Bawe basti dogra hill	8	40	270
3	Kabircolony,B.C.Road	8	45	300
4	Rajiv nagar colony	19	35	230

5	Qasim nagar colony,hotel	19	50	325
6	Gole panjpeer(om nagar)	32	500	1,395
7	Qasim nagar, bahu fort	47	70	350
8	Sheikh nagar, bahu fort	47	40	300
9	Kalka colony	48	268	1,100
10	Muthi bridge (pata palora)	61	126	480
11	Rajiv nagar	OG	600	3,000

Source: JMC, 2012.

On account of roaring land prices, the possession of a dwelling unit has become beyond the affordable capacity of poor. The city has thus got distinct growth of slum pockets around the work centres. Survey of squatters was conducted in Jammu in five areas.

6.2.1 Basic Services for Urban Poor (BSUP) Program in Jammu

There are two major BSUP projects which have been executed in Jammu. One is Rajiv Nagar project and the other is Bhagwati Nagar. Slum improvement initiatives in the notified slums have been continuing under the BSUP programme. Due to lack of funds the project timeline has been delayed. So, allocation and utilization of funds are important for the rapid completion of the projects.

6.2.2 Issues

Increasing number of slums is a major concern of the city. Many labours from eastern and central states of India come to Jammu. According to the law of the State any person from outside area cannot get the permanent land ownership. So, BSUP program cannot be effective if the slum dwellers are the migrants as they do not get the patta. Hence, there are so many un-notified slums and are increasing in the city. This issue needs to be solved carefully by notifying the slums in JDA jurisdiction and take slums improvement initiative.

6.2.3 Migration

Being comparatively safe from terrorism, Jammu has become a hub of refugees. Jammu is located in the extreme corner of the country. The city is surrounded by subsistence agricultural & industrial economics & protected by stringent regulation against settlement by outsiders. Socio-economic and political compulsions have been pushing intra-regional migration to the city which is one of the main reasons for phenomenal growth of population. In fact, in-migration to the city from hinterland is directly proportional to the impoverishment of rural economy. Subsistence agricultural practices, fragmentation of land holdings and steep rise in population have pushed more and more people out of the rural economy in search of employment in the city.

The city faced unprecedented migration of Kashmiri Hindus from valley and surrounding regions during the period 1989-94. The migrants have purchased land either to settle permanently in

Jammu or have an alternative house. In order to fill the gap of demand and supply of labour in the fast diversifying economy and flourishing construction activity, more than 40,000 to 50,000 workers have migrated to Jammu from Chattisgarh, Bihar, AP and MP in search of employment. Besides in-migration, population which constitutes military and para military forces and their families is also adding to the population annually. Darbar Move brings about 18,000 families from Srinagar to Jammu for six months during winter. Jammu acts as the centre for other cities/towns in the State due to its locational advantage. As mentioned earlier in the report, the contribution of floating population (year round due to Shri Mata Vaishnodevi and seasonal due to Shree Amarnath Yatra) is also substantial. This needs to be taken care while planning for a future, as population characteristics play a vital role for planning a city.

6.3 Future Housing Demand

The Master Plan Jammu-2032 addresses the subject of housing in its totality i.e., future demand in view of increase in population, concealed demand due to dilapidation/upgradation and aspirational changes and rehabilitation of families affected by the Master Plan proposals. The housing demand has been worked out on the basis of certain broad assumptions:

i. Household size will decrease periodically from 5.20 to 4.70 during the horizon period of 20 years;
ii. Constant annual household formation rate of 2.5% for the region;
iii. Average household to house ratio of 1.0 for the horizon period of 20 years;
iv. Anticipated population growth as per the growth rates assumed.

Table 6-2: Housing Demand (Jammu LPA-2032)

Year	Total pop.	Incremental Pop	No. of persons per households	No. of H'holds needed	No. of H'holds Available	Housing Demand	Total Deficit
2011	1105744	-	5.2	212643	208985	3658	3658
2017	1231478	125734	5	246296	-	37311	40969
2022	1369858	138380	5	273972	-	27676	68645
2027	1561644	191786	4.75	328767	-	54796	123440
2032	1773649	212005	4.5	394144	-	65377	188817

Source: PCA, 2011 & Calculated Values

The Master Plan proposes that spontaneous informal housing shall be stopped within the Jammu LPA-2032 and envisages that about 3/4th of the housing demand shall be met through government interventions, private developers and housing co-operatives. Over and above, total housing need as worked out above, the Master Plan envisages additional 5% housing (i.e. 15, 000 DUs) for institutional housing, move population (besides Darbar Move Population) from Kashmir region (during winter) and for the rehabilitation of those affected by the implementation of Master Plan proposals which shall have to be catered in phased manner.

Based on these assumptions, the total housing need by 2032 in proposed in Jammu LPA 2032 is estimated about 3.94 lac dwelling units for a population of 17, 73, 649 which is exclusive of

concealed shortage. However, for the net increase in population by about 6.68 lac from 2011 to 2032, housing demand by the horizon year of 2032 would be about 1.89 lac dwelling units across the Jammu LPA-2032. Presently, there is an apparent housing shortage of 3658 dwelling units in Jammu LPA-2032.

6.4 Proposed Housing Policy

The Housing Policy emphasizes the macro-level development of sustainable habitat with focus on reserving significant portions of land as 'green lungs of the city', protecting water bodies with special emphasis on the flood plains of rivers, ponds & developing green belts around cities using master plans for urban & regional areas as per the recommendations of the Urban & Regional Development, Plan, Formulation & Implementation Guidelines (URDPFI). The policy of the government of India recognizes the sustainability limits of existing urban settlements emphasizing the mutual inter-dependence between towns & Villages. It also reiterates the importance of small & medium urban agglomerates/towns which have potential for future urban growth. It seeks to accelerate the development of such small & medium towns which can serve as generators of economic momentum while at the same time striving to reduce the rate of migration to existing large cities.

Government of India has been focusing planned development & shelter through its schemes including basic services for urban poor, Rajiv Awas Yojna, Integrated Housing Slum Development Programme, Indira Awas Yojna & Housing for all. The basic objective of the scheme is to provide affordable housing especially for the vulnerable communities. The policy provides the basic frame work for the states & central government for facilitating the housing stock. In order to include the provisions of the Housing & Habitat Policy in vogue & to bring the Housing Policy 2004 at par with the current requirements, a new policy needs to be framed for the state. The new policy will go a long way in the production of housing in the state & target the relevant groups for affordable housing.

The main objective of the housing policy is not only to meet the housing demand by 2032 but also to improve the residential environment at large. In view of this, the Master Plan envisages ―Housing for all by 2032 through development of self-contained residential neighbourhoods with housing for all income groups of the society. The Master Plan also lays emphasis to cope up with housing sector by:

I. Encouraging the private sector and co-operative societies to contribute directly into housing sector;
II. Time-bound rehabilitation of dislocated families through Site and Service Scheme;
III. Incentivizing the private entrepreneurs and individuals in the form of housing finance to overcome the housing demand;
IV. Effective implementation of State and Centrally Sponsored Schemes of housing under which subsidized loans are provided for the development of shelter for lower income groups;

V. Taking state level structural and institutional measures to facilitate low interest loans for housing for poor.

In the light of figures worked above, it becomes imperative for the Government to accelerate the pace of supply of land and make benevolent efforts for structural up-gradation, environmental improvement and check obsolescence of the existing housing stock in the Jammu LPA 2032. Thus in planning for housing sector, the main issues for consideration should be:

- Making available a developed land by Government agencies at affordable prices especially in peripheral Planning Zones characterized by low population densities like Planning Zones Pz-_B, Pz_C, Pz_H, Pz_K, Pz_L, Pz_Q, Pz_P, Pz_N etc;
- Introduction of minimum need programs to ensure an environment of minimum normative levels with proper arrangement for drains, lanes, sanitation, solid waste disposal etc. in Planning Zones and village settlements;
- Identification of urban poor e.g. beneficiaries for Site and Service Schemes, easy access to housing finance.

To meet the housing demand by 2032, the Master Plan proposes the development of large housing colonies consistent with the landuse proposals. Economies of scale are favorable to large colonies because of reduced per capita investment on infrastructure and services development in these colonies. The Master Plan also envisages smart growth of Jammu LPA-2032 to overcome the scarcity of land and regulate sprawl of urban development in rich agricultural hinterland. Besides, the Master Plan also recommends identification of priorities in dealing with different segments of the population. Land shall be earmarked for affordable housing/EWS once the zonal plans are prepared & finalized.

6.4.1 Housing for Urban Poor:

It is enunciated to provide 20% allocation of dwelling units in the flatted group housing projects for Economically Weaker Section (EWS) and Low Income Group (LIG) preferably at cross-subsidized rates. In case of plotted housing projects, 20% of plots shall be reserved for the urban poor along with all requisite facilities as per prescribed norms. However, the promoter will have the option of either providing the housing to EWS/LIG in the same block/housing unit or other alternative place within the jurisdiction of the authority. The promoter shall provide housing to the EWS at subsidized rates through cross-subsidies. In case the Developer fails to provide housing to the EWS in the same housing unit/complex, a Shelter fee shall be paid as per the policy framed by the government.

The authority will maintain a separate account for this fund to be used for the construction of EWS/LIG housing as well as for the maintenance of services etc. in the area. The Construction cost charged in lieu of the FAR reserved for EWS/LIG in housing unit/block shall be refundable to the Promoter at the completion of the Project. The subsidies collected from the Promoter shall be extended to the EWS/LIG in case of alternative project site to make housing affordable for them. For EWS/LIG housing, the minimum plot area shall be 30 sq. mtr. The EWS/LIG dwelling units shall be G+3 storey with ground coverage and other building norms spelt out in the bye-laws.

Note:

- F.A.R/Density required for EWS shal not be counted in overall FAR of the Group Housing Scheme & shall be subject to the fullfillment of parking norms for EWS as well if provided within the group-housing scheme. Allotment under EWS scheme shall be made by the government.
- Byelws for affordable housing shall be as per guidelines of HFA (PMAY, Urban-2022).
- Allotment under E.W.S scheme shall be made by Government.

7. ENVIRONEMENT

7.1 Introduction

The topography and drainage system of Jammu region presents a unique challenge towards attaining the perfect balance between resource conservation and utilization. Due to the rapid growth of population and urbanization, the environment quality is degrading with the same intensity. Environment conservation is a major issue that needs to be tackled while planning the development of any area. Efficient measures towards conserving the natural surroundings will be adopted, since the balance between natural and manmade surroundings significantly enhances the quality of life of inhabitants. Protecting the irrigated and fertile land as well as forest area and development in the less fertile area, (kandi land) will be the aspect of the planning proposal. An appropriate balance between built and un-built areas is proposed to be established so as to provide a good quality of life to the people inhabiting the area. The incorporation of effective environmental conservation and sustainability features will be an important aspect to sustain the fast growing population.

7.2 Considerations

For the purpose of creating a sustainable environment, the Revised Master Plan proposes preservation of natural endowment elements. In view of the projections made in this master plan, Jammu city would require more infrastructure, amenities and other facilities at special scale which would generate enormous pressure on its environment. Below are the set of proposals and recommendations grouped by various issues to address; air quality, water quality, noise level, visual quality, eco-sensitive areas, heat, energy efficiency and climate change. Therefore, choice of framing any policy would require some points listed below.

1. There is a constant need to preserve natural elements like water bodies, forests and other eco-sensitive areas to ensure sustainable development and optimization of resources.
2. The untreated waste water from commercial and industrial sectors is disposed into the natural water bodies leading to water pollution.
3. With the pace of development there is a need to take higher precautions to maintain the air quality in the city due to high vehicular growth and industrialization.
4. The levels of noise have been constantly increasing due to the increase in the vehicles on the road and other Incompatible land uses, for example party plots located in residential areas, malls or a market places.
5. Development and preservation of river fronts, buffer zones, landscape areas etc.
6. Redevelopment of derelict areas left unattended inside and outside core city, along nallahs, and hill slopes.
7. Due to the hard and reflective surfaces in urbanized area, heat effect can be seen through the climate change in the city.

7.3 Ecology and Environmental Improvement

The forest hill slopes, the Tawi River flowing through heart of the city; orchards and prime agricultural areas falling in the north-west of Akhnoor Road and south-west of NH-44 towards R.S. Pura are the major environmental elements in Jammu. Conservation of major natural features in Jammu is of utmost importance to sustain the ecological and environmental balance of the region.

Jammu city is bestowed with hills and forests in the south-east and north-east running from Sapwal to Nagrota physically not in continuum but interspersed with large number of intruding settlements threatening their ecology and sustainability. The Master Plan has identified these regional green areas and asserts the City Forest Department/Forest Department to designate them as demarcated forest to check further inroads. The Jammu city which is located in the tropical climate zone, the green areas hold a significant importance to reduce the impact of scorching heat during summers. Jammu would need comprehensive and sustained efforts to make it a Green City. As such, sufficient area has been earmarked as green which shall be developed as plantation zones in terms of forests, avenue plantation, green strips within housing clusters and neighborhoods etc.

The Master Plan envisages the preservation of ambient quality by encouraging more green cover. It also proposes introduction of eco-friendly transport by encouraging CNG buses, Auto-rickshaws etc. to avoid air and noise pollution. Significant departure is also required to be made in the available means of transport and phase out the outlived vehicles which Jammu city is also witnessing radical increase in burning of biomass for domestic cooking which needs to be arrested to avoid its long-term impact environment. Industrial establishments also need to be made compatible with the standard norms to avoid damages to the environment. Brick kilns are proposed to be relocated outside the proposed Jammu LPA-2032 limits away from habitation and natural endowment areas. With level of noise already high in Jammu city, the Master Plan envisages that a detailed environmental study of Jammu city be carried out to identify the environmentally stressed zones, non-conforming uses in land use zones, along with regular monitoring of environmental quality.

7.3.1 Conservation of Forests

Forests constitute an important component of Jammu‘s ecology and aesthetics. The Master Plan proposes to declare these forests Protected and Reserved duly demarcated in the field. Following measures are envisaged to be taken to protect the forests:

a) Indiscriminate deforestation shall be prohibited.
b) Forest fires should be prevented.
c) Pests and diseases of the forest trees should be controlled chemically and biologically.
d) Grazing of cattle in the forests shall be discouraged.
e) Reforestation of the deforested areas shall be undertaken.
f) Large afforestation should be done in areas unfit for agriculture.

g) Operations called improved cutting and selective cutting should be adopted in forest management.

To protect these forests from the onslaught of urbanization, it is recommended to adopt following strategy in the preservation of forests. 'TREES' which means:

a) **T**each others about the importance of the environment and how they can help save forests.
b) **R**estore damaged ecosystems by planting trees on land where forests have been cut down.
c) **E**ncourage people to live in a way that doesn't hurt the environment.
d) **E**stablish parks to protect forests and wildlife.
e) **S**upport organizations, forest-preservation societies and pressure groups that aim to help preserve the environment.

7.3.2 Conservation of Natural Water Bodies

Jammu is blessed with a number of natural water streams and has more than 100 small and big dry khads which have flash floods during the rainy season. These seasonal nallahs should be channelized by making check dams to harvest rain water in small ponds. This will not only help in raising the ground water level but will also improve the ecology and make available some land for urban uses as stated earlier. If River Tawi is channelized at its HFL or Full Tank, Jammu can have a distinct image. Channelization will also free large areas for recreational use so that the River becomes an integral part of the city both physically and visually. The Master Plan also proposes slope stabilization especially in the eastern parts by way of balanced cut & fill or full bench fill or reinforced fill or benched slope reinforce fill whatever is advisable. The Revised Master Plan envisages that along major water courses like the Tawi River, Bahlol, Bhalawal, Thather, Dewak, Basanter etc following shall be adopted:

a) Treatment of grey and black water to maintain the quality of water in these channels;
b) Creation of regulated reservoirs of river water by tapping excess monsoon waters;
c) Facilitate ground water recharging by retention of green cover;
d) Protection of flood prone zones by way of articulating landuse planning to lessen the damage and mitigating the occurrence of flooding and development of flood prone areas to enhance city aesthetics and environment;
e) Carrying out EIA before training and covering the drainage channels of the city;
f) Regulate development along historic water canals to safeguard rich agricultural activities and ensure these remain as viable elements of urban design of Jammu.

7.3.3 Buffer Zones

For preservation of the streams within the local area, following buffer belts have been proposed as 'No-Construction Zones'. However, following uses are permitted within the buffer zones:

a) Public Utilities like STP, OHT, Electric sub-station, Water Pumping Stations, Utility Network;
b) Roads, Pathways, Cycle tracks;

c) Surface Parking;
d) Parks and jogging tracks;
e) Open to sky jetties for boating, platforms for fishing; and
f) All such uses which do not involve construction of permanent structures on temporary basis.

Proposed Buffer belts:

a) Tawi River: 50 meters from the Full Tank Level- in case of River Tawi, however, in case of built up areas; a buffer of 30 meters shall be maintained.

b) Devak: 50 meters from the Full Tank Level, however, in case of built up areas; a buffer of 30 meters shall be maintained.

c) Basantar River: 50 meters from the Full Tank Level, however, in case of built up areas; a buffer of 30 meters shall be maintained.

d) Balol, Thather and Bhalwal Khads: 15 meters from the Full Tank Level.

e) Others: Five (05) meters from the Full Tank Level in case of other water bodies shown in the PLU

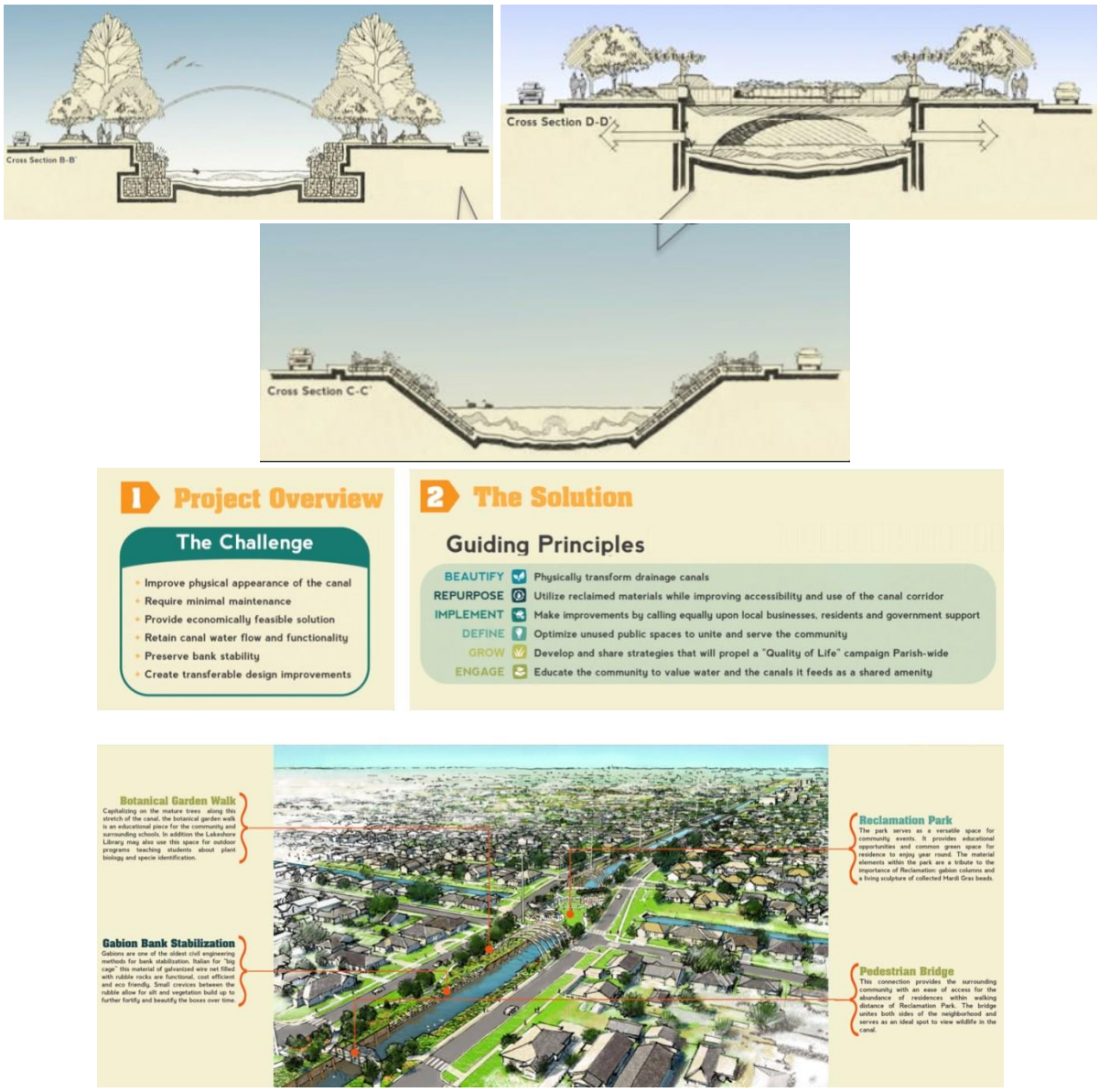
7.3.4 Conservation and Beautification of Ranbir Canal

The Ranbir Canal has the largest irrigation network of the State of Jammu & Kashmir. The main canal is 60 km in length which flows by gravity from River Chenab at Akhnoor. Its command area takes off from RD 4,000 m of main canal at Village Dumi Malpur and through its distribution system of 460 km in length (17 Nos. of distributaries, 22, No‘s of Sub distributions, 39 Nos. of minors & 4 No‘s of Sub minors 1,301 outlets), it provides irrigation to an area of 29,700 hectares upto village Nekowal on Sialkote Border of Pakistan and enroute covers three Tehsils, Five block, 12 Panchayats and 489 Villages of Jammu District.

Through Ranbir canal, ice-cold water of Chenab River flows through the city area. Along this canal, there are some patches of land, which can be developed into beautiful parks and picnic spots. As a development policy, besides using canal water for drinking purpose both sides of the canal may be developed for recreational use. Currently the canal is lying in bad condition and filled with all type of wastes and has almost become unofficial dump yard resulting in air and water pollution and related diseases in the city area.

The different parts of the canal can be developed through creation of interesting landscapes and public spaces like garden, pedestrian walkways, pedestrian bridge, musical fountain, refreshment areas, open sit-outs, etc. Different themes can be taken up to develop nodes at regular intervals all along the canal. Urban design elements like board walk shall provide necessary human interface / connect with the water element. The street furniture with special design including benches, light poles, dust bins, etc. shall help in creating a unique recreation space within the city for everyone.

Figure 7-1: Conceptual Development along Ranbir Canal



7.4 Disaster Management

The State Government identifies a strong need to have a State Policy on Disaster Risk Reduction and Management. The State Policy recognizes that hazards are inevitable but these need not convert into disasters. The State DM Policy envisages a pro-active, holistic, comprehensive, multi-hazard approach towards disaster risk reduction and management. The Policy is based on the twin principles of minimizing human suffering during disasters and reduction of financial losses through integration of disaster risk reduction activities into development planning. Owing to a unique geographical and geo-climatic setting, the State of J&K has witnessed a number of disasters, ranging from incidents of fires to destructive floods and catastrophic earthquakes. The State has witnessed many natural and manmade disasters especially in the 19th and early 20th century. In the wake of recurring disasters, the State has always paid heavily in terms of loss of life and property. Like other parts of the State, Jammu city is a multi-hazard prone area. Multi Hazards which are confronted in the city are detailed in table below.

Table 7-1: Hazard inventory for Jammu LPA.

S.No	Hazard	Areas Covered
I.	Earthquakes	As per the hazard vulnerability Atlas of India, Jammu Master Plan as a part of Jammu Division is categorized as Seismic Zone- IV which would need special measures to mitigate, minimize and safeguard the life, property and infrastructure which makes structural safety important.
II.	Floods	Upper catchments of all the tributaries of Tawi, Basanter, Devak, Bhalol, Thathar and other rivers of Jammu LPA 2032 are prone to flash floods. Lower parts of these river which are inhabited by population are also in danger of deluge during peak discharge during monsoon rains, Causeways bridges need to be erected as obstruction and prime cause of flooding in many areas of the city causing damages to Roads, houses, infrastructure, and agriculture lands.
III.	Landslides	Areas along major Roads /highways particularly areas abutting the foot hill with a soil composition of boulder and loose silt as has been seen during the rain of 2014 along Circular Road, Sidhra Bye-pass Road and eastern parts of the city which are predominately hilly areas.
IV.	Drought	Most parts of Eastern Jammu LPA 2032 which form extended parts of the hills of Jammu including areas of Bajalta, Birpur, Raya, Keran, Rajindersinghpora, Sujani, Kot Balwal, etc. are drought prone and are purely dependent on rains for agricultural activities. These areas need recharging and retention of water table for both urban and agrarian activities.

V.	Wind storm	Occasional wind storms is destroying crops, horticulture and houses in Jammu LPA 2032 is prone to high speed winds causing extensive damages to urban infrastructure and urban forestry as has been seen during the September 2014 population and traditional house construction practices.
VI.	Fires	All District Headquarters/ densely populated towns/cities of the State are prone to fire incidents. Presence of tropical forest and hot summers make Jammu city more vulnerable to fires endangering the fauna and flora of the city. However, incidents of fires are recorded in the congested parts of the city and urban poor areas.
VII.	Rail & Road accidents	Hilly Roads especially in Doda, Ramban, Udhampur, Rajouri, Reasi, Poonch, Kishtwar, Ramban, Baramulla, Anantnag, Pulwama, Budgam, Jammu, Kathua,
VIII.	Cloudbursts	All hilly areas of the State are prone to cloudbursts especially south eastern and north eastern parts of the Jammu city.
IX.	Human induced disasters	All parts of the Jammu city vulnerable to man-made disasters due to competing urban uses, high cost of land and limited land resource.
X.	Others	Human epidemics/Diseases and livestock epidemic, etc. from time to time; few of which occasionally convert into situations like disaster threatening valuable resources of the city.

Source: J&K State Dister Management Policy, 2011.

JDA should get area-specific hazard, vulnerability and risk maps prepared using GIS database for mitigation and emergency management. The plans so developed shall be operational, regularly reviewed and updated. This will help in the vulnerability assessment of the Jammu LPA-2032 after proper zonation. Specific measures like micro-zonation of Jammu LPA-2032 based on disasters and integrating it with the land use planning and zoning regulations, retrofitting of infrastructure and buildings, disaster-safe construction technology and strengthening the capacities of communities shall be promoted in a time-bound manner. The construction work and other activities that that may lead to situations eventually resulting in disasters shall be monitored regularly in vulnerable areas like water-bodies, hill slopes.

The Master Plan proposes that the facilities like hospitals, fire services, police, schools, water supply, bridges, flyovers and underpasses, electricity, grid stations, houses of VVIPs are critical in nature for post –disaster management. To ensure functioning of critical facilities, buildings occupying such facilities and falling in Seismic Zone-IV/V shall be retrofitted. JDA shall develop a clear cut retrofitting strategy at its own level for this purpose. Safety audit of all existing important public and assembly buildings shall be done within one year.

JDA shall ensure compliance of various disaster risk reduction specifications, codes and guidelines stipulated by relevant agencies which are applicable within its territorial limits. Hazards like earthquakes and cyclones do not kill people but inadequately designed and badly constructed

buildings do. Ensuring safe construction of new buildings and retrofitting of selected lifeline buildings is a critical step to be taken towards earthquake mitigation. The Building construction, material and design specifications as laid down in the National Building Code-2005 shall have to be a mandatory requirement for important and high rise buildings. In case of areas having moderate to high vulnerability of flash floods and landslides, the buffer zones envisaged in this Master Plan need to be implemented while permitting any development in such areas.

7.4.1 Fire Zones Demarcation

The area under the jurisdiction of the Authority shall be demarcated into distinct zones, based on fire hazard inherent in the buildings and structures according to occupancy which shall be called as 'Fire Zones'. The number of fire zones in the area shall be decided on the existing layout, types of building construction as defined in Part IV (Section 3.3) of the National Building Code 2005, classification of existing buildings based on occupancy as provided in Part IV (Section 3.1) of the NBC-2005 and expected future development of the city or area. However, the Master Plan proposes minimum four fire zones two each across the Tawi River. The fire zones shall be made use of Land use Plan and shall be designated as follows:

a) **Fire Zone No. 1** —This shall comprise areas having residential (Group A), educational (Group B), institutional (Group C), and assembly (Group D), small business (Subdivisions E-1) and retail mercantile (Group F) buildings as classified in the NBC-2005, or areas which are under development for such occupancies.

b) **Fire Zone No. 2 —**This shall comprise business (Sub-divisions E-2 to E-5) and industrial buildings (Sub-division G-1 and G-2), except high hazard industrial buildings (Sub-division G-3) as classified in the NBC-2005 or areas which are under development for such occupancies.

c) **Fire Zone No. 3 —**This shall comprise areas having high hazard industrial buildings (Subdivision G-3), storage buildings (Group H) and buildings for hazardous used (Group J) as classified in the NBC-2005 or areas which are under development for such occupancies.

The design of any building and the type of materials used in its construction are important factors in making the building resistant to a complete burn-out and in preventing the rapid spread of fire, smoke or fumes, which may otherwise contribute to the loss of lives and property. For buildings of 15 m in height or above, non-combustible materials should be used for the construction and the internal walls of staircase enclosures should be of brick work or reinforced concrete or any other material of construction with minimum of 2h rating. The walls for the chimney shall be of Type 1 and Type 2 Construction as classified in the NBC-2005 depending on whether the gas temperature is above 200 degree Celsius or less.

7.4.2 Restrictions on the Type of Construction for New Buildings

a) Buildings erected in Fire Zone No. 1 shall conform to Type 1, 2, 3 or 4 classification of construction of NBC-2005.

b) Buildings erected in Fire Zone No. 2 shall conform to Type 1, 2 or 3 classification of construction of NBC-2005.

c) Buildings erected in Fire Zone No. 3 shall conform to Type 1 or 2 classification of construction of NBC-2005.

7.5 Ground Water Management Strategy

Based on the annual ground water availability for future irrigation use, it is proposed that ground water development structure viz, dug wells, dug cum bore wells and bore wells can be constructed in the district. Location of structure may be decided based on local hydrogeological conditions and topography of the area after scientific surveys.

7.5.1 Water Conservation & Artificial Recharge

Depending upon climatic conditions, topography, hydrogeology of the area, suitable structure for rain water harvesting and artificial recharge to ground water is required. Roof top rainwater harvesting need to be adopted in hilly water scarce area and in urban areas and proper scientific intervention for development of groundwater is required in water scarce areas. In *Kandi* belt, number of village ponds or *talabs* and are in disuse. These ponds can serve as an effective recharging source if rehabilitated and de-silted. The other recommendations are listed below:

1. Shallow to medium depth tube wells can be constructed for developing the ground water resource.
2. Traditional resources like springs need to be revived developed & protected on scientific lines for various use. The discharge of such springs can be sustained by Construction of small check dams or subsurface dykes across nallahs/tributaries in the downstream at favorable locations.
3. Small ponds/tanks/talabs can be utilized for recharging ground water. These structures can be constructed for harvesting water and utilized for both recharging and meeting domestic needs.
4. Roof top rainwater harvesting practices must be adopted in hilly areas since the district receives ample rainfall. Because of hilly terrain, maximum rainfall goes as runoff and a very small quantity contributes towards ground water replenishment.
5. Rainwater harvesting in general & RTRWH in particular is an ideal solution for augmenting water resources particularly in slopy, hilly & chronic water scarce areas. Thus, there is a need to create awareness for water conservation and augmentation and proper waste disposal for protecting water sources.
6. Mining of riverbeds should be prohibited as it leads to fall in the water levels & it also damages natural river system.
7. People's participation is a must for any type of developmental activities. So they should be made aware for proper utilization and conservation of water resources available. In addition, micro level efforts are required for proper implementation of development programme.
8. The forests should be safe guarded in the recharge area.
9. Construction activities should be avoided in the recharge area.

10. Abandoned dug wells may be used to recharge shallow aquifer.

11. Public should be made aware of water conservation practices.

7.5.2 Artificial Recharging of Ground water

The artificial recharge to ground water aims at augmentation of ground water reservoir by modifying the natural movement of surface water utilizing suitable civil construction techniques. Artificial recharging facilitate to enhance the sustainable yield in areas where over-development has depleted the Aquifer. Conservation and storage of excess surface water for future requirements, improving the quality of existing ground water through dilution, removing bacteriological and other impurities from sewage and waste water so that water is suitable for re-use. To facilitate ground water recharging it is essential to identify availability of non-committed surplus monsoon run off in space and time. Identification of suitable hydrogeological environment and sites for creating subsurface reservoir through cost effective artificial recharge techniques. Other techniques and studies which needs to be carried out include; Hydro meteorological Studies, Hydrological Studies, Soil infiltration studies, Geophysical studies, Chemical quality of water source, Assessment of Sub-Surface Potential for Ground Water Recharge.

8. HERITAGE AND TOURISM

8.1 Introduction

Jammu is linked with other parts of the country by rail, Road and air. It is the most important entry-point to J&K State, and the city serves as a transit camp for the tourists to the valley and Pilgrims (yatris) to Shri Mata Vaishno Devi and Shri Amarnath. The tourist traffic to the Valley during the past years had suffered due to disturbances there. On the other hand, with the renovation of Shri Mata Vaishno Devi Shrine and the development of Road connectivity to Katra, tourist flow to shrine had reached over 87.0 lakh during the year 2010. Similarly flow of Pilgrims (yatris) to Amamath cave have also recorded increase of 0.60 lakh in 1995 to 1.20 lakh in 1996 and 3.50 lac in 2012. Though influx of Yatris to Shri Mata Vaishno Devi Shrine continues in all months of the years, however, the peak season for tourist traffic to Shri Mata Vaishno Devi is during Navaratra which falls in the months of April and October every year. The Amarnath Yatra is conducted every year from July to August. During peak period, Jammu accommodates about 40,000 to 50,000 Yatries/Tourists per day. With increase of number of Yatries/tourists, hotels have mushroomed in Jammu. At present, there are more than 300 hotels and lodges of different categories operating in Jammu city. Apart from this Shivkhori, Shahdra Sharif, Patnitop, Mansar are also important places that attracts tourists to the Jammu Region.

8.2 Heritage

During 1730 AD, the Dogra rulers built the city of Jammu as their capital and adorned it with numerous temples and shrines due to which it came to be known as the city of Temples. As the winter capital of Jammu and Kashmir, Jammu is one of the fastest growing cities of Northern India, and in recent years, it has also become the state's commercial hub. The city of Jammu inherits the rich cultural and architectural heritage, which signifies the identity of the city as city of Temples. There is a need to preserve, protect and conserve the heritage structures within the city. ASI recommends buffer zones around the heritage sites to control and prevent new development in the surrounding areas of heritage structures. State Department of Archeology has identified five monuments in the city as protected monuments. In addition to this, INTACH Jammu Chapter has identified a significant number of local heritage structures.

8.2.1 State Protected Monuments

a) *Bahu Fort Jammu:* The ancient Bahu Fort in Jammu is believed to be originally built by Raja Bahu Lochan some 3,000 years ago. The present fort building was completed in 1822, shortly after the coronation of Gulab Singh as the Raja of Jammu. The fort and the Mansabdar's Palace inside it were constructed in 1820. The fort is a religious place, and within its precincts is a temple dedicated to the Hindu Goddess Kali, the presiding deity of Jammu. Just beneath the fort is the terraced Bagh-e-Bahu garden laid in the style of Mughal gardens which affords panoramic view of the Jammu city. The shrine of Maha Kali is considered second only to that

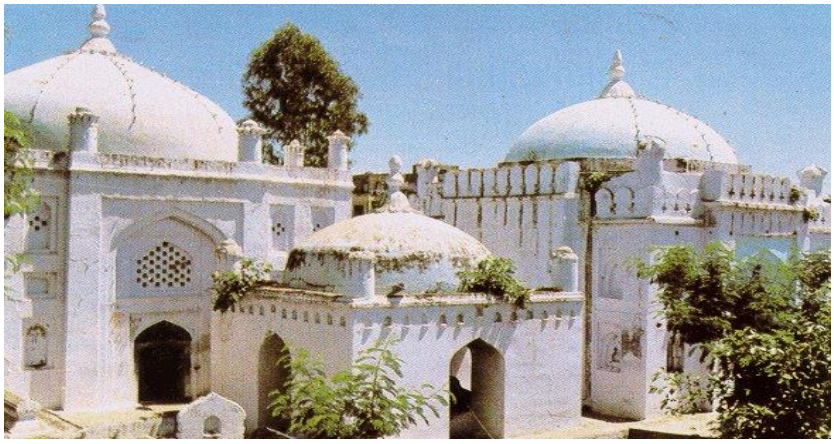
of Shri Mata Vaishno Devi in terms of spiritual power. It is better known as the temple of Bahu or Bawey Wali Mata and is located in Bahu Fort.

Figure 8-1: Bahu Fort Jammu

Source: www.mapsofindia .com

b) *Pirmitha Tomb:* Hazrat Qutabe Alam alias Pir Mitha came from Iran in 1462 & he belonged to Shia Community of Muslims. After being well known in Jammu he started preaching Islam and acted as an advocate of Hindu Muslim unity and secular values. His tomb attracts large number of people, as he was a Shia. Special functions are held on Moharram and Chelam at the Shrine. The believers pray throughout the night, recite elegies and the procession of banner is taken out from the Shrine on the 7th Moharram, go to the houses of the believers. People offer sweetened rice, pulao and sharbat at the shrine. The Alam (flag) procession is carried out on the 1Oth Moharram from his shrine and proceeds to the Karbala. The devotees gather here on Thursdays. His elder brother Syed Fateh Ali and some other persons lie buried in the compound of the shrine. Even today people come to the shrine to pay their respects and devotion to the mystic saint. He died in the year 1467 AD.

Figure 8-2: Pirmitha Tomb



Source: http://www.myasa.net/sufindia/shrines

c) *Mast Garh Shahi Masjid at Jammu:* The Mastgarh mosque is also known as Shahi Mosque and is situated at Mastgarh Mohallah in the old city of Jammu. It is the oldest Mosque of Jammu City. The Mosque was built during the regime of Raja Ranjit Dev (1500-1590 AD). The mosque has a big hall with two high Minarets (Minaar). The mosque is believed to be built by Mughal Rulers.

Figure 8-3: Mast Garh Shahi

d) *Mubarq Mandi complex, Jammu:* The oldest building of the complex dates back to 1824 AD. Successive maharajas added to the complex in size and building took more than 150 years for its completion. The architecture is a mix of Rajasthani and European baroque, and Mughal styles. The complex is grouped around several courtyards and includes various buildings and palaces like the Darbar Hall Complex, the Pink Palace, Royal Courts buildings, Gol Ghar Complex, Nawa Mahal, Rani Charak Palace, Hawa Mahal, the Toshakhana palace and the Sheesh Mahal. The halls and galleries of the palace were used for official functions and ceremonies.

Figure 8-4: Mubarq Mandi complex

e) *Jaffer Chak Masjid, Jammu:* The Mosque is located in village Chak Jaffar and was built in 1860. The mosque was used to offer daily prayers and was closed down after 1947. The mosque has the architecture of medieval period. The mosque is a listed state protected monument.

Table 8-1: List of State protected Monuments

S.No.	Name of Monument / Site	Location
1.	Bahu Fort Jammu	Bahu Fort
2.	Pirmitha Tomb	Pirmitha Jammu.
3.	Mast Garh Shahi Masjid at Jammu,	Mast Garh Mohallah
4.	Mubarq Mandi complex, Jammu	Mubarq Mandi
5.	Jaffer Chak Masjid, Jammu	Jaffar Chak

Source: Official Website of Directorate of Archives, Archaeology & Museums, Jammu, 2016

8.2.2 Cultural Heritage of Jammu

Apart from the above listed ASI Protected and State protected monuments, there are so many heritage temples and cultural heritage structures in Jammu city.

8.2.3 Policy Recommendations for Heritage Conservation

Lack of financing support mechanism for heritage structures and precincts owned by private individuals leads to the deterioration of heritage buildings and replacement by the new structures. Also these areas lack infrastructure and amenities to meet the contemporary demands. An implementation plan needs to be supplemented with a financial strategy for identifying various alternative resources for funding. Scope of financing through various agencies such as international, central, state or local governments, or private sector, public private partnership needs to be worked on. An innovative financing mechanism of Transfer of Development Rights (TDR) needs to be introduced to reduce the burden on the privately owned heritage structures and precincts.

To incentivize preservation and conservation of such structures and sites, new regulations have been introduced. This includes Tradable Development Rights (TDR). These TDR incentives vary based on the grade of the heritage structures. Depending upon the grade, the heritage structure shall be eligible for TDR Ranging from 15 to 20%.

The graded heritage structures will be eligible to receive Tradeable Rights Certificate (TRC) from Heritage conservation committee as mentioned in byelaws. Using this TRC, the structure owners shall be able to trade the FSI and generate revenue for conservation of the structure.

Conservation of heritage sites include buildings, artifacts, structures, areas and precincts of historic, aesthetic, architectural, cultural or environmentally significant nature (heritage buildings and heritage precincts), natural feature areas of environmental significance or sites of scenic beauty. There are many such historic buildings and structures in Jammu especially the old city area which need to be conserved.

Buffer zones – **prohibited** (no new development) and **regulated** (restricted development) development around state monuments: Two buffer zones (100 meters and 200 meters) around the state heritage sites and structures for regulating and controlling development in the surrounding areas are recommended as per the Ancient Monument and Preservation Act 1920 and amendment act 2010 of J&K State and Ancient Monuments & Archaeological Sites and Remains Acts of 1958 of ASI. The other recommendations are listed below:

1. Introduction of Tradable Development Rights (TDR) for listed structures.
2. Specific Parking Management Plan for Walled City shall be prepared to support Development Regulations for the Walled City.
3. Prepare detailed Heritage Conservation Plan. A Heritage Conservation Plan should take in account all the mentioned components to protect, conserve and maintain the heritage structures and precincts.
4. Potential and priorities of reuse of heritage structures as hotels, museums, commercial use etc., and heritage related tourism activities should be determined.
5. The Competent Authority should identify the ways to raise revenues for conserving the heritage structures and precincts.

6. Establishment of Heritage Cell in Jammu Municipal Corporation.
7. Prepare a visual pollution control guidelines and standards for the city.
8. Organized display of hoardings to enhance the aesthetics of the city.

8.3 Tourist Attractions in Jammu

Jammu is also known as the City of Temples owing to the number of historical temples and domes of old mosques located within the city. The places of interest from tourist point of view can be broadly classified into historical monuments and pilgrimage places which have been highlighted ahead.

8.3.1 Historical Places of Interest

a) *Bahu Fort and Temple:* - The fort is a religious place, and within its precincts is a temple dedicated to the Hindu Goddess Kali, the presiding deity of Jammu. Just beneath the fort is the terraced Bagh-e-Bahu garden laid in the style of Mughal gardens which affords panoramic view of the Jammu city.

b) *Mubarak Mandi Complex*: - The complex is grouped around several courtyards and includes various buildings and palaces like the Darbar Hall Complex, the Pink Palace, Royal Courts buildings, Gol Ghar Complex, Nawa Mahal, Rani Charak Palace, Hawa Mahal, the Toshakhana palace and the Sheesh Mahal. The halls and galleries of the palace were used for official functions and ceremonies.

c) *Amar Mahal Palace*: - Palace depicting grandeur of an erstwhile era. It was constructed by a French architect for Raja Amar Singh, belonging to the Dogra dynasty. The architecture of this marvelous palace resembles the grand Chateaus of France. The beautiful palace of Amar Mahal is made of red sand stone which is a real visual treat. The scenic background of the palace enhances the beauty of this palace manifolds. The stunning sight of River Tawi flowing below and the Shivaliks in the north will surely make your heart skip a beat or two. Dr. Karan Singh donated this palace to the charitable trust of Hari Tara. At present, this trust is responsible for the maintenance of this palace. In fact, Amar Mahal Palace at present has been transformed into a museum. It also plays host to a well-stocked library.

Source: https://en.wikipedia.org/wiki/Amar_Mahal_Palace

8.3.2 Pilgrimage Places and Temples

a) *Raghunath Temple*: Situated in the heart of the city and surrounded by a group of other temples, dedicated to Lord Rama, is outstanding and unique in northern India. Maharaja Gulab Singh, founder of the principality of Jammu and Kashmir, began the construction of the Raghunath Mandir Complex in the crowded downtown Bazaar named after it, in 1835 AD and was completed by his son, Maharaja Ranbir Singh, in 1860 AD. It consists of a cluster of temples and is the largest temple complex in northern India. Its inner sanctums contain gigantic statues of deities and numerous 'lingams'. It contains representatives of almost the entire Hindu pantheon, though the emphasis falls on the various incarnations of Lord Vishnu, which make it a rare site to be hold. The complex houses a rich collection of ancient texts and manuscripts. The inner walls of the main temple are covered with gold sheet on three sides. There are many galleries with innumerable 'saligrams'. The surrounding temples are dedicated to various Hindu deities from the epic Ramayana.

Figure 8-5: Raghunath Temple

b) *Kolkandoli Temple, Nagrota*: Temple houses a ‘pindi’ of Mata and a brass idol of Ashtah Buja riding on lion. Pindi is said to be of salt. According to the legends, temple was originally constructed by Pandvas during their exile. Pilgrims going to Mata Vaishno Devi first pay their homage to Mata at this place. In local lore it is the first halt on the way of Mata Vaishno Devi Shrine. It is believed that Mata Vaishno Devi meditated here for twelve years, during Duwaper period and used to take swing on the tree with the devotees. Outside the temple there is a Havankund, a Peepal tree and a Well. Water of the well is said to have medicinal properties. Later on other temples and idols were added to the temple complex.

Figure 8-6: Kolkandoli Temple

c) *Shivnabh Temple*: This was the royal temple of the Dogra kings and is located inside Mubarak Mandi Palace. The temple is built with a flat roof in Thakur Dawara style. The deity is worshipped in the form of Salagrams which are placed inside a silver bangala in a small golden temple. The temple was renovated by Maharaja Ranbir Singh in 1885. This temple contains important memoirs of Dogra kindom and holds a place of importance in Dogra history.

d) *Panchvaktar Temple, Panchvaktar Road:* Panchvaktar (five faces) Mahadev Mandir (temple) occupies a unique place, in Jammu. Locally known as ―Paise Wala Mandir, the floor of the main temple is embedded with silver coins. It is one of the oldest Shivalya in the city. Old tales and oral histories state that Adi Shankryacharya visited this site and stayed there; while some believe that it was discovered much later, during the reign of Raja Mal Dev, in early 14th century. The Lingam in this temple is self-manifested (Aap Shambu).The temple is situated at Panch Vaktar Road, Jammu.

Figure 8-7: Panchvaktar Temple

e) *Peer Khoh*: Peer Kho cave temple were built in the reign of Raja Ajab Dev during the 15th century. Peer Khoh is a cave shrine located on the Circular Road. There is a naturally formed Shiva lingam in the cave which is quite mysterious as neither its antiquity nor its cause are

known and it is widely believed that Ramayan character Jamvant (the bear God) meditated in this cave. Legend has it that the cave leads underground to many other cave shrines.

f) *Nagbani Temple, Nagbani*: The legend follows the Basak Nag, king of the snakes, is the presiding deity of Bhaderwah. Lord Shiva gave him a boon, because of which he has four sons. The temple at Nagbani is dedicated to the third son, Nag Raj of Tallan. The temple (not the present structure) is said to have been established in 15th century AD. Nagbani means the forest of the great snake'. Like all old temple of importance, Nagbani is set inside a substantial 25 acre forest. The complex includes a small pond and an ant hill (bambi) inside the Nag Devta temple in the west. The temple's own festival is held on the day after Baisakhi and other festivals are Shiv Ratri and Nag Panchami.

The other important temples include Baid Temple (kattal batal), Raghunath Temple, Ranbireshwar Temple, Gadhadhar Temple, Sardaren Da Mandir, Dauji Temple, and others.

8.3.3 Other Tourist Places

a) *Ranbir Canal*: A small garden along the Ranbir Canal, which runs through the city outskirts, provides a cool picnic spot during the summer. The canal branches off from the river Chenab at Akhnoor, 32 kms away. Its water remains ice-cold throughout the year and its banks serve as good viewpoints and walkways.

Figure 8-8: Ranbir Canal

b) *Shopping Bazaar:* Shopping in Jammu shares a charmingly contradictory aspect where among the age old dry fruit shops, you'll find designer boutiques that display the very latest in fashion and fashion accessories. Here the main bazaars – Vir Marg, Raghunath Bazaar and Hari Market – are famous for Kashmiri handicrafts, traditional Dogra jewelry and various dry fruits, chiefly walnuts ('akhrot') and almonds. Jammu is also known for the superlative quality of its 'basmati' rice, 'rajma' (red beans), 'ampapar' (dried and candied mango peel), 'anardana' (dried pomegranate seeds) and 'barfi' (milk sweets). For purchasing authentic Kashmiri handicrafts, one can visit the J&K Government Arts Emporium near the Tourist Reception Centre on Residency Road. The emporium displays and sells a wide variety of handicrafts, including Pashmina shawls and exquisite handknotted carpets of silk and wool.

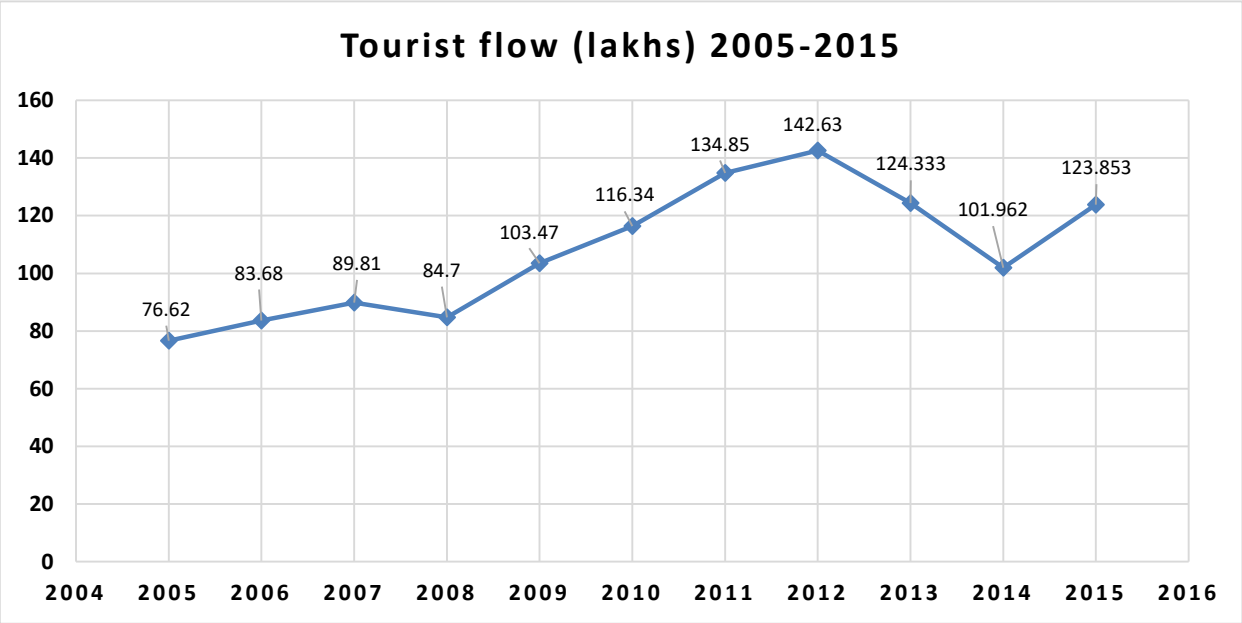
8.3.4 Tourist Flow

Table 8-2: Tourist flow to Jammu (Lacs) 2005-2015

Year	Sh. Mata Vaishno Devi Ji	Shivkhori	Shahdra Sharif	Patnitop	Mansar	Suchet Garh R.S Pura	Chichi Mata	Sukhrala Mata	Mata Bala Sundri	Total
2005	62.52	3.06	4.8	2.8	3.44	NA	NA	NA	NA	76.62
2006	69.51	3.48	5.77	2	2.92	NA	NA	NA	NA	83.68
2007	74.18	4.54	6.6	1.97	2.52	NA	NA	NA	NA	89.81
2008	67.92	5.21	7.16	2.68	1.73	NA	NA	NA	NA	84.7
2009	82.35	8.65	7.87	3.03	1.57	NA	NA	NA	NA	103.47
2010	87.49	10.73	12.04	3.54	2.54	NA	NA	NA	NA	116.34
2011	101.15	12.79	12.81	2.97	5.13	NA	NA	NA	NA	134.85
2012	104.95	19.44	9.85	4.25	4.14	NA	NA	NA	NA	142.63
2013	93.236	14.532	9.519	2.498	4.148	0.4	NA	NA	NA	124.333
2014	78.015	5.217	9.187	4.075	4.818	0.65	NA	NA	NA	101.962
2015	77.763	12.068	9.938	6.035	4.38	0.493	9.12	3.059	0.997	123.853

Source: Department of Tourism Jammu, 2016

Figure 8-9: Tourist flow



Source: Department of Tourism Jammu, 2016

8.3.5 Tourist Accommodation

A widely variety of accommodation ranging from 'A' Class and heritage hotels to modest guest houses and even Dharamshalla are available throughout Jammu City.

Table 8-3: Existing bed capacity

Category	A-Class Hotels	B-Class Hotels	C-Class Hotels	Total
Total Number	7	42	227	276
No. Beds	494	575	12141	13210

Source: Department of Tourism Jammu, 2016

Table 8-4: Accommodation required by2032

Year	Tourist Population	Supply (Bed)	Demand (Beds)	Analysis
2015	12385300	13210	19204	5994 Beds Deficit
2032	15325200	-	23767	10, 557 Beds Required for 2032

Source: Department of Tourism Jammu, 2016

8.3.6 Policy Recommendations for Tourism

Jammu, needs to be developed as a destination catering to mass tourists. Considering Jammu's close proximity to Katra and the presence of temples, the city should be developed as an excursion cum religious destination in the long run. Since Jammu is a focal point for Pilgrims/tourists coming in to visit the shrine of Shri Mata Vaishno Devi and acts as a starting point for road travelers to Kashmir, Poonch, Doda and Ladakh, the city is practically full of Tourists throughout the year.

As per analysis, Jammu requires 19,204 beds per day to cater the religious tourism in the peak season. Given the tourist importance to Jammu City, adequate area has been proposed to cater to the potential tourist accommodation along Raipur-Jagti Link Road in Planning Zone Pz-D, along Tawi River near Bajlta, Majeen near Golf Course in Pz-F and Sangwal in Pz_R. Apart from designated areas as shown in the Proposed Landuse Plan for the development of tourist infrastructure, provision has been made to permit tourist accommodation infrastructure in the proposed District and Sub-District Centres as well as under the Composite Mixed Landuse Policy of this Master Plan.

Jammu city serves as a base to almost all the pilgrims going for Mata Vaishno Devi Shrine. But very few tourists/ pilgrims choose to stay for a day or two in Jammu because the tourism products offered in Jammu city are very limited. This poses a problem to engage tourists in the city for more than a day. As per the tourist footfall projections, Jammu city requires at least 5994 additional rooms at present and 10,557 rooms by 2032 to accommodate its tourists. Also tourism product planning in Jammu city should ensure that it can retain tourist at least for a couple of days.

a) Recreation/Tourism:

Apart from the reserved and protected forests which form an important component of natural ecology, a hierarchy of open spaces needs to be developed to meet the active and passive recreational requirements. Around 33.29 sq. km. i.e., about 9.38% of the developed area is earmarked as parks and open spaces which work out to be 1.65 hectare per 1000 population. There is a severe need to identify and develop a number of public open spaces in the old city which can be made possible by shifting incompatible activities from this area. It is also proposed that JDA land which is allotted to Asaram Ashram be partly developed at Exhibition Ground and part of it be developed as an Amusement Park in Planning Zone Pz_A1. It is also felt that completion of following ongoing and proposed tourism and heritage projects will give impetus to tourism sector in Jammu:

1) Tawi Riverfront development up to Nagrota.

2) Conservation and Beautification of Ranbir Canal.

3) Cable Car and Ropeways.

4) Development of Mubarak Mandi and other heritage spots.

5) Renovation and conservation of Peer Baba Mazaar Heritage Site in Cantonment area.

6) Development of Peer Kho Shrine on Circular Road as a tourist destination.

7) Re- modeling of Raghunath Bazaar as a Heritage site: Raghunath bazaar renowned for its age-old dry fruit shops, is a busy market wherein one can get designer boutiques and the shops showcases the very modern in fashion and accessories. This market is also well known for traditional Dogra Jewellery and Kashmiri handicrafts. Dry fruits are of great attention in this market, mainly walnuts and almonds.

8) Up gradation of Tawi Golf Course and construction of club house in Planning Zone Pz_F.

9) Space across the 4th Bridge of Tawi River is proposed to be as JDA Club in Planning Zone Pz_A1.

10) Children park on the left side of the Tawi River adjacent to the artificial Tawi Lake in Planning Zone Pz_J.

11) Besides existing stadium at Sidra, two more stadia are also proposed one each in the North and South of the Tawi River. In the South, one number stadium is proposed near SKAUST in Planning Zone Pz_R. Another stadium is proposed near Mishrewala in Planning Zone Pz_C.

12) The Master Plan proposes Jammu to be developed as epicentre of pilgrim and leisure tourism by developing regional and local trouist spots like Surinsar, Mansar, Shadra Sharief, Shiv Khori, Gharana wetland in RS Pura, Artificial Lake in Tawi Ravi near 4th bridge, Environment Park near Raika, Wildlife Park at Manda and beautification of Ranbir Singh Canal with special impetus on promotion of water sports. The Master Plan also envisages promoting heritage tourism by developing Mubarak Mandi, Bahu Fort, Ragunath Mandir, Peer Baba Mazaar Heritage Site in Cantonment area, Peer Kho, Maha Maya Temple, Mahraja Hari Singh Palace, Gurudhwara Bibi Chandkour, Tawi River as Surya Putri /Hariki Paudi and other temples giving name to Jammu City.

b) Proposed Tourism Products:

Vision Document and Master Plan for "Sustainable Tourism in the State of Jammu and Kashmir" 2032 highlights some important recommendations for up gradation of the tourism in Jammu city

1. *Parks:* Jammu city currently does not have any parks where tourists can relax and pass some time. After a day of travelling through the city, a good park, with lots of clean open spaces and greenery will help tourists unwind.
2. *Heritage walks:* To explore the Cultural and Heritage Tourism of the city including the forts, Heritage walks should be introduced. The estimated length of the walk would be around 3-4 km and would help in engaging the tourists for the entire day in Jammu. The funding of the tourism product can be done by the Department of Tourism.
3. *Heritage Hotels:* The identified Local heritage buildings (Private& Public) can be converted into hotels and guest houses on Public partnership mode subject to the clearance from Heritage Conservation Authority.
4. *Light and Sound Show:* Another key product that would attract the tourists in Jammu city is a light and sound show for one of the forts either in Bahu Fort or the Amar Mahal Palace Museum. The light and sound show would basically highlight the culture and history of Jammu and would be a good evening tourism. This would essentially be able to fill the gap in terms of a lack of evening tourism product in Jammu. The funding of the tourism product can be done by the Department of Tourism
5. *Haats:* In order to retain tourists in Jammu and providing a good outing option in evening, one of the key products could be a haat. The haat will not only showcase local handicrafts and eateries of the state and specifically of the Jammu city, but will also have some sort of cultural shows and religious show depicting the history, culture and religion of this place.

6. *Adventure Tourism:* Tourism department should identify the circuits for development of cycle tracks.

c) Key recommendations:

1. *New tourism products*: New tourism products, as suggested above, must be commissioned soon. This would help tourist retention in Jammu city.
2. *Easy Information availability*: It must be ensured that tourists are able to get information about different places, tourism products in Jammu city easily. The TRCs at railway station, airports, taxi/ bus stand must be adequately staffed with updated pamphlets for each location available all the time. Tourists should also be able to get information regarding other destinations in Jammu region easily. Pamphlets should carry updated information regarding travel, stay options, tourism products, approx. budgets and destinations. Kiosks should be setup at different key locations of the city and every prominent hotel should have updated information. Also, the website must be regularly updated with event information happening at different destinations, apart from regular information regarding each location.
3. Up gradation and regular maintenance of airport, railway station, bus and taxi stand.
4. Development and integration of heritage sites as tourist destinations to promote the local tourism of Jammu City.
5. Surinsar and Mansar lakes should be developed as regional tourist destinations of Jammu city.
6. Collaboration of Taxi, Auto Rickshaws with Tourism Department. Local Auto Rickshaws operators & Taxi drivers should be trained, engaged for the overall efficiency, and sustenance of Tourism in Jammu City.
7. Ensure Infrastructure provisions for the existing tourist products in terms of Parking, restaurants, cafes, convenience centers, accessibility etc.
8. The feasibility study should be conducted for developing the new places of tourist interest such as amusement parks, artificial lakes etc.
9. Construction of footpaths, road signs and removal of encroachment on roads so that tourists can have space to walk in specialized markets.
10. Last but not the least, there should be better traffic management so that travel time taken between two tourist places can be reduced.

9. DEVELOPMENT ISSUES, VISION AND PLANNING STRATEGIES

Jammu is the largest urban settlement constituting about 2/3rd of the urban population of the Jammu province. It also acts as a regional primate city with significant impact on its region. The city is capable enough of generating economic momentum in sustained manner instead of remaining as an isolated centre of economic activity. As a growing city, benefits of its urban vivacity need to effectuate so that cumulative benefits are not only reaped by its residents but transcend the boundaries of wider spectrum of interspersed urban settlement.

For achieving this, future urban planning decisions need to be based on the judicious disposition of activities along with greater planning expediency to align its role for prosperity and planned urban development. The planning decisions of the Revised Master Plan are consciously aimed at sustained and planned city development. It is also a fact that Jammu city has shown economic and demographic momentum. In order to generate positive urban development, the Master Plan would focus on conscious decisions to provide impetus and support to anticipated urbanisation.

9.1 Development Issues

The following have been identified as critical issues that need to be addressed immediately for Strategic and Comprehensive Development of the Jammu LPA-2032.

- The accelerated population growth and its dispersal pattern across the Jammu LPA-2032 has resulted in urban sprawl within the Planning Area.
- Growth of unauthorized settlements and mushrooming of squatters are viewed as a major planning challenge in the sustained growth of city.
- Disconnect between the increasing pressure of population growth and city infrastructure is a major concern impeding Jammu to become a vibrant city with good quality of living.
- Insufficient road widths, inefficient public transport, lack of parking, congestion, missing links etc result in a very poor transport system in Jammu.
- Rampant landuse violations and building encroachments which are wide spread in the four corners of the city.
- Degeneration of the old city
- Deterioration of existing rivers and water bodies and other natural resources.
- Policy inertia towards attracting more investments for the implementation of master plan projects in the region.

9.2 Vision

The vision of the Master Plan of Jammu-2032 is – “to strive for making proposed Jammu LPA-2032 prosperous, Environment and Disaster Resilient overcoming the intra city disparities by equitable access to all basic infrastructure to all the section of the society.”

Therefore, Vision-2032 is to develop Jammu as an important Regional Capital City-centre which among others warrants substantial planning, and provision of adequate infrastructure, services and conservation of heritage and preservation of environment within the framework of sustainable development.

9.3 Planning Principles

The Guiding Principles for preparation of Jammu Master Plan 2032 are derived from planning experiences and challenges confronted in the city which include as following:

- Environmentally and Ecological Suitable Development
- Transit Oriented Development
- Local Economic Development
- Sustainable and Integrated Transport System
- Preservation of Vitality and Viability of City Core
- Inclusive and Collaborative Integrated Urban Development
- Mixed-use Development Policy

9.3.1 Environmental and Ecological Suitable Development

The topography and drainage system of this region presents a unique challenge towards attaining the perfect balance between resource conservation and utilization. The incorporation of effective environment conservation and sustainability features will be an important aspect in the preparation of this Master Plan. Environment conservation is a major issue that needs to be tackled while planning the development of any area. Efficient measures towards conserving the natural surroundings will be adopted, since the balance between natural and man- made surroundings significantly enhances the quality of life of residents.

Protecting the irrigated and fertile land as well as forest area and development in the less fertile area, (kandi land) will be the aspect of the planning proposal. An appropriate balance between built and un-built areas is proposed to be established so as to provide a good quality of life to the people inhabiting the area.

9.3.2 Transit Oriented Development

Transit Oriented Development is compact, mixed use development within easy walking distance of a transit corridor. Its pedestrian-oriented design encourages residents and workers to reduce use of personalized vehicles and use mass transit more often. These settlements are usually moderate to high density compatible with the existing scale of development, and can be new construction or redevelopment. Mixed uses include residential, commercial space and office space, or a combination of the same. The success of TOD depends on a variety of characteristics. TOD is development designed to create connections between communities and transit the system in a way that encourages its use through walking and cycling instead of creating dependence on automobiles. The transit character of the city to be strengthened through appropriate infrastructure

decisions and planning efforts. A well designed TOD displays the following physical characteristics:

- Mixed land use and compact higher residential densities than typical development.
- A transit stop or station that is a center of activity easily accessible via all modes of transportation.
- Pedestrian and bicycle friendly. Pedestrian-oriented design encourages residents and workers to use mass transit more often.
- Provides adequate amenities and open spaces for the linear city, extremely efficient with respect to community.
- Compact, mixed use development within easy walking distance of a transit corridor.
- Judicious disposition of activities especially new railway station, along major Roads to ensure transitory population stop-over at Jammu.

TOD‘s success depends on the benefits it brings to a particular community. Each community has different goals and objectives for transportation and land use planning, whether promoting reinvestment in older towns or reducing traffic congestion in rapidly growing suburbs.

9.3.3 Local Economic Development

Jammu besides being an important transit place in its region is a gateway to Kashmir. Therefore, locational advantage of Jammu from economic and tourism point of view needs to be viewed as important economic ingredient. The Jammu LPA-2032 is yet take-off economically. WFPR is below 30% with secondary sector workers participation less than 2%. To rejig its economy, local economic indicators need to be identified and objectively assessed for taking policy decisions. To improve the economic development in the region, restricting of the economic sectors has to be carried out for diversification and strengthening of economic base of the city. Job-oriented landuses have to be propagated in the master plan so that present level of unemployment in the region is drastically brought down. The Jammu city shall have to be made economically vibrant with greater opportunities of jobs for its youth.

9.3.4 Sustainable and Integrated Transport System

Jammu district has the highest vehicle growth in J&K and the city is transforming very fast in its physical and socio-economic dimensions. Traffic congestion, parking, insufficient Road widths, decreasing Level of Service (LoS) of most of the city Roads, inefficient public transport, etc are some of the problems of urban transport and transport network in Jammu city. Apart from this, like other cities there is complete disconnect between landuse and transport network. Keeping this in view, attempt has to be made to connect the two in scientific manner to make the landuse plan more functional. As a conscious policy decision, it has been guiding planning principle for this master plan to integrate the transport proposals enunciated in the City Mobility Plan of Jammu with the landuse plan. Most of the CMP proposals have been kept intact in this master plan and made basis for structuring the disposition and intensity of landuse as per TOD.

9.3.5 Preservation of Vitality and Viability of City Core

Jammu is a historic city with abundance of heritage resources. Besides, it is the main hub of business and commerce in Jammu. It is the administrative seat of the Jammu district. Old city is a heavily populated area with residential densities far ahead than other parts of the city. All these characteristics make the core city a special area in terms of environmental, social, cultural and economic variables. While addressing these development variables, important consideration is to sustain the growth without causing large-scale redevelopment and shifting of economic activities from the core city. Major emphasis will be laid on the preservation of heritage resources and sustenance of economic growth in the old city.

9.3.6 Inclusive and Collaborative Integrated Urban Development

The Jammu LPA-2032 is spread over 324 villages which also includes newly added 103 settlements predominantly rural in character. The countryside is viewed as a potential area of urbanization for Jammu city in next two to three decades. The basic planning principle is to create a sustainable blend of rural-urban continuum. The growth is proposed to be inclusive of all income groups integrating sectoral vision for holistic development of the region.

9.3.7 Mixed-use Development Policy

9.3.7.1 Concept

Any building(s) having a combination of more than one use at a specific point of time is said to have ‘mixed use’. For example, a building having one use in the ground floor and other use(s) in the upper floor(s) is said to have mixed use. The mixed use shall not be misconstrued with the mixed use of a plot or a parcel of land. It is a vertical land use change of a building across its floors rather than a change over space laterally. Mixed use is always a combination of main use and the uses which are incidental to the main use. While the main use is defined as the Primary use, the incidental use is construed as Secondary use. It is an important planning tool to accommodate the unforeseen land use changes resulting because of competitive market forces in city centres and along important streets. Mixed use has also become inevitable because of limited scope for horizontal expansion as well as scarcity of land in such areas. For example, commercialisation along main arterials within the residential areas is an illustration of land use conversion resulting because of such factors. The main requisite underlined for the mixed use model is the compatibility of the uses in terms of their type and intensity. In no case, the uses defined as obnoxious or hazardous in this master plan under land use regulations shall be permitted under mixed use category. The secondary use has to be essentially subsidiary or conforming in nature like convenient shopping, primary health and education facilities and basic public services and amenities having manageable impact on the surrounding land use. However, this trend has to be regulated and restricted as prescribed in this Master Plan for numerous benefits and as such, has been for purposes of this Master Plan defined objectively to avoid its misuse while issuing building permissions. For purposes of this Master Plan, mixed use is defined where:

"**A building or a set of buildings is said to have a combination of more than one use at a particular point of time with main (primary) use accounting for not less than one half of permissible FAR/FSI as envisaged at sub-chapter 13.5 of Devlopment control regulations (DCRs)". 33% FAR/ FSI can be used as Commercial/health/education use and 17% FAR/ FSI can be used for professional offices i.e. Doctor's consultation chambers/ Dentists, Lawyers, Architects, Chartered Accountants or alike of similar magnitude. This shall be applicable to designated core areas only.**

In case of mixed use distribution, the secondary use shall be restricted to one floor only (preferably the ground floor) which is more susceptible to land use changes. While issuing the mixed use permits, care should be taken to consider the Secondary use as ancillary use to the main use in size and scale within the structure.

9.3.7.1 Composite Mixed Landuse Model

As a policy measure, the proposed land use is viewed as a Composite Use broadly segregated and integrated across sectoral uses. As an inherent flexibility in the Proposed Landuse Plan, it is proposed to calibrate and to integrate the proposed land use to the hierarchy of road network in a horizontal mix, however, essentially segregating the hazardous and obnoxious uses. The policy is applicable to those uses which have been made permissible in a particular landuse. For example, the commercial, public-semi-public/industrial/recreational uses proposed as permissible in a residential use shall be guided by the parameters laid down under DCRs at section 13.5 of this Master Plan. In case of Composite Mixed Landuse Model, plot depth up to 1.5 times of proposed RoW from edge of the abutting road shall be allowed for mixed use development. In case the plot depth exceeds the mixed use limit of 1.5 times RoW, remaining part of the plot shall be allowed for ancillary uses to the main use or use prescribed in the proposed Landuse Plan subject to fulfilment of other norms.

In this Master Plan, a Composite Mixed Landuse Model is envisaged along the designated roads based on their proposed RoW. It is envisaged that the roads having proposed RoW laid down under DCRs at 13.5, a horizontal mix of landuses under Composite Mixed Landuse Model is proposed which shall be regulated by the respective space standards and building regulations of each use.

10. PROPOSED LAND USE

Land suitability analysis is the primary criterion used for the allocation of different uses using the grade of slope, forest cover, plantation, water bodies, natural drainage, agricultural productivity of land etc. It is firmly believed that the policy of land use based on suitability studies forms an essential part of the landuse planning which should enable the Jammu Development Authority to regulate the construction work within its Local Area. The Suitability analysis is a scientific technique to categorize the areas as per their sustainability and fragility. The basic objective of carrying out sensitivity analysis is to evolve an ecologically and environmentally sustainable landuse model for the area. The ingredients used for this analysis have been taken from the SWOT Analysis which is produced as Annexure–D.

Following table explains the proposed land use in the JMP area with a break up of percentage of land under different land use/ land cover. The additional area requirement will be met with inclusion of new administrative boundaries with the existing JDA boundary. The additional requirements will tentatively involve 103 village /administrative units after the verification from the Revenue department, Jammu and JDA.

Table 10-1: Proposed Land use JMP-2032 (Gross-Proposed Area)

Sl. No.	Landuse	Landuse Classification	Area (in Sq. Km.)	Percentage
1	**Residential**	Residential	164.867	25.273
		Sub-Total	**164.867**	**25.273**
2	**Commercial**	Commercial	35.270	5.407
		Slaughter House	0.169	0.026
		Sub-Total	**35.439**	**5.433**
3	**Industrial**	Industrial	10.493	1.608
		IT Park	1.407	0.216
		Sub-Total	**11.899**	**1.824**
4	**Public & Semi-Public**	Graveyard	0.033	0.005
		Institutional	10.490	1.608
		Public and Semi-Public	26.125	4.005
		Public Utility	4.416	0.677
		Religious/Temple/Trust/Ashram	2.250	0.345
		Sub-Total	**43.313**	**6.640**

5	**Recreation**	Open Space	11.287	1.730
		Railway Buffer	0.881	0.135
		Recreation	5.680	0.871
		Waterbody Buffer/Buffer	15.482	2.373
		Sub-Total	**33.329**	**5.109**
6	**Traffic & Transport**	Airport	1.837	0.282
		Proposed Parking	0.063	0.010
		Proposed Road	32.390	4.965
		Railway	1.099	0.168
		Transport	2.820	0.432
		Sub-Total	**38.209**	**5.857**
7	**Agriculture**	Agriculture	94.844	14.770
		Nursery/Orchard	1.648	0.253
		Urban Agriculture	85.981	13.180
		Vegetation	30.527	4.680
		Sub-Total	**213.000**	**32.883**
8	**Forest**	Forest	43.806	6.715
		Sub-Total	**43.806**	**6.715**
9	**Waterbody**	Canal	0.898	0.212
		River and Nallah	32.790	4.928
		River and Nallah_dry	6.260	0.741
		Waterbody	0.470	0.083
		Sub-Total	**40.418**	**5.965**
10	**Special Area**	Cantonment/Defence Land	25.414	3.896
		Old City	2.644	0.405
		Sub-Total	**28.058**	**4.301**
	Total		**652.3379**	**100.00**

Source: Primary Survey & Calculated Values.

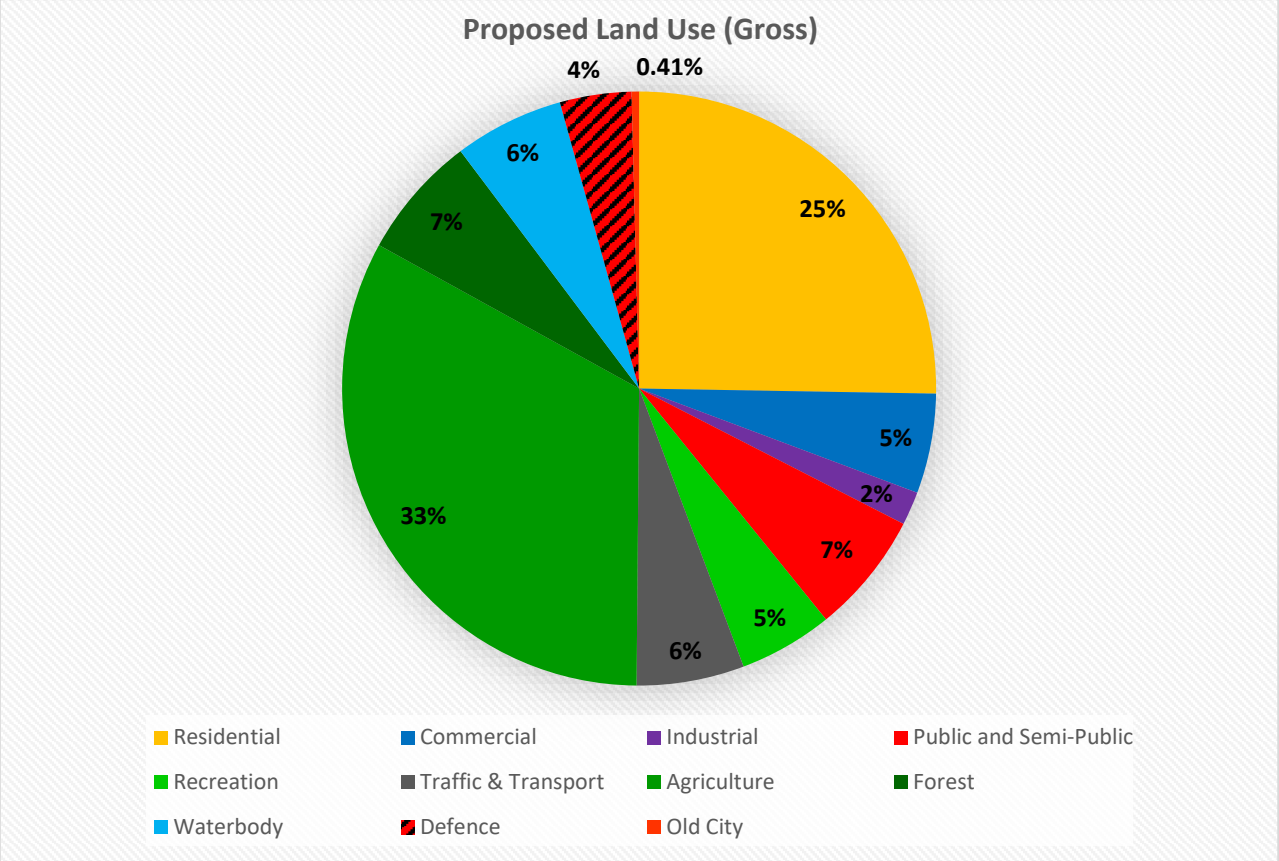
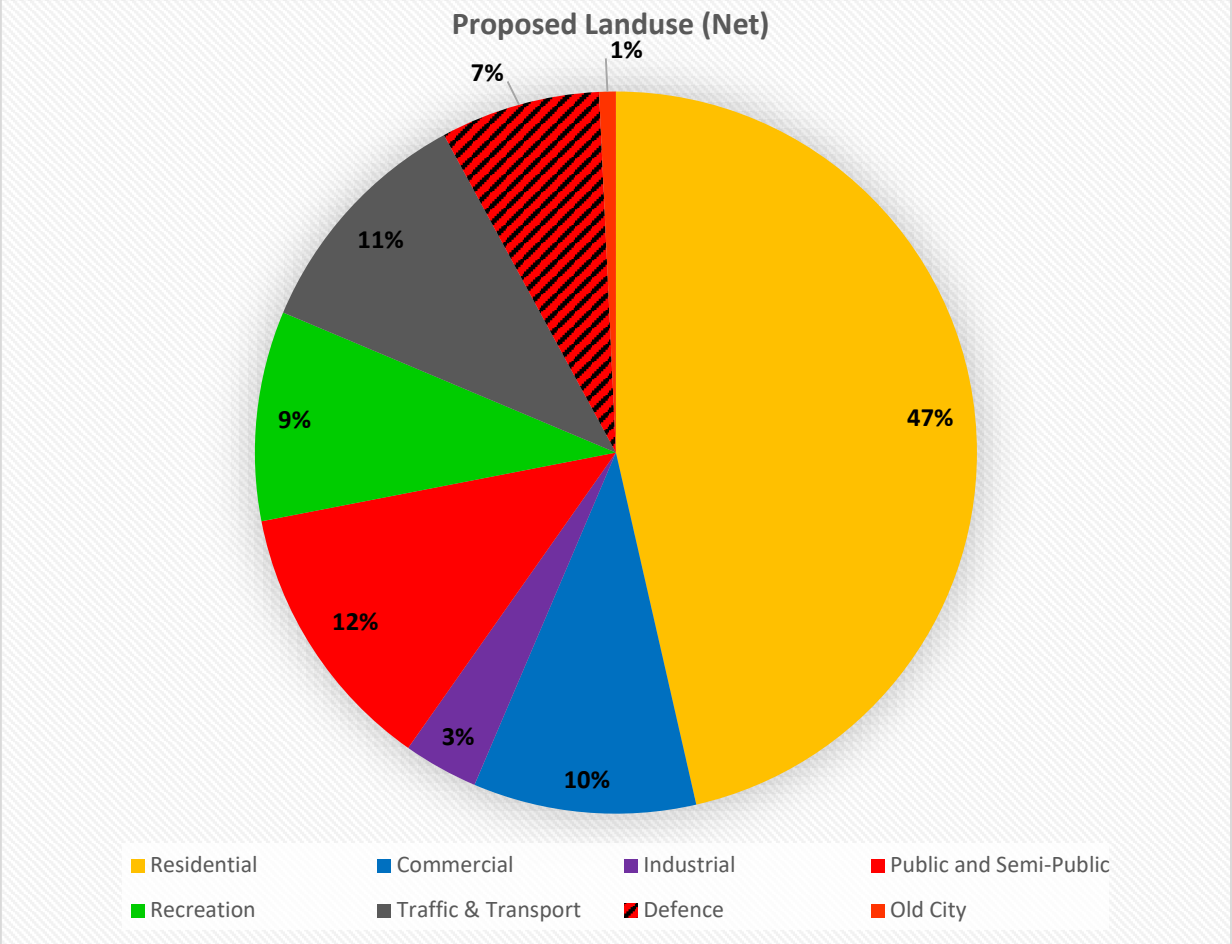


Table 10-2: Proposed Land use JMP-2032 (Net-Proposed Area)

Sl. No.	Proposed Land use (Net-developed)		
	Landuse	Area (in Sq. Km.)	Percentage
1	**Residential**	164.867	46.427
2	**Commercial**	35.439	9.979
3	**Industrial**	11.899	3.351
4	**Public and Semi-Public**	43.313	12.197
5	**Recreation**	33.329	9.386
6	**Traffic & Transport**	38.209	10.760
7	**Defence**	25.414	7.157
8	**Old City**	2.644	0.745
	Total	**355.113**	**100.000**


Proposed Landuse (Net)
47%
10%
3%
12%
9%
11%
7%
1%
Residential
Commercial
Industrial
Public and Semi-Public
Recreation
Traffic & Transport
Defence
Old City

10.1 Residential Use

Existing residential uses cover about 57.63 sq. km. which is 8.83% of the existing Gross developed area with a gross-residential density of 223 pph much higher than the standard density of 100-125 pph for a city like Jammu. The high density residential use with respect to the developed area in existing landuse with respect to the Developed Area is due to congested unplanned growth with almost no recreational infrastructure (open spaces) in most residential areas especially the old city. Physical thresholds play a dominant role in shaping the urban structure of the city. The residential land use is concentrated in older parts of city across Tawi River with village settlements dotting the peripheral landscape. In high density areas, houses are huddled together with poor ventilation and sanitation conditions.

To harmonise the residential development, the Master Plan envisages re-densification of low density areas of Sidra, Birpur, Bari Brahamana extensions, Vijaypur extensions, Satwari extensions, Lalie chak, Bhalwal, Purkhu, Mishrewala, Sangrampur Chowadi etc. These areas are envisaged to be planned with increased densities for efficient use of land resources. The Master Plan proposes 56% of the developed area for residential development with an area of 164.87 sq. km for accommodation around 20.15 Lakh population upto the year 2032. In order to make the efficient use of precious government land in Gandhi Nagar, it is proposed that the area under single storeyed government quarters need to be redeveloped as multi-storeyed housing under the banner of group-housing. The Master Plan also proposes four self-sustained Satellite Townships with all basic infrastructure to be developed in following areas:

- Sidhra/Majeen/Rangoura;
- Lower Thather/Raipur Domana; and
- Raya Patti/Ranjiri
- Birpur/Ratnu Chak/Chowadi

In Jammu, a large number of unplanned settlements have come up over the years which are characterized by poor utilization of land, inadequate services and amenities, lack of common facilities, congestion and poor quality of living environment. These areas are proposed to be redeveloped to lend them a planned urban form as per the Development Controls laid down in this Master Plan with active participation of residents through consultative process.

The Master Plan also proposes extension of the Jammu city along important corridors. As a matter of fact, radial corridors and inter-connections are likely to form key impact areas for future development. Therefore, the Revised Master Plan envisages restructuring and efficient utilization of land along future city corridors to induce planned development in the Jammu LPA-2032. The Master Plan proposes in-situ upgradation of slum pockets with unhealthy living environment for affordable housing. The resettlement colonies viz Rajeev Nagar, Qasim Nagar, Kabir Colony, BC Road near Model Academy, Dhounthly (Lower Circle Road), Guraha Bakhsi Nagar, Bawe Basti, Gole Panjpeer, Qasim Nagar (Bahu Fort), Sheikh Nagar (Bahu Fort), Kalka Colony (Bahu Fort), Muthi Bridge, Pata Palora and others are proposed to be improved by way of providing adequate infrastructure. The unauthorized and illegal colonies existing on government/JDA land

are also proposed to be transferred after recovering —Just cost of land through proper consultative process. In similar manner urban fringe settlements notified as part of local area Jammu LPA-2032 are also envisaged to be improved by way of upgrading the amenities, utilities and service. To rationalize the residential development, the following residential densities are proposed to be adopted in the Revised Master Plan:

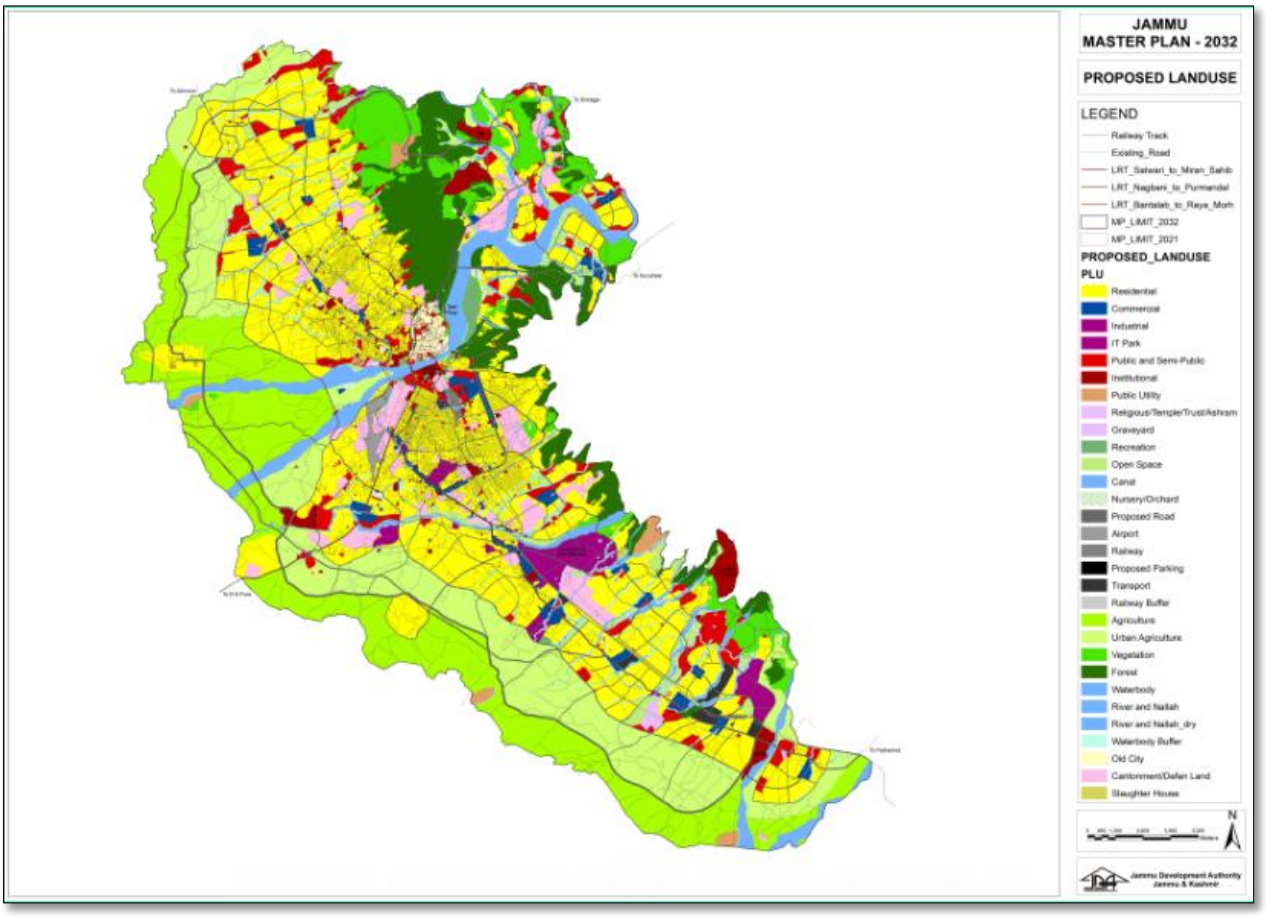
a) Low density upto 100 PPH,
b) Medium density 101 – 200 PPH,
c) High medium density 201 - 300 PPH, and
d) High density above 300 PPH.

For the projected population of 20.15 lac persons, the total area required for residential development over the next 20 years is forecasted to be about 164.87 sq. km with gross residential density of 122 persons per hectare. The Master Plan envisages the development of residential areas (both existing and proposed) on a neighbourhood concept implying self-sustained development. It is proposed that JDA shall adopt innovative planning techniques as suggested in this master plan under section Urban Land Policy to develop and dispose the serviced land for residential development. As per precise estimates, JDA has been able to provide housing to around 60, 000 people during the last 45 years which is very insignificant when compared to population growth during the corresponding period. With limited land parcels and financial resources available with the Authority, it is necessary to involve public and private housing cooperatives, trusts, Housing Board, private developers in the development of housing projects by proving them enabling environment and single window system for issuing permissions.

10.1.1 Urban Villages

Jammu is a fast growing city with its sprawl engulfing more & more surrounding villages in Jammu & Samba Districts. About 324 settlements are part of the Jammu LPA-2032 limit including 103 new and 221 already notified settlements. These settlements having rural character are expected to grow urban over next two to three decades. From planning perspective, it is imperative to consider these settlements as part of Jammu LPA-2032 and as such, shall be provided with urban amenities and facilities for the benefit of local population. Master Plan proposes comprehensive provision of amenities, facilities services and utilities to improve quality of life and blend these settlements with the proposed urban development of Jammu. Education, health, recreational, sanitation, water supply and improved transportation networks as well as work centres need to be developed in these villages so that they could keep pace with the urban areas. These settlements are proposed to be developed as self-sustaining entities with efficient linkages with the mother city. However, these villages shall continue to be governed by the Rural Development Department for the benefit of rural development schemes. It is necessary to mention here that mere incorporation of these villages within the Planning Area limits of this Master Plan does not vitiate their rural status, benefits and incentives available under various rural development schemes.

Figure 10-1: Proposed landuse JMP-2032



10.2 Commercial Use

The commercial activities shall be supported by higher order Road network, public transportation in order to make it functionally efficient. The commercial area will accommodate city level amenities, public utility buildings, headquarters of commercial establishments, wholesale establishments, bus depots, exhibition grounds, etc. The proposed land use under commercial category is around 35.44 sq. km area which is about 5.43% of the proposed area. At one shop per 50 persons, Jammu LPA-2032 is expected to have 40,300 shops creating roughly 80,600 jobs. Besides, Jammu being important transit and tourist place, it has specialized markets in the CBD and Gandhi Nagar.

Presently, the Jammu city has mono-nodal character with historic core acting as the main CBD. Because of the proliferation of the intensive commercial activities, the city is confronted with multiple problems which affect its efficiency and its urban form. The JMP in order to cater to the city needs by 2032, proposes a poly-nodal commercial structure of the city. As such, it is envisaged to provide two District Centres one each in Planning

Zone Pz-C and Pz-S to decentralize the commercial activities in the Jammu LPA-2032 as well as take care of future needs. The Bahu Complex which is sub-CBD at present in the city is proposed to be extended towards north for which possibilities for relocation of transit camp in Railhead area shall be explored.

The JMP also proposes four additional Sub-CBDs on the pattern of Bahu Plaza in the South and North of the Tawi River in Planning Zones Pz_J, Pz_N and Pz_B respectively. The Narwal Bala Transport Nagar, Gangayal, Digiana and Bari Brahmana act as important IFC nodes. To decongest the existing Transport Nagar, it is proposed to provide two new IFCs at the periphery of the city, with all facilities of wholesale markets, loading/unloading facilities, parking, workshops etc in Planning Zones Pz_R (Partly) and Pz_S (Partly). This is in line with the proposal for developing the Outer Bye-pass as Expressway which will help diversion of through passenger and freight traffic in the area. Besides strengthening the existing Integrated Freight Complex at Narwal Bala in first phase, IFCs one each at the Pathankot Road near Raya Morh and the Akhnoor Road near Gajan Singhpur need to be developed in the second phase.

10.2.1 Informal Sector

Due to lack of employment opportunities and viable economic base to accommodate the unemployed youth and people thrown out of agriculture, most of them are engaged in the informal economic activities. Informal sector, has thus to be viewed as an integral part in the process of physical planning. Besides, being the seat of capital and administrative headquarters, the share of unemployed skilled/unskilled people may consequently enlarge the Informal sector.

The formal shopping encroaching along Roadsides has come up in in every corner of the city. Huge number of workers is engaged in the informal sector which is evident from the statistics of occupation although no relevant database on street vendors is available. Consistent with the National Policy on Street Vendors, designated areas need to be earmarked for informal shopping as

provided in the Policy on Street Vendors. The JMC, JDA and concerned ULBs need to document the street vendors and keep on updating the database for the allocation of land for the development of infrastructure as per demand. The informal sector commercial activities, except easy entry, face more stress and strains from different local agencies. The Master Plan, therefore asserts that efforts should be made to enable the street hawkers to carry out their business activities with dignity and honour.

Thus, in planning for informal sector activities, the aspects of prime consideration would be:

i. Making space available for such type of activities in the form of Sunday Market, morning/evening vegetable and other bazaars at vantage points especially in all Planning Zones.
ii. Provide in-built mechanism for space adjacent or in the major activity centres including all neighbourhoods, terminal centres, industrial estates, administrative centre, and even in major commercial centres.
iii. In new extension areas of Jammu city, the Revised Master Plan proposes Informal Bazaars as part of commercial centres at all levels.
iv. It is envisaged that in any commercial centre, 15% of the area shall be reserved for the Informal area.
v. For institutional, administrative and industrial area, one shop per 100 working population shall be provided.
vi. Provision of easy access to institutional finance with low rate of interest/subsidy to provide opportunities to consolidate the economic base.
vii. Introduction of different self-employment schemes to eradicate unemployment/absorb unemployed youth and people thrown out of agriculture as a result of implementation of different developmental programmes.

10.2.2 Slaughter House and Abattoir

The Master Plan proposes two slaughter houses in the North and South of Jammu which shall be equipped with modern technology to avoid hazards to the public health. In the North City, one number Slaughter house is proposed along the Akhnoor Road near Dayaran while in the South, additional such facility is proposed near Vijaypur in the proposed industrial area. It is also proposed that the existing slaughter house in the core city be revamped with facilities for weighing, quality control and treatment plant. Besides, one State-of-the-Art Abattoir over one hectare land is proposed in the extended industrial area at Bari Brahamana.

As per the Twelfth Schedule (Article 243W) of the Constitution of India and the State Municipal Acts, the regulation of Slaughter Houses or Abattoirs and Tanneries shall be the responsibility of Municipal Corporation Jammu and other concerned ULBs.

10.3 Mixed-use.

Mixed-use developmet is the practice of allowing more than one type of use in a building or set of buildings which can be a combination of residential, commercial, office, institutional or other land uses. It is presumed effect on housing & commercial values.

Good mixed-use can be defined as a finely grained mix of primary land uses, namely a variety of housing & work places with housing predominant, closely integrated with all other support sevices, within convenient walking distance of the majority of the homes. Mixed use is to be carefully allowed along with the compatible use only.

The approaches for promoting mixed-use development can be by increasing intensity of land-use, increasing diversity of land use or integrating segregated uses.

10.3.1 Decongestion and Redevelopment of Old City

The Old city is stained by several problems like inadequate and obsolete infrastructure facilities, inadequate use of buildings, lack of open spaces, traffic congestion, a mix of conflicting non-conforming land uses, poor dwellings and unhygienic conditions, environmental dispossession, social malice, unemployment and poverty. While most of them still stand replete with buildings, artifacts, and other features of historical and cultural value in the city, these living tradition and culture fall into neglect, often as an unintended by-product of rapid urbanization. These historic urban centres represent opportunity for growth and economic generation. Thus revitalization of the Old city is very important and makes sense from multiple perspectives. Old City with concentration of historical buildings has been designated as "Controlled Conservation Area". The following strategies will be proposed for overall conservation of the Walled City:

- Shifting and de-limitation of non-residential activity with priority for shifting of noxious and hazardous trades/industries
- Up gradation of physical and social infrastructure
- Traffic and transportation, management and regulations
- Conservation and restoration of historical buildings
- Revitalization of residential areas
- Renewal/redevelopment of Walled City Extension

The main priority is to decongest the old city and to shift traffic generating activities from the Old City. To shift wholesale trade, noxious industries and hazardous business from the Old City, it is proposed to develop counter- centres in the form of:

- Integrated Freight Complexes at the peripheral location
- New industrial area,

- Development of Truck Terminals, vehicle repair workshop, Old Car markets, Motor parts Markets at the periphery of the outer city.
- Railway Freight Terminals.
- Noxious industries and hazardous trades are to be shifted from the Special Area in a time frame by a set of incentives (providing alternative plots, tradable FSI, tax holiday etc.) and disincentives (non-renewal of trade/industry licenses etc.) within a time frame of 3 to 5 years maximum.

Table 10-3: Non-conforming use[15] to be shifted from core city & other areas.

Sl. No.	Non-Conforming Use	Alternative Location	Proposed Use
01	Ranbir Printing Press at Amphalla	Bari Brahamana or Birpur	Public Park
02	Central Jail at Amphalla	Kot Bilwal	
03	DC Office (Old Premises)	Warehouse at Vikram Chowk	Parking area with plantation
04	Police Control Room at Parade Ground	Warehouse at Vikram Chowk	Public Park
05	Chief Engineer (PHE) at BC Road	Warehouse at Vikram Chowk	Parking area with plantation
06	Warehouse, Nehru Market, FCI godowns at Vikram Chowk	Proposed IFC at Raya Morh	Government offices like DC's Office, PHE office, PCR etc.
07	Mechanical Stores, Central store, FCI godowns at Vikram Chowk	Upstream of N-H near Swankha Morh.	
08	Director General Police (Residence) at Vikram Chowk	Old University Campus, Kanal Road	Public Park
09	Exhibition Ground and DIC Office	DIC Office to be shifted to Warehouse at Vikram Chowk and Exhibition Ground to be shifted to JDA land allotted to Asaram Ashram.	To be made part of Jammu Haat.
10	Old University Campus, Canal Road	Already shifted to New Campus at Vikram Chowk	District Park (except for area occupied by University Residential quarters and DG Police residence)

[15] These uses have been relocated mainly because their efficiency has been impeded w.r.t. core city functions and locational attributes.

11	Transport Yard of JMC at Dogra chowk	Bhagwati Nagar near Sewerage Treatment Plant	Parking area with green
12	Slaughter house and Labour Commissioner Office at Dogra Hall	Slaughter House to be shifted to Khanpur and Labour Commissioner Office to Warehouse near Vikram Chowk	Parking area with green
13	Chief Engineer (I & FC), Canal Road	Warehouse at Vikram Chowk	Public Park
14	Forest Office, Kachi Chauuani	Central Store, Vikram Chowk	Children Park
15	Govt. Leather Factory at Akhnoor Road	Presently defunct	To be incorporated as landscaped Park under Ranbir Singh Canal beautification Plan as proposed in this Master Plan.
16	Army establishment at BC Road (Mahespura)	To be shifted under proposed Consolidation	Expansion of Medical College
17	Transit Camp at Railhead Complex	To be shifted under proposed Consolidation	Extension of Bahu Complex
18	Balicharana Poultry Farm	Outside Planning Area limits	Airport expansion

For the Old City and other Special Areas, it is necessary to evolve a strategy that will trigger a self-starting redevelopment process and will give "new lease of life" to these areas with improved infrastructure, transportation and economic viability. These may include the following:

- Application of Transferable Development Right (TDR) so that the premises owners in the Old City and Special Area get enhanced component of space in designated new areas.
- Private developers and co-operatives may be encouraged to undertake conservation of heritage and redevelopment guided by planning and façade controls, but allowing internal flexibility of space and use.
- Certain city areas need to be fully pedestrianized.
- FSI and Tax incentives for those who have to maintain the architectural controls.
- When land is to be surrendered for widening of roads or any other public facility, the equivalent FSI should be permissible to the owner/developer either to use on same plot or added to the TDR component.
- The concept of Accommodation Reservation may be introduced for Special Area, whereby for provision of essential public facilities to be handed over to the local body/government, the owner of property is given full permissible FSI on the component of public facility. Evacuee properties can also be used for this purpose.
- Area based renewal approach specifying "Protected Areas", conservation/heritage zones

- Specifying pedestrian and vehicular streets, and undertaking the preparation of Road beautification/development plans.
- The overall firefighting plan to dictate minimum Road widths for vehicular movement.
- All heavy commercial vehicles, rickshaws, animals and animal driven vehicles to be prohibited.
- Parking lots to be developed at the peripheral locations of the Old city.
- On most of the Road and streets in the Old City, part of the right of ways are occupied/encroached upon by commercial establishments, which is about 25% to 30% of their right of way. Removal of encroachments would have double benefit.
    - Recovery of the right of way; and
    - Decongesting the city of commercial activity and thus improving the environment.
- Augmentation plan for decentralized services with public-private partnership, including solid waste management, telecommunication and IT.
- A new set of Development controls for Mixed Use enhanced FSI and TDR applicability.

In place of centralized CBD, a new linear pattern of economic corridors can emerge by planned intervention. For this, a set of well worked out incentives and disincentives need to be built-in within the planning framework.

The comprehensive scheme can be initiated by the land owners, local associations/co-operatives or authorized developer for approval of the local body. This way the process of area by area renewal and redevelopment would trigger a process of decongestion and conservation, releasing heavily built up area for open space/greenery, up gradation of social-physical infrastructure and shifting out of hazardous, inflammable and noxious activities from the Old City. The incentive of additional FSI, along with other measures like liberalization of land use and time bound approvals would motivate the owners and residents to adopt the route of planned development.

In order to address effectively to the emerging issues and the need of conservation and regeneration of the Special Area, it is necessary to review the existing legal framework, organisations and procedures and evolve a new framework or make amendments. The broad contours of the new framework could be as follows.

I. Facilitating entry of new players in conservation and redevelopment, such as, local community, Cooperative Societies, Financial Institutions and Private Sector.

II. Attracting private sector participation and investments by;
    a. Bankable project approach
    b. Removing unnecessary controls
    c. Incentive development controls such as transferable development rights, accommodation, reservation land use flexibility and grant of additional FSI
    d. One window, time bound approval of projects Financial and tax incentives

III. Creating a dedicated organizational set up for coordinating Special Area conservation and regeneration, with planning, services, land management, financial and engineering responsibilities, including transport and maintenance

IV. Constitution of a Regulatory and Monitoring Authority

V. Leveraging strategy for conservation, economic corridor redevelopment, infrastructure upgradation, and employment generation projects

VI. Prohibited and controlled zone around the protected monuments.

VII. Capacity building, public participation, asset management & MIS

It is pertinent to create awareness, interest, partnerships and commitment among the residents, property owners and other stakeholders. Private investments can be attracted through FSI and tax incentives and financial and economic viability can be ensured by taking up 'bankable' projects.

10.3.2 Transportation for Old City

Central congested areas of the Old City normally are characterized by heavy traffic congestion. In order to address this problem a medium capacity Mass Transit system like battery operated bus system may be considered on selected routes based on feasibility. This has to be supported by limiting the access of private vehicles (specially the non-residents) and taxies.

For proper functioning of above said systems a restraint on the use of private modes and provision of parking would be required. This would be necessary in order to revitalize the area and to improve its environment quality. This will also increase accessibility to such areas considerably.

In order to manage the additional traffic in such congested area following management measures are required to be taken;

- Need based Traffic circulation schemes integrating various modes.
- Improvement of major Road stretches and intersections
- Removal of encroachments from footpaths to facilitate smooth movement.
- The movement of heavy vehicles shall be banned in the Old City.

However, for the services of these area Light Commercial goods vehicles may be allowed during the night.

10.4 Industrial Use

The proposed land use under this category is around 11.90 sq. km which is about 3.35% of the net-proposed area. The major industrial concentrations are in Bari Brahamana, Gangyal, Digiana and in some pockets of southern and central part of the Jammu LPA-2032. The Master Plan envisages industrial sector as a focus area for investment and diversification of economic base of the city. The industrial sector is expected to improve the employability of the region by creating around 1.75 lac job opportunities during the plan period. The Master Plan accordingly proposes to rejig the existing industrial estates and create Special Investment Zones or Special Economic Zones. It envisages new industrial areas in Badwal near Vijaypore in Planning Zone Pz_R; Saror in Planning Zone Pz-N.

10.5 Public and Semi-Public Use

Jammu city acts as the capital city of Jammu & Kashmir as well as the seat of the district administration. Being the Summer Capital of the State, there is huge demand for the development of its administrative infrastructure within the Jammu LPA-2032. The Master Plan as such has proposed around 43.313 sq. km which is about 12.20% of the net-proposed area to accommodate such activities. It includes area under public offices, institutional use, health & education, socio- cultural and religious and any other public utility or use.

In this Master Plan, two District Centres one each in the North and South of the Tawi River have been proposed. In the North, the District Centre is proposed near Bhalwal in Planning Zone Pz_C and in the South, another District Centre is proposed near Badali adjacent to Railway Station along the NH-44 in Planning Zone Pz_S. The District Headquarters seat is proposed to be redeveloped at Nehru Market by shifting the present use to IFC at Channi Manahassan near Vijaypur Railway Station. Besides, a number of Sub-District Centres have also been proposed as follows:

i. Gajansinghpora
ii. Miran Saheb near NIT
iii. Rajpura Khular
iv. Sarore

10.6 Proposed Transportation Network

This section deals with the status of traffic and transportation in the study area. A study of the regional Road, rail and air network is undertaken. For the assessment of Road network, length, type and condition data of Roads has been analyzed. Vehicular statistics have also been analyzed to assess the current situation and to undertake projections for the future. Data from the PWD department, PMGSY department (of the Government of Jammu and Kashmir has been used for the analysis. Ongoing and proposed projects have been discussed to get a picture of the transportation scenario in the region. This section further examines the regional and city level rail network, operated by the Northern Railways (NR), availability of infrastructure like Railway Stations, types of railway lines and various services like Multi -Modal Transport Systems (MMTS), which provide good connectivity between various points in the city. Public transport in Jammu and its neighboring urban nodes are also discussed.

The proposed land use under this category is around 38.20 sq. km which is about 5.86% of the total LPA area. The area in this category under roads is about 32.38 sq. km (4.97%) while that under railways is around 1.10 sq. km (0.17%) and airport is around 1.84 sq. km (0.28%).

10.7 Recreation/Tourism

Apart from the reserved and protected forests which form an important component of natural ecology, a hierarchy of open spaces needs to be developed to meet the active and passive recreational requirements. Around 33.33 sq. km i.e., about 9.39% of the net-proposed area is earmarked as parks and open spaces which work out to be 1.65 hectare per 1000 population. There is a severe need to identify and develop a number of public open spaces in the old city which can be made possible by shifting incompatible activities from this area[17]. It is also proposed that JDA land which is allotted to Asaram Ashram be partly developed at Exhibition Ground and part of it be developed as an Amusement Park in Planning Zone Pz_A1. It is also felt that completion of following ongoing and proposed tourism and heritage projects will give impetus to tourism sector in Jammu:

- Tawi Lake development which shall be developed up to Nagrota.
- Conservation and Beautification of Ranbir Canal
- Cable Car and Ropeways
- Development of Mubarak Mandi and other heritage spots
- Renovation and conservation of Peer Baba Mazaar Heritage Site in Cantonment area
- Development of Peer Kho Shrine on Circular Road as a tourist destination
- Remodeling of Raghunath Bazaar as Heritage area
- Upgradation of Tawi Golf Course and construction of club house in Planning Zone Pz_F.
- Space across the 4th Bridge of Tawi River is proposed to be as JDA Club in Planning Zone Pz_A1.
- Children park on the left side of the Tawi River adjacent to the artificial Tawi Lake in Planning Zone Pz_J.
- Besides existing stadium at Sidra, two more stadia are also proposed one each in the North and South of the Tawi River. In the South, one number stadium is proposed near SKAUST in Planning Zone Pz_R. Another stadium is proposed near Mishrewala in Planning Zone Pz_C.
- The Master Plan proposes Jammu to be developed as epicentre of pilgrim and leisure tourism by developing regional and local trouist spots like Suransar, Mansar, Shadra Sharief, Shiv Khodi, Garana wetland in RS Pura, Artificial Lake in Tawi Ravi near 4th bridge, Environment Park near Raika, Wildlife Park at Manda and beautification of Ranbir Singh Canal with special impetus on promotion of water sports. The Master Plan also envisages promoting heritage tourism by developing Mubarak Mandi, Bahu Fort, Ragunath Mandir, Peer Baba Mazaar Heritage Site in Cantonment area, Peer Kho, Maha Maya Temple, Mahraja Hari Singh Palace, Gurudhwara Bibi Chandkour, Tawi River as Surya Putri /Hari Ki Padi and other temples giving name to Jammu City.

Jammu enjoys many advantages in terms of its transit location. Jammu city being the only transit point for the large number of devotees and tourists coming from different parts of the country and

the world, who visit holy shrines and numerous scenic spots in Jammu and Kashmir regions, has tremendous potential for the development of tourism. As per estimates, Jammu requires 12,000 beds per day during yatra period, however, after the yatra period it would need around 8,000 beds per day. Given the tourist importance of Jammu City, adequate area has been proposed to cater to the potential tourist accommodation along Raipur-Jagti Link Road in Planning Zone Pz-D, along Tawi River near Bajlta, Majeen near Golf Course in Pz-F and Sangwal in Pz_R. Apart from designated areas as shown in the Proposed Landuse Plan for the development of tourist infrastructure, provision has been made to permit tourist infrastructure in the proposed District and Sub-District Centres as well as under the Composite Mixed Landuse Policy of this Master Plan.

10.8 Defense Use

As per the existing landuse, the defense use is spread over an area of 25.414 sq. km. including many military and paramilitary establishments. Since Jammu is a border city having strategic location from geo-political point of view. A strong military base in Jammu is not denied for national security issues, however; the indiscriminate dispersal of defense establishments in every nook and corner of Jammu city including the civilian areas is construed as a major impediment in the city development. Adopting the guidelines of the Ministry of Defense, the situation will become grimmer causing undesirable strain on urban infrastructure. It is proposed that the Circular of Ministry of Defense which stipulates restrictions on the development in civilian areas is envisaged to be adopted in case of vital installations/establishments or to be reviewed keeping in view the haphazard disposition of such use in the city. Undoubtedly defense is a non-urban use which if not shifted needs to be consolidated at select locations. As such, it is strongly recommended that the existing defense establishments need to be consolidated or re-organized by shifting such establishments located deep inside civilian areas.

As an immediate policy measure, the army establishments at BC Road, Transit Camp in Railhead Complex etc. need to be shifted at the earliest.

11. PROPOSED INFRASTRUCTURE

11.1 Physical infrastructure

Infrastructure is the basic requirement of urban life and its adequacy and accessibility are two important ingredients and key contributors in the up gradation and enrichment of quality of life. Availability and adequacy of infrastructure services has a larger role in wealth and well-being of citizens. Infrastructure services act as a catalyst for development, which foster economic growth and enhance public well-being. Hence, provision of infrastructure is defined as a Basic Services, which any developed and developing city requires in order to sustain its growth and development.

A vital issue related to the sustainable development of Jammu Master Plan-2032 and minimum quality /standard of living is associated with the availability and accessibility of physical infrastructure including water, power, sewerage, drainage and solid waste. The accelerated growth of the Jammu Master Plan-2032 has put these facilities under tremendous stress and strain with yawning inadequacies. To remove these inadequacies and to meet the future requirement, the revised Master Plan proposes integrated and collaborated approach for the provision of these facilities. It also envisages adoption of innovative technologies and smart concepts for the efficient use, recycling/re-use of the resources, seeking support from private sector through greater public participation.

11.1.1 Water Supply

The National Water Policy calls for a close integration between water use and land use policies. It also states that in the planning and operation of systems, drinking water should have the highest priority. This section provides details on estimated water demand for the Master Plan area, present water availability and water source development/augmentation/other options.

11.1.1.1 Water Demand Estimation

As per the water supply demand calculation, the existing water supply demand is 193 MLD, whereas the demand will increase by 242 MLD by 2022 and 312 MLD in 2032.

Table 11-1: Total Residential Water Demand by 2032

Residential Population Water Demand (MLD)				
Description	**2011**	**2017**	**2022**	**2032**
Total Population	11,05,744	12,31,478	13,69,858	**17,73,649**
Projected Water Demand (MLD)				
Total Water Demand @ 150 LPCD	166	185	206	**266**
15 % O & M loss	25	28	31	**40**
Sub Total 1	191	212	237	**306**
2% Fire Fighting	4	4	5	**6**
Grand Total Water Demand	195	217	242	**312**

The water supply to the city is intermittent with 45 minutes to 1 hour in morning and evening. Based on the rated water production capacity of 218 MLD, every citizen in the city should be receiving 200 LPCD (it should be 140 to reach 92) in average. However due to 35% losses in conveyance and distribution system, only an estimated 81% of the present population of Jammu have access to piped water at an average supply rate of 92 LPCD.

Table 11-2: Overhead Population Water Demand by 2032

Sl. No.	Overhead Population	Number
A)	Tourist-cum-Yatra population per day (2032)	45,000
	Water supply demand in MLD	6.75
	15% O&M loss	1.01
	2 % Fire Fighting	0.14
	Sub-Total	7.90
B)	Darbar-Move population	40,000
	Water supply demand in MLD	6
	15% O&M loss	0.90
	2 % Fire Fighting	0.12
	Sub-Total	7.02
C)	Service Population	73,000
	Water supply demand in MLD	10.95
	15% O&M loss	1.64
	2 % Fire Fighting	0.22
	Sub-Total	12.81
D)	Defense Population	1,00,000
	Water supply demand in MLD	15
	15% O&M loss	2.25
	2 % Fire Fighting	0.30
	Sub-Total	17.55
	Grand Total	45.28

According to the above table in JDA, total existing industrial area is 5.5 sq km (550 ha.). According to the assumption 1 hectare of industrial area consumes 45 Cubic Meters of water. So the total industrial water consumption in the existing Jammu industrial area is 25 MLD, 20% of the ancillary industries water demand is 5 MLD. Therefore, existing total industrial water demand is 30 MLD. According to the proposed industrial area the proposed industrial water demand will be 44 MLD in 2021 and 58 MLD in 2032.

To sum up, the total water demand by 2032 in the Jammu Master Plan-2032 is estimated at around 370 MLD.

Table 11-3: Industrial Water Demand by 2032

Total Industrial Area	2011	2022	2032
In sq. km	5.50	8.10	10.81
Assumed 1 hec = 45 CU.MT.	24,750.00	36,450.00	48,645.00
Water Demand	24.75	36.45	48.65
20% ancillary industries	4.95	7.29	9.73
Industrial Water Demand (MLD)	29.70	43.74	58.37

11.1.1.2 Development Measures

There are several plans to get water supply from the Tawi River and Ranbir canal. Sitlee has additional capacity of 14.4 MGD which can be used to augment the water supply in the planning area. Additional water required by 2032 could be met by tapping new sources along the Ranbir Canal to the west of Akhnoor Road, Tawi River catchment area and west of NH-44 towards R.S Pura. The Master Plan proposes that allocations for the water supply sector which includes the Source Augmentation, Rising Mains, Distribution Mains & Internal Distribution System, Pumping Stations, Installation of Bore Wells, Restoration and Site Development Works as well as acquisition of land etc. need to sufficiently increased. Apart from raising funds through borrowings from Financial Institutions like ADB, it is proposed to project financial requirements for this sector through 14th Finance Commission, get the DPRs prepared for Central Government funding under various CSSs and earmark funds under the State Annual Plans.

11.1.2 Sewerage and Sanitation

11.1.2.1 Proposals

The sewerage flow has been calculated assuming 80% of the total water demand with 5% of this as infiltration. Accordingly, the total sewage generated is estimated at 350 MLD. In the first priority, the Master Plan asserts that all on-going schemes be completed and commissioned without further delay. With the completion of these on-going projects, Jammu city will have 2/3rd of its population connected to the sewerage system. In the plan period of twenty years, it is proposed to overcome the existing backlog of 89 MLD especially south of River Tawi in Gandhinagar and Satwari areas in the first plan period up to 2017. In the second and third phases, the remaining areas in the countryside shall be taken up for the laying down of a comprehensive sewerage system. The total investment required for the development of this infrastructure under Jammu Master Plan-2032 is estimated at 1400 crore. Besides existing STP at Bhagwati Nagar, the Master Plan proposes five additional STPs and three micro STPs to treat 277 MLD of waste generation gap by 2032. One each for Sidra, Nagrota and Bajalta area Out of the five STPs, one STP is proposed in the west city near Udhaywala and the remaining four are proposed in the South city one each at Balicharana, Birpur, Bari Brahamana and Vijaypur depending on site considerations. It is strongly

recommended that UEED and city drainage divisions shall prepare a DPR for the entire area of Jammu Master Plan-2032 for a horizon period of 20 years.

Table 11-4: Status of waste generation and gap

Waste generation by 2032	Existing Treatment capacity	Gap	Remarks
350 MLD	73 MLD	277 MLD	STPs to treat projected waste generation to be provided suitably

Source – Calculated values

11.1.3 Storm Water Collection

The Action Plan shall be chalked out for the extension, augmentation and rehabilitation of existing drainage system in a comprehensive manner. Keeping the geo-climatic factors in view, it would be more feasible to develop a segregated drainage system under the Jammu Master Plan-2032 to avoid seasonal load on the sewerage system as proposed above. To benefit from GOI schemes, the concerned department shall get a DPR prepared immediately after the approval of this Master Plan so that the projects/schemes identified in the DPR are funded under the CSS.

11.1.4 Solid Waste Management Strategies

Solid Waste Management (SWM) is an obligatory function of an Urban Local Body, which consists of waste collection, transportation and its scientific disposal. Municipal waste mainly comprises of waste generated from households, markets, commercial establishments, hotels and other activities of the town. Main reasons for mismanagement of solid waste include:

11.1.4.1 Problems of the Solid Waste Management

- Poorly maintained composite wastes stored in plastic/paper bags or in bins
- Sometimes waste collected in plastic/paper bags is thrown in community bins located nearby or on streets, footpaths, open spaces, drains and other water bodies thus creating nuisance, choking of drains and obstruction of traffic
- Inadequacy of community bins, mainly yellow bins/and Refuse collector bins in some areas of Jammu Municipality area
- Lack of proper segregation of waste at the source of generation
- Institutional weaknesses and inadequate monitoring mechanism
- Lack of finances with local bodies
- Lack of scientific management about solid waste management and community participation

Table 11-5: Projected Solid Waste Generation

Description	2011	2017	2022	2027	2032
Total Population	11,05,744	12,31,478	13,76,478	15,76,53	17,94,637
@ 500gram/per capita/day					

Total Solid Waste Demand @ Tonnes (metric tonnes)	553	616	688	788	897
Total Overhead Population	2,50,000	0	0	0	0
@ 500gram/per capita/day					
Total Solid Waste Demand@ Tonnes (metric tonnes)	125 tonnes (constant value based on projected population for the horizon year 2032)				
	678	741	813	913	1,022

Total solid waste generation is estimated at about 678 metric tonnes for the base year 2011, 741 in 2017 and 1,022 in the horizon year 2032.Total solid waste generation has been calculated by taking 500 grams/day/capita for both domestic and non-domestic population.

Municipal Corporation has in-house mechanism for solid waste management which comprises trucks (11), Tata 407 Vehicles (17), Dumpers (4), 3-wheeler Auto (5) Loaders (6) and over 100 workers/labourers20. The collected solid waste is dumped into the Tawi River. Segregation of wastes is not practiced in the city. People generally throw their domestic wastes into the streets or in drains in front of houses. As provided in the CDP, nearly half of the households in the city dispose of solid waste by throwing it outside the house. Only 29% of the households use private bins and local garbage collectors for disposal of garbage. Community bins are used by 22% of the households. As per the revised CDP, in case of 55% households the frequency of waste collection is only 2-3 times a week and 21% of the houses have a weekly collection service. Though 18% of the households do not have any idea as to how often disposal collection is done, in case of 4% of the households, the disposed garbage was never picked up.

11.1.4.2 Proposals

For waste management, the Master Plan proposes following measures:

- The solid waste disposal shall be carried out as per the provisions of the Municipal Solid Waste (Management and Handling) Rules, 2000. Besides JDA, the local authorities like JMC etc shall draw up plans for the segregation of solid wastes into biodegradable and non-biodegradable components.
- The biodegradable material may be recycled preferably through composting or vermiculture and the inorganic material may be disposed in an environmentally acceptable manner;
- Establishment of five number SWM Transfer Stations, two in North City and Three South City to facilitate collection and transfer of waste to the final disposal site.
- Establishment of two number Resource Recovery Stations to scientifically handle the waste with focus on waste minimisation, recycle/re-use of municipal waste. These stations shall have facilities for compositing for handling the biodegradable waste, incineration for energy generation from combustible waste to be used as energy in compositing and facilities to re-use waste building and inert material.

- Introduction of twin bin system at household level as a smart concept for the segregation of biodegradable and non-biodegradable waste and awareness among people about the type of waste and its economic value to be created;
- A minimal sanitation charge to be levied on households/hoteliers on monthly basis;

The total solid waste generation of 1022 MT/ day is projected up to 2032. Hence, a composite Solid Waste Management Plant for Jammu is suggested on B.O.T basis which will use a suitable latest technology for the treatment of solid waste with recovery/recycling process. The proposed Solid Waste Management Plant is designated as an industrial use mainly because of the intrinsic utility of the waste generated. It is proposed that the concerned authorities should evolve a competitive mechanism of waste collection and disposal by involving private entrepreneurs on BOT basis. It is firmly believed that proper segregation of waste and its recycling would reduce its overall quantum for final disposal which will minimize the land requirement for landfill site. The Master Plan proposes development of two landfill sites, one each at Keran for the North city and another at Kajail for the South city outside Local Area Limits. Before finalization of actual site location, it is mandatory to assess the feasibility of each site as per the EIA Notification 2006 and the Solid Waste (Management and Handling) Rules, 2000.

11.1.5 Low Cost Sanitation and Community Latrines

Jammu city is confronted with the problems of widespread defecation in open and in Khads. The problem is more glaring in areas of construction sites, temporary resettlement areas, adjacent to Juggies and Jompdies and areas which attract service population in large number. Absence of proper sanitation facilities is generating unhealthy conditions which warrant appropriate measures to upkeep quality of living. The Master Plan envisages a scheme for giving impetus to the low cost sanitary facilities by giving technical advice and limited subsidy on self-help basis in the construction of low cost units. Jammu Development Authority personnel will have to be trained and subsidy be given to below poverty group. The technology for the low cost sanitary units shall be Sulab Suchalya with adequate modification to suit the local conditions. In addition to the low cost facility, community latrines of five units are also proposed to be provided in the core area and large public places on pay and use basis besides it shall be incumbent on all the individuals/groups/developers to provide appropriate facilities to their service population. It is likely to go long way to fulfil the commitments of "Swachh Bharat".

11.1.6 Power and Electricity

Power supply is presently provided by Power Development Department with almost 100 percent coverage. The supply network including transformers, conductors and transmission lines especially LT lines are decades old which need to be revamped in many areas. The problems are more severe in core city where service supplies lines pose serious threat to human life. Overall power supply in the city is highly erratic with prolonged curtailment on daily basis. Street lighting in the city is very miserable. For the plan period of 2032, the city would require about 1500 MW power supply for domestic purposes @ 3-4 kw per household and about 1000 MW @1-3 kw for each commercial establishments, industrial units, street lighting etc. The demand for power supply has been worked

out on present minimum requirement which may vary with changes in life style and economic condition. In addition to the augmentation of additional power supply by 2032, Jammu city would require;

i) Revamping of existing supply system and immediate removal of worn out poles and encourage underground cabling of the service lines in critical areas;

ii) Provision of land in all satellite colonies, work centres, industrial areas, group housing schemes and layout plans for installation of demand driven transforms/sub-stations;

iii) Metering of the whole supply system for checking pilferages and leakages;

iv) Capacity augmentation of existing transformers and installation of new transformers;

v) Installation of high voltage distribution system and aerial bonded cables;

vi) Encourage alternative sources of energy like solar power to supplement the growing demand by providing incentives, subsidies or even purchase power generated through solar energy

11.1.7 Transportation network

11.1.7.1 Proposed Transportation Network

This section deals with the status of traffic and transportation in the study area. A study of the regional Road, rail and air network is undertaken. For the assessment of Road network, length, type and condition data of Roads has been analyzed. Vehicular statistics have also been analyzed to assess the current situation and to undertake projections for the future. Data from the PWD department, PMGSY department (of the Government of Jammu and Kashmir has been used for the analysis. Ongoing and proposed projects have been discussed to get a picture of the transportation scenario in the region. This section further examines the regional and city level rail network, operated by the Northern Railways (NR), availability of infrastructure like Railway Stations, types of railway lines and various services like Multi -Modal Transport Systems (MMTS), which provide good connectivity between various points in the city. Public transport in Jammu and its neighboring urban nodes are also discussed.

The proposed land use under this category is around 38.20 sq. km which is about 5.86% of the total LPA. The area in this category under roads is about 32.38 sq. km (4.97%) while that under railways is around 1.10 sq. km (0.17%) and airport is around 1.84 sq. km (0.28%).

11.1.7.2 Proposed Regional Road Network

Transportation planning is an integral part of any Master Plan. The analysis of the existing transportation scenario as explained in the existing transport network brings forth the persisting transportation problems of the region in terms of congested Roads, inadequate Road widths, missing links, lack of parking spaces, inefficient public transport etc. Proposals for transportation should evolve a mechanism to tackle these problems ensuring a minimum Level of Service (LoS) for carrying out various transportation activities.

The proposed transportation network is primarily based on the way overall Master Plan has been conceptualized. The Road network has been developed along with the overall spatial configuration of the plan. Several aspects of existing situation had a significant effect on the evolution of transportation network. The important aspects of existing situation that were taken into consideration while preparing the proposed transportation network are as follows:

- Topography
- Existing Road Pattern
- Existing Development on the Site
- Existing Linkages to Surrounding Development
- Existing Social Facilities and Amenities
- Existing Railway Land
- Water bodies

The central spine runs from north to south direction. There is another major Road parallel to the central spine on the western side of the planning area. This Road is called the Expressway (southern by-pass) and is connecting the National Highway and Akhnoor Road. Another important Road is the Nagrota by-pass that is diverting from Bari-Brahamana area. The grid, defining the sub-sectors for internal development, would form the basis for further detailed development of the city.

11.1.7.3 Proposed Transport Development Strategy

To improve the overall mobility in the region, the following policy imperative need to be taken by the authorities:

I. Provision of efficient, reliable and accessible mass transportation system.

II. Integration of various mode of transport by way of evolving an integrated multimodal transport system.

III. Develop Jammu Master Plan-2032 as connected city with greater integration between two parts of the city harmonising the work - home relations.

IV. Improvement in traffic management through short-term, medium and long-term interventions.

V. Strengthening of institutions dealing with various aspects of urban transport and formation of a Unified Transport Authority for effective implementation of Jammu Master Plan-2032.

VI. Encouraging public transport and non-motorized modes of traffic.

VII. Provision of environment friendly transport systems within the region.

VIII. Removal of traffic conflicts by way of grade segregation, provision of missing links, closure of avoidable junctions/cuts etc.

IX. Creating pedestrian precincts especially with old city and around Ragunath Mandir area.

X. Development of regional corridors for Bye-Passing the regional traffic. Creating important transport nodes along the regional corridors for hassle free movement intercity traffic.

XI. Development of adequate parking facilities across city and removal of Road-side encroachments.

XII. Removal of traffic bottlenecks as a short term measure.

11.1.7.4 Proposed Traffic Circulation Plan for City Core

Raghunath Bazar Road, Kanak Mandi Road, Residency Road, Purani Mandi Road and BC Road are important commercial areas and witness high degree of traffic congestion mainly because of parking spill-over on main commercial arterials. In order to make this area more accessible and reduce inconvenience caused by parking, a **"Comprehensive mobility plan"** has been prepared which includes various traffic system management schemes such as one way streets, pedestrian trail, pedestrian only streets, no parking Roads, provision of automatic multilevel parking and multi-purpose vehicle stand.

One way Streets

Owing to large scale built up areas in Jammu city, widening of Roads is not possible at all places. Therefore, Road capacity can be enhanced by adopting low cost traffic circulation measures i.e. one-way street.

Raghunath Bazar area

Kanak Mandi Road and Residency Road having RoW of about 11 m and 16 m respectively with on street parking and large scale commercial development witness considerable congestion. As per the CMP Jammu, the effective V/C Ratio on Kanak Mandi Road and Residency Road works out to be 0.6 and 1.3 respectively which is beyond acceptable limits. The fact that Residency Road is an important travel corridor will require capacity augmentation by following measures:

- For better traffic dispersal on Kanak Mandi Road section from Shalamar Chowk to Shaheedi Chowk, the section is proposed to be designated as One-Way-Street for the traffic movement towards Shaheedi Chowk.
- Residency Road shall continue as Two-Way Road to give accessibility for traffic destined between Raghunath Mandir and D.C. Office.
- It is recommended to divert the traffic coming from Shaheedi Chowk which is destined towards Raghunath Temple, in a One-Way pattern towards Vivekananda Chowk up to Panjabi Vaishno Dhaba and from Panjabi Vaishno Dhaba to Raghunath Mandir.
- Raghunath Mandir Road between Vivekananda Chowk and Panjabi Vaishno Dhaba shall continue as Two-Way-Road.

Janipur and Sarwal area

Janipur Road, Sarwal Road and the adjoining area also witness considerable traffic congestion. The capacity augmentation for these Roads is proposed by adopting following measures:

- A section of Sarwal Road between Rehari Chungi to Palora Chowk be enforced as One-Way-Street for the traffic movement towards Palora Chowk.
- New Plot Road and Tali Mor Road (Link Roads between Janipur Road and Sarwal Road) are proposed to be regulated as One-Way alternatively for the traffic movement between Janipur Road and Sarwal Road.
- The Palora Road between Palora Chowk and Janipur Road shall continue as Two-Way-Road.
- It is also proposed that the Janipur Road be regulated as One-Way Road towards Amphala Chowk. This will help to reduce the traffic congestion on Janipur Area.

Jewel Chowk Area

B.C. Road is an important link between City Centre and Gandhi Nagar area. Presently the Road witnesses considerable congestion and will require capacity augmentation by resorting to following regulatory measures.

- It is recommended to remove the roundabout at Jewel Chowk and close the median so that traffic coming from K.C. Chowk which is destined towards Dogra Chowk is diverted in a One-Way pattern towards Bhagat Sing Chowk to reach Dogra Chowk along Vinayak Bazar Road.
- Similarly, B.C. Road between Dogra Chowk and Jewel Chowk is also proposed to be regulated as One- Way Street for the traffic destined towards Jewel Chowk.
- Traffic coming from Talab Tillo Road and going towards Bikram Chowk or Bhagat Sing Chowk will take U-turn, away from junction towards K.C. Chowk.

Gol Market Area

- It is proposed to enforce one way traffic movement for all modes on Roads near Gol Market Chowk. Apsara Theatre Road is proposed to be regulated as One-Way Road for the traffic movement between Gol Market Chowk and Last Morh Gandhi Nagar.
- Back side Road of Apsara Theatre between Gol Market Chowk and Last Morh Gandhi Nagar to be regulated as One-Way for the traffic movement towards Gol Market Chowk.
- Aquaf Market Road is proposed to be regulated as One-Way Road for the traffic movement between Gol Market Chowk to Aquaf Market.
- Similarly, Ganpati Food Junction Road is proposed to be regulated as One-Way for the traffic movement between Gol Market Chowk and Aquaf Market towards Gol Market Chowk.

11.1.7.5 Proposed Widening and Functional Hierarchy of Roads

There are five main radial Roads entering the Jammu city from different directions viz Srinagar, Pathankot, Akhnoor, R.S. Pura and Ambgrota bringing the entire regional traffic to the heart of the city. Most of the radials suffer from congestion because of their over utilization of their limited ROW ranging from 8m to 40m. In addition, the limited carriageway, inefficiency of the junctions and their incapability to handle the volumes of traffic further reduces the capacity of the Road systems. Accordingly, it was found necessary that some critical junctions and quite a few important Roads will require improvements to cater to projected Road traffic up to the year 2032. Some of the critical junctions where normal signaling cannot effectively manage the traffic volumes, grade separators (Flyover/Underpass) are proposed. The following are the intersections requiring grade separators in Jammu City:

i. Bikram Chowk
ii. Satwari Chowk
iii. Kunjwani Chowk
iv. Trikuta Nagar Chowk
v. Bari Brahmana Chowk

Besides junction improvement, the mobility across River Tawi needs to be strengthened and improved. The city of Jammu is divided by River Tawi into two parts and is connected with only three bridges. The traffic volume on all the existing bridges has already exceeded the threshold limit. As such it is proposed that in addition to the widening of existing bridges, some new bridges at various places as given below need to be constructed after carrying out their feasibility on environmental account:

Table 11-6: Construction of New Bridges and Widening of Existing Bridges

Sl. No.	Location	Configuration
01	Existing bridge near Sidhra	To be upgraded to 4 lane divided c/w
02	New bridge near Bhagwati Nagar (4th Bridge)	4 lane divided c/w
03	New bridge near Narajan	2 lane divided c/w
04	New bridge (First bridge) on SOS school to back side of	2 lane divided c/w
05	New bridge (Second bridge) on SOS school to back side of Airport	2 lane divided c/w
06	New bridge on proposed Srinagar Bye-Pass	4 lane divided c/w
07	New (First) bridge on Road from NH-44 near Jagti township Road to NH-44 via Katal Batal	4 lane divided c/w
08	New (Second) bridge on Road from NH-44 near Jagti township Road to NH-44 via Katal Batal	4 lane divided c/w
09	Bridge on Mandal Phallian Road from Sohjana village to proposed Akhnoor Bye-pass near Army school Jammu Cantonment	To be upgraded to 4 lane divided c/w

10	New (First) bridge on proposed Southern Bye-Pass	4 lane divided c/w
11	New (Second) bridge on proposed Southern Bye-Pass	4 lane divided c/w

The Government of J&K vide its order No: 279-HUD of 2014 dated 18-10-2014 constituted an Expert Committee to review the existing Building Lines/Righ-of-Ways (RoWs) of important city roads including the Designated Roads for their incorporation in the Revised Master Plan of Jammu. The Committee recommended the rationisation of building lines 59 roads and accordingly vide Communication No: UD-07/2005/JDA-AF-II dated 03-03-2015, the Administrative Department, Housing and Urban Development communicated to incorporate the list of 59 roads with approved building lines. The list of the said roads provided by the H&UDD has been incorporated in the Master Plan as given below. It may be noted that the proposed RoW of all such roads has been decided on the basis of building lines recommended by the Expert Committee.

A) Existing Roads

Table 11-7: Proposed Right-of-Way and Building Lines in case of existing Roads recommended by the Expert Committee

Sl No.	Name of the Road	Existing RoW of Road	Proposed RoW of the Road	Proposed B/L from C/L of Road
1	Old Secretariat Road from Panjtirthi Police post to Old Secretariat	23'- 30'	30'-0"	20'-0"
2	Kachi Chawani Road from Ranbir Library Police post to old Secretariat	40'- 67'	50'-0"	35'-0"
3	Moti Bazar Road from Parade to Chowk Chabutra to Purani Mandi	25'-0"	25'-0"	15'-0"
4	Jain Bazar Road from chowk Chabutra to Purani Mandi	22'-0"	25'-0"	15'-0"
5	Road from Chowk Chabutra to Panjtirthi Bazar (Upper Bazar)	24'-0"	25'-0"	15'-0"
6	Dayanand Marg Road from City Chowk to Purani Mandi Chowk	32'-0"	36'-0"	20'-0"
7	Raj Tilak Road from Purani Mandi to Parade Ground	22'-9"	25'-0"	15'-0"
8	Parade Road of Road Shalamar to Kachi Chawni chowk	36'-0"	36'-0"	20'-0"
9	Kanak Mandi Road from City Chowk to Lakhdata Bazar Link	32'-0"	36'-0"	20'-0"
10	Rajinder Bazar Road from Lakhdata Bazar Chowk to Sheedi chowk	36'-0'	36'-0"	20'-0"
11	Ragunath Bazar Pedestrain Mall from Ragunath Temple to city Chowk	33'-0"	36'-0"	20'-0"
12	Vir Marg from Ragunath Temple to Shaheedi chowk	60'-0"	60'-0"	40'-0"
13	Residency Road from Sheedi Chowk to Circular Road	24'-0"to 40'-0"	40'-0"	25'-0"
14	Hospital Road from Old BC Road Flats to Shalamar chowk	52'-0'	60'-0"	30'-0"
15	Shalimar Road from New Secretariat Kachi Chawni (Guru Nanak Marg)	37'-0"	36'-0"	40'-0"

16	Idgah Road from Virmarg Road to Hari Singh High School	35'-0"	45'-0"	25'-0"
17	Jogi Gate Road from Sheedi Chowk to Rajput College	35'-0"	45'-0"	25'-0"
18	Circular Road from Swami Vivekanand Chowk toPanjtirthi Matador stand a) From S.Vivekanand chowk to Sher-i-kashmir New Bridge junction.	48'-0"	60'-0"	30'-0"
19	a) Link Road from Rehari Bridge to Rotary behind New Secretariat via Dogra Hall Mohalla b) Kalethion Road intersection to Gumat	32 '-0" 31'-0"	36'-0" 36'-0"	20'-0" 20'-0"
20	Vinayak Bazar from below Gumat Chowk to Tawi Bridge crossing.	52'-0"	60'-0"	40'-0"
21	Exchange Road from Rehari Bridge to B.C. Road	33'-0"	40'-0"	20'-0"
22	Link Road from Rehari Bridge to BC Road	27'-0"	30'-0"	20'-0"
23	Central Jail Road from CPO to Jail and up to Ramnagar BC Road.	34'-0"	60'-0"	35'-0"
24	Ambphalla Road from Jail Chowk to BC Road through Ved Mandir Complex.	35'-0"	60'-0"	50'-0"
25	B.C. Road from Tawi Bridge via Jewel Chowk to Ramnagar TCP upto Nagrota intersection	102'-0" to 113'-0"	120'-0"	75'-0"
26	Science College Road from Jewel chowk to Canal Head	58'-0"	100'-0"	60'-0"
27	Akhnoor Road from Canal Road to Outer Ring Road	101'-0" From edge of canal	150'-0"	100'-0"
28	Talab Tillo Road from Canal to Talab Tillo	37'-0"	70'-0"	60'-0'
29	Gajansoo Road from Talab Tillo to Outer Ring Road.	45'-0'	70'-0"	60'-0"
30	Gho Manhasan Road from Talab Tillo junctijoin to Gole Gujral upto Outer Ring Road	22'-0'to 36'-0"	70'-0"	50'-0"
31	Bakshi Nagar Road from Bakshi Nagar Medical College Girls Hostel to Akhnoor Road.	42'-69'	70'-0"	50-0"
32	Sericulture Department from BC Road Silk factory to Mahesh Pura Chowk.	30'-0"to 50'-0"	50'-0"	40-0"
33	Rehari Chowk to Toph Sherkhania.	35'-0"	40'-0"	20'-0"
34	Paloura Road from Rehari Chowk to Plaura	36'-0"	50'-0"	30'-0"

35	Ambhgrota Road from B .C. Road intersection to outer Ring Road.	52'-0" 80'-0"	100'-0"	50'-0" (upto Janipur Chowk) 80'-01 (Beyond Janipur Housing Colony)
36	Link Road to Bagwati Nagar	25'-0"	60'-0"	40-0"
37	Jammu – Satwari Road a) from Tawi bridge to Cantonment b) from Tawi bridge upto RTO office (Old)	NA	As per military requirements	
			112´-0"	60´-0"
38	National Highway from Tawi Bridge to Kujwani Talab.	150'-0'	150'-0"	90'-0"
39	Bahu Road from Bahu Nallah to Bye Pass Junction.	84'-0"	60'-0"	40'-0"
40	1st Morh Road Gandhi Nagar Road (Railway Station) Police line Road.	70'-0"	60'-0"	40'-0"
41	2nd Morh near Chief Engineer PWD Residence, Gandhi Nagar. (Green Belt Road)	62'	As per the approved Layout Plan of the colony.	
42	Hospital Road Gandhi Nagar Convent National Highway intersection to outer Road Gandhi Nagar.	60'-0"	As per the approved Layout Plan	
43	Gole Market Road Gandhi Nagar from National High way junction to Gurudhwara.	60'-0"	As per the approved Layout Plan of the colony.	
44	Last Morh Gandhi Nagar from National Highway junction to Outer Road Gandhi Nagar	40'-0"	As per the approved Layout Plan of the colony.	
45	Internal Road from Police Line Road to last mode Gandhi Nagar in front of Hospital	60'-0"	As per the approved Layout Plan of the colony	
46	Internal Road from 2nd Morh to last Morh city bus route Road, Temple Road.	60'-0"	As per the approved Layout Plan of the	
47	Outer Road Gandhi Nagar along Landoi Choi	40'-0"`	As per the approved Layout Plan of the colony.	
48	Loop Road from Gandhi Nagar, Shastri Nagar Nai Basti meeting to National Highway	40'-0"	As per the approved Layout Plan of the colony.	
49	Convent Link Road		60'-0"	40'-0"
50	Sunder Singh Gurdwara Road	28'-0"	40'-0"	25'-0"

51	Lala Hans Raj park Road	23'-0"to 40'-0"	40'-0"	25'-0"
52	Municipal Market Road below Gumat to Lala Hans Raj Park Swami Vivekanand Chowk	23'-0'to 64'-0"	60'-0"	40'-0"
53	Aerodrome Road from Satwari junction to Satwari Police Station junction.	65'-0"	40'-0"	40'0"
54	R.S. Pura from Satwari junction to Outer Ring Road.	67'-0"	100'-0"	60'-0"
55	Railway station link from first Morh Outer Road Gandhi Nagar to Railway	80'-0"	100'-0"	75'-0"
56	Railway station link from second Morh Outer Road to Railway station	100'-0"	100'-0"	75'-0"
57	Road from Railway station to Zorawar Singh Chowk.	78'-0"	100'-0"	75'-0"
57(A)	Road from third Morh Outer Road Gandhi Nagar to Zorawar Singh	51'-0"	60'-0"	40'-0"
58	Maharaja Gulab Singh Marg from Dogra Chowk to Vivekanand Chowk	72'-0" to 95'-0"	80'-0"	50'-0"
59	Road from Jogi Gate to Dogra Chowk Road meeting at Municipal shopping complex along R-Bank of Tawi.	60'-0"to 66'-0"	80'-0"	50'-0"

Note: Minor changes with repect to Building Line and RoW have been effected after reconfirming the ground realities in case of roads given at Sr. Nos. 25, 32, 34, 38, and 41-48.

In addition, following Roads have been identified which need improvements during the plan period for improving the LOS as per the proposed RoW and Building Line:

B) Other existing Roads

Table 11-8: Proposed Right-of-Way and Building Lines in case of other existing Roads

Sl. No.	Name of the Road	Proposed RoW of the Road	Proposed B/L from C/L of Road
1	Road from Sapwal (NH-IA) to Pulpar via Burj Sheru	40'-0"	30'0"
2	Ramgargh Road from Vijaypore (NH-44) via Chak Salarain upto Local Area limits	40'-0"	30'0"
3	Road from Saunkha Morh via Rarian and Shahzadpur upto Local Area limits	40'-0"	30'0"
4	Road from Rarian via Chak Salrain up to Khanpur	40'-0"	30'0"
5	Road from Jakh (NH-44) to Nandpur vi Bhandroli upto Local Area limits	40'-0"	30'0"
6	Road from NH-44 to Gurha Salathian up to Local Area limits	60'-0"	40'-0"
7	Road from Budhwal to Raya via Rajindersinghpora upto Raya junction	40'-0"	30'0"
8	Road from Gurha Salathian Road to Sangwal via village Amwal	40'-0"	30'0"
9	Road from NH-44 (17 Miles) to Sangwal	40'-0"	30'0"
10	Purmandal Road from NH-44 to Birpur	60'-0"	40'0"
11	Road from Sanjay Nagar chowk to NH-44 via cremation ground	40'-0"	30'0"
12	Road form NH-44 to cremation ground via Digyana along the canal	40'-0"	30'0"

13	Road Gurudhwara Nanak Nagar to Preet Nagar via Khlasa Chowk	40‘-0”	30‘0”
14	Road from 1st Road Junction Channi Himmat Colony near Petrol Pump to NH-44 Bye-Pass via Deeli through Sectors 4 and 7	40‘-0”	30‘0”
15	Link Road from 4th bridge to Revenue Complex via Bagwati Nagar	40‘-0”	30‘0”
16	Link Road from Rani BAgh to Meera sahib via SKUAST	40‘-0”	30‘0”
17	Link Road from Satwari junction to Barjala	40‘-0”	30‘0”
18	Link Road from Barjala to Mukhwal upto Local Area limits	40‘-0”	30‘0”
19	Link Road from NH-44 near Nagrota to Kot Balwal via Narajan	40‘-0”	30‘0”
20	Link Road from Machain Dumana to Raipur junction via Baghani Talab	40‘-0”	30‘0”
21	Link Road from Purkhoo to Ambgrota Road near Kot Bhalwal Jail	40‘-0”	30‘0”
22	Link Raod from Dayaran to Ambgrota Road near grid station via	40‘-0”	30‘0”
23	Canal Road along Sukhi Nehar from Bana Talab – Barnai Raod upto Local Area Limits at Baran	40‘-0”	50‘-0” (from Edge of the Canal)
24	Jhiri Road from Akhnoor Road near Mishriwala via Channu Chak upto Local Area limits	40‘-0”	30‘0”
25	Link Road from Akhnoor Road from Bawa Talab to Jaswan via Badyali	40‘-0”	30‘0”
26	Road from Railway Station Right and Left bank of Lift Irrigation Canal to NH-44 Bye-Pass via Trikuta Nagar, Greater Jammu (Colony).	40‘-0”	50‘-0‖ (from Edge of the Canal)
27	For Roads not mentioned above	35’-45’	25’
		46’-60’	40’
		61’-80’	50’

Table 11-9: Master Plan Roads as proposed in the City Mobility Plan, Jammu

Sl. No.	Radial Roads	Proposed ROW	Proposed Building Line from Centre of Road
1	Ambgrota Road from B.C. Road up to Local Area Limits	100'	Upto Janipur H/ Colony 50‘-0‖ and beyond Janipur H/ Colony 80‘-0”
2	Akhnoor Road from Canal head up to Local Area Limits	150‘ (Edge of Canal)	100‘
3	Gajansoo Road from jewel chowk to Marh up to Local Area Limits	100‘	60‘
4	Surinsar Road from NH-44 Bye-Pass to Bajalta	65‘	50‘
5	Bishnah Road from Kunjwani chowk up to Local Area Limits	65‘	40‘
6	Bishnah Road from Bari Brahmana chowk up to Local Area Limits	65‘	40‘
7	R.S Pura Road from Satwari Chowk up to Local Area Limits	100‘	60‘
8	Srinagar Road from Ambphala Chowk up to Local Area Limits	65‘	50‘
9	Pathankot Road from Kunjwani Chowk to up to Local Area Limits	200‘	120"
10	NH-44 from Sarore Adda up to Local Area Limits	65‘	50‘

11	Link Road from NH-44 to Jogi Gate (Gujjar Nagar Junction) Via Bahu colony	100‘	75‘
12	Road from Rehari Chungi to Ambgrota Road via Sarwal, Patoli Chowk, Paloura	65‘-0"	45‘
13	Link Road from Akhnoor Road B.S.F. intersection to Paloura Chowk	65‘-0"	45‘
14	Link Road from Akhnoor Road to Ambgrota Road via Muthi	65´-0"	As per layout scheme.
15	Link Road from Akhnoor Road(Netra kotha) to Ambgrota Road via Malpur along CBD	65‘	45‘
16	Link Road from Panama Chowk to Narwal Bala Inner Ring Road	130‘	75‘
17	Link Road from Railway station junction to Panama Chowk-Narwal Bala Road junction near petrol pump	80‘	60‘
18	Link Road from Bikram Chowk to Panama Chowk	100‘	75‘
19	Link Road from Police Headquarter Chowk to Bahu colony Chowk	100‘	
20	Bahu Fort Road from Bahu chowk to NH-44 Bye-Pass	50‘	30‘
21	Gho- Manhasan Road from Talab Tillo junction to Gho-Manahasan	100‘	50‘
22	Road from village Parkah at Marh Road to village Laldin Padore	65‘	45‘
23	Road from Pouni Chack to Proposed Inner Ring Road via Akilpur, Shahzadpur	65‘	45‘
24	Link Road from Gajan Singhpora to Gajansoo Road meeting at Maheal Chowk	65‘	45‘
25	NH44 Bye-Pass from Kunjwani Chowk to Nagrota via Narwal Bala, Sidhra	200‘	120
26	Link Road from Sainik colony junction up to NH-44 meeting at Paremandal Chowk via Choadi village.	65‘	45‘
27	Link Road from NH-44 at junction Bhatindi Morh to Chowadi Road near Sainik colony via Sunjwan	65‘	45‘
28	Link Road from Sunjwan Road junction to Bhatindi	50‘	30‘
29	Link Road Bari Brahamana to Raya	100‘	60‘
30	Link Road from village Raya junction to NH-44	65‘	45‘
31	Link Road from Canal Head Chowk to 4th Tawi Bridge	65‘	45‘
32	Link Road from Bikram Chowk to 4th.Tawi Bridge	65‘	45‘
33	Link Road from Satwari Chowk to Tawi Bridge	65‘	45‘
34 34	Road from NH-44 Bye-Pass to Trikuta Nagar Road along Thanger Nallah (Shamshan Ghat Road)	30‘-0" on both sides	50‘
35	Link Road from NH-44 Bye-Pass to Trikuta Nagar via Marble Market	65‘-0"	45‘

- Note: The proposed Building Line and proposed RoW for any road specifically not mentioned above shall be decided on the basis of same pattern as proposed above or its functional hierarchy, existing road width and continuity.

- In case of approved housing colonies, the individual plot setbacks as prescribed in the approved layouts of said colonies shall prevail over the proposed Building Line(s) as envisaged above.

11.1.7.5 Hierarchy of Proposed Road Network

The proposed Master exhibits a definitive hierarchy in its structure for proposed road hierarchy. Apart from the regional roads, the other proposed road network consist hierarchy of 90 m, 60 m, 45 m, 30 m, 24 m and 12-18 m wide roads. Other than these, the existing Roads are kept as it is as approach roads for the settlements. Based on the plan, the road network can be seen as made up of the regional Roads, a central spine, parallel road to central spine, perpendicular arterial roads and the sub-sector roads.

I. Expressway (Southern Bye-pass Road) – 90 MTS WIDE

The proposed Expressway (Southern Bye-Pass Road) of 90 M wide has been proposed along the western periphery of the planning area connecting with NH-IA on the southern side and the Akhnoor Road on the northern side.

II. Spine Road- 60 MTS WIDE

III. The proposed plan for the notified area has one major spine cutting across the area. This central spine road is the existing NH-44 is to be 60 M wide, forming the commercial/ recreational spine having high intensity development along it. These roads, along with part of regional road, are planned to integrate the other routes. The alignment of the NH-44 has been incorporated.

IV. Arterial Roads- 45 MTS WIDE

The major arterial roads will be R.S. Pura Road having width of 45m. The Nagrota Bye-Pass and the part of southern Bye-Pass (Gurah Salathian) will be 45m wide Road. This Road is almost delineating the urban growth boundary.

V. Sub-Arterial Roads- 24-30 MTS WIDE

The sub-arterial roads are the internal link road that is creating the grid pattern road network.1-1.5 km grid has been created for the 24m road and 1.5km-2 km grid has been created for the 30m road.

VI. Secondary Roads- Less than 20 MTS WIDE

The secondary roads as internal city links are proposed 12m-18m wide.

11.1.7.6 Mass Transport

Mass transport system shall be the backbone of the Jammu city transport system. The basic premise is to create an efficient, cost effective and extensive network of public transport which could provide comfortable, convenient and affordable means of transport to the maximum number of commuters. Considering this following multi- modal integrated mass transport corridors have been proposed which are based on the transit oriented transportation model.

Mono Rail/Metro

A mono rail/metro network has been proposed in the Master Plan as a part of the public transport system to cater to the demand on major directions of traffic. The monorail provides safe and efficient public transport while at the same time it will also attract tourists to use it offering hassle free transport. The network is proposed to be elevated and mostly along the median of existing roads. It will mostly cover the core areas of the city and connect them to the major outer areas transport nodes. The mono rail is proposed from Bari Brahamana railway station to Doordarshan Kendra in north-west side (alongside the Akhnoor Road) and to Radio Station in north east (along Ambhghrota Road). These mono-rail stations need to be developed as modern terminus with all provisions. The land use adjacent these have also envisaged to meet the requirements and make these viable urban nodes of Jammu Master Plan-2032.

Bus Rapid Transit (BRT) System

Bus Rapid Transit (BRT) is a high quality, ultra-modern, customer oriented transit option that can deliver fast, comfortable and cost-effective urban mobility. BRT is an integrated system of facilities, equipment services and amenities that improves the speed, reliability, and identity of bus transit. Taking into consideration the master plan proposals and the likely travel demand in the Jammu LPA-2032 , BRT system is proposed along following corridors for a total length of 132 Kms:

a) Ring Road Bus Service – Kunjwani Chowk to Kunjwani Chowk (along Nagrota Bye-Pass)
b) Bari Brahmana to Vijaypur along NH-44 13.5 I Phase II
c) Bari Brahmana to Nagrota along Nagrota Bye-Pass d) Dogra Chowk to Marh along Talab Tillo Road
e) Bari Brahmana to Bantalab along proposed Akhnoor Bye-Pass f) B.C. Road Bus Terminal to Sunjwan
g) B.C. Road Bus Terminal to Miran Sahib
h) B.C. Road Bus Terminal to Nagrota (along Srinagar Road)

Ropeway System

Ropeway system has been proposed connecting the important tourist-cum-pilgrim destinations of Mubarak Mandi and Bagh-e Bahu/ Shahabad via Mahamaya Temple in two sections, which are located at higher altitude. It is proposed to connect them to their base points with ropeway system. The base stations of proposed ropeway for Mubark Mandi and Bagh-e-Bahu has been near Mubarak Mandi, Mahamaya Temple and Bagh-e-Bahu covering a distance of 1.5 Km in Planning Zone Pz_A Possibilities need to be explored to develop ropeway from Airport to Bikram Chowk as a means of non-conventional urban transport to reduce the pressure of vehicular traffic on this vital corridor.

11.1.7.6 Augmentation and Improvement in City Bus System

While the monorail and BRT will be operational on selected routes where substantial right of way is available, the other areas will in any case continue to be served by local bus system which will also act as feeder system to the monorail and BRT system. Presently about 2200 mini-buses are operating in Jammu in private mode. It is expected that with the introduction of BRT and proper local bus system, most of the city traffic switch over to BRT and city bus system. As per the City Mobility Plan of Jammu about 9.2 Lakh trips per day by 2031 on BRT and city bus system will be performed in Jammu which will require at least 1300 standard size buses and 800 mini buses will be required by year 2031.

Inter-City Bus Terminals

All the inter-city buses presently originate and terminate at the B. C. Road Bus Terminal and Railway Station Bus Terminal. Besides, a proxy bus stand at Bikram Chowk is also functioning for RS Pura bound buses. To meet the future demand, three additional intercity bus terminals are proposed on NH-44 near Purmandal Chowk, near Nagrota and on Akhnoor Road near Nagbani. Since all these terminals are proposed to be connected by mass transport systems, their proper functioning will largely depend on making mass transport systems operational up to them. The existing bus terminal at B.C. Road will however, act as intra-city bus terminal. The proposed bus terminal at Purmandal Chowk will cater the buses going towards Delhi and R.S. Pura side and Nagrota bus terminal will act as intercity bus terminal for Srinagar bound buses. Similarly, bus terminal near Nagbani along the Akhnoor Road is proposed as intercity bus terminal for Akhnoor and Rajouri side buses/minibuses.

Intra City Bus Terminals

Jammu has a number of unorganized small mini bus stands located in different parts of the city. In absence of proper bus terminal, mini buses are mostly plying from the main carriageway of important Roads. Therefore, the existing inter-city bus terminal at B.C. Road is proposed to be converted into an intra-city bus terminus. Besides, three new intra-city terminals are proposed one each at Transport Nagar in Planning Zone Pz_S, Purmandal and Nagbani along with inter-city bus terminals. Improvement of existing intra-city bus terminals at Jammu Railway Station in Planning Zone Pz_G,

Panjthirthi Chowk and Medical Chowk has also been suggested. These seven intra-city bus terminals will also act as inter modal interchange points with proposed mass transport system.

11.1.7.7 Airport

Jammu being the capital city and largest urban settlement of the Jammu province, air is a growing mode of transport. Air transport has gained its significance with increase in the number of yatris to Mata Vaishneo Devi Shrine, other historical and religious place located in and around the city. The Master plan envisages expansion of the airport to meet the requirement of growing air traffic. Since the expansion of the runway is proposed towards the north of the existing runway, the Master Plan proposes low rise high density in all areas in the north of the Airport and across the Tawi river in Bhagwati Nagar falling within the air funnel or within such radius from the edge of Airport as required under the regulations of Civil Aviation Department to ensure safety.

11.1.7.8 Parking

The authority should promote the creation of parking spaces at individual plot level by giving special subsides or schemes and by linking it with the property tax. Various incentives may be given to the plot owners who build and/or rent parking spaces for public purpose. This has been addressed in the DCR. The parking demand in Jammu city is very high due to limited parking spaces and high growth of vehicles in the city. While aadministrative, business and commercial establishments are major attractors of the vehicles in core area, the off- street parking lots have limited capacities which do not cater to ever increasing parking demand in the area thereby, resulting in spill-overs along the main streets. To address the parking problem in a holistic way, following four pronged strategy is proposed in the Master Plan:

I. Automatic Multi Level Parking (AMP)

Being cardinal business/ commercial area, there is huge parking demand in Raghunath Bazar, Kanak Mandi, Purani Mandi, Mubarak Mandi and Kachi Chhawni. The available parking space is not sufficient to cater the existing parking demand. Therefore, multilevel parking facilities are proposed at Kachi Chhawni, B.C. Road Bus Terminal, Panjtirthi, City Chowk & opppsite Maharaja Hari Singh Ji Park.

To curb on-street parking, four spaces i.e. Kachi Chhawni, B.C. Road Bus Terminal, City Chowk/ Super Bazar and DC office (provided it is shifted) are identified to be developed as Automatic Multilevel Parking. These multi-level parking lots will take care of both existing on-street parking and future demand of the core area.

II. Surface Parking

Parking spaces are also available at Purani Mandi and Mubarak Mandi with an area of about 1800 and 4500 sq. m respectively. In addition, parking spaces are also available at Gol Market Chowk, Jewel Chowk, Medical College, Railway Station and near Airport with the demand (peak hour accumulation) of 108, 68, 262, 250 and 45 ECS in other area of Jammu city. It is proposed to improve entry, exit and surface of these parking lots.

III. On-street Parking

Besides existing on-street parking at Apsara Theater Road, Aquaf Market Road, Ganpati Food Junction Road, Gol Market to Gurudwara Road and Gol Market to Main Morh Gandhi Nagar, provision for payable on-street parking at Idgah Road and Delhi Public School Road may also be provided. Heavy parking fee at differential rate system based on parking period be introduced to discourage increasing parking demand in these areas.

IV. No Parking Roads

To ensure hassle free traffic movement, the following roads have been proposed to be converted into ―No Parking Zones:

1. Residency Road (Raghunath Mandir to Shaheedi Chowk)
2. Kanak Mandi Road (City Chowk to Shaheedi Chowk)
3. Raghunath Bazar Road
4. Hari Market Road
5. Purani Mandi Road
6. Pakka Danga Road
7. Link Road
8. Lakhdata Bazar Road
9. Mubarak Mandi Road
10. Panjtirthi Chowk to Indira Chowk via Parade
11. Kachi Chhawni Parking to Pakka Danga Road
12. B.C. Road
13. Vinayak Bazar Road
14. Raghunath Mandir to Vivekananda Chowk Road
15. Medical College Chowk to Akhnoor Road
16. Airport Road near Airport Exit Gate and open land across the road opposite the main gate shall be developed as car parking for airport.

As a long-term policy measure, following parking lots are also proposed to be developed each with a capacity of not less than 400 ECS:

I. Trikuta Nagar Chowk (Greater Kailash Chowk).

II. Near Mishriwala

III. Near Kheri

IV. Near Purmandal Chowk

11.1.7.9 Integrated Freight Complex (IFC)

Though all freight movement through the CBD is presently restricted on some important arterials, the Narwal Bala Transport Nagar, Gangyal, Digiana and Bari Brahmana act as important ITC Nodes. To decongest the existing Transport Nagar it is proposed to provide two new IFCs at the periphery of the city, with all facilities of wholesale markets, loading/unloading facilities, parking, workshops etc. this is in line with proposal for developing an outer Bye-Pass which will help diversion of through freight traffic in the area. Besides strengthening the existing Integrated Freight Complex at Narwal Bala in first phase, ITCs one each at the Pathankot Road near Raya Morh and the Akhnoor Road near Gajan Singhpur need to be developed in the second phase.

11.2 Proposed Social Infrastructure

Availability of social facilities is a key for quality urban living. The Revised Master Plan has taken into cognizance the master plan norms, existing availability with stipulated development controls for the provision of these facilities. The provision of amenities has to be adequate in terms of their number and area. In the proposed plan, these amenities are provided at various levels, depending on the nature of the particular amenity. The quantity and area of each amenity depends on the level at which the amenity is being provided, and the size of population it is envisaged to support. Therefore, accessibility to appropriate level of social infrastructure has been considered as an important parameter for the Land use policy and distribution of activities on the land use plan. The assessment of social infrastructure for Jammu Local Planning Area is largely based on URDPFI guidelines and examines in particular, the requirement of service provision in each of these sectors for 2032.

A key objective in preparing the Master Plan is the provision of an appropriate level of community facilities at various levels i.e. Community, Neighborhood, Zone, Sector & CBD level. As per proposal, the notified area will consist of 19 zones, and two CBD's high-end facilities at site/central level serving the entire LPA. All the social facilities shall be developed with proper layout plan, landscaping, parking and other allied services needed for each facility. The Master Plan envisages the accessibility of social facilities as an overriding factor in the determination of location of each facility along with threshold population.

11.2.1 Educational Facilities

In the Jammu Region, Jammu has the distinction of being the seat of highest learning. Presently, there are three Universities functioning in the Jammu city. Some national level institutes like IIT, IIM & AIIMS are in pipeline in the Jammu city. As a policy measure, the highest level educational infrastructure is proposed to be developed in new extension areas in peripheral Planning Zones as per the provisions of the Land use Plan. However, for any such project EIA shall be made a mandatory requirement to assess the feasibility of the project under EIA Notification 2006 and other relevant laws in vogue. It may be noted that the location of Central University on fragile hill slopes is viewed as an environmental disaster, and any such effort shall be put to EIA before the execution of any construction work on site. The lower level educational facilities are envisaged to be catered at the neighborhood or cluster level as per the population threshold. Playfields shall be provided preferably adjacent to schools /educational institutions and shall be accessible by walkable distances.

A large number of coaching/training centers in Jammu are primarily operated by private enterprises / sectors. Suitable arrangements are proposed for such institutions in the form of mixed land use. The Master Plan also envisages the establishment of integrated schools in new areas rather than opting for various levels of educational institutional facilities separately. Similarly, crèches and pre-nursery schools are permissible in the residential use as a part of the Mixed use Policy. In all educational institutions, proper provision for differently abled children shall be made. In case of new schools, front wall shall be retired by Seven (07) meters minimum to subsume the space within the Road to avoid traffic conflicts and on-street parking.

Table 11-10: Proposed Education Facilities according to URDPFI Guidelines

Type of Infrastructure	2017	2022	2027	2032
Nursery/Pre-Primary Schools	308	344	394	449
Primary Schools	308	344	394	449
Middle Schools	164	184	210	239
High Schools	123	138	158	179
Higher Secondary Schools	123	138	158	179
Colleges	10	11	13	14
School For Handicapped	12	14	16	18
Industrial Training Institute (ITI)	5	6	6	7
Polytechnic	5	6	6	7
New Engineering College	2	3	3	4
Medical College	1	1	2	2

Note: The details of educational facilities shown in table above for different years shall be adjusted to the existing infrastructure available in a given period of time.

11.2.2 Healthcare Facilities

Health facilities are very important for the well-being of people. A number of hospitals and dispensaries have been added both in the Government and private sector to extend medical facilities and in order to preserve and promote the health standard of people in the city. The age expectancy has reached the level of 65-70 years. Recently Government of India has sanctioned a national level health institute (AIIMS) for Jammu city which will improve the health facility as well as health education to a great extent. With the increase of population, influx of migration from Valley and development of posh localities in the city, many private medical institutions have come up.

In the existing situation, total number of facilities available is 369. So, there is a gap between the existing and proposed situation. The number of government sponsored hospital in the district and sub-district level should be increased. The provision has been made in the Master Plan to increase the facilities. This proceeding section focuses on the adequacy of health facilities (PHSC, PHC and Hospital) in Jammu City, based on URDPFI guidelines and the projected population in the region. Adequacy of Primary Health Centers is assessed to understand the differential requirement for the projected population of 2017, 2022 and 2032 respectively.

Table 11-11: Proposed Healthcare Facilities as per URDPFI Guidelines

Year	PHC	Dispensary	General Hospital	Intermediate Hospital	Nursing Home
2011	369	74	5	5	25
2022	459	92	6	6	31
2032	598	120	8	8	40

11.2.3 Recreational Facilities

Recreation activities are important for the physical and social development of an individual. The city shall provide requisite infrastructure, equipment and facilities for the overall development of the citizens. At present, there are number of facilities such as playgrounds, art galleries, sports club, library etc. within the Jammu city limits. As the city is expanding the need for recreational facility would be in high demand so more number of such services shall be made available which can serve well within the JMC area and JDA limits. Looking at the expansion of the city, the locations for new recreational facilities shall be rationally located within the JMC area and JDA limit as per the URDPFI standards mentioned below for each planning unit.

Table 11-12: Proposed Recreational Facilities as per URDPFI Guidelines

Year	Housing Area Park	Neighborhood park	Community park	District park	Sub city park	Sub city level multipurpose ground	District level multipurpose ground	Community level Multipurpose ground
2011	221	74	11	2	1	1	2	8
2022	273	91	14	3	1	1	3	4
2032	354	118	18	4	2	2	4	2

11.2.4 Communication Facilities & Other Services

11.2.4.1 Post offices

In the Jammu district 3 head post offices are there. Adequacy of Post Offices is assessed to understand the differential requirement for the projected population of year 2011, 2022 and 2032. According to UDPFI guidelines, one post office is to be provided for 5,000 population.

Table 11-13: Total Number of Post Offices according to the URDPFI guidelines

Year	No. of Post Offices
2011	221
2022	274
2032	355

According to the URDPFI guidelines in JDA area, 221 post offices are needed in 2011 and by 2021 and 2032 year about 274 and 355 post offices shall be required.

11.2.4.2 Community facilities

Community facilities being very essential for the welfare of community life have been given paramount importance in the formulation of this Master Plan. The Plan, besides taking cognizance of existing inadequacies in terms of location, space, nature and quality of these facilities, has taken into consideration growing needs and level of requirement of different order facilities. The Master Plan proposes various community facilities like Parks and Play grounds, Fire and Police Stations, Post Offices, Community Centre, Slaughter House/abattoir, Auditorium, Social-cultural center, public libraries and others. As a policy measure, all these facilities shall be made prerequisite for all group housing projects, residential clusters and above as applicable. In case of existing residential areas, open pockets of land shall be identified for the provision of such facilities as per the stnadards envisaged in table below.

Table 11-14: Standards for provision of Community Infrastructure

Population Threshold	Nature of Utility and Social facility	Land Area/Facility (sq. m)
Community Level (5,000-6,000)	Nursery School + Primary School	4,020
	Community Hall	660
	Milk Booth	25
	ATM	10
	Facilities shop(280 sq. m/3500 POP)	400
	Convenience Shopping 160 sq. m/1000	800
	Open Space @1.25 sq. m./capita	7,500
Neighborhood Level (10000-	Sr. Secondary School	16,000

12000)	Community Hall/Library &Gymnasium	2,000
	Religious Building	500
	Retail Commercial(300 sq. m/1000	3000
	Electric Sub Station 415 KV	350
	Dispensary	1200
	Bank with ATM 2 Nos.	3600
	Under Ground Water Tanker	2000
	Open Space @ 1.5 sq. m./capita	16,500
Sector Level (40,000-50,000)	Sub Post Office	1550
	Health Centre	3000
	`Police Post	1500
	Religious Building	500
	Communication Centre with STD ISD Data	5000
	Retail Commercial 500 sq. m./1000	20000
	Petrol Pump	2000
	LPG Go down	5000
	General Hospital & Poly clinic	15000
	Community Sport Centre	30000
	Community Recreational Club	5000
	Bus Terminal	2000
	Police Post	1600
	Electric Sub Station 66 KV	9000
	Water Reserve & Distribution System	5000
	Open Space @1.5 sq. m/ capita	67500
Nodal Level 1,00,000-1,50,000	Electric Sub Station 11 KV	2,500
	College	40000
	Community Centre with PHC Library Hall	5000

	Recreational club	10000
	Poly Clinic 20 bedded	3000
	Police Station	15,000
	Post & Telegraph.	3500
	Over Head Reservoir	10000
	Cineplex	15000
	Retail Commercial 500sq.m./1000	50,000
	Specialty Hospital above 501 beds	45,000
	Hospital 201 beds to 500 beds	25,000
	Veterinary Hospital	2000
	Professional College	60000
	Working Women Hostel	2000
	Vocational Training Centre	10000
	Adult Education Centre	2000
	Social Culture Centre	12000
	General Hospital	60,000
	Recreational Club	10000
	District Sport Centre	100000
	Head Post Office & Adm. Office	4000
	Telephone Exchange Private	7,500
	Telephone Exchange BSNL	75,000
	Bus Depot	8000
	Municipal office for water and sewerage	2500
	Sewerage Treatment Plant	180000
	Cremation Ground	7,500
	Sewerage Pumping Station	5000
	Open Space @ 1.5 sq. m/capita	187500

Zone Level (4,00,000 – 5,00,000)	33 KV Electric sub-station +Captive Power	8,000
	Fire Station	7,500
	Hospital	10,000
	Bus Terminal	15,000
	Electric receiving sub-station 220/660 KV	22,576
	Hotel with Convention facility	40,000
	Water Treatment Plant	10,000
	Electric sub-station 11 KV	3,500
	Telephone Exchange	2,500
	Retail Commercial 850 sq.mt 1000per	3,40,000
	Super Market	6,000
	Open Space @ 1.Sq.m /capita)	4,50,000

11.2.4.3 Community Hall

The Master Plan proposes 120 Community Halls/Libraries comprising of marriage hall and a reading room/Library in all planning zones. Out of these facilities, the Master Plan proposes that JDA shall act as facilitator and encourage private sector investment to lessen financial burden on the state exchequer and at the same time improve living standard by ensuring provision of these facilities. However, their development shall be consistent to the space standards to ensure quality infrastructure and to avoid undesired mushrooming.

11.2.4.4 Religious

A number of religious places like Mosques, temples, shrines, cremation and graveyards, and temples are visualized scattered all over the Local Area. In most cases religious places are acting as the main impediment in realignment and widening of the roads affecting adversely the traffic and mobility. Therefore, in future these shall be allowed only after seeking proper approval and in accordance with policies of the Master Plan.

11.2.4.5 Fire Services

Efficient firefighting operations are important for safety of city especially in congested core city and urban villages. The standard provision for fire services in kilo-liters per day is 100/P where P is the population in thousands.

The Master Plan proposes that water demand for fire-fighting by 2032 shall be worked out @ 1% of total demand with one-third of the demand served by service storage. Adequate provision of fire

stations along with other facilities is imperative for effecting proper firefighting system and the provision of fire stations shall be made consistent with the static tanks and the proposed residential development in the town. The primitive means of firefighting has to be replaced by advanced and mechanized firefighting system. The Master Plan envisages fire stations for each sector of 50, 000 population with five (05) fire tenders. The Master Plan proposes Fire Station facilities within the Planning Area in a manner as discussed under Disaster Management in Environment chapter.

11.2.4.6 Police Post/Station

To maintain law and order in Local Area, the Master Plan proposes 18 Police Stations and 36 police posts which need to be established keeping in view the anticipated expansion of the city and urban villages. These shall located as per the Master plan Standards for the provision of Community Infrastructure.

11.2.4.7 Slaughter House and Abattoir

The Master Plan proposes two slaughter houses in the North and South of Jammu which shall be equipped with modern technology to avoid hazards to the public health. In the North City, one number Slaughter house is proposed along the Akhnoor Road near Dayaran while in the South, additional such facility is proposed near Vijaypur in the proposed industrial area. It is also proposed that the existing slaughter house in the core city be revamped with facilities for weighing, quality control and treatment plant. Besides, one State-of-the-Art Abattoir over one hectare land is proposed in the extended industrial area at Bari Brahamana. As per the Twelfth Schedule (Article 243W) of the Constitution of India and the State Municipal Acts, the regulation of Slaughter Houses or Abattoirs and Tanneries shall be the responsibility of Municipal Corporation Jammu and other concerned ULB’s.

12. IMPLEMENTATION MECHANISM

The perusal of Master Plan-1994 and Master Plan-2021 abundantly makes it clear that both have relied on urban policy tools and institutional framework which has not yielded the desired benefits of urban development. Urban development in Jammu has rather been elusive with respect to implementation of the master plans in disciplining the growth, provision of services, infrastructure, affordable housing etc. The landuse pattern, zoning regulations, building bye laws and other space standards articulated have failed to shape the image of the city. As a matter of fact these master plans have turned redundant to address the city development. The urban growth of the Jammu city is going to be inescapable; therefore sheer scale of its future development would be taken care of in the present revision of the master plan. Efforts would be made to transform the Jammu city into a vibrant city. Therefore, revision has focused on conceiving a viable urban policy for master plan with following objectives:

a) Ensure appropriate housing and land supply to lower economic categories of Jammu with adequate provision of services and amenities;

b) Effectively manage and enforce city development to harness the true benefits of urban development;

c) Provisions of major /critical infrastructure by urban development agencies and other players;

d) Ensure regular review of applicability and effectiveness of master plan proposals and policies;

e) Improve the financial health of the JDA to take its mission of city development to logical conclusion as conceived in the master plan;

f) Ensure effective enforcement, implementation, monitoring, governance, participation, decentralization, transparency and accountability.

g) To create enabling rather than controlling environment for urban development with inbuilt mechanism for flexibility in every sphere of master plan implementation without eluding quality, amenity and standards.

Therefore, cohesive urban policy strategy along with judicious priority actions is of paramount importance in achieving the goals and objectives of the Revised Master Plan. An appropriate policy mix to cope up with urbanisation including flexibility and accommodation, economic vitality, urban land management, probing of unearned fiscal resources for furthering the urban development, encouraging role of private players, congruous conversion of landuses, legislative and institutional reforms, etc. is the fountain-head of implementation strategy conceived in the Revised Master Plan. In addition, priority actions have been spelled out intending to emphasize the city‘s efforts on actions that should be taken so that decisions are aligned with policies and landuse activities contained in the plan. Few priority actions are already underway or are anticipated to be initiated shortly following the adoption of the plan and proposed policy strategy. The priority

actions are to be reviewed and updated periodically to reflect the city‘s accomplishments, available resources and potential shifts and aberrations in the policy directions.

12.1 Urban Land Policy

In the Master Plan, an attempt has been made to make Urban Land Policy more realistic by taking cognizance of economic forces, urban forces, ground realities, fiscal empowerment, and structure/functions of local agencies and requirement of the community at large. The Revised Master Plan proposes development encompassing roughly about 652 sq. kms. of land within the Local Area limits. Predominantly land is in private ownership which is likely to generate impediments in the implementation and enforcement of the Master Plan proposals. Due to ownership constraints of land, it has been observed in Jammu and Kashmir that despite having Master Plans most of the urban settlements are not able to achieve the desired goals of planned development. The Revised Master Plan recommends the development of a model for the implementation of proposals by JDA using the Public- Private Partnership and Public-Public Partnership. Land being a scarce and non-renewable resource, the Revised Master Plan envisages its most effective and judicious use in the best interest of a community through the instrument of landuse plan further to be detailed in Zonal Plans. Therefore, as a principle of urban planning and development, the urban land should be treated as an asset and its utilization be planned by various uses accordingly. Implementation of the plan requires procurement of land either by way of private negotiation or through the land Acquisition Acts. Land procurement through such means naturally requires huge capital investment which is beyond the fiscal capabilities of many of the local authorities. As a result, many plans remain confined to paper plans only. There is a growing consciousness that urban planning should be self-financing with minimum burden on local authorities or the government.

The Jammu Master Plan has evolved a strategy to optimize the spatial spread of land through rationalizing the densities and envisaging the various types of developments ranging from low density low rise to very high density high rise development. In addition, future expansion has been recommended in non-irrigated and low agriculture productive areas. Restricted forests, identified forests, Ghar Mumkin Khad and rich agriculture lands have been proposed to be safeguarded for ecological and economic considerations.

12.2 Urban Land Policy Directives

12.2.1 Demarcation and Identification of JDA Land

Jammu Development Authority has been fortunate enough because almost more than 75,833 kanals & 4 marlas of Government land was to be transferred to it under Jammu and Kashmir Development Act-1970. It was the greatest asset which could have been utilized to change the destiny of Jammu city. Unfortunately, the land was transferred only on papers without identification or physical demarcation and formal handover. Consequently most of the land over the period of time has fallen prey to encroachments and defeating the objective of planned growth of Jammu master plan region.

As per the provision of the J&K Development Act-1970 under section 18 all government land has to be handed over to the JDA for development of the city. The inaction in handing over the land to JDA was also seriously viewed by the Hon'ble High Court which passed directions for demarcation and identification and subsequently handing over of the same by revenue authorities to JDA. Since the limits of the city have been extended, all government land falling within the extended limits shall also be handed over to JDA and the authority in the process shall initiate:

a) Preparation of Survey Plan with the help of ETS and maintain an inventory of all parcels of land within its territorial limits.

b) Fence the land and ensure proper watch and ward till it is used by the JDA;

c) Retrieval of land grabbed by individuals, colonizers etc. or regularization of the same after evolving an appropriate mechanism to ensure just returns to discourage menace of illegal encroachment in future.

e) Maintain a Register supported by a digitized map showing assessment of land values in each zone.

12.2.2 Selective Acquisition of Land

Instead following the practice of recommending the mass acquisition for creating land banks as it involves colossal financial investment, JDA shall on priority notify, acquire and develop land long major Roads /corridors, major infrastructure nodes, potential growth centres etc. in conformity with the master plan proposals. It shall initiate acquisition process soon after the adoption of the master plan on selective spot acquisition. This will help JDA in probing and harnessing fiscal resources leading to tapping and recovering of funds for establishment of its Seed Capital which can be used for initiating development in other areas.

12.2.3 Rationalization of Revenue Classification

Jammu as a whole has innumerable drainage channels traversing every part of the city. Most of the land abutting these drainage channels/Nallahs irrespective of their varying peak discharge flows and identifiable flood basins have been classified as a part of the ―Ghir Mumkin Khad‖. By virtue of this classification, more than thirty percent of the JDA land would not be available for development purposes. Going by this land classification in Jammu, the developed areas like Trikuta Nagar, Sainik colony, Sunjawan, Bhatandi, Roopnagar, and other parts of the city despite having permission and approval under master plans would fall under the category of illegal development as these constitute significant portion of so-called Ghir Mumkin Khad. Such a classification of Khads is viewed to restrain the development of Jammu which would necessitate further extension of the city limits with a series of causative implications on the economies of scale for provision of services and development of urban infrastructure. It will not be in the larger interest of the city and would defeat the objectives of achieving the smart growth and optimum utilization of land as a resource instead compelling city to devour rich agricultural land in its vicinity. For efficient use of city's land resource, the Revised Master Plan envisages rationalization of the revenue

classification of land by identifying the ―true Khad i.e. is functional drainage basin during peak flow with help of Irrigation and Flood Control Department. Identification of ―functional Khad during peak precipitation is also needed to bestow congruity to many existing colonies. As a matter of fact, the Master Plan proposes adequate buffer zones along all the drainage channels in accordance with the size, importance, and expected discharge.

12.2.4 Land Retrieval and Regularization

JDA has vast stretches of land especially along the water bodies and hill slopes which is Nazool / State land. This land within the territorial jurisdiction of revised Master Plan has to be identified, demarcated, and handed over to JDA for its planned development. Not only this, a significant portion of the land has been left encroached or unauthorizedly developed by the encroachers leading to colossal fiscal loss besides adding the burden of providing services and amenities in such areas. The Revised Master Plan proposes retrieval of this land which can be achieved through regularization of unauthorized colonies after recovery of the cost of the land which may be decided based on the size, category, and location of the land. However, regularization shall be preceded by a comprehensive Urban Environment Improvement Plan (UEIP) which shall provide for basic amenities and facilities for such areas. The UEIP of each area shall act as Zonal Plan or Neighbourhood Plan depending on its size and scale of development notwithstanding contrary to the provisions of this Master Plan. JDA as a custodian of this Master Plan shall take Revenue Department, Flood Control and Irrigation Department, roads and Building Department and concerned Urban Local Bodies on board and work in tandem to ensure total retrieval of land.

12.3 Implementation Mechanism for Urban Land Management

Land is a non-renewable resource and should be utilized very carefully. There is competition between activities for space and therefore the supply of land is relatively inelastic in urban areas. In Jammu city significance of the efficient and optimum use land can hardly be underscored mainly due to soil characteristics, ecological sensitivity and sustainability of agricultural sector and ever increasing demand of urban development. In Jammu, the urban land market is very volatile and accelerates the process of conversion of agricultural land. At present the Jammu city has extensive vacant patches of as potential spaces for future urbanisation. Thus it shall be obligatory for JDA to release this land and regulate the land market by discouraging land speculation. Therefore, setting up appropriate implementation mechanism for urban land management as an effective method for promoting sound urban development with operational regulatory framework is immediately warranted. The challenge in this process is—

- To supply land at the right time in desired locations and with timely provision of infrastructure.
- To eliminate market imperfections and failures.
- Removing externalities so that the social costs for land market outcomes correspond more closely to private costs.

- Redistributing city‘s scarce resources so that disadvantaged groups can share in society's output

12.3.1 Negotiated Land Acquisition

The revised Master Plan proposes Negotiated Land Acquisition in place of compulsory land acquisition as an innovation in land acquisition procedures for speedy urban development. This method of acquisition has recently been implemented by the Greater Noida Industrial Authority successfully for promoting planned development in Greater Noida. The Authority estimated the compensation package for land acquisition, on the basis of the sale price of land registered in the sale deeds during the last three years, Solatium and interest, and negotiated with the landowners on the basis of these rates. The Authority and the landowners, after several rounds of talks, decided on mutually acceptable rates for land acquisition. Landowners collected the compensation, as worked out by LAC, and then filed a reference with the District Judge for enhancement of compensation Subsequently in the District Court, the Authority and the landowners filed a compromise deed on the compensation, at the agreed rate, on the basis of which the District Judge finalized the rates. Also the Maharashtra Act provides for such a negotiated process and this has been successfully tried in our cities. To meet the future requirement, the Master Plan envisages that JDA shall adopt similar land acquisition process for execution of priority projects to scale up the planned urban development of JMP-2032

The benefits of negotiated land acquisition are:

- Compensation would be paid to landowners, at a rate close to the market rate within a short duration of 3-4 months and the landowners and the public agency would save litigation expenses;
- Speedy acquisition of land and lesser risk of land encroachment and consequently reduced cost of land development and housing;
- Landowners would cooperate with public agencies in land assembly and development work and will have lesser incentive to collude with private developers for unauthorized development;
- JDA would be in a position to estimate the sale price of land on the basis of definite compensation rates and avoid the need for subsequent recovery from Allottees.

12.3.2 Land Pooling Technique for Implementation of Revised Master Plan

Jammu is the second largest urban centre of the State next to Srinagar in the settlement system of the J&K State. If appropriate policy is not adopted to implement the Master Plan proposals, unplanned and uncontrolled urban growth would outpace the planning efforts which will have serious effects on urban living. Though not yet popular in this part of the country, land pooling is emerging as a long- term strategy to ensure the availability of serviced urban land for controlled growth. It is increasingly being viewed as a solution to the problems of scattered development,

private sprawl and heavy backlog in public utility services. In land pooling, neighbouring property owners collaborate to realign property boundaries in a development plan where they all profit. It involves assembling of small landholdings into a large land parcel, and reconstituting it with provision for infrastructure, amenities and utilities in a planned manner. Thereafter, returning the reconstituted land to the owners with additional benefits like roads, parks and access to other public utility services. The infrastructure expense is recovered by the sale of some of the serviced land. However, there must be valid legislation to absorb such activity into the system without procedural hurdles and financial implications like registration charges. The Government also has to enforce building regulations and provide attractive tax concessions to encourage pooling. In India, town planning using the land pooling technique has been successfully implemented in Maharashtra, Gujarat, Tamil Nadu, Punjab and some other States. The Gujarat Town Planning and Urban Development Act, 1976 is one of the cornerstones in the evolution of land pooling. In our State, it would require modifying the J&K Town Planning Act, 1963 and Urban Development Act, 1970 to effect.

Also known as land consolidation or readjustment, land pooling involves a voluntary surrender of property (plain land or with a building) to a local authority such as the municipality or development authority. The local authority and the landowners establish a joint venture as a company or society. A detailed housing plan is prepared and a scheme drawn up to share the development cost. A percentage of land is deducted from each owner for open spaces, social infrastructure, services, housing for weaker sections and street network. The consolidated holding is then systematically reconstituted into plots to ensure that all the owners get their due share. The value of the plots surrendered by different owners is decided by fixed assessment parameters. The land price generally goes up by at least three to four times.

In the Urban Development Plan Formulation and Implementation (UDPFI) Guidelines prepared by the Ministry of Urban Development and Poverty Alleviation, Land Pooling concept has been included as a technique for assembling land for planning and development. A full-fledged section on Land Pooling Scheme has also been included in the Model Urban and Regional Planning and Development Law. It envisages that every planning and development authority shall for the purpose of implementation of the proposals contained in the master plan; prepare one or more land pooling schemes for any part of the area within its jurisdiction. It also provides time frame and procedure for preparation; approval and implementation of land Pooling Scheme. Therefore, land pooling as concept is strongly recommended to regulate development especially the residential expansion for which necessary legislative changes would be required to be made in the existing urban legislation along with the restructuring the urban organizational set up to avoid overlapping and jurisdictional problems in the implementation of these schemes.

12.3.3 Land Adjustment/ Sharing Mechanism

Land adjustment mechanism is extensively used for urban extension and has been successfully implemented in Hyderabad for development of slum areas located on private lands. Under the Hyderabad Slum Improvement Project (HSIP), part of the land was retained by the private owners

while the slum households were assisted to build low cost houses, at a higher density, on a smaller area of land.

Under this procedure instead of acquiring all lands in the within city for the development, the strategy under Scheme allows landowners to participate in the development work. The role of the public agencies is restricted to development of basic infrastructure and growth centres which act as catalysts for urbanization and development of the area. The compulsory land acquisition plan for the development of infrastructure and growth centres is formulated in a manner so as to acquire not more than one-fourth of the land of an individual owner. The land owners are entrusted with the responsibility of developing their lands by providing internal infrastructure. These could be connected by the land owners with the peripheral development of public agencies on payment of development charges. Under this Scheme, land owners are paid monetary compensation for compulsory acquisition of 25% of their lands; they can choose one among the following compensation packages in lieu of land in excess of 25% of their holdings.

- Monetary compensation, in accordance with the provisions of the Land Acquisition Act.
- Developed land, on a preferential basis, in the same town. In case the total landholdings of individuals are acquired, then they are given undeveloped land equivalent to 75 per cent of their holdings, in the same town, on a preferential basis.
- Tradable Development Rights (TDR) certificate for 70% FSI. The owners are entitled to sell the TDRs, with prior permission of the public agencies, or to utilize the TDRs on any of their lands, in any zone, in the same town.

The Land Readjustment (LR) method envisaged to be implemented for improving land supply for urban use and to induce better use of idle farmlands. The modified form of LR method called Guided Land Development (GLD) enables the introduction of very rudimentary infrastructure and partial realignment of the old property boundaries and is considered to hold easier and quick implementation potential as compared to the LR method. But the success of the GLD approach would depend on the efficiency of the JDA. GLD would act as a key instrument to plan and to prevent the haphazard spontaneous growth in new areas.

12.3.4 Guided Urban Development Scheme

The Guided Urban Development Scheme which had a component of the World Bank assisted Tamil Nadu Urban Development Project represented a new approach in which the private sector developer / land owner affected by the Urban Land Ceiling Act is encouraged to provide serviced sites for the economically weaker sections for exemption from this Act. These provisions have already been incorporated in J&K Development Act -1970 through amendment and have been very scantly used by the urban local Agencies till date without any tangible benefits. Since the legislation is already enacted Master Plan envisages judicious use to fulfil the goal of housing for all at affordable cost.

12.3.5 Private Sector Participation

Since the urban development agencies are unable to meet the requirements of urban growth, therefore; the Revised Master Plan envisages the standard market economy approach to land development. This is in view of the inability of the State urban development agencies to supply adequate quantum of developed land to meet the housing needs of the population. There is a need to involve the private sector in real estate development. The private colonizers have been involved in land development in Haryana on a large scale and these colonizers have operated in close collaboration with the State Urban Development Agency – Haryana Urban Development Authority (HUDA).

The private developers need to get the residential layouts approved by the authority within the purview of this Master Plan. License to develop land should be given to the colonizers by the JDA. This shall be subject to the evaluation of the title of the land, extent and situation of the land, capacity of the applicant to develop a colony, the layout of the colony etc. Under this scheme, private developers may be required to furnish the Bank Guarantee equivalent to 25% of the estimated cost of land development along with an undertaking to carry out and complete the development works within a stipulated time period. In addition, the colonizers have to pay proportionate development charges if the main lines of roads, drainage, sewerage, water supply and electricity are to be laid out and constructed by the Government or any other Authority.

The responsibility for the maintenance and upkeep of all Roads, open spaces, public parks and public health services are with the developer for a period of five years after the date of issue of completion certificate. Thereafter, all such Roads, open spaces, public parks and public health services would be transferred free of cost to the State Government or the local Authority as the case may be. The proposal also stipulates that, in addition to physical infrastructure, the colonizer would provide land for social amenities in the layout. Finally, the developer can transfer these lands free of cost to the State government or the authority for development through convergence which can be allotted to any person or institution for the purpose.

12.3.6 Transfer of Development Rights (TDR)

In determining the ‘fair price of land’ to be acquired, Governments generally try to rely on the past records of sale transactions. These are rarely reported or recorded correctly since transaction taxes are high and the role of black money in the economy is large. Today, Local Bodies or the State Governments do not have adequate funds to acquire the necessary land even at the recorded low rates. A pragmatic solution to this problem could be the use of ‘Transfer of Development Rights’. The Urban Development Plans Formulation and Implementation (UDPFI) Guidelines, MOUD, Government of India (1996), defines Transfer of Development Rights (TDRs) as, Development Right to transfer the potential of a plot designated for a public purpose in a plan, expressed in terms of total permissible built space calculated on the basis of Floor Space Index or Floor Area Ratio allowable for that plot, for utilization by the owner himself or by way of transfer by him to someone else from the present location to a specified area in the plan, as additional built up space over and above the permissible limit in lieu of compensation for the surrender of the

concerned plot free from all encumbrances to the Planning and Development Authority‘. Mumbai is the first city in India, which has adopted the TDR concept in a regulated manner as an alternative mechanism for land acquisition for providing the essential amenities in accordance with the development plan proposal, for slum redevelopment and urban renewal through reconstruction of dilapidated buildings.

12.4 Regulatory Urban Reforms and Institutional Set up of JDA

The limits of Jammu LPA have been identified and are suggested to be proposed as ―Jammu Metropolitan Region (JMR) — extended as per the Revised Master Plan Jammu from 305 sq. km. to 652.33 sq. km. The Government need to constitute a seprate body (authority) i.e. Jammu Metropolitan Regional Development Authority (JMRDA). It is felt that the present planning legislation is very archaic and has been rendered irrelevant. It is pre-requisite that the J&K Regional and Urban Planning and Development Act be enacted at the earliest with a separate section on the Constitution, Powers and Functions of a Metropolitan Region Development Authority. The Act shall supersede all other legislations presently in operation in the planning area.

In order to realize development goals of the Revised Master Plan of Jammu, the development regulations and supportive legislative tools need to be made consistent with policy directives contained in this Master Plan. The city would need to revise/rationalize the development regulations, standards, norms and urban laws to achieve its goals and objectives. Reforms would also be required to ensure that the Revised Master Plan is adopted and grey areas as no-man‘s land and other issues are avoided.

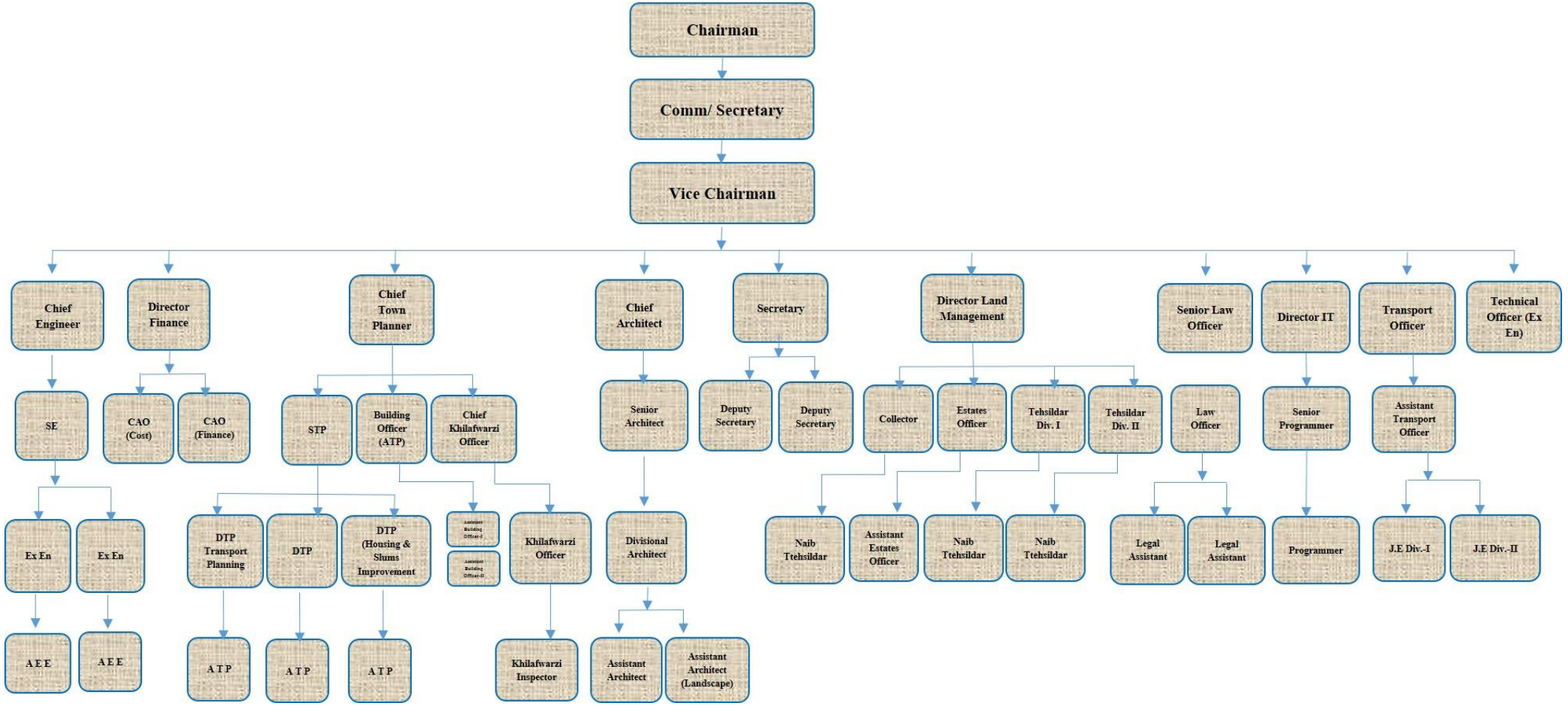
The institutional framework which is unable to cope up with requirement of city development would also be required to be re-organized to make it structurally more relevant and effective. As such it is proposed that JDA shall be upgraded and designated as Jammu Metropolitan Region Development Authority (JMRDA) equipped with appropriate manpower in each department as given below (Refer Organisation Chart):

Major Departments in the proposed Structure of JDA are as follows

1. Director Administration and Establishment
2. Director Planning and Projects
3. Director Estates and Land Management
4. Engineering and Environment headed by a Chief Engineer
5. Director Enforcement and Monitoring
6. Collector Revenue and Rehabilitation
7. Director Finance

The proposed JMRDA with well-established departments shall ensure that planning and development becomes a continuous process and does not end at the formulation of Master Plans or execution of individual projects. It shall ensure revision of the Master Plan, assessment of policy

PROPOSED ORGANIZATIONAL SETUP OF JAMMU METROPOLITAN REGIONAL DEVELOPMENT AUTHORITY



domain, preparation of Core Area Plan, Zonal plans, reform priority as per the changing requirements of the Urban Development and ensure implementation of Revised Master Plan as per priority. Unlike existing JDA, JMRDA shall be vested the powers to develop and plan city which would require assimilation of Municipal Acts with Urban Development Act without depriving the concerned Urban Local agencies of Vijaypur, Gho Manahasan, Samba and Jammu Cantonment. The Authority shall rather act as catalyst for development and as an interface between urban local agency/ public agencies and other primary stakeholder of urban development.

- For purposes of implementation of the Revised Master Plan proposals, the Jammu and Kashmir Development Act -1970 shall be deemed to supersede all other legislations presently in operation in the planning area;
- Vacant land Tax need to be imposed to avoid land speculation and undesired sprawl of the city along with the benefits of efficient utilization of the city infrastructure and amenities;
- Imposition of the rationale Property Tax to strengthen the fiscal base of urban local agencies and make them responsible to the city needs and for furtherance of the urban development;
- Rationalization of the stamp duty to encourage planned development and availability of land for housing. The stamp duty needs to be reduced to 5% from existing rate of 7%. Out of 5%, 2% should be transferred to urban local agencies and remaining 3% to state exchequer. The financial resources generated shall be utilized for the development of the city infrastructure;
- It is enunciated to provide 20% allocation of dwelling units in the flatted group housing projects for Economically Weaker Section (EWS) and Low Income Group (LIG) preferably at cross-subsidized rates. In case of plotted housing projects, 20% of plots shall be reserved for the urban poor along with all requisite facilities as per prescribed norms. However, the promoter will have the option of either providing the housing to EWS/LIG in the same block/housing unit or other alternative place within the jurisdiction of the authority. The promoter shall provide housing to the EWS at subsidized rates through cross-subsidies. In case the Developer fails to provide housing to the EWS in the same housing unit/complex, a Shelter fee shall be paid as per the policy framed by the government.
- Immediate enactment of Jammu and Kashmir Town and Country Planning Act to meet the requirement of metropolitan planning, growing challenges and dimensions of urbanisation and regional planning issues;
- Provisions for public participation at all stages i.e. plan/ policy formulation, policy consolidation, implementation of master plan proposals through incorporation of relevant provisions in the urban legislative tools;

For purposes of implementation of this Master Plan, the State Government must put in place a proper legislative and institutional framework.

12.5 Resource Mobilization

The revised Master plan of Jammu envisages raising the finances for improving the financial health of the JDA for funding of its development projects. This would require making Jammu LPA-2032 as a vibrant and attractive destination for investments by various financial institutions including public funding. For this JDA has to come up with innovative fiscal instruments to mobilize investments. Following could some of such instruments:

Resource Recovery through Master Plan Proposals

- Mopping of unearned value of urban land through change in landuse, Tradable FAR/FSI, Accommodation Reservation etc as below;
    - **Tradable FAR/FSI**
    - **Landuse Fee:** For opting permissible use as envisaged in the Master Plan for non-residential uses for areas in core city and other than core city, Landuse Fee @ 1/3rd of the increased value which is caused due to change of landuse shall be charged for the non-residential use based on the valuation cost of the land.

        (P2 - P1)/3

        Where;

        P1 is the value of existing landuse;

        P2 is the value of changed landuse
    - **Development Cost:** For any proposed landuse other than residential (group housing/plotted housing) and industrial landuses, a Development cost @ 2 times the Building Fee shall be charged. The Development cost charged shall be over and above the normal Building Fee.
- Levy of Betterment charges
- Levying of Internal and External Development Charges
- Budgetary allocations through Annual Plans of the State for the implementation of Master Plan proposals
- Creation of Special Purpose Vehicles (SPVs) on shared basis
- PPP Ventures and Private Sector involvement in Development Projects
- Creation of a City Development Fund
- Remunerative Projects to tap in Seed Capital as Revolving Fund for other development projects

- Recovery of shelter fee or land in lieu of provision of proportionate housing for EWS category and to ensure appropriate provisions for affordable housing in the city.

Note: Detailed State Level Policy is required for Tradeable F.A.R/F.S.I, Land use fee & Development cost which is to be framed by the state government for resource mobilization.

In addition, JDA should also explore other funding sources to optimize the financial position of the authority for purposes furthering the development in various sectors of the city. Some of the options which could be adopted are:

- Institutional Finance
- Market Borrowings
- Issuing Public Bonds

12.6 Phasing and Priority Action Programmes

The Revised Master Plan Jammu-2032 is likely to establish a foundation for new programmes necessary to achieve its goals. Some proposals involve participation of other agencies in planning efforts such as the regional transport project – cable car, training of drainage channels, Roads, etc. Most of the programmes have varying levels of priority, depending on the criticality involved. Consequently, the city will have to initiate programmes periodically at different levels, individually or in collaboration with various other urban development players and stakeholders. It has also been seen that most of the city administrations after preparation of Master plans go in hibernation and rely on the isolated and remunerative projects, yielding only financial dividends and in the process sacrifice the long term needs and development requirements of the urban centre. Ironically even the zonal development plans which are necessary requirement for implementation of the master plan have not been formulated which has resulted into tardy implementation of the Master Plans. Therefore, in the present Master plan, policy directives have been conceived in a manner to ensure that the planning of the city becomes a continuous process and more effective and responsive with the changing time. For this, actions regarding planning, development and reforms have been identified which need to be taken up to make the Revised Master Plan a success. Action plan for JDA as identified is detailed below in action plan matrix.

12.6.1 Urban Action Plan Programme

The Urban Action Plan Programme provides a detailed list of actions which are necessary to implement the Master Plan. The Matrix indicates the type of actions which are required to implement the policies of this Master Plan along with priority of the actions to be initiated. JDA, especially the Town Planning Section needs to update this programme on annual basis, or as necessary, to keep the requirements and actions correct and avoid aberrations. By virtue of requirements and importance of the plan, priority actions for Jammu city have been listed in four categories of actions;

a) Regulatory (R) - Regarding amendments in the Urban Planning approaches and policies, reforms adopted in RMP;

b) Development - Rationalization of development regulations, norms, urban Regulation (DR)-legislation and amendments;

c) Policy Decision (PD) - To be implemented continually by the authority & stakeholders; and

d) Programs (PR) - Convergence or dovetailing of Revised Master Plan proposals with any State Government, Central Government or any other scheme, new or on-going, needed to be carried out or to be implemented to achieve the goals of the Plan.

Similarly, so far as the priority is concerned, four time-frames have been identified for implementing the actions depending on nature of proposals and its requirement in the city development. The four time frames include:

a) Immediate projects to be implemented with the adoption of the Revised Jammu Master Plan or soon thereafter is reflected as priority(1);

b) High priority to be given as far as possible and to be completed within first three years of plan adoption is reflected as priority(2);

c) Moderate priority to be given to complete within three to five years after RMP adoption is reflected as priority (3); and

d) Ongoing actions those occur continually is reflected as priority (O).

Table 12-1: Proposed Urban Action Programme for phasing of projects in Jammu Master Plan-2032

Sl. No.	Strategy/Action	Type of Action	Priority
Goal: Promote the economic and optimum use of available land resources			
1.	Monitor Growth trends and conduct periodic review of the region's growth capacity to ensure the Master Plan is consistent with other ongoing schemes vice-versa.	PR	O
2.	Prohibit the rezoning of lands for urban development in locations not covered or planned to serve by urban services as identified in the plan	PD	O
3.	Preservation of environmental resources to encourage conservation efforts at the local level in accordance with the Master Plan through incentives and awareness.	PD	O
4.	Encourage the use of sustainable building Materials and techniques that promotes energy efficiency and use of new and emerging technologies.	PD	O
5.	Review the boundaries of the Jammu LPA-2032 development area periodically to and adjust them as appropriate to support Master Plan	PD	O
6.	Implement the improvements identified in the Transportation, Natural drainage and development pattern consistent with the Master Plan proposals.	PD	O

7.	Promote the preservation of state land as common amenity by ensuring urban interface is consistent with Landuse map especially abutting water courses/foot-hills need to be preserved as conceived in the plan.	PR/PD	O
8.	Ensure integration of sectoral policies for balanced and sustained development of Jammu LPA.	PR	O
9.	Ensure land transfer to JDA within Jammu LPA-2032.	PR	2
10.	Ensure detailed site analysis/requirements for any urban development to identify unique features and to create integrative growth within Jammu Master Plan -2032.	R	O
11.	Avoid private sprawl by encouraging community development to ensure that regulatory development is consistent within designated land use and development pattern and level of Road network required to the site as per provisions of Master Plan	R	O
12.	Coordinate to ensure inter-departmental interface and coordination for ensuring that existing and new neighbourhoods have adequate provision of services and amenities.	PR	O
13.	Ensure implementation of range of mixed uses, residential, commercial and employment at a variety of scales and incentives to achieve Master Plan objectives	PD	O
14.	Ensure planned expansion of Residential area in accordance with Master Plan Landuse and stop private sprawl.	PD	O
15.	Affordable housing in tune with National Housing Policy to avoid mushrooming of slums and ensure quality living condition to residents.	PD	O
16.	Encourage Private Developers to develop residential areas as per the standards laid in Master Plan and fulfill the programmes of Housing Policy (National/State)	PD	O
17.	Encourage the incorporation of attaching housing types in conjunction with employment and commercial use, to support policies of mixed land Use employment, mixed land use, residential, mixed land use commercial and activity centres and activity corridors contained in the Master Plan.		
18.	Encourage mixed use development pattern along major corridors in designated activity corridors, activity centres, core city and other locations designated in the Landuse Plan.	PD	O
19.	Include appropriate standards in Municipal Bye-laws for permitting and construction of attached/detached accessory dwelling units and those which allow flexibility in use.	R	2
20.	Development of neighbourhood, community, and Regional Scale retail sites to give fillip to the economy of the city.	PR	O
21.	Encourage the incorporation of complementary retail development in conjunction with employment and residential to support the policy of mixed use contained in the Plan.	PR	O
22.	Ensuring Development occurring adjacent rivers is consistent with the policies of Master Plan-2032.	PD	O
23	Focus on new neighbourhood parks in areas currently un-served and in new neighbourhoods.	PD	O

24	Develop designated tourism ecological zone to enhance utility of natural endowment area and maximize the potential for economic development through promotion of tourism activities.	PD	O
25	Ensure professional Geo-technical report for major projects to avoid damages and vulnerability of major infrastructure facilities to earthquakes.	PD	O
26	Ensure new urban development in Jammu LPA is designed to minimize impacts on potential disasters taking all preventive and curative measures.	PD	O
27	Develop two district parks near across the River Tawi for pursuing opportunities to expand the city‘s existing recreational facilities	PD	2
Goal: Economic viability and diversification			
28	Ensuring implementation of city‘s Master Plan proposals especially Activity Centres to fulfil goals of the Master Plan and enhance job base.	PR	O
29	Foster private-public partnership to boost and cultivate new opportunities for current and future employers in the city besides prosecuting urban development as conceived in the Master Plan	PR	O
30	Organize the retail services base to promote planned development and create amenity for the residents and working population.	PR1	O
31	Incentivize the retail expansion in mixed use designated zone appropriately to mitigate rising cost of land and create broad based job opportunities in the sector.	PR	O
32	To promote mixed use development for enhancing diverse job operations and entrepreneur opportunities.	PD	O
33	To encourage development and enhance multiple industrial specialization (particularly compatible to resource base) and improve opportunities for production employment in Key sectors.	PR	O
34	Promote activities with potential to enhance the skill and wage land of the city‘s labour force.		
35	Develop interface between core city businesses to ensure they does not lose economic viability.	PR	O
36	Plan for a diversity of ready to build sites with sufficient support infrastructure and services needed to meet demand of growing and target industries, work centre, activity areas and encourage an appropriate Housing development consistent to Housing Policy	PR	O
37	Encourage and expand those social services within the public and private sector that are necessary to facilitate the broadest labour force participation as per the Land use Plan of the Master Plan-2032.	PR	O
38	Develop image of the city as per the Vision of this Master Plan.	PR	1
39	Provide public facilities and public amenities necessary to sustain a high quality of life and attract business and tourists.	PD	O

40	Encourage economic development that conserves natural reserves and open spaces, protect environmental quality and enhance the overall quality of life.	PD	O
41	Develop education and health institutions as resource for city to boost economic development	PD	O
42	As a part of new mixed land use zoning for core city, promote incentives (e.g. density, FAR, FSI, bonuses, an expanded range of uses or etc.) that Complement existing redevelopment.		
43	Recognize the opportunity created by Plan proposals and contribute to the stabilization and redevelopment of core city through provision of Supporting services.	PR	O
Goal: Collaboration Policies			
44	Encourage continued collaboration with ULBs and Cantonment Board to minimize the jurisdiction overlaps, land use conflicts and ensure delivery of urban services in an integrated and collaborative manner.	P	O
Goal: Specific Planning Area Zone			
45	Develop and adopt specific design standards for commercial /mixed Development and public use development to ensure recovery of unearned resources for supporting further infrastructure development.	R	2
Goal: Protection of Historical Resources			
46	Establish financial, building and related incentives for the restoration and Rehabilitation of historic structures and sites.	PR	2
47	Continue to review the rehabilitation and renovation proposals for Compliance with adopted guidelines.	PD	O
48	Continue to maintain the inventory of historic properties within Jammu LPA-2032.	PR	O
49	Mapping of natural endowment areas as natural heritage to preserve these For posterity and make them viable elements of urban design.	PD	O
Goal: Co-ordinate Land use and Transportation Decisions to Support the use of Alternative Modes /Uses			
50	Conduct periodic updates to the Land use and Transportation Plan based on future projections.	PD	O
51	Seek opportunities to enhance the North –south and east –west arterial and sub-arterial and collector street network system.	PD	O
52	Integrate ongoing road improvement projects with the proposals contained in MP‘s Transportation Plan.	R	O

53	Seek opportunities for coordination in the implementation of the transportation systems in Jammu.	R	O
54	Implement parking strategy in core city to find solutions to short and Long range parking deficiencies and eradicate traffic problems.	PR	O

The priority actions identified have to be strictly followed to cast responsibility on JDA and make planning a continuous process to give Revised Master Plan a shape of a Rolling Physical Development Plan. However, it has to be implemented in such a way so that it shall become neither too loose nor compromise the legal and statutory status of the plan.

12.7 Review of Master Plan

The Master plan asserts that JDA should evolve the mechanism stated above for resource mobilization and implementation of development proposals. It is envisaged that the Authority shall provide conducive environment for public-private-participation and should develop a mechanism to safeguard the area through effective checks on development carried out by private developers. Based on priority of targets, potential demand and fiscal investment, it is held that the Master Plan Jammu-2032 will have a horizon period upto 2032. To promote development, it is proposed to prioritize development in such a way that initially those components are proposed that would induce development in the region and connectivity to all major urban centres. It proposes that Phase – I shall comprise all those components which may act as catalysts and contain multiplying effects for development.

The Master Plan is a guiding policy document exploring scope and direction for accommodation of future development. The Master Plan shall remain responsive to necessary amendments and ever-changing financial positions of implementing agencies during the horizon period. As such, the Revised Master Plan proclaims

―inherent flexibility through simplification of zoning regulations etc‖ thereby; rendering it more responsive to necessary adjustments and/or re-adjustments based on physical development and ground realities. It envisages that

―Master Plan of Jammu City has not an un-changeable Land Use Plan‖ while piece meal adjustments and/or readjustments shall remain invariably incessant in the implementation of its proposals. During implementation and enforcement of various proposals of the Master Plan, piecemeal modifications made in the Land Use or in the basic framework of policies of land development, should be incorporated in the Plan and corrections so made be updated at the close of every five-year (maximum) plan period under the provisions of the J&K development Act,1972.

It is proposed that a mechanism for monitoring the progress of the Master Plan on annual basis be established on sound footing at appropriate levels by the State Government. To this effect, it is suggested that a high level Committee be constituted to look into the periodic progress of the Master Plan. It is also proposed that State Government shall establish a vibrant and proactive enforcement wing with state-of-the- art technology in consultation with concerned line departments

to monitor the progress of the Master Plan proposals. The Master Plan proposes that the total time taken in its review, preparation and approval by the Government shall not exceed one year.

13. DEVELOPMENT CONTROLS AND REGULATIONS

Zoning Regulations and Building Bye-Laws are the basic tools for implementation and enforcement of a development plan within the frame of the landuse proposals with the intention of achieving orderly growth and development of the town as envisaged. Zoning regulations help in controlling density as well as landuse in ensuring standards provided for the future expansion of each zone in an appropriate manner.

Urbanization in the recent past and present context exhibits not only rapid growth, but as importantly the changing face of urban centres. The planning approach also needs to respond to these transformations to meet the very basic objective of town planning. The fundamental structure of the cities is now being dominated by 'Flexibility'. The technological advancements are now making the importance of location fade day by day. Hence, the strict segregation of land uses is being replaced by flexible and mixed land uses. The quantitative norms are losing shine to performance standards. It is required that planning rather than imposing interventions shall facilitate the market forces to enable urban development in a streamlined and cohesive way.

The set of regulations also initiates the practice of Transit-Oriented Development and Premium Charges, and Transferrable/Tradable Development Rights (TDR). The regulations are formulated such that it provides a strong support in attracting private investments for Housing, Commercial Complexes, Industries and IT Parks, Hotels, Malls, and also in developing facilities like, schools, colleges, hospitals, transport terminals, etc. Some of the higher order activities like shopping malls, multiplexes, colleges, large hospitals are permitted in most of the zones, subject to they shall be located on major Roads. Thus, mixed uses are permitted considering the Symbiotic Dependency, and absence of any detrimental effect to the main use. As the transport corridors play a vital role in enhancing the development potential of adjacent lands, it is important to permit similar kinds of such uses along major Roads, irrespective of land use zone boundaries. Intensive use of land along transport corridor justifies the investment made after them and the opportunity made available by such Roads.

The enforcement of zoning regulations will require a detailed development plan of the planning area. The adoption of the regulations will, therefore, guide to undertake the necessary physical surveys and also to keep the land record up-to-date so as to enable the effective enforcement of the zoning regulations. Zoning regulations shall be applicable to the entire planning area except areas designated otherwise like special areas. There will be a separate set of norms to deal with such areas. The zoning regulations are broad in nature. The detailed regulations will be framed or restructured at the time of preparation of Divisional/zonal plans.

13.1 Definitions

For the purpose of these regulations, the following definitions shall apply:

1. Words: used in the present tense shall include the future; the singular number includes the plural and the plural the singular.

2. **Building:** Any construction for whatsoever purpose and of whatsoever material and every part thereof whether used for human habitation or not and includes foundation, plinth, canopy, walls, chimneys, drainage works, fixed platforms, veranda, balcony, cornices or projection, part of building or anything affixed thereto or any wall enclosing or intended to enclose any land or space.

3. Building Height: The vertical distance measured from the average level of the centre line of the adjoining street in the case of flat roofs, to the highest point of the building adjacent to the street wall; in the case of pitched roofs, upto the point, where, the external surface of the outer wall intersects the finished surface of the sloping roof and in the case of gables facing the Road, the midpoint between the eaves level and the ridge. Architectural features serving no other function except that of decoration shall be excluded for the purpose of taking heights. If the building does not about a street, the height shall be measured above the average level of the ground and contiguous to the building.

4. Storey: The portion of a building included between the surface of any floor and the surface of the floor next above it or if there be no floor above it, then the space between any floor and the ceiling next above it. When measured, the height of a habitable basement extending at least 1.5m above ground level or a habitable attic shall be counted as storey.

5. Building Setback: The distance by which any building or structure shall be separated from the corresponding boundary lines of the plot.

6. Courtyard: A courtyard means a space permanently open to the sky within the building structure.

7. Dwelling: A building which is designed or used wholly or principally for residential purposes. This shall not include boarding or rooming houses, tents, tourist camps, hotels or other structured designed **and used primarily for transit residents.**

8. Group Housing: Means residential buildings constructed in a detached or semi-detached manner designed as ground floor with more upper floors and constructed as separate dwelling units generally being accessed through common staircase, and where the land is owned jointly by the members of the group housing.

9. Clean Industry: Industries which do not emit smoke, noise, offensive odour or harmful industrial waste and employing not more than 40 workers and with/without power.

10. Service Industry: Industries which are not engaged in the manufacturing of goods or articles but are mainly concerned with repair, maintenance, servicing etc.

11. Light Industry: Industries which do not emit excessive smoke, noise, offensive odour or harmful industrial waste, employing not more than 100 workers and using power of not more than 100 h.p. except in the case of foundries and smithies which do not consume any solid fuel.

12. Non-conforming building or use: A building, structure or use of land existing at the time of commencement of these regulations and which does not conform to the regulations pertaining to the zone in which it is situated.

13. Plot: A piece of land occupied or intended for occupancy by a main building together with its accessory buildings and uses customary and incidental to it, including the open space required by those regulations and having frontage upon a street or upon a private way that has officially been approved by the competent authority.

14. Plot Width: The shorter distance from one side of the plot line to the other measured through that part of the plot to be occupied by the building.

15. Required Open Space: The space between the plot lines and the minimum building set back lines.

16. Street or Road: Any highway, Road, street, lane, pathway, alley stairway, passageway, carriageway, footway, square, place or bridge, whether a thoroughfare or not, over which the public have a right of passage or access or have passed and had access uninterruptedly for a specified period, whether existing or proposed in any scheme and includes all bunds, channels, ditches, storm water drains, culverts, sidewalks, traffic islands, Roadside trees and hedges, retaining walls, fence, barriers and railings within the Road lines.

17. Structure: Any combination of material including buildings constructed or erected, the use of which requires location on the ground including among other things, signs, sign boards, fences and walls that are more than three feet high.

18. Floor Area Ratio (FAR): It is the ratio of the total area of all the floors of a building including habitable attics and basements divided by the total plot area. It is generally taken in percentage.

19. Erection: To construct a building for the first time or to reconstruct existing building after its demolition according to some pre or revised plans.

20. Material alterations: To make any modification in any existing building by way of addition or alteration or any other change in the roof, wall, compound in any respect whatsoever. Opening of a window and inter-communication doors shall not be deemed to be material alterations. Similarly, modifications in respect of gardening, white washing, painting, re-tiling and other decorative works shall not be deemed to be material alteration.

21. Re-erection: To construct a building or part of a building after demolishing it on the same plot as has been previously sanctioned for a second time or subsequent times.

22. Conversion of Building: Conversion of a building or any part thereof from one use to another.

13.2 Applicability

a) These Regulations shall form integral part of the Master Plan of Jammu-2032 and shall be called Development Control Rules and Regulations of the Jammu LPA-2032.

b) The requirements of these Regulations shall extend to the whole of the Local Area of JDA in addition to other requirements of 'The Jammu & Kashmir Development Act, 1970', and rules made thereunder, or as amended from time to time.

c) These Regulations shall have overriding power on all by-laws/regulations presently in vogue in the area (Jammu LPA-2032) from the date of approval/notification of this Master Plan or from such date as the Government may decide.

d) All non-conforming developments shall be permitted to continue on **"as-is-where-is-basis"** till such time and condition as the Competent Authority may deem fit. In case of such developments/structures, only minor repairs by way of retrofitting shall be permitted without any change in façade, foot-print, height and FSI/FAR or as the Competent Authority may decide. However, in case of reconstruction, the permission shall be granted as per the by-laws of this Master Plan.

e) Any violation/deviation of the Master Plan proposals made by any agency/department or person shall be treated as a cognizable offence which shall warrant penal action under law. It is stipulated that the Master Plan and the regulations framed thereunder shall have overriding powers on all other regulations, proposals, acts etc. presently in vogue to regulate the development within the proposed Local Area limits of JDA.

13.2.1 Conformity with other Acts or Regulations

a) Situated and abutting on any of the classified Roads of the State Government shall also be regulated and controlled by the Building line and Control line prescribed under the Govt. Department Resolution (if any) as amended from time to time.

b) Situated in the vicinity of the Grid Lines laid by the PDD Electricity Board under the Indian Electricity Rules, 1956 or State PDD Rules, shall be regulated and controlled by the horizontal and vertical clear distances to be kept open to sky.

c) In restricted/ critical zone near the Air Port, construction of building shall be regulated as per the provisions of Civil Aviation Department.

d) Situated in the vicinity of any vital defense installations, shall be examined as per the guidelines issued by the Ministry of Defence, GoI.

e) Situated in the vicinity of the Railway Boundary shall be regulated and controlled according to the standing orders/instructions in force of the Railway Authorities and as amended from time to time.

f) Situated anywhere in the Development area shall be subject to provisions of the Act related to telecommunication, archaeology and conservation/ preservation of monuments and amendments made from time to time or as per the provisions of this Master Plan.

13.3 Planning Divisions

The Jammu LPA-2032 has been classified into **Nineteen (19) Planning Zones** (Refer **Table No: 13-1)** in line with the proposed Planning Divisions as provided in the Jammu Master Plan-2021 for implementation efficiency.

Table 13-1: Description of Planning Zones with area analysis

Sl. No.	Zones	Predominant Use	Area (sq.km)
1	Pz-A	Residential, Commercial, Administrative	14.87
2	Pz-A1	Residential	42.75
3	Pz-B	Urban Agriculture and Residential	38.51
4	Pz-C	Residential and Public & Semi-Public	43.92
5	Pz-D	Forest and Vegetation	45.63
6	Pz-E	Water body, Residential and Defense	37.99
7	Pz-F	Forest and Residential	28.01
8	Pz-G	Residential, Public & Semi-Public and Commercial	35.6
9	Pz-H	Agriculture	122.1079
10	Pz-J	Residential, Public & Semi-Public and Defense	23.92
11	Pz-K	Residential and Urban Agriculture	36.79
12	Pz-L	Residential, Defense and Forest	28.26
13	Pz-M	Industrial and Defense	23.91
14	Pz-N	Residential and Urban Agriculture	23.94
15	Pz-P	Residential and Urban Agriculture	24.00
16	Pz-Q	Residential and Institutional	15.02
17	Pz-R	Vegetation and Industrial	27.18
18	Pz-S	Urban Agriculture and Residential	31.09
19	Pz-T	Residential and Public & Semi-Public	8.84
Total			**652.3379**

13.4 Land Use Classifications

The Land Use Zoning Regulations contain the following classification of the broad land uses:

Residential Use: Areas earmarked as Residential in the proposed Land Use Plan.

Commercial Use: Areas earmarked as Commercial Use Zone and the Commercial Strips in the proposed Land Use Plan.

Industrial Use: Areas earmarked as Industrial Use Zone and IT Park Zone in the proposed Land Use Plan.

Institutional; Public, Semi-Public Facilities; and Public Utilities Use: Areas earmarked as Institutional Zone, Public and Semi-public Facilities Zone, and Public Utilities Zone and Religious use zone in the proposed Land Use Plan, and the sites specifically earmarked for any such public/semi-public use.

Open Space and Recreational Use: Areas earmarked as Open Space, buffers, green spaces and other recreational activities as envisaged in the proposed Land Use Plan, and the sites specifically earmarked as Parks, Playgrounds, clubs, theatres Exhibition Grounds etc.

Plantation Use: Areas earmarked as Orchards, Nurseries, etc in the proposed Land Use Plan.

Urban Agriculture: Areas earmarked as Urban Agriculture Use in the proposed Land Use Plan.

Agriculture Zone: Areas earmarked as Agriculture Use Zone in the proposed Land Use Plan.

Transportation and Communication: All the Roads as earmarked in the proposed Land Use Plan and areas earmarked as Transport Zone, and the sites specifically earmarked for related facilities like, Roads, railways, airports, railway terminus, bus depots, truck terminals, logistic hubs and parking lots.

Forest: All Reserved Forests as notified by the Forest Department, subject to change as amended from time to time. No activity other than forest is permitted in this zone unless expressly allowed by the Forest Department. Notified forest shall be considered as forest even though shown otherwise in the proposed Landuse Plan.

Water Body: Water Body Zone generally indicates all existing water bodies, i.e. Rivers, Streams, Lakes and Tanks, as indicated in the topographical sheets published by the Survey of India, or the State Irrigation Department or Revenue Department or other competent authorities. The boundary of the water bodies relate to the Full Tank Level / Flood Level as indicated in relevant maps, covering both perennial and non-perennial parts when such distinction exists.

Defence / Military Lands

Defense/Military Lands are lands under occupation of the Defense Services or otherwise earmarked for defense services. These cannot be put to other uses. The areas covered by Defense lands and certain adjoining areas as may be specifically notified, may be subjected to restrictions

on constructions or on the use of lands in the interest of safety and security of the defense services or the civil population living in the contiguous areas.

13.5 Distribution of uses at various levels as per the Hierarchy of Road Network

All uses hereunder stated are permitted subject to the Mixed-use Policy of this Master Plan and are applicable in case of new developments and reconstruction activities. Simultaneously, these landuse development regulations are, on the other hand not applicable to planned residential colonies, existing neighbourhoods, upgradation of existing infrastructure subject to other norms and industrial estates. The uses envisaged below are **subject to any prohibitive landuse change as mentioned in chapter 09 above under Composite Mixed Landuse Regulations.**

A) Minimum Road width required for Residential plots (plotted Development) shall be 20'.

B) Cluster Level uses abutting Roads having proposed RoW not less than 25 Feet:

- All uses mentioned at **'A'** above.
- All types of Residential uses other than group housing;
- Convenient shops of day-to-day nature in the isolated shops.
- Tot-lots, green open spaces;
- Auto-stand, Parking Lot;
- Cluster park, tot-lots;
- Electric sub-station, OHTs;
- Educational Institutions up to Primary Level only;
- Health Institutions up to Dispensary and Sub-Centre level;
- Community Room/library, ATMs.
- Note: All the uses shall be governed as per the relevent chapter in DCR.

C) Neighbourhood Level Uses abutting the Roads having proposed RoW not less than 40 Feet:

- All uses mentioned at (B) above;
- Group housing upto plot size 8000sqm only;
- Neighbourhood Park;
- Commercial
- Diagnostic centres, testing labs, Food Courts, Retail shopping, boutiques
- Educational Institutions up to 12^{th} standards only;
- Health Institutions up to Primary Health Centres level and Nursing Homes
- Mini-bus stand, Multistoried Parking;
- Homestays, Guest Houses;
- Banks/Financial Institutions, Computer centres, telegraph / post office etc upto 500 sqm plot area.
- Public Library/Community Hall (Govt. Only);

- Religious use like mosques, temple etc.
- Craft centres, Fire Stations, Police stations
- Polyclinics, radio diagnostic centres/ micro biological/ pathological labs.;
- Electric Distribution stations, Post & Telegraph, Telecommunications;
- **Note: All the uses shall be governed as per the relevent chapter in DCR.**

D) Sector Level Uses abutting the Roads having proposed RoW not less than 50 Feet:

- All uses mentioned at (C) above;
- Commercial;
- Sector Park, Jogging Park, Children Park, Playfields, Indoor stadia;
- Banks/Financial Institutions, Computer centres, telegraph / post office etc above 500 sqm plot area.
- Wholesale shops, Departmental stores;
- Group housing above 8000 sqm;
- Hotels, Restaurants, Shopping Centres, Non-automobile Showrooms;
- Banks/Financial Institutions, Computer centres having more than 275and upto 500 sqm built up area
- Petrol Pumps;
- Govt. offices.

Note: All the uses shall be governed as per the relevant chapter in DCR.

E) Sub-District Level Uses abutting the Roads having proposed RoW not less than 65 Feet:

- All uses mentioned at (D) above;
- Sub-District Park, Amusement Park;
- Outdoor stadia, Club, Theatre;
- Commercial;
- Education—Academic Colleges, Polytechniques, ITIs etc.;
- Health—General Hospitals, Maternity Hospitals, Super-Sociality Hospitals; (as per chapter of development control regulations)
- Power Infrastructure, Receiving Stations;
- Bus Terminals;
- Tourist Centre, Tourist Complexes etc;
- Industrial Estates, Industrial Parks;
- Garbage Dumping Yards/sites;
- Farm Houses;
- Workshops, Slaughter Houses, Arboretum;
- Banquet halls / Janj Ghar

Note: All the uses shall be governed as per the relevent chapter in DCR.

F) District Level Uses abutting the Roads having existing RoW not less than 100 Feet:

- All uses mentioned at (E) above;
- City Park/District Park;
- Cinema, Cineplex, Multiplex, Shopping Malls/Complexes *(subject to the condition that the minimum distance of the facility from other such similar facility is not less than one km along the Road in any direction);*
- Stadium, Zoological Park, Botanical garden, Shooting Range;
- Professional colleges, IITs, University Campuses, IIMs;
- Hospitals treating contiguous diseases etc;
- Major city Hospitals ;(as per chapter of development control regulations)
- District Police Lines;
- Govt. offices of district or regional level;
- IFC, Truck Terminals, Railway Station, Airport;
- Auditorium, Museum, Art Galleries, central Library;
- Reformatories, Jails etc;
- Commercial;
- Automobile Service and Repair Workshops

Note: All the uses shall be governed as per the relevant chapter in DCR.

G) District Level Uses abutting the Roads having existing RoW not less than 150 Feet:

- All uses mentioned at (F) above;
- Exhibition Grounds;
- Film and Studios;
- Gas bottling Plants;
- Star Hotels, International Conference Centres etc;
- State Capital Offices;
- Commercial;

Note: All the uses shall be governed as per the relevant chapter in DCR.

Note: The siting of any use/activity specifically not mentioned above shall be considered on similar parameters.

13.6 Permissible Uses and Regulations

The uses permitted in the various land use zones are given under. No other activity is permitted except the specified one. Uses permitted and prohibited in different categories of land use zones are described against each. The uses are not to be treated as exhaustive. Similar uses and activities may be permissible in the appropriate locations by the JDA and shall be subject to such restrictions and conditions as may be imposed. It is mandatory that all uses permissible under mixed use regulations shall be governed by the hierarchy of road network as spelt out at 13.5 of these DCRs. Any use permitted under mixed use regulations without taking cognizance of the conditions at 13.5 of these DCRs shall be deemed as violation under this Master Plan.

PERMISSIBLE USES

13.6.1 Residential (R)

Permitted uses/Activities

Residence – plotted, (detached, semi – detached and row housing) group housing houses, residential flat, residential -cum-work, hostel, boarding and lodging (accommodation for transit employees of Govt. / local bodies)house, barat ghar / marriage hall, community hall, old age home, police post guest house, crèche, day care centre, convenience shopping centre, local retail shopping, medical clinic, dispensary, nursing home and health centres(20 beds), dispensary for pets and animals, professional office , educational building: (nursery, primary, high school, college) , school for mentally / physically challenged, research institute, community centre, religious premises, library, gymnasium, playground, park/ tot-lot, plant nursery, technical training centre, yoga centre / health clinic, exhibition and art gallery, club, bank / ATM, police station, taxi stand/three wheeler stand, bus stop, electrical distribution depot. , water pumping station, post office , hostel of non-commercial nature, kindergarten, public utilities and buildings except service and storage yards.

Restricted uses / activities

Dharamshala, foreign missions, night shelters, petrol pumps, motor vehicle repairing workshops / garages, household industry, bakeries and confectioneries, storage of LPG gas cylinders, burial ground, godowns, bus depots without workshop, markets for retail goods, weekly markets (if not obstructing traffic circulation and open during non-working hours), informal markets, transient visitors camp, municipal , state and central govt. offices.

Prohibited uses / Activities

Heavy, large and extensive industries, noxious, liquor shop, obnoxious and hazardous industries, warehousing, storage godowns of perishables, hazardous, inflammable goods, workshops for buses etc., slaughter houses, wholesale mandies, hospitals treating contagious diseases, sewage treatment plant/ disposal work, water treatment plant, solid waste dumping yards, outdoor games stadium, indoor games stadium, shooting range, zoological garden , botanical garden, bird sanctuary, picnic hut, international conference centre, courts, sports training centre, reformatory, district battalion office, forensic science laboratory.

The residential areas are developed either as: a) Plotted Development or b) Group Housing/ Flatted Development. The density pattern i.e. (high density, medium density or low density) are followed for working out the pattern of development with respect to the size of the plot to number of dwelling units on each plot, setbacks, FAR and no. of storeys/ height of the building. The municipal & social infrastructure as per the norms and specified in the Master Plan of Jammu are provided. The development norms for different use/ activities and on different size of plots shall be

applied for sanctioning of the plan. These are based on development control rules applicable to Jammu city as per Master Plan/ Zonal Plan/ Layout Plan.

Residential use in designated core area of old city:

The designated area of old city shall compromise of the congested part of the city. In essence it shall comprise of the densely populated wards of the old city.

Max. Ground Coverage permissible - 70%

No. of storeys - Ground + 2

Note:

No building shall be allowed on lands with more than 30% slope. Building line for proposed building shall be governed by Ribbon Development Act and National Highway building line respectively.

Minimum size plots:

The minimum plot size for economically weaker section of society may be 50 Sq mts. Plot coverage, number of permissible storey and setbacks are as per the following table:-

13.6.1.1 Plotted Housing

Table 13-2: Provisions related to Plotted Housing

S.No	Area (In Sq mt)	Max. Ground Coverage	No. of Storeys	Type of Const.	Set Back Limits (Minimum)			
					Front (M)	Rear (M)	Side (M)	Side (M)
1.	30-75	75%	G+2	Row	1.5	0	0	0
2.	Above 75 - 125	75%	G+2	Row	2.5	1.5	0	0
3.	Above 125 - 275	65%	G+2	Row	3.0	2.0	0	0
4.	Above 275-350	55%	G+2	Semi-detached	4.0	2.0	2.0	0
5.	Above 350-450	50%	G+2	Semi-detached	5.0	2.0	2.0	0
6.	Above 450-600	45%	G+2	Detached	6.0	3.0	3.0	2.0
7.	Above 600-1000	40%	G+2	Detached	7.0	3.0	3.0	3.0
8.	Above 1000	35%	G+2	Detached	10.0	3.0	3.0	2.0

Note:

I. No side setbacks shall be required in plots or irregular proportions/ dimensions upto the width of 10M. Minimum front set back of 1.5M and rear set back of 1M shall be permitted in cases where depth of such irregular plots is upto 12M. However, there shall be no change in permissible ground coverage, No. of storeys and height of the building as given in the table above.

II. The Maximum height of a residential house shall not be more than 12M. Height of each storey in a residential house shall not be less than 3M, Stair case mumty height upto 2.5M shall be in addition to G+2 storeys permissible.

III. Convenient shop wherever allowed (max. 18 Sqm) shall be allowed within the profile of building. Convenient shop shall be allowed on ground floor only, with upto a max. height of 4M.

IV. Mezzanine floor shall not be allowed in residential houses.

V. Total habitable floor area shall not be in any case more than three times the allowable ground coverage.

VI. Minimum Parking requirement for individual plotted housing shall be calculated @ 0.25 ECS for every 40 Sqm of built up area.

VII. To cater to this parking requirement in individual plotted residential houses, Stilt Floor shall be allowed within the building envelope and shall be exclusively used for parking.

VIII. Any area within building envelope provided for parking on ground shall not be counted in covered floor area and the same area shall be allowed for habitable purpose on 3rd floor.

IX. In case stilt parking is provided within building envelope in combination with ground floor, the area under parking shall be allowed for habitation on 3rd floor. Height of Stilt floor in this case shall not be more than 3M.

X. Basements shall not be allowed in row housing but single basement shall be allowed in detached and semi-detached housing subject to fulfillment of basement norms as per national Building Code.

XI. Basements in individual plotted housing shall be counted towards FAR and coverage.

XII. Single basement upto 2.4M underground shall be allowed within the building envelope in case of detached and semi-detached housing subject to provision of minimum setback of 3M from the periphery of the plot and height of basement from finished floor to the underside of beam shall not be more than 3M.

XIII. Garages shall not be allowed in the peripheral setbacks of the building.

XIV. Porches upto an area of 17 Sqm shall be allowed in detached and semi- detached housing and no construction on such porches shall be allowed.

XV. Areas under porch shall be added @ 50% on ground coverage.

13.6.1.2 Group Housing (Flatted Development)

Regulations for Private/ Public Developers

i) Multi Storied Group Housing/ Flatted Development:

1. Minimum approach road (RoW) for Multi Storied Group Housing on a plot area of 4000 Sqm to 8000 Sqm shall be 12M.

Ground coverage	25%
Max. FAR shall be	180
Max Du/Hectare shall be	180
Max. Height of building shall be	50 mt

2. For plots having area above 8000 Sqm minimum approach road shall be more than 15M

Ground coverage	25%
Max. FAR shall be	220
Max Du/Hectare shall be	220
Max. Height of building shall be	50 mt

(For group Housing, extra FAR of 20 shall be allowed as Tradable FAR after the policy is framed by the Government)

Note:

i) The group housing scheme shall be subject to Reservation Policy for EWS/LIG Housing for Urban Poor.
ii) F.A.R/Density required for EWS shal not be counted in overall FAR of the Group Housing Scheme & shall be subject to the fullfillment of parking norms for EWS as well if provided within the group-housing scheme. Allotment under EWS scheme shall be made by the government.
iii) Byelws for affordable housing shall be as per guidelines of HFA (PMAY, Urban-2022).
iv) Convenient shops @ maximum 1 shop/20 DU shall be provided within the campus after leaving the requisite setbacks. The size of each convenient shop shall not be more than 18 sqm and shall be counted as FAR.
v) Security room may be allowed at the entrance gate upto a maximum built up area of 15 Sqm (upto 3.5M height) after maintaining the RoW of road and shall be counted as FAR.
vi) Set Back norms for multi storied group housing shall be as under:
    a. Front, both Sides and Rear setbacks = 1/3 of height of building or 7.5M or building line of the abutting road whichever is more.
vii) Minimum Floor height from finished floor for any habitable space shall be 2.75M.

viii) Parking shall be calculated on Built up area of individual unit for group housing and other residential houses as under:

a.	Upto 50 Sqm / EWS	0.25 ECS
b.	Above 50 Sqm to less than 100 Sqm	0.5 ECS
c.	From 100 Sqm upto 120 Sqm	1.0 ECS
d.	Above 120 Sqm upto 180 Sqm	1.5 ECS
e.	Above 180 Sqm	2.0 ECS

ix) Built up area (Unit Area) of apartment for calculation of ECS shall be excluding common service areas. Any service area within apartment shall be counted in built up area. Balconies and Verandas shall be counted @ 50% in FAR.

x) A building shall abut on a street or streets or upon spaces directly connected from the street by a hard surface approach road, width of approach road is not less than 12 meters.

xi) If there are any bends or curves on the approach road within the plot, a sufficient width shall be provided at the curve to enable the fire appliances to turn, the turning circle being atleast of 9.0 m radius. Where entry to the plot is through a slip road the gate width shall not be less than 6 m for entry of the firefighting appliances.

xii) The approach road to the building within the plot and open spaces on its all sides up to 6 m width and the layout for the same shall be done in consultation with Chief Fire Officer, Fire Service and the same shall be reinforced to ensure safety of the fire equipment and capable of taking the weight of Fire engine, weighing up to 45 tonnes) The said open space shall be kept free of obstructions and shall be motorable.

xiii) Main entrances to the premises shall be of adequate width to allow easy access to the fire engine and in no case it shall measure less than 6 m. The entrance gate shall fold back against the compound wall of the premises, thus leaving the exterior access way within the plot free for movement of fire service vehicles. If archway is provided over the main entrance the height of the archway shall not be at a height less than 5m.

xiv) The catalogue for sale of apartments shall be similar to the basic plan approved by the authority.

xv) No deviation in the plan shall be allowed once the apartments are sold in part or whole.

xvi) No common areas like corridors, stairs, lifts, lobbies shall be allowed to be sold to a particular person or a group of persons after the apartments are sold in part or whole.

xvii) No apartment holder shall be allowed to have extra rights on common spaces.

xviii) Common spaces shall include all green spaces, children's parks, play grounds, sports facilities, marriage or/and multipurpose halls, areas which are of common use of the apartment owners forming part of the sanctioned plan under bye laws of the authority.

xix) Any additional space not counted in the permissible floor space shall also be treated as common areas.

xx) Designated parking spaces shall be allotted to apartment holders.

Tower to Tower Distance:

For multi storeyed building there shall be a space of 6 m all around up to 40m height and after that a space of 9m all around should be provided.

Height Exemptions:

a. Roof tanks and their supports not exceeding 1.0 m. in height,

b. Ventilating, air conditioning and lift rooms and similar service equipments,

c. Stair covered with Mumty not exceeding 3.00 m. in height.

d. Chimneys and parapet wall and architectural features not exceeding 1.50 m. in height, unless the aggregate area of such structures exceeds 1/3 of the roof area of the building on which they are erected. All such appurtenant structures shall be camouflaged to achieve streamlined aesthetics.

13.6.1.3 Housing Colonies

a) A group or a group of persons or a co-operative society or firm intending to plot out an estate into more than 4 plots (1000 Sqm or more) shall give notice in writing to the competent authority which will be accompanied by a layout plan of entire land showing the areas allotted for roads, open spaces, plot and public buildings, the specification of the roads, drains and other infrastructures.

b) Min. Width of road

i) Housing colony upto 50 Kanals

Entry from the main road shall not be less than 10M and no internal road shall be less than 6M.

ii) Housing colony beyond 50 Kanals.

Entry from the main road shall not be less than 12M and no internal road shall be less than 6M.

c) Roads, Drains, water mains and electric lines required for the colony shall be constructed by the developer at his own cost and no plot shall be eligible for any services and utilities by the govt. and/or Municipal Corporation unless the colony is developed properly and approved by the competent authority, and no building plan shall be considered by the Municipality or prescribed authority in any plot of such a colony which has not received the prior approval of the competent authority (developer) in this case will mean the person, co-operative or the firm intending to plot out the land into more than 4 plots.

d) No housing colony can be allowed in the area not specified as the residential in the proposed Master Plan (if approved by Govt.) unless considered in any special circumstances by the competent authority with the approval of Govt. In such housing colonies, the following standards shall apply:-

- Area under roads — Min. 15% to 20% of the total area of land under the proposed colony.
- Land to be allotted for open spaces, schools and public building for a housing colony of 20 plots and above shall not be less than 15% of the total area of the colony. However, if the competent authority feels that an open space or a school site is absolutely necessary within the layout plan of less than 20 plots; necessary provision shall have to be made by the developer in the layout plan.

e) No housing colony will have shop plots of more than one for every ten plots. After the developed land is sold by the developer the roads and drains etc. constructed by the developer shall be maintained by the developer till the same is transferred to the Municipal Corporation / Development Authority for their maintenance. Area under commercial use shall be 4% to 5%.

f) Land use of the layout plan approved by the competent authority shall not be changed unless with the prior consent of the competent authority.

Open spaces allocated for parks, play-fields, utility sites / buildings in a colony shall be deemed to have been sold along with the plots as a amenities of the colony by the developer to the plot holders of the colony. The development of such open spaces shall be the responsibility of the Developer.

No permission shall be accorded for construction of a building in any notified area which shall cause nuisance by way of odour, smoke, noise or disturbance to inhabitants of the locality or be injurious to health of the residents of the buildings or to the inhabitants in the surrounding areas.

13.6.2 Commercial Use (C)

Permitted uses/Activities

Shops, convenience / neighbourhood shopping centre, local shopping centers, professional offices, work places / offices, banks, stock exchange / financial institution, bakeries and confectionaries, cinema hall / theatre, malls, malls, banquet halls, guest houses, restaurants, hotels, weekly market, petrol pumps, godowns and warehousing, general business, wholesale, residential plot-group housing, hostel / boarding housing, hostel, banks / ATM, auditoriums, colleges, nursing homes / medical clinic, pet clinics, religious places, office / work places, commercial centers, research / training institute, commercial service centers / garages / workshop, baratghar / night shelter, weekly / formal markets, library, parks / open space, museum, police stations /post, taxi stand /

three wheeler stand, parking site , post offices, government /institutional offices, telephone exchange / centers, warehousing and covered storage, research institutions.

Restricted uses / activities

Non-pollution, non-obnoxious light industries, warehousing / storage godowns of perishable, inflammable goods, coal, wood timber yards without saw mill, bus and truck depots, gas installation and gas works, poly-techniques and higher technical institutes, water treatment plant, railway yards /stations, sports / stadium and public utility installation, hotel and transient visitor's homes, religious buildings, hospitals and nursing homes.

Prohibited uses / Activities

Dwellings except those of service apartment, essential operational, watch and ward personal , heavy, extensive, noxious, obnoxious, hazardous and extractive industrial units, hospitals / research laboratories treating contagious diseases, poultry / dairy farms, slaughter houses, sewage treatment / disposal sites, agricultural uses, storage of perishable and inflammable commodities, quarrying of gravel, sand, clay and stone, zoological garden, botanical garden, bird sanctuary, picnic hut, international conference centre, courts, sports training centre, reformatory, district battalion office , forensic science laboratory and all other activities which may cause nuisance and are noxious and obnoxious in nature.

Commercial Use:

13.6.2.1 Single Shops

Plot Area upto 100 Sq.mts

Minimum approach road	12M
Max. Ground Coverage	70%
Max. FAR	210%
Maximum Height	12 M (G+2)

Front set back shall be 2M or Building line of the road whichever is more. In case more than one road is abutting the site, building line of the roads should be maintained.

Parking shall be provided @ 2ECS for 100 Sqm of builtup area. Basement shall not be allowed.

Note:

Shopping permissible on ground and 1st floor only.

13.6.2.2 Shopping Cluster

a)	Plot Area	100 Sqmt- 300 Sqmts
	Minimum approach road (RoW)	12M
	Max. Ground Coverage	60%
	Max. FAR	180
	Maximum Height	14M
	Min. Rear and one Side Setback	3M

Set Backs:

Front set back shall be min. 3M or Building line of the road whichever is more. In case more than one road is abutting the site, building line of the roads should be maintained.

Parking:

Parking shall be provided @ 2 ECS for 100 Sqm of builtup area.

Basement shall not be allowed.

Note:

Shopping permissible on ground and 1st floor only.

b)	Plot Area	300 Sqmt- 750 Sqmts
	Minimum approach road (RoW)	12M
	Max. Ground Coverage	50%
	Max. FAR	180
	Maximum Height	14M
	Min. Rear and one Side Setback	3M

Set Backs:

Front set back shall be min 4.5M or Building line of the road whichever is more. In case more than one road is abutting the site, building line of the roads should be maintained.

Parking:

i. Parking shall be provided @ 2 ECS for 100 Sqm of built-up area.

ii. Single Basement within the building envelope shall be allowed as specified in the basement norms.

iii. Stilt floors within the building envelope shall be allowed for parking only.

iv. Basements/Stilt floors if used for parking shall not be counted in FAR.

v.Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

13.6.2.3 Commercial Complex

a.)	Plot Area	750 Sqmts to 2000 sqmts
	Minimum approach road (RoW)	15M
	Max. Ground Coverage	45%
	Max. FAR	180
	Min. Rear setback	1/3rd of ht. of building or 3M whichever more (subject to high rise building norms)
	Side Setbacks	min. 3M (both sides)
	Max. Height	20M

Set Backs:

Front set back shall be min 6M or Building line of the road whichever is more. In case more than one road is abutting the site, Building line of the roads should be maintained.

Parking:

i. Parking shall be provided @ 2 ECS for 100 Sqm of built-up area.

ii.Single Basement within the building envelope shall be allowed as specified in the basement norms.

iii.Stilt floors within the building envelope shall be allowed.

iv.Basements/Stilt floors if used for parking shall not be counted in FAR.

v.Max. clear Height of stilt floor (from finished floor to underside of beam) shall be 2.5M.

b.)	Plot Area	2000 Sqmts to 4000 sqmts
	Minimum approach road (RoW)	18M
	Max. Ground Coverage	40%
	Max. FAR	180
	Min. Rear setback and Side Setbacks	1/3rd of ht. of building or 6M whichever more
	Max. Height	25M

Set Backs:

Front set back shall be min 9M or Building line of the road whichever is more. In case more than one road is abutting the site, Building line of the roads should be maintained.

Parking:

i. Parking shall be provided @ 2 ECS for 100 Sqm of built-up area.

ii. Double basements (upto 50% of plot area per basement) if used for parking shall be allowed as specified in the basement norms.

iii. Stilt floors within the building envelope shall be allowed.

iv. Basements/Stilt floors if used for parking shall not be counted in FAR.

v. Max. Height of stilt floor (from finished floor to underside of beam) shall be 2.5M.

c.) Plot Area	more than 4000 sqmts
Minimum approach road (RoW)	25M
Max. Ground Coverage	35%
Max. FAR	180
Min. Rear setback and Side Setbacks	1/3rd of ht. of building or 6M whichever more
Max. Height	50M

Set Backs:

Front set back shall be min 12M or Building line of the road whichever is more. In case more than one road is abutting the site, building line of the roads should be maintained.

Parking:

i. Parking shall be provided @ 2.5 ECS for 100 Sqm of built-up area.

ii. Three basements (upto 50% of plot area per basement) if used for parking shall be allowed as specified in the basement norms.

iii. Stilt floors within the building envelope shall be allowed.

iv. Basements/Stilt floors if used for parking shall not be counted in FAR.

v. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

Commercial use Zone:

The use, coverage., FAR, setbacks, open spaces shall be as per provisions of Jammu Master plan approved by the Govt. or as per the simplified development promotions, regulations of the urban development plan formulation and implementation guidelines and where these are silent on such issues or which requires interpretations, the norms decided by the authority shall apply. The permission of uses/ use activities in premises shall be permitted in accordance with the provisions of Master Plan/ UDPFI guidelines.

Note:

Height of mumty/ liftwell above the terrace shall be in addition to the prescribed height.

13.6.2.4 Cinemas/ Cineplex

Minimum approach road	25M
Min. Plot area	4000 Sqm
Max. Ground coverage	50%
Max. FAR	150
Min. Rear and Side Setbacks	1/3rd of height of building
Max. Ht.	30 M

Refreshment Canteen/ food court upto15% of FAR shall be allowed.

Set Backs:

Front set back shall be min 9M or Building line of the road whichever is more. In case more than one road is abutting the site, building line of the roads should be maintained.

Parking:

1. Parking shall be provided @ 1 ECS for 3 seats of cinema. Additional parking shall be provided @ 2 ECS for 100 Sqm of built up area for uses incidental to Cinemas/Cineplex.
2. Three basements within the building envelope if used for parking shall be allowed as specified in the basement norms.
3. Stilt floors within the building envelope shall be allowed.
4. Basements/Stilt floors if used for parking shall not be counted in FAR.
5. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5 M.

13.6.2.5 Hotels

a.) Plot Area	1000-2500 Sqmts
Max. Ground Coverage	40%
Max. FAR	180
Min. approach road (RoW)	15 M
Min. Rear and Side Setbacks	1/3rd of height of building or 6M Whichever is more
Max. Height:	50 M

5% of permissible FAR for party hall and 3% permissible FAR for Conference hall shall be allowed.

Set Backs:

Front set back shall be 6M or 1/3rd of height of building or Building line of the road whichever is more. In case more than one road is abutting the site, building line of the roads should be maintained.

Parking:

i. Parking shall be provided @ 1 ECS for 3 guest rooms. Additional parking shall be provided @ 2 ECS for 100 Sqm for uses incidental to Hotel. (Areas under lifts, elevators, stair cases, service ducts, plant rooms, service floors not more than 1.5M from finished floor upto soffit of beam and open to sky swimming pools shall not be counted for parking).

ii. For Conference halls/party halls/bars/restaurants etc (Excluding entrance hotel lobby/atrium) min parking @ 1.5 ECS for 10 Sqm shall be provided.

iii. Double basements (upto 50% of plot area per basement) if used for parking shall be allowed as specified in the basement norms.

iv. Stilt floors within the building envelope shall be allowed.

v. Basements/Stilt floors if used for parking shall not be counted in FAR.

vi. Max. Height of stilt floor (from finished floor to underside of beam) shall be than 2.5 M.

b.) Plot Area	Above 2500 Sqm
Max. Ground Coverage	30%
Max. FAR	200
Min. approach road (RoW)	20 M
Min. Rear and Side Setbacks	1/3rd of height of building or 6M whichever is more
Max. Height:	50 M

5% of permissible FAR for party hall and 3% permissible FAR for Conference hall shall be allowed.

For plots more than 12K facilities like banquet hall shall be allowed with parking provision as per banquet norms.

Set Backs:

Front set back shall be 9M or 1/3rd of height of building or Building line of the road whichever is more. In case more than one road is abutting the site, building line of the roads should be maintained.

Parking:

i. Parking shall be provided @ 1 ECS for 3 guest rooms. Additional parking shall be provided @ 2 ECS for 100 Sqm for uses incidental to Hotel. (Areas under lifts, elevators, stair cases, service ducts, plant rooms, service floors not more than 1.5M from finished floor upto soffit of beam and open to sky swimming pools shall not be counted for parking).
ii. For Conference halls/party halls/bars/restaurants etc (Excluding entrance hotel lobby/atrium) min parking @ 1.5 ECS for 10 Sqm shall be provided.
iii. Three basements (upto 50% of plot area per basement) if used for parking shall be allowed as specified in the basement norms.
iv. Stilt floors within the building envelope shall be allowed.
v. Basements/Stilt floors if used for parking shall not be counted in FAR.
vi. Max. Height of stilt floor from finished floor to underside of beam shall be than 2.5 M.

13.6.2.6 Mall cum Multiplexes

Definition: - Multiplex complex shall means an integrated entertainment and shopping centre/ complex having at least 2 cinema halls. Apart from cinema halls, the multiplexes shall also have a restaurant, fast food, outlet, pubs, Health spas/ centers, hotels and other recreational activities. The shopping center may have retail outlet, video games, parlous, bowling alleys, health centers, shopping malls, office space.

Existing cinema halls can be considered for conversion into a multiplex by the Building Permission Authority provided it has a minimum plot area of 2500 Sq.mts.

Land Use:

Multiplex may also be permitted on land earmarked for commercial use or cinema halls in the approved Master Plans/ Development Plans.

Min. Plot Area	5000 Sqm
Max. Ground Coverage	40%
Max. FAR	200
Min. approach road (RoW)	30 M
Front Setback	12M or 1/3rd of height of building or Building line of road whichever is more.
Min. Rear and Side Setbacks	1/3rd of height of building or 3M whichever is more. In case more than one road is abutting the site, Building line of the roads should be maintained.
Max. Height:	50 M

Parking

i. Parking shall be provided @ 1 ECS for 3 seats of cinema. Additional parking shall be provided @ 2.5 ECS for 100 Sqm of built up area for uses incidental to Malls/Multiplexes. *(Areas under lifts, staircases, elevators, service ducts and plant rooms shall not be counted for parking).*

ii. For halls/party halls min parking @ 1.5 ECS for 10 Sqm shall be provided.

iii. Three level basements (upto 50% of plot area per basement) if used for parking shall be allowed as specified in the basement norms.

iv. Stilt floors within the building envelope shall be allowed.

v. Basements/Stilt floors if used for parking shall not be counted in FAR.

vi. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5 M.

13.6.2.7Janjghar/ Community Center/ Banquet Hall:

Minimum Plot Area	1.5 acres (12 Kanals)
Max. Ground Coverage	30%
Max. FAR	60%
Max. Height	12 M

a) In case of Banquet halls/Community center minimum plot area should not be less than 12K and minimum parking should be provided 150 ECS upto1000 Sqm of built up area. For constructions more than 1000 Sqm, an additional parking @1.5 ECS per 10Sqm shall be provided. In case the plot of land is more than 20 K, additional parking @ 6 ECS per Kanal shall be provided. Double basements to the extent of 50% of plot area per basement shall be allowed. Basements should be allowed for parking only.

b) In case of sloping roof no activity shall be allowed in the attic space.

c) Minimum side and rear setbacks shall be 6m or 1/3rd of height of building whichever is more. Front set back shall be governed by building line of road or 20m whichever is more. No construction shall be allowed in the setbacks and the building line of the road.

d) Security room may be allowed at the entrance gate upto a maximum built up area of 15 Sqm (upto 3.5M height) after maintaining the RoW of road and shall be included in FAR. Parking shall not be allowed in proposed RoW of roads.

e) Bore wells and power driven water pumps shall not be allowed in construction sites or in any building without license and proper permission from the competent authorities.

f) For banquet halls the RoW of approach road shall be minimum 20m.

g) Banquet halls shall not be allowed in close proximity of any water body like rivers, canals, nallahs, lakes etc. The minimum distance of the plot for banquet hall shall be as per buffer mentioned in the Master Plan.

13.6.2.8 Ware Housing, Storage Vegetables & Fruit Mandis:

Minimum Plot area	2.5 Hec (25.000 Sqm)
Maximum Coverage	25%
FAR	100%
Max. Height	15 mts.

13.6.2.9 Multi-Level Parking

Multi–Level Parking facility should preferably be developed in the designed parking space or in the Residential, Public/Semi-Public, Commercial, Transport node, Bus Depots etc with the following Development Controls.

Minimum number of car parking spaces: 50

Minimum Plot Area	2000 Sqm (Plain areas)
Maximum Ground Coverage	66%
Minimum approach road	15M (RoW)
Front Set back	building line of road or 1/3rd of height of building or 6m whichever is more.
Rear and side setbacks	building line of road or 1/3rd of height of building or 3m whichever is more.
Terrace/Roof Top Parking	Shall be allowed with proper Protection etc to the satisfaction of authorities.

a. In order to compensate the cost of Multi-Level Parking, a maximum 25% of Gross permissible Floor Area may be utilized as Commercial/Office space.

b. Maximum FAR proposed for commercial spaces shall be 100 (excluding parking areas)

c. In addition to requisite parking space required for Commercial developed within the Multi-Level Parking complex (@ 3 ECS / 100M^2), Three times additional space for parking components shall be provided.

d. Three Basements shall be allowed for Parking as specified in the basement norms.

e. Maximum Height shall be restricted to permissible height of the land- use in which the plot falls.

f. Shops/Offices/Commercial spaces shall be allowed on ground and first floor, only for rehabilitation of project affected persons in Government comprehensive schemes.

g. In case of government comprehensive schemes, development controls including height shall be as per approved scheme.

13.6.3 Industrial Use Zone

Permitted uses/Activities

Residential building for essential staff and for watch and ward personal, all kind of industries, public utilities, parking, loading, unloading spaces, warehousing, storage, and depot of non-perishable and non-inflammable commodities and incidental use, cold storage and ice factory, gas go-downs, cinema, bus terminal, bus depot and workshop, wholesale business establishment, petrol filling stations with garage and service stations, parks and playgrounds, medical centers, restaurants.

Restricted uses / activities

Noxious, obnoxious and hazardous industries except storage of perishable and inflammable goods, junk yards, sports/stadium/playgrounds, sewage disposal works, electric power plants, service stations, cemeteries, government / semi-government / private business offices, bank and financial institutions, helipads, hospitals / medical centers, religious buildings, taxi stands, gas installations and gas works, animal racing or riding stables, workshops / garages, dairy and farming, quarrying of gravel, sand, clay or stone.

Prohibited uses / Activities

Residential dwellings other than those essential operational, service and watch & ward staff, schools and colleges, hotels, motels and caravan parks, recreational sports or centers, other non-industrial related activities, religious buildings, irrigated and sewage farms, major oil depot and LPG refilling plants, commercial office, educational institutions, social buildings.

INDUSTRIAL USE:

13.6.3.1 Flatted Group Industry and Service Centre:

Minimum Plot Area	2000 Sqm
Maximum Ground Coverage	30%
Maximum FAR	120%
Maximum height	20 mts

Other Controls

Basement upto the building envelop line to the maximum extent of 50% plot area shall be allowed and if used for parking and services should not be counted in FAR.

13.6.3.2 Light and Service Industry:

Table 13-3: Provisions related to Light and Service Industry

S. No.	Plot Size (Sqm)	Max. Ground Coverage	Max. FAR	Max. height
1.	100 to 400	60%	125	12 m.
2.	400 to 4000	50%	125	12 m.
3.	4000 to 12000	45%	125	12 m.
4.	Above 12000	40%	100	12 m.

Other Controls:

i) Maximum floors allowed shall be basement, ground floor and 1st floors; basement should be below ground floor and to the maximum extent of ground coverage shall be counted in FAR. In case the basement is not constructed, the permissible FAR can be achieved on the second floor.

ii) In case of truss, height of building should be adjusted/ relaxed.

13.6.3.3 Extensive Industry (Medium & Large Industry):

Table 13-4: Provisions related to Extensive Industry

S. No.	Plot Size (Sqm)	Max. Ground Coverage	Max. FAR	Max. height (m)
1.	400 to 4000	50%	100	9
2.	4000 to 12000	45%	90	9
3.	12000 to 28000	40%	80	9
4.	28000 & Above	30%	60	9

Note:

i) Single Storey building with basement is allowed. Basement shall be below the ground level and the maximum extent of the ground coverage and shall not be counted in FAR.

ii) In case of truss, height of building should be adjusted/ relaxed.

iii) Height relaxation can be considered by the content authority for specialized industries requiring more height.

13.6.4 Public and Semi-Public Use Zone (PSP)

Permitted uses/Activities

Government offices, central , state, local and semi-government , public undertaking offices, defence court, universities and specialized educational institute, polytechnic, colleges, schools, nursery and kindergarten (not to be located near hospital and health care facility), research and development centres, social and welfare centres, libraries, social and cultural institutes, religious buildings / centres, conference halls, community halls, barat ghar, dharamshala, guest house, museum / art galleries, exhibition centres, auditoriums, open air theatre, recreational club, playground, banks , police stations/ police post, police lines, police head quarters, jails, fire stations,/ fire posts, post and telegraph, public utilities and buildings, solid waste dumping grounds / sites, post offices, local state and central govt. offices and use of defence purposes, bus and railway passenger terminals, public utility and buildings, local municipal facilities, uses incidental to government offices and for their use, monuments, radio transmitter and wireless stations, telecommunication centre, telephone exchange, hospitals, health centres, nursing homes, dispensaries and clinic.

Restricted uses / activities

Residential flats and residential plot for group housing for staff employees, hostels, water supply installations, sewage disposal works, service stations, railway stations / yards, bus / truck terminals, burial grounds, cremation grounds and cemeteries / graveyards , warehouse / storage godowns, helipads, commercial uses/ centres, other uses / activities.

Prohibited uses / Activities

Heavy, extensive and other obnoxious, hazardous industries, slaughter houses, junk yards, wholesale mandies, dairy and poultry farms, farm houses, workshop for servicing and repairs, processing and sale of farm product and uses not specifically permitted herein.

PUBLIC AND SEMI PUBLIC/ INSTITUTIONAL USE:

Minimum approach roads (RoW) shall be 12m.

13.6.4.1 Offices: General/ Government Offices/ Integrated Office Complex

Max. Ground Coverage	30%
Max. FAR	200
Max. Height	50M
Front set back	12M or 1/3rd of ht. of bldg. or Building line of road whichever is more.

Rear and Side setbacks	1/3rd of ht. of bldg. or 3m. or building line of abutting road whichever is more (subject to norms of high rise buildings.).
Parking	2 ECS per 100 Sqm of covered area.

Other Control:

1. The integrated office complex shall include Central Government Office, Local Government Office, Public Undertaking Offices and Courts.
2. Maximum upto three basements within the building envelope line to the maximum extent of plot area shall be allowed and if used for parking and services should not be counted in FAR.
3. Stilt floors within the building envelope shall be allowed.
4. Basements/Stilt floors if used for parking shall not be counted in FAR.
5. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.
6. Minimum plot area for offices shall be 500 Sqm.
7. These norms shall not apply on basic/ important infrastructure/ utilities to be created by government and shall be as per the government policies.

13.6.4.2 Educational

a) Pre-Nursery/ Creches

Maximum Ground Coverage	NA	as per bye laws
Maximum FAR	NA	of residential use
Maximum height	NA	

Notes:

Pre-Primary Schools/ Nursery Schools/ Montessori Schools/Creche, Play Schools, may be permissible in residential use premises as per Mixed use policy.

b) Nursery School:

Minimum Plot Area	750 Sqmt
Maximum Ground Coverage	33.33%
Maximum FAR	100%
Maximum height	if the site falls residential zone then shall be as per the height

	norms of the area but in case site falls in Institutional or commercial area the Max. height shall be 15M.
Front Set back	6M or Building Line of road or as per residential norms whichever is more.
Rear and side setbacks	3M or building line of road whichever is more

Note:

i. Nursery Schools should be allowed on approach road not less than 9M (RoW).

ii. Stilt floors within the building envelope shall be allowed. Stilt floor if used for parking shall not be counted in FAR.

iii. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

iv. Basements shall not be allowed.

c) <u>Primary School:</u>

Minimum Plot Area	2000 Sqmts
Maximum Ground Coverage	33%
Maximum FAR	120
Maximum height	15 mts
Front Setback	6M or 1/3 of Ht. of building or building line of road whichever is more.
Rear and both Side setbacks	1/3rd of Ht. of building or 3M or building line of road whichever is more.

i. Primary Schools shall be provided on approach road not less than 9M (RoW).

ii. Stilt floors within the building envelope shall be allowed. Stilt floor if used for parking shall not be counted in FAR.

iii. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

iv. Single basement within the building envelope shall be allowed for parking as specified in the basement norms.

d) Middle School:

Minimum Plot Area	4000 Sqmts
Maximum Ground Coverage	33%
Maximum FAR	120%
Maximum height	15M
Front Set back	12M or1/3rd of Ht. of building or building Line of road whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 3M or building line of road whichever is more.

i. Middle Schools should be provided on approach roads not less than 12M (Row).

ii. Stilt floors within the building envelope shall be allowed. Stilt floor if used for parking shall not be counted in FAR.

iii. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

iv. Single basement within the building envelope shall be allowed for parking as specified in the basement norms.

e) High/ Higher Secondary School:

Minimum Plot Area	7500 Sqm.
Maximum Ground Coverage	35%
Maximum FAR	150
Maximum height	18M
Front Set back	15M or1/3rd of Ht. of building or building Line of road whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 6M or building line of road whichever is more.

i. High/Hr. Secondary Schools should be provided on approach roads not less than 18M (RoW).

ii. Single basement shall be allowed upto 25% of plot area as per standards mentioned in basement byelaws.

iii. Stilt floors within the building envelope shall be allowed.

iv. Basements/Stilt floors if used for parking shall not be counted in FAR.

v. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

f) College:

Minimum Plot Area	30000 Sqm
Maximum Ground Coverage	25%
Maximum FAR	100
Maximum height	18M
Front Set back	18M or1/3 of Ht. of building or building line of road whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 5M or building line of road whichever is more.

i. Colleges should be provided on approach roads not less than 18M (RoW).

ii. Single basement upto 25% of plot area shall be allowed as specified in the basement norms.

iii. Stilt floors within the building envelope shall be allowed.

iv. Basements/Stilt floors if used for parking shall not be counted in FAR.

v. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

g) Educational and Research Center:

Minimum plot area should of **8 Hectares.** Large campuses of universities, medical and engineering colleges and other education and research institutes shall be covered under these regulations. The campus will be divided into three parts and the regulations shall apply, as given below:

i) Academic including Administration (45% of the total land area):

Max. Ground Cov.	30%
Max. FAR	120
Max. Height	37M

ii) Residential (25% of the total land area):

This will be developed at a density of 400 PPHa gross. The land shall be reserved for residential facilities @ 9.2 sqmt. per person. Sub-division regulations as given for group housing shall apply.

iii) **Sports and Cultural Activities (15% of the total land** area):

Maximum Ground Coverage	10%
Maximum FAR	15%

iv) Parks and Landscape Areas (15%of the total land area):

Suitable landscape plan to be prepared for this area.

Min. approach street (RoW)	25M
Front Set back	25M or1/2 of Ht. of building or building line of road whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 10M or building line of road whichever is more.

Parking:

i. For all types of educational institutions, parking @1.5 ECS for 100 Sqm of built up area shall be provided.

ii. Double basements below the ground floor and to the maximum extent of ground coverage shall be allowed and if used for parking and services should not be counted in FAR.

iii. Stilt floors within the building envelope shall be allowed and shall not be counted in FAR. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

Note:

In case of stilt floor (where ever allowed) if provided for parking, extra building height of 2.5 M shall be allowed.

13.6.4.3 Health

a) Hospital

Minimum Plot Area	6000 Sqm
Maximum Ground Coverage	40% excluding 5% additional ground coverage for multi-level parking.

Maximum FAR

Table 13-5: Permissible FAR for Hospitals

S.no	Right of Way (RoW)	FAR
1	RoW less than 24m	250
2	RoW24m UP TO 30M	300
3	RoW 30M and above	375

Upto 25% FAR	residential staff/ dormitory/hostel.
Maximum height	50m
Front Set back	12M or1/3 of Ht. of building or building line of road whichever is more
Rear and side setbacks	1/3rd of Ht. of building or 3M or building line of road whichever is more.

Maximum 10% Ground coverage shall be allowed for providing atrium and shall be free from FAR. In case, additional ground coverage for atrium is utilized 25% of the utilized ground coverage shall be counted toward FAR.

Common areas such as waiting halls, reception and fire stair cases shall be allowed free from FAR.

Service floor of height 1.8m shall not be counted in FAR.

The setbacks / regulations are subject to fire safety norms.

Parking:

i. Parking standard @ 2.0 ECS/100 Sqm of floor area.

ii. Basements/stilt floors if used for parking shall not be counted in FAR.

iii. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M.

iv. Multi-Level Parking shall be Permissible to the extent of building Envelope lines, free from FAR and ground coverage to facilitate ample parking in spaces, subject to structural safety.

b) Health Center/ Nursing Home:

Minimum Plot Area	1000 Sqm
Maximum Ground Coverage	30%
Maximum FAR	100
Minimum approach road	12M

Height of building	26M
Front Set back	6M or1/3rd of Ht. of building or building line of road whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 3M or building line of road whichever is more.

Multilevel basements within the building envelope shall be allowed as specified in the basement norms. Basements/Stilt floors if used for parking shall not be counted in FAR. Max. Height of stilt floor from finished floor to underside of beam shall be 2.5M. Parking shall be provided @ 2ECS for 100 Sqm

Notes:

1. Plot area for all Hospital/Tertiary Health Care Centre would be worked out @ 80 sq.mt. of gross floor area per bed. However, for other health facilities like Maternity/Nursing homes, family Welfare and other centers, the plot area would be worked out @ 60 sq.mt. of gross floor area per bed.

2. Maximum up to 300 sq. mt. of floor area shall be allowed to be used for community space / religious shrine / crèche / chemist shop/ bank counter on Hospital sites and also Medical College/ Nursing and Paramedic institutes sites.

Other Controls:

a. In case of super specialty medical facilities/hospitals duly certified as such by the competent authority, the gross area shall be worked out @ upto 125 sq. mt. per bed.

b. In case of existing premises/sites, the enhanced FAR shall be permitted, subject to payment of charges as may be prescribed by the Authority / land owning agency and other clearances.

c. Basement after utilization for Parking; Services Requirements such as air conditioning plant and equipment, water storage, boiler, electric sub-station,

HT & LT panel rooms, transformer compartment, control room, pump house, generator room; staff locker room, staff changing room, staff dining facilities without kitchen facility, Central sterile supply deptt., back end office; Other

Mechanical Services; Installation of Electrical and fire fightingequipment's; and other services like kitchen, laundry and radiology lab and other essential services required for the maintenance/functioning of the building may be used for healthcare facilities with prior approval of the concerned agencies.

d. Other controls related to basements etc. are given in end of this chapter.

e. The bed count of a Health Facility may be allowed as per permissible FAR.

f. Environment clearances shall be made mandatory considering that bio-wastes are generated. Environment clearances are mandatory as per the prevailing regulations related to the environment.

g. Zero discharge for sewerage shall be enforced at the cost of the promoters and post treatment water can be used by premises for its needs of horticulture, flushing, coolant tower, washing or disposal to other construction sites. These issues concerned the local bodies and can be dealt accordingly as per existing regulations as the time of sanctioning the plan.

h. The additional power requirements shall be met by power supply from grid and till such time by means of suitable captive generation.

c) Radio Diagnostic Centre / Microbiological / Pathological

Laboratories:

Minimum Plot Area	500 Sqm
Maximum Ground Coverage	30%
Maximum FAR	100
Minimum approach road	12M (RoW)
Front Set back	6M or1/3rd of Ht. of building or building line of road whichever is more.
Rear and side setbacks	3M or building line of road whichever is more.

Height of building shall be 15M, in case stilt floor is provided the Height of building shall not be more 18 M.

Parking:

i. Single basement within the building envelope shall be allowed as specified in the basement norms.

ii. Stilt floors within the building envelope shall be allowed.

iii. Basements/Stilt floors if used for parking shall not be counted in FAR.

iv. Max. Height of stilt floor (from finished floor to underside of beam) shall be 2.5M.

v. Parking shall be provided @ 2ECS for 100 Sqm.

A- Facilities And Amenities:

i. Religious Premises:

Minimum Plot Area	750 Sqm
Maximum Ground Coverage	35%
Maximum FAR	70
Maximum height	12mts (Excluding minars, shikharas and Domes)
Minimum approach road	12M
Front Set back	building line of road or 7.5m from the plot line whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 3M

Parking:

a) Stilt floor shall be allowed for parking. In case stilt floor is provided for parking, extra height of 2.5M shall be allowed.

b) Single basement within the building envelope shall be allowed as specified in the basement norms and if used for parking and services should not be counted in FAR.

c) Parking @ 1 ECS for 100 Sqm of Plot areas shall be provided.

ii. Police Post:

Minimum Plot Area	250 Sqm
Maximum Ground Coverage	35%
Maximum FAR	100
Maximum height	12M
Minimum approach road	12M
Front Set back	building line of road or 7.5m from the plot line whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 3M

Parking:

a) Stilt floor shall be allowed for parking. In case stilt floor is provided for parking, extra height of 2.5 M shall be allowed.

b) Single basement within the building envelope shall be allowed as specified in the basement norms and if used for parking and services should not be counted in FAR.

c) Parking shall be provided @ 2ECS for 100 Sqm

iii. Police Station/ Fire Station

Minimum Plot Area	1000 Sqm
Maximum Ground Coverage	30%
Maximum FAR	150
Maximum height	26M
Minimum approach road	12M (RoW)
Front Set back	building line of road or 7.5m from the plot line whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 3M

Parking shall be provided @ 2ECS for 100 Sqm

Other Controls:

i) Basement upto the envelope lines and to the maximum extent of 50% of the plot area shall be allowed and if used for parking and services should not be counted in FAR.

ii) 25 % of the plot area may be used for housing the staff and the regulations of group housing shall be applicable to the area meant for housing

iv. Post & Telegraph Office/Bank

Minimum Plot Area	250 Sqm
Maximum Ground Coverage	25%
Maximum FAR	100
Maximum height	15 mts
Minimum approach road	12M (RoW)
Front Set back	building line of road or 7.5m from the plot line whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 3M

Parking:

a) Stilt floor shall be allowed for parking. In case stilt floor is provided for parking, extra building height of 3 M shall be allowed.

b) Multi-level basements up to the building envelope line and to the maximum extent of 50% of the plot area shall be allowed and if used for parking and services should not be counted in FAR.

c) Parking shall be provided @ 2ECS for 100 Sqm

v. General (Public & Semi Public Premises)

Minimum Plot Area	500 Sqm
Maximum Ground Coverage	25%
Maximum FAR	100%
Maximum height	15 mts

vi. Fire Station

Minimum Plot Area	2000 Sqm
Maximum Ground Coverage	30%
Maximum FAR	120
Maximum height	26 mts
Minimum approach road	18M (RoW)
Front Set back	building line of road or 7.5m from the plot line whichever is more.
Rear and side setbacks	1/3rd of Ht. of building or 3M

Parking:

a. Parking shall be provided @ 2ECS for 100 Sqm.
b. Stilt floor shall be allowed for parking as per fire/safety standards of equipment.
c. In case stilt floor is used for parking, an extra building height equal to height of stilt floor shall be allowed.
d. Double basements within the building envelope shall be allowed as specified in the basement norms.

Other controls:

1. Upto 25% of maximum FAR can be utilized for residential use of essential staff in fire station.

2. Upto 15% of maximum FAR can be utilized for residential use/hostel for essential staff and student accommodation, in Fire Training Institute/College.

3. Other controls related to basements etc. are as per regulations.

13.6.5 Recreational Use Zone (P)

Permitted uses/Activities

Regional parks, district parks, playgrounds, children traffic parks, botanical/zoological garden, bird sanctuary, clubs, stadiums (indoor), outdoor stadium with / without health centre for players and staff, picnic huts, holiday resorts, shooting range, sports training centres, specialized parks / *maidans* for multiuse, swimming pool, special recreationand special educational areas, library, public utilities.

Restricted uses / activities

Buildings and structures ancillary to use permitted in open spaces and parks such as stand for vehicles on hire, taxis and scooters, bus and railway passenger terminals, facilities such as police post, fire post, post and telegraph office, commercial use of transit nature like cinema, circus and other shows, public assembly halls, restaurant and caravan parks, sports stadium, open air cinemas.

Prohibited uses / Activities

Any building or structure which is not required for open air recreation, dwelling unit except for watch and ward personal and uses not specifically permitted therein.

13.6.6 Primary Activity Use Zone

Permitted uses/Activities

Dwellings for the people engaged in the farm (rural settlement), farm houses and accessory buildings, agriculture, horticulture and forestry, poultry, dairy farm, cottage industries, storage, processing and sale of farm produce, petrol and other fuel filling stations, fishing, public utility and facility buildings.

Restricted uses / activities

Brick kilns, sewage disposal works, electric power plant, quarrying of gravel, sand, clay and stone, service industries, school and library, temples, churches, mosques, and other religious buildings, piggeries, milk chilling stations and pasteurization plants.

Prohibited uses / Activities

Residential use except those ancillary uses permitted in agricultural use zone, heavy, extensive, noxious, obnoxious and hazardous industries, any activity which is creating nuisance and is obnoxious in nature.

13.6.7 Transport and Communication Use Zone (T)

Permitted uses/Activities

Road transport terminals (bus terminals and depots), goods terminals, parking areas, circulations, airports-building and infrastructure, truck terminal, motor garage, workshop, repair and repair shop

and facilities such as night shelter, boarding house, banks, restaurants, booking offices, transmission centre, wireless station, radio and television station, observatory and weather office.

Restricted uses / activities

Any other use / activity incidental to transport and communication, residential dwelling units for essential staff and watch and ward personal.

Prohibited uses / Activities

Use / activity not specifically permitted herein. In vicinity of airports: butcheries, tanneries and solid waste disposal sites shall be prohibited within 10 km from the Aerodrome reference Point (ARP).

Non- Residential Premises:

i) Hostel

Includes-Old Age Home/ Care Centre for Differently Abled Persons / Mentally Challenged/ Working Women/ Men Hostel/ Adult Education Centre/ Orphanage/ Children'sCentre/ Night Shelter.

Min. Plot Area	750 Sqm
Minimum approach road	12M (RoW)
Maximum Ground Coverage	30%
Maximum FAR	120
Maximum Height	15M

Parking

a) Stilt floor shall be allowed for parking. In case stilt floor is provided for parking, extra building height of 2.5 M shall be allowed.

b) Single Basement up to the building envelope line and to the maximum extent of 50% of the plot area shall be allowed and if used for parking and services should not be counted in FAR.

c) Parking shall be provided @ 1.5 ECS for 100 Sqm

ii) Guest House, Boarding House and Lodging House

Minimum Plot Size	500 Sqm.
Maximum ground Coverage	30%
Maximum FAR	120
Maximum Height	18M
Minimum approach road	12M (RoW)

Front Set back	building line of road or 6m from the plot line whichever is more.
Rear and side setbacks	1/3rd of Ht. of building whichever is more

Parking

a) Basement upto the building envelope to the maximum extent of 50% of plot area shall be allowed and if used for parking and services should not be counted in FAR.

b) Stilt floor shall be allowed for parking. In case stilt floor is provided for parking, extra building height of 2.5 M shall be allowed.

c) Parking @ 2 ECS for every 100 Sqm shall be provided.

Petrol Pumps:

The following regulations are recommended for locating petrol pumps cum service stations:-

i. Minimum distance from the road intersections.
   a. 50 mts. on roads having R/W upto 30 mts
   b. 100 mts. on roads having R/W more than 30 mts

ii. The minimum distance of Pump from the center line of the road should not be less than 15 meters on roads having less than 30 mts R/W. In case of road having 30 mts. or more R/W building line of the road should be protected.

iii. Plot Size (Minimum);
   a. Only filing station 30 mts. X 17 mts.
   b. Filling cum service Station minimum size 36 mts x 30 mts.
   c. Frontage of the plot should not be less than 30 mts.
   d. Longer side of the plot should be the frontage.
   e. New petrol pump shall not be located on any road having R/W less than 15 mts.

Other Controls:

a) **Filling Cum Service Station (Size 30 mt. x 36 mts. And above.)**

i.	Ground Coverage	20 %
ii.	FAR	20%
iii.	Max. Height	6 mts

iv. Canopy Equivalent to permissible ground coverage within setback line

v. Front Setback 6 mts (min) or B/L whichever is more

b) Filling Station (Size 30 mt x 17 mts

i.	Ground Coverage	10 %
ii.	FAR	10%
iii.	Max. Height	6 mts
iv.	Canopy	Equivalent to permissible ground coverage within setback line
v.	Front Setback	3 mts (min) or b/l whichever is most

c) Compressed Natural Gas (CNG) Mother Station

i.	Plot Size (minimum)	36 mt. x 30 mt.
ii.	Max. Ground Coverage	20 %
iii.	Max. Height	4.5 mt. (Single Storey)
iv.	Building Component	Control room /office /dispensing room, Store, Pantry and W.C

d) Other Regulations:

i. Shall be accepted to explosive /Fire Deptt.

ii. Ground Coverage will exclude canopy area

iii. Mezzanine if provided will be counted in FAR

iv. Whenever the plot is more than 33 mt x 45 mt. development norms shall be restricted to as applicable to the size i.e. 33 mt x 45 mt both in urban and rural areas.

13.7 Conservation of Heritage Buildings/Sites

Conservation of heritage sites shall include buildings, artefacts, structures, areas and precincts of historic, aesthetic, architectural, cultural or environmentally significant nature (heritage buildings and heritage precincts), natural feature areas of environmental significance or sites of scenic beauty.

A. Applicability

This regulation shall apply to heritage sites which shall include those buildings, artefacts, structures, streets, areas and precincts of historic, architectural, aesthetic, cultural or environmental value (hereinafter referred to as Listed Heritage Buildings / Listed Heritage Precincts) and those natural feature areas of environmental significance or of scenic beauty including, but not restricted to, sacred groves, hills, hillocks, water bodies (and the areas adjoining the same), open areas, wooded areas, points, walks, rides, bridle paths (hereinafter referred to as 'listed natural feature areas') which shall be listed in notification(s) to be issued by the State Government / identified in Master Plan.

B. Definitions

"Heritage building" means and includes any building of one or more premises or any part thereof and/or structure and/or artefact which requires conservation and/or preservation for historical and/or architectural and/or artisanery and/or aesthetic and/or cultural and/or environmental and/or ecological purpose and includes such portion of land adjoining such building or part thereof as may be required for fencing or covering or in any manner preserving the historical and/or architectural and/or aesthetic and/or cultural value of such building.

"Heritage Precincts" means and includes any space that requires conservation and /or preservation for historical and/or architectural and/or aesthetic and/or cultural and/or environmental and/or ecological purpose. Walls or other boundaries of a particular area or place or building or may enclose such space by an imaginary line drawn around it.

"Conservation" means all the processes of looking after a place so as to retain its historical and/or architectural and/or aesthetic and/or cultural significance and includes maintenance, preservation, restoration, reconstruction and adoption or a combination of more than one of these.

"Preservation" means and includes maintaining the fabric of a place in its existing state and retarding deterioration. "Restoration" means and includes returning the existing fabric of a place to a known earlier state by removing accretions or by reassembling existing components without introducing new materials.

Reconstruction" means and includes returning a place as nearly as possible to a known earlier state and distinguished by the introduction of materials (new or old) into the fabric. This shall not include either recreation or conjectural reconstruction.

C. Responsibility of the Owners of Heritage Buildings

It shall be the duty of the owners of heritage buildings and buildings in heritage precincts or in heritage streets to carry out regular repairs and maintenance of the buildings. The State Government, the Municipal Corporation or the Local Bodies and Authorities concerned shall not be responsible for such repair and maintenance except for the buildings owned by the Government, the Municipal Corporation or the other local bodies.

D. Restrictions on Development / Re-Development / Repairs etc

No development or redevelopment or engineering operation or additions / alterations, repairs, renovations including painting of the building, replacement of special features or plastering or demolition of any part thereof of the said listed buildings or listed precincts or listed natural feature areas shall be allowed except with the prior permission of concerned authority. Before granting such permission, the agency concerned shall consult the Heritage Conservation Committee to be appointed by the State Government and shall act in accordance with the advice of the Committee.

Provided that, before granting any permission for demolition or major alterations / additions to listed buildings (or buildings within listed streets or precincts), or construction at any listed natural features, or alteration of boundaries of any listed natural feature areas, objections and suggestions from the public shall be invited and shall be considered by the Heritage Conservation Committee.

Provided that, only in exceptional cases, for reasons to be recorded in writing, the concerned authority may refer the matter back to the Heritage Conservation Committee for reconsideration. However, the decision of the Heritage Conservation Committee after such reconsideration shall be final and binding.

E. Penalties

Violation of the regulations shall be punishable under the provisions regarding unauthorized development. In case of proved deliberate neglect of and/or damage to Heritage Buildings and Heritage Precincts, or if the building is allowed to be damaged or destroyed due to neglect or any other reason, in addition to penal action provided under.

The concerned Act, no permission to construct any new building shall be granted on the site if a Heritage Building or Building in a Heritage Precinct is damaged or pulled down without appropriate permission from authority. It shall be open to the Heritage Conservation Committee to consider a request for re-building / reconstruction of a Heritage Building that was unauthorizedly demolished or damaged, provided that the total built-up area in all floors put together in such new construction is not in excess of the total built-up area in all floors put together in the original Heritage Building in the same form and style in addition to other controls that may be specified.

F. Listing of Heritage Sites (Heritage Buildings/Precincts & Natural Feature Areas)

The list of heritage sites including Heritage Buildings, Heritage Precincts and listed Natural Features Areas is to be prepared and supplemented by the Commissioner, Municipal Corporation / Vice- Chairman, Development Authority on the advice of the Heritage Conservation Committee. Before being finalized, objections and suggestions of the public are to be invited and considered. The said list to which the regulation applies shall not form part of this regulation for the purpose of Building Bye-laws. The list may be supplemented from time to time by Government on receipt of proposal from the agency concerned or by Government *Suo Motto* provided that before the list is

supplemented, objections and suggestions from the public be invited and duly considered by the agency and/or State Government and/or the Heritage Conservation Committee.

When a building or group of buildings or natural feature areas are listed it would automatically mean (unless otherwise indicated) that the entire property including its entire compound / plot boundary along with all the subsidiary structures and artefacts, etc. within the compound/plot boundary, etc. shall form part of list.

G. Alteration / Modification / Relaxation in Development Norms

On the advice of the said Heritage Conservation Committee to be appointed by the Government and for reasons to be recorded in writing, the concerned authority shall follow the procedure as per law, to alter, modify or relax the Development Control Norms prescribed in the Master Plan, if required, for the conservation or preservation or retention of historic or aesthetic or cultural or architectural or environmental quality of any heritage site.

H. Heritage Precincts / Natural Feature Areas

In cases of streets, precincts, areas and (where deemed necessary by the Heritage Conservation Committee) natural feature areas notified, development permissions shall be granted in accordance with the special separate regulation prescribed for respective streets, precincts / natural feature areas which shall be framed by the authority on the advice of the Heritage Conservation Committee.

Before finalizing the special separate regulations for precincts, streets, natural features, areas, the draft of the same shall be published in the official gazette and in leading newspapers for the purpose of inviting objections and suggestions from the public. All objections and suggestions received within a period of 30 days from the date of publication in the official gazette shall be considered by the concerned agency/ Heritage Conservation Committee.

After consideration of the above suggestions and objections, the agency concerned, acting on the advice of the Heritage Conservation Committee shall modify (if necessary) the aforesaid draft separate regulations for streets, precincts, areas and natural features and forward the same to Government for notification.

I. Road Widening

Widening of the existing Roads under the Master Plan of the City or Town / Zonal Development Plan or in the Layout Plan shall be carried out considering the existing heritage buildings (even if they are not included in a Heritage Precinct) or which may affect listed natural features areas.

J. Incentive Uses for Heritage Buildings

In cases of buildings located in non-commercial use zones included in the Heritage Conservation List, if the owner/ owners agree to maintain the listed heritage building as it is in the existing state and to preserve its heritage state with due repairs and the owner/ owners/ lessees give a written

undertaking to that effect, the owner/ owners/ lessees may be allowed with the approval of the Heritage Conservation Committee within permissible use zone to convert part or whole thereof of the non-commercial area within such a heritage building to commercial/office use/hotel. Provided that if the heritage building is not maintained suitably or if the heritage value of the building is spoiled in any manner, the commercial/ office/ hotel use shall be disallowed.

K. Maintaining Skyline and Architectural Harmony

After the guidelines are framed, buildings within heritage precincts or in the vicinity of heritage sites shall maintain the skyline in the precinct and follow the architectural style (without any high-rise or multi-storeyed development) as may be existing in the surrounding area, so as not to diminish or destroy the value and beauty of or the view from the said heritage sites. The development within the precinct or in the vicinity of heritage sites shall be in accordance with the guidelines framed by the concerned agency on the advice of the Heritage Conservation Committee or separate regulations/guidelines, if any, prescribed for respective zones.

L. Restrictive Covenants

Restrictions as imposed under covenants, terms and conditions on the leasehold plots either by the State Government or by Municipal Corporation of the city/town or by Development Authority shall continue to be imposed in addition to Development Control Regulations. However, in case of any conflict with the heritage preservation interest/environmental conservation, this Heritage Regulation shall prevail.

M. Grading of the Listed Buildings / Listed Precincts

Listed Heritage Buildings / Listed Heritage Precincts may be graded into three categories. The definition of these and basic guidelines for development permissions are as follows:

Listing does not prevent change of ownership or usage. However, change of use of such Listed Heritage Building / Listed Precincts is not permitted without the prior approval of the Heritage Conservation Committee. Use should be in harmony with the said listed heritage site.

Table 13-6: Grading of Heritage Buildings/Precincts

Grade-I	Grade-II	Grade-III
(A) Definition		
Heritage Grade-I comprises buildings and precincts of national or historic importance embodying excellence in architectural style, design, technology and material usage and/or aesthetics they may be associated with a great historic event, personality, movement or	Heritage Grade-II (A&B) comprises of buildings and precincts of regional or local importance possessing local importance possessing special architectural or aesthetic merit or cultural or historical significance though of lower scale than Heritage Grade-I.	Heritage Grade – III comprises buildings ad precincts of importance for townscape that evoke architectural, aesthetic or sociological interest through not as much as in Heritage Grade-II. These contribute to determine the character of the locality and can be

institution. They have been and are the prime landmarks of the region. All natural sites shall fall within Grade-I.	They are local landmarks, which contribute to the image and identity of the region. They may be the work of master craftsmen or may be models of proportion and ornamentation or designed to suit a particular climate.	representative of lifestyle of a particular community or region and may also be distinguished by setting or special character of the façade and uniformity of height, width and scale.
(B) Objective:		
Heritage Grade-I richly deserves careful preservation.	Heritage Grade-II deserves Intelligent conservation.	Heritage Grade-II deserves intelligent conservation (though on a lesser scale than Grade-II and special protection to Unique features and attributes).
(C) Scope for Changes:		
No interventions Be permitted either on exterior or interior of the heritage building or natural features unless it is necessary in the interest of strengthening and prolonging the life of the buildings/or precincts or any part or features thereof. For this purpose, absolutely essential and minimum changes would be allowed and they must be in Conformity with the original.	Grade-II (A): Internal changes and adaptive re-use may by and large be allowed but subject to strict scrutiny. Care would be taken to ensure the conservation of all special aspects for which it is included in Heritage Grade- II. Grade-II(B): In addition to the above, extension or additional building in the Same plot or compound could in certain circumstances, be allowed provided that the extension / additional building is in harmony with (and does not detract from) the existing heritage building(s) or precincts especially in terms of height and façade.	Internal changes and adaptive re-use may by and large be allowed. Changes can include extensions and additional buildings in the same Plot or compound. However, any Changes should be such that they are in harmony with and should be such that they do not detract from The existing heritage building/precinct.
(D) Procedure:		
Development permission for the changes would be given on the advice of the Heritage Conservation Committee.	Development permission for the changes would be given on the advice of the Heritage Conservation Committee.	Development permission for changes would be given on the advice of the Heritage Conservation Committee.
(E) Vistas / Surrounding		
Development: All development In areas surrounding Heritage Grade-I shall be regulated and controlled,	All development in areas surrounding Heritage Grade-II shall be regulated and controlled, ensuring	All development in areas surrounding Heritage Grade-III shall be regulated and controlled, ensuring

ensuring that it does not mar the grandeur of, or view from Heritage Grade-I.	that it does not mar the grandeur of, or view from Heritage Grade-II.	that it does not mar the grandeur of, or view from Heritage Grade-III.

N. Opinion of the Heritage Conservation Committee

Nothing mentioned above should be deemed to confer a right on the owner / occupier of the plot to demolish or reconstruct or make alterations to his heritage building / buildings in a heritage precinct or on a natural heritage site if in the opinion of the Heritage Conservation Committee, such demolition / reconstruction /alteration is undesirable.

O. Approval to Preserve the Beauty of the Area

The Heritage Conservation Committee shall have the power to direct, especially in areas designated by them, that the exterior design and height of buildings should have their approval to preserve the beauty of the area.

P. Signs and Outdoor Display Structures / Including Street Furniture on Heritage Sites

Commissioner, Municipal Corporation/ Vice-Chairman, Development Authority on the advice of the Heritage Conservation Committee shall frame regulations or guidelines to regulate signs, outdoor display structures and street furniture on heritage sites.

Q. Composition of Heritage Conservation Committee

The Heritage Conservation Committee shall be appointed by the State Government comprising the representatives from various fields of heritage conservation preferably including people from Architecture, Urban Planning, History, Archaeology, Conservation, Urban Design, Environment and Engineering.

R. Implications of Listing as Heritage Buildings

The Regulations do not amount to any blanket prevention of demolition or of changes to Heritage Buildings. The only requirement is to obtain clearance from Commissioner, Municipal Corporation/ Vice-Chairman Development, Authority and Heritage Conservation Committee from heritage point of view.

S. Ownership Not Affected

Sale and purchase of Heritage Buildings does not require any permission from Municipal Corporation of the city/town/ Development Authority/or Heritage Conservation Committee. The Regulations do not affect the ownership or usage. However, such usage should be in harmony with the said listed precincts / buildings. Care will be taken to ensure that the development permission relating to these buildings is given within 60 days.

13.8 Other Regulations

13.8.1 Lands Having High Slope

No building, whether residential, commercial or institutional shall be allowed on lands with more than 30% slope.

13.8.2 Mezzanine Floor

Mezzanine area shall be considered in computation of Floor Area Ratio.

13.8.3 Basement

i) Minimum plot area required for basement for the purpose of parking, with respect to number of basement levels is as mentioned under:

- Two level Basement- Min. Plot area of 2000 sq.mtr.
- Three level Basement- Min. Plot are of 4000 sq.mtr.

ii) The basement, if not meant for parking, shall be permitted up to one level irrespective of the size of plot. No residential space i.e. apartment/ flats/ residential house/ hotel rooms shall be allowed in any kind of basement. Area of basements not used for parking and building services shall be considered in computation of FAR.

iii) No habitable use shall be permitted in the basement. Permitted uses in Basement are: parking, safe deposit vault, A.C. Plant, storage other than inflammable material, other utilities.

iv) Front setback line to be considered for basement for parking purpose shall be minimum 6.0 mtr. from the plot line or building line of the abutting road whichever is more.

v) Setbacks on other sides to be considered for basement for parking purpose shall be as under.

In case of one storey (1 level) basement	- 3.0 mt.
In case of two storey (2 level) basement	- 4.5 mt.
In case of three storey (3 level) basement	- 6.0 mt.

vi) Basement shall be permitted under common plot, internal Road and internal marginal space for exclusive use of parking only.

vii) Basement if used for parking and utility services shall not be considered in computation of FAR.

viii) The basements shall be allowed within building envelope in individual residential houses.

ix) The basements shall be allowed maximum upto 75% of plot area for parking and services only.

x) Every basement shall be in every part at least 2.4 m in height from the finished floor to the underside of the beam.

xi) Adequate ventilation shall be provided for the basement. The ventilation requirements shall be the same as required by the particular occupancy according to byelaws. Any deficiency may be met by providing adequate mechanical ventilation in the form of blowers, exhaust fans, air-conditioning systems, etc;

xii) The minimum height of the ceiling of any basement shall be 0.9m and the maximum, 1.2 m above the average surrounding ground level;

xiii) Adequate arrangements shall be made such that surface drainage does not enter the basement;

xiv) The walls and floors of the basement shall be watertight and be so designed that the effects of the surrounding soil and moisture, if any, are taken into account in design and adequate damp proofing treatment is given; and

xv) The access to the basement shall be separate from the main and alternative staircase providing access and exit from higher floors.

xvi) Where the staircase is continuous in the case of buildings served by more than one staircase, the same shall be of enclosed type serving as a fire separation from the basement floor and higher floors.

xvii) Basement shall be permitted within the setback lines subject to clearance from local bodies/departments concerned, Municipal Corporation and Fire Department. In case basement is to be allowed where there are no setbacks, single basement should be permitted after leaving 3 m from plot boundary.

xviii) Ramps shall be allowed in setbacks subject to maintenance of unhindered setbacks of 6M with adjacent property.

xix) The ramp to basement and parking floors shall not be less than 7.2m wide for two way traffic and 4 m wide for one way traffic, provided with Gradient of 1:10 for cars and 1:15 for heavy vehicles. At curved portions of the ramp or for circular ramps the slope should not be more than 1:12.

xx) All structural design/safety aspects as per latest BIS Codes & NBC, shall be complied along with consideration of weight of Fire Engine & its maneuverings.

xxi) The minimum width of the ramps in hospitals shall be 2.4 m for stretcher and not for vehicular movement. In this case Handrails shall be provided on both sides of the ramp.

xxii) Ramps shall lead directly to outside open space at ground level or courtyards or safe place.

xxiii) Area not more than 15% of carpet area of basements shall be allowed as free from FAR for services like plant rooms/machine rooms etc. (excluding storages not incidental to running of machinery).Basements if used for Parking shall not be counted in FAR.

13.8.4 Stilt Floors

a. Stilt floors shall be allowed wherever mentioned within the building profile only.

b. Height of stilt floor shall not be more than 2.5M from finished floor upto the underside of beam.

c. Stilt floors shall be used for parking only and shall not be counted in FAR.

d. Where ever stilt floor is allowed and provided for parking only, extra height of building of 2.5M shall be allowed.

13.8.5 Parking Norms

Basement	32 Sqm per ECS
Stilts	28 Sqm per ECS
Open/Surface	23 Sqm per ECS

*For calculation of parking **two wheeler** shall be calculated equal to* ***0.25 ECS***

13.8.6 Safety against Natural Disasters like Earthquakes

The application for seeking building permit shall be accompanied with a report of Architect/Structural Engineer certifying that the proposed structure has been designed structurally keeping in view the safety measures against earthquakes as indicated in the following Bureau of Indian Standards (B.I.S).

Bureau of Indian Standards (B.I.S).

a) IS: 13935: 1993

Repair and Seismic Strengthening of building guidelines

b) IS: 1893 (part i): 2002

Criteria for Earth quake Resistant Design of structure

c) IS: 4326 1993 (2002-04)

Earthquake Resistant Design and Construction of building – Code of practice

d) IS: 13920: 1993

Ductile Detailing of Reinforced Concrete structures subjected to seismic Forces – Codes of Practice

e) IS: 13827: 1993

Improving Earthquake Resistant of Earthen Building – Guidelines

f) IS: 13828: 1993

Improving Earthquake Resistance of low strength Masonry Building Guidelines

13.8.7 Water Harvesting

Water harvesting by way of storage of rainwater in all new buildings existing on plots of 1000 sq. mtr. and above, and all group housing shall be mandatory. The plans submitted to the local authority shall indicate the system of storm water drainage along with points of collection of rain water in surface reservoirs or in recharge wells.

13.8.8 Fire Protection and Fire Requirements

A) Scope:

This part covers the requirements of the fire protection for the multi-storied buildings (high rise buildings) and the buildings which are of 15 mtr. and above in height and low occupancies of categories such as Assembly, Institutional, and Educational more than two storeyed and built-up area exceeds 1000 sq.mt. Business where plot area exceeds 500 sq. mt., Mercantile where aggregate covered area needs 750 sq.mt., Hotel, Hospital, Nursing Homes, Underground complexes, Industrial storage, Meeting/Banquet halls Hazards Occupancies.

B) Fire protection requirements:

Buildings shall be planned, designed and constructed to ensure fire safety and this shall be done in accordance with Part IV Fire protection of National Building Code of India. The building schemes as such also be cleared by the District Officer of the Fire and Emergency Services Department before issuance of building permit.

13.8.9 Mulba Stacking

In cases of plots falling under any land use approved under the Master Plan, stacking of building materials shall be done within the plot premises if the plot area is above 500 sq. mtr. An undertaking for not stacking of materials on the adjoining Govt. land i.e. Road, land etc. but the same shall be removed on weekly basis by the applicant. If the same is not done the local authority shall remove the malba and the cost on this account shall be borne by the plot owner.

13.8.10 Miscellaneous provisions

Provisions for Junkyard

- No scrap/Junkyards and recyclable materials (storages of 'Kabadiwalas') like plastics, polythene, metals, rubber, glass, bottles etc shall be allowed to be stored in the designated core area and designated special area of Jammu Master Plan-2032. Such storages shall not also be allowed on Roads having RoW more than 40 ft. The storage of such material shall not be allowed in close proximately of residential areas, schools, hospitals, tourist areas, heritage areas etc.
- Such storage shall not be allowed wherever the storage causes nuisance to the vicinity in the form of pollution, disaster or causes disturbance to natural or urban landscape.
- No open storage of recyclable scrape shall be allowed in the whole of LPA of Jammu Master Plan-2032. Such activity shall be encouraged in Industrial areas.

13.8.11 Completion Certificate:

(a) The local authority through their designated officer shall on receipt of the notice of completion get the work inspected and communicate the approval or refusal or objection there to in within 30 days from the receipt of notice of completion for residential building and 60 days for other buildings.

(b) In case of commercial buildings more than 200 Sft plinth area over G+1, the work shall also be subject to the inspection of the Chief Fire Officer, and the Completion certificate shall be issued by the Authority only after the clearance from Chief Fire Officer regarding the completion of work from the fire protection point of view.

(c) If nothing is communicated within this period, it shall be deemed to have been approved by the Authority for occupation provided the fact is immediately brought to the notice of Authority in writing by the person, who had given the notice and has not received any intimation from the Authority within 15 days, where the completion certificate is refused, the reason shall be intimated for rejection at the first instance itself.

Sewer/ Water/ Electricity Connection:

No permanent connection of the water, sewer line and power shall be given to the building by the concerned agencies unless completion certificate has been issued by the approving authority.

Temporary connection for water, electricity or sewer can be permitted only for the purpose of facilitating the construction. Such temporary connections shall not be allowed to continue in the

premises without obtaining Completion certificate. Validity of the temporary connection shall be only for a period of two year or completion of construction whichever earlier.

Provision related to activities on open plots

- Commercial activities including open parking in open/vacant plots must seek proper permission.
- Temporary Jhuggis shall be allowed on open plots having proper sanitation, drainage disposal system and water/electric connections.

13.9 Provision for Physically Challenged Persons in the Public Buildings:

13.9.1 Scope

These bye-laws are applicable to public buildings and exclude domestic buildings. Buildings which shall provide access to ambulant and non-ambulant physically challenged persons are listed below. Distinction is made for buildings to be designed for the use of large wheel chairs and small wheel chair.

13.9.2 Buildings to be designed for Ambulant Physically Challenged People (Besides Hospitals)

Higher Secondary School, Conference Hall, Dance Halls, Youth centres, Youth clubs, Sports centres, Sports pavilion, Boat club houses, Ice/roller skating rinks, Swimming pools, Police stations, Law courts, Court houses, Sports stadiums, Theatres, Concert halls, Cinemas, Auditoriums, Small offices (the maximum plinth area 1400 sq.mt.), Snack bars, Cafes and Banqueting rooms (for capacity above 50 dinners).

Note:

a. In sport stadiums provisions shall be made for non-ambulant spectators (small wheel chair) @ 1:1000 up to 10,000 spectators and additional 1:2000 for spectators above 10,000.
b. In Theatres, Concert halls, Cinemas and Auditorium provisions shall be made for non-ambulant spectators (small wheel chairs) @ 1/250 up to 1000 spectators and additional 1/500 for spectators above 1000.

13.9.3 Buildings to be designed for Non-Ambulant Physically Challenged People

Schools for physically challenged persons, cremation grounds, public/semi-public buildings, Botanical gardens, Religious buildings, Old people clubs, Village halls, Day centres, Junior training centres, post offices, Banks, Dispensaries, Railway stations, Shops, Super markets, and Departmental stores.

Note:

Large wheel chair criteria shall be applicable on ground floors of the following buildings: Post offices, Banks, Dispensaries, Railway station, Shops, Super markets and Departmental stores.

13.9.4 Building to be designed for Non-Ambulant Physically Challenged Persons (using small wheel chairs)

Public lavatories in Tourist spots, Club motels, Professional and Scientific institutions, Museum, Art galleries, Public libraries, Laboratories, Universities, College for further Education, Teachers Training Colleges, Technical College, Exhibition halls, Dentist surgeries, Administrative department of the Hospitals, Service stations, Car parking, Building airports terminals, Bus terminals, Factories employing handicapped for sedentary works, large offices (with plinth area above 400 sq.mt.), Tax offices, Passport offices, Pension offices, Labour offices, Cafes, Banqueting rooms and Snack bars (for capacity above 100 dinners).

13.9.5 Building Requirements

The following building requirements are to be provided for buildings mentioned above:-

i) Site Planning:

a. Access path from plot entry and surface parking for building to building entrance shall be minimum of 1800 mm wide having regular surface without any steps.
b. The parking of vehicles of disable people @ two equivalent car spaces (ECS) shall be provided near entrance of 30 mt. from building entrance.

ii) Approach to Plinth Level:

a. Ramp shall be provided to enter the building; minimum width of ramp shall be 1800 mm with maximum gradient of 1:12 length of ramp shall not exceed 9.0 mt. having 90 mm high hand rail on both sides extending 300 mt. on both sides of ramps. Minimum gap from the adjacent wall to the handrail shall be 50 mm.
b. Entrance landing shall be provided adjacent to ramp with the minimum dimension 1800 x 2000 mm.
c. Minimum clear opening for the entrance door shall be 1000 mm. Threshold shall not be raised more than 12 mm.
d. For stepped approach size of tread shall not be less than 275 mm and maximum riser shall be 150 mm.

iii) Stairways:

a. Height of the riser shall not be more than 150 mm and width of the tread not less than 275 mm, nosing if provided shall not extend beyond 25 mm. Maximum number of risers on a flight shall be limited to 12.

iv) Lifts:

a. Whenever lift is required as per bye-laws, provision of at least one lift will be made for non-ambulant disabled (using small wheel chairs with the following dimensions of lift).

Clear internal depth	:	1090 mt.
Clear internal width	:	1750 mt.
Entrance door width	:	910 mt.

b. A handrail not less 600 mm long at 1000 mm above floor level shall be fixed adjacent to the control panel.

v) Toilets:

a. One special W.C. in a set of toilet shall be provided for the use of physically challenged persons. No additional provision of W.C. is to be made for physically challenged persons.
b. Size of the W.C. shall depend on the category of physically challenged persons for whom it has been provided.
c. All doors in W.Cs shall open outside.
d. The type of W.C. shall be European with seat height as 500 mm.
e. Handrails, where provided shall have min 25 mm dia.

vi) Provision of W.Cs in building without lift:

a. Provision of special W.C. shall be made on all floors for buildings designed for ambulant physically challenged persons.

b. For buildings designed for non-ambulant physically challenged persons special W.C. shall be provided at Ground floor. Size of W.C. shall depend on the type of wheel chair used by the disabled.

vii) Provision of W.Cs in building with lift:

a. Provision of special W.C. shall be made on all floors. Size will depend on the category of physically challenged persons for whom it has been provided.

viii) Toilet Details:

a. For Toilets Designed for Ambulant Physically Challenged Persons:
    - The minimum size of W.C. shall be 1075 x 1650 mm with a minimum size of 1450 mm for entry door 900 mm. Long handrail on the side closer to W.C. width between the handrails shall be 90 mm and height of handrails shall be from floor level.
    - Minimum size of the clear door opening shall be 780 mm.

b. For Toilets Designed for Non-Ambulant Physically Challenged People (using Small Wheel Chair):

- The minimum size of W.C. shall be 1350 x 1500 mm with a minimum depth of 1500 mm for entry door. 900 mm long handrail on the side closer to W.C. shall be fixed towards one side to the opposite adjacent wall. The centreline of W.C. adjacent wall shall be 400 mm and minimum 950 mm from the other wall.
- Minimum size of the clear door opening shall be 780 mm.

c. For Toilets Designed for Non-Ambulant Physically Challenged Persons (using Large Wheel Chair):
   - The minimum size of W.C. shall be 1500 x 1750 mm with a minimum depth of 1750 mm for entry door. 90 mm long handrail on the side wall closer to W.C. shall be provided. To provide movement space for wheel chair, W.C. seat shall be fixed towards one side of the opposite wall. The centre line of the W.C. from the adjacent wall shall be 400 mm and a minimum of 1100 mm from the other wall.
   - Minimum size of the clear door opening shall be 860 mm.

13.10 Sub-Divisional Regulations

Any government department/public sector undertakings/co-operative society/builder/colonizer/ a person or a group of persons intending to develop a residential/commercial/industrial estate with more than 4 plots shall give notice in writing to the local authority along with following documents/details:

a) Layout plan of the entire land area indicating areas allocated for Roads, open space, parks, shopping centres as well as other public and semi-public uses.
b) Revenue documents (Title, shajra etc.) clearly certifying ownership of land in favour of the applying developer.
c) Plan indicating integration of proposed estate/colony with the adjoining built up area in respect of Road network, services etc.

13.10.1 Planning Norms

i) Area under Roads, open spaces, education and other public uses shall not be less than 30% in case of residential colony and 35% in case of industrial colony and however, area under public buildings will not exceed 10% of the total area in case of residential colony and 5% in case of industrial colony.

ii) Gross commercial area shall not exceed 5% of the total colony area and shall for part of saleable area. Area under Roads/lanes shall not be less than 29% of total area. No Road/lane within the colony area shall be less than 25’ width.

iii) Saleable area shall not exceed 60% in case of residential colony and 65% in case of industrial colony.

iv) In case of residential colony, 20% of the residential plots shall be provided for EWS/LIG plots/houses.

13.10.2 Services

i) Provision of internal infrastructure facilities like Roads, drains, water mains, electric lines within the proposed colony shall be the sole responsibility of the developer i.e. the entire cost towards provision of these services shall be borne by him proportionate external development cost (wherever necessary) connected with provision of services for the colony shall also be borne by the developer. Quantum of this cost shall be fixed by local area/Government as per merits of the case.

ii) The developer shall submit layout plan of all service networks (water supply, electric supply, Roads, lanes, drains, parks and other uses) along with cost estimates to the local authority along with the application.

iii) Provision of services shall be strictly conforming to the standards prescribed in National Building Code.

13.10.3 Finance & Management:

i) The promoter /developer shall also submit a brief indicating the capability of his group (both financial and managerial) to develop the proposed colony for which application has been submitted.

ii) No plot within the proposed colony shall be eligible for any services/utilities from the Government/Municipal Corporation/Municipal Council/Municipal Committee.

Note:

External development works would include Roads, water supply, drainage/sewerage system, electric supply or any other work is to be executed in the periphery or outside a colony for its benefit.

13.11 Documents and Drawings

13.11.1 Documents Required for Development Permission:

i) Application for Obtaining/Revising a Development Permission
ii) Receipt of Scrutiny Fees paid to the Competent Authority
iii) Legal document of the Right to Develop or Build on the subject property/land, including original copies of the relevant extract from the Property Register for City Survey Lands or Record of Rights for Revenue Lands as applicable.
iv) Certified copy of approved sub-divisions or layout of the final plot from the concerned Authority as the case may be showing:

    a. City Survey No. or Revenue No.

b. Area and Measurements of the Plot (Concerned Authority may dispense with this requirement in the cases where it is satisfied regarding the ownership of land on the basis of any documentary evidence or proof produced by the applicant)

v) Copy of Sanctioned Layout including date of sanction and Reference No. (in case of Plotted Development)

ix) Area statements for Building Area, FAR Area, Parking Area, etc. as required

x) Calculation Statement for Development Permission Fees, and other such fees as the case may be, payable to the Authority

xi) Photographic Identity Proof of the Owner and Applicant

xii) Photographs of the subject Plot

xiii) Certificates, NOC, opinions, documents as may be required by competent authority

13.11.2 Drawings to be submitted for Development Permission:

I) Key Plan

A key plan shall be drawn not to the scale and shall explain the boundary and location of the site with respect to neighbourhood landmarks.

II) Site Plan (Suitable & Readable Scale)

a. Boundaries of the plot and of any contiguous plots belonging to the Owner;

b. Position of the plot in relation to the neighbouring streets and street names;

c. Direction of north point relative to the plan of buildings;

d. Building Unit level in relation to the neighbouring street level;

e. Building number or Plot No. of the plot on which the building is intended to be erected;

f. All existing buildings standing on, over or under the plot;

g. Any existing natural or manmade physical features, such as wells, drains, trees, high tension line, gas pipeline, railway line, etc.

h. Proposed use of every building

i. The position of building(s) and construction which the applicant intends to erect in relation to:

i) The boundaries of the plot and in case where the plot has been partitioned, the boundaries of the portion owned by the applicant and also of the portions owned by others;

ii) All buildings (with number of stories and height) and premises adjacent to the plot and of the contiguous land, if any, referred to in (a); and;

iii) Any street prescribed under the Act and passing through the Building-unit/s clearly indicating the regular line of streets;

iv) The area within the regular line of the street not to be built upon but to be added to the street, hatched in green together with its measurements;

v) Building lines and margins of streets

j. The width and level of the street in front, and of the street, if any, at the side or rear of building clearly indicating the regular line of streets;

k. The means of access from the street to the site and all existing and proposed buildings;

l. Open space to be left around the building to secure free circulation of air, admission of light and access;

m. Open space to be provided under these Development Regulations;

n. The area of the whole plot and the break-up of Total built-up area on each floor;

o. Area classified for exemption of built-up area calculations;

p. Dimensions and areas of common plot, as required under these regulations,

q. Parking layout, indicating the parking spaces, access lane, driveway or ramp;

r. Layout and details of rain water harvesting required under the Development Regulations, if any;

s. The position of every water closet, privy, urinal, bathrooms, cesspool, well or cistern in connection with the building other than those shown in the building plan.

t. The lines of drainage of the building, the size, depth and inclination of every drain and the means to be provided for the ventilation of the drains;

u. The position and level of the outfall of the drain, any existing facilities regarding water supply, sewerage etc, diameter and gradient of water supply line, drainage lines for the disposal of storm water as well as for sewerage.

v. Detailed drawings showing the boundary walls and gates.

III) Landscape Plan (if required, Suitable & Readable Scale)

a. The space for circulation and parking;

b. Paved pathways;

c. Existing trees;

d. Proposed tree plantation;

e. Green areas;

f. Unpaved areas.

IV) Building Plan (Suitable & Readable Scale)

a. All floor plans together with the covered area, size and spacing of framing members, size of rooms and the position and width of staircases, ramps and other exit ways, lift wells, lift machine room and lift pit details;

b. Built-up area of each dwelling unit, or shop or office space at every floor level;

c. The use or occupancy of all parts of the building;

d. Exact location of essential services, like W.C., sink, bathroom, kitchen, cesspool, water tank, cistern, etc.

e. Section drawings showing the heights of building and rooms and also the height of the parapet, and under ground construction (if any).

f. Levels of the site and all floors in relation to the datum or crown level of the access street;

g. All elevations;

h. Details of service privy, if any;

i. Dimensions of the projected portions beyond the permissible building line;

j. Terrace plan including cabin structure;

k. Parking spaces provided and the parking layout;

l. Direction of north point relative to the plan of buildings;

m. Such other particulars as may be required to explain the proposed building clearly.

n. Provision of water harvestion , location of solar panels, location of STPs/ ETPs, location ofunder ground water tanks, location of security guard room & office, and site drainage in case of all major projects.

Note: Approving authority can ask for drawings on particularly scale for scrutiny.

ANNEXURE-A List of Mohallas /Villages falling in the Proposed Local Area of JDA

The following shall be the Local Area of Jammu Master Plan-2032:

A. Mohallas or Villages of Jammu khas Notified by S.R.O.-14 dated: - 8.09.1969 and SRO- 107 dated: -21.02.1969.

Sl. No.	Name of Mohalla/ Village	District	Sl. No.	Name of Mohalla/ Village	District
1	Karan Nagar	Jammu	31	Pacca Danga	Jammu
2	Kachi Chowni	-do-	32	Chowgan Fattu	-do-
3	Dhounthali	-do-	33	Kali Jani	-do-
4	Panjtirthi	-do-	34	Malhotrian	-do-
5	Chogan Salathian	-do-	35	Devi Dawara	-do-
6	Pacci Dhakki	-do-	36	Ghumarian	-do-
7	Jullaka Mohalla	-do-	37	Dewan Mandir	-do-
8	Mast Garh	-do-	38	Parade Ground	-do-
9	Acharjian	-do-	39	Pharian	-do-
10	Bhabrian	-do-	40	Dogra Hall	-do-
11	Pirmitha	-do-	41	Krishana Nagar	-do-
12	Dal Patian	-do-	42	Company Bagh	-do-
13	Jat Katian	-do-	43	Resham Ghar	-do-
14	Residency	-do-	44	Panj Bakhtar	-do-
15	Jogi Gate	-do-	45	Partap Garh	-do-
16	Chowani Gandoo	-do-	46	Ragunath Pura	-do-
17	Talab Khatikan	-do-	47	Roulki Colony	-do-
18	Residency Bazaar	-do-	48	Bakshi Nagar	-do-
19	Gumat	-do-	49	Gurs colony	-do-
20	Kanji House	-do-	50	Rehari Colony	-do-
21	Rani Mandir	-do-	51	Gandhi Nagar	-do-
22	Chand Nagar-do-	-do-	52	Nai Basti	-do-
23	Tawi Paar-do-	-do-	53	Gujjar Basti	-do-
24	Narnian-do-	-do-	54	Talab Tillo	-do-
25	Rehari-do-	-do-	55	Bhagwati Nagar	-do-
26	New Plots	-do-	56	Nauabad(in part)	-do-
27	Amb Phalla	-do-	57	Kalithian	-do-
28	Ustad Mohalla	-do-	58	Rajpura	-do-
29	Afgana	-do-	59	Shakti Nagar	-do-
30	Galo Khilonia	-do-	60	Sarwa	-do-

B. Local area notified vide SRO 44 dated 02.02.1971.

Sl. No.	Name of Mohalla/ Village	District	Sl. No.	Name of Mohalla/ Village	District
1	Kalu chack	Jammu	21	Gurah Chabilian	Jammu
2	Raka Gadi Garh	-do-	22	Rakh Rajput	-do-
3	Bablyana	-do-	23	Nowabad	-do-
4	Bhour	-do-	24	Rajpura Mangotrian	-do-
5	Chatha Lahori Shah	-do-	25	Narwal Bala	-do-
6	Hakal	-do-	26	Narwal Pain	-do-
7	Hazuri Bagh	-do-	27	Channi Himat	-do-
8	Chak Gulami	-do-	28	Chani Bija	-do-
9	Gujral	-do-	29	Channi Kamala	-do-
10	Chak Changerwan	-do-	30	Digyana	do
11	Keran	-do-	31	Gangyal	-do-
12	Chinor	-do-	32	Deeli	-do-
13	Muthi	-do-	33	Satwari	-do-
14	Darmal	-do-	34	Rajpur	-do-
15	Patoli Mangotrian	-do-	35	Thanger	-do-
16	Patoli Brahamna	-do-	36	Gol	-do-
17	Barnai	-do-	37	Bahu	-do-
18	Gurah Brahamna	-do-	38	Rakh bahu	-do-
19	Paloura	-do-	39	Channi Rama	-do-
20	Top Sherkhanian	-do-	-	-	-

C. Local area notified vide SRO 130 dated 01.03. 1978

Sl. No.	Name of Mohalla/ Village	District	Sl. No.	Name of Mohalla/ Village	District
1	Sitni	Jammu	4	Sidhra	Samba
2	Kamini	-do-	5	Majeen	-do-
3	Khanpur	-do-	6	Rangoora	-do-
-	-	-	7	Dawara	-do-

D. Local area notified vide SRO 388 dated 10.08. 1984.

Sl. No.	Name of Mohalla/ Village	District	Sl. No.	Name of Mohalla/village	District
1	Dhok Rathore	Jammu	5	Narajan	-do-
2	Nagrota	-do-	6	Chak Rakwala	-do-
3	Kore Jagir	-do-	7	Ban	-do-
4	Nadore	-do-			

E. Extended area added to the local Area of Jammu Master Plan-2021 vide SRO 263 Dated 09-08-2004

Sl. No.	Name of Mohalla/Village	District	Sl. No.	Name of Mohalla/Village	District
1	Tirlokpur	Jammu	10	Tehri Taku Walan	-do-
2	Khairin	-do-	11	Shahpur	-do-
3	Khanpur(Goumansan side)	-do-	12	Chak Dhal	-do-
4	Seri Rakhuualan	-do-	13	Chak Laldin	-do-
5	Rajpur (Goumanasan side)	-do-	14	Surora	-do-
6	Padrore	-do-	15	Paune Chak	-do-
7	Bhagatpur	-do-	16	Aquilpur	-do-
8	Ghou-Manahansan	-do-	17	Patha Nehai	-do-
9	Nagrota(Ghomanhasan side)	-do-	18	Chahane Chak	-do-

19	Shahzadpur Bhopa	-do-	64	Salmehri	-do-
20	Shahzadpur	-do-	65	Budhwal	-do-
21	Durgo Chak	-do-	66	Udham Mandi (Gura Salathian)	-do-
22	Tikri	-do-	67	Nathwal	-do-
23	Deore Kubb	-do-	68	Rajinder Singh Pura	-do-
24	Smailpur (Ghomanasan side)	-do-	69	Suchani	-do-
25	Dhatrial	-do-	70	Raya	-do-
26	Malheal Chak	-do-	71	Ranjitpura	-do-
27	Parkhah	-do-	72	Jakh	-do-
28	Pathiali Chak	-do-	73	Channi	-do-
29	Nagbani	-do-	74	Kaithpur(Thandi Khui)	-do-
30	Netra Kotha	-do-	75	Channi Manhasan	-do-
31	Phalora	-do-	76	Komala	-do-
32	Jug Barhi	-do-	77	Tirlokpur	-do-
33	Domana	-do-	78	Patli	-do-
34	Gari	-do-	79	Kheriyian	-do-
35	Machallian	-do-	80	Ismailpur	-do-
36	Purkhu	-do-	81	Badhori	-do-
37	Kot	-do-	82	Gura	-do-
38	Bhalwal	-do-	83	Birpur	-do-
39	Malpur	-do-	84	Raipur Koular	-do-
40	Bajwan	-do-	85	Ratnu Chak	-do-
41	Thathar	-do-	86	Bari- Brahamna (Kartholi)	-do-
42	Gurha Kiran	-do-	87	Mihin Sarkar	-do-
43	Jagti	-do-	88	Dansal	-do-
44	Khotholi	-do-	89	Phogah	-do-
45	Sarmore	-do-	90	Kargal	-do-
46	Littaryari	-do-	91	Rakh Dhiansar	-do-
47	Dhok Bajjiran	-do-	92	Trore	-do-
48	Chak Guwalan	-do-	93	Bassi Kalan	-do-
49	Bharjala	-do-	94	Tanda	-do-
50	Bhore Camp	-do-	95	Jawandbad	-do-
51	Rohi	-do-	96	Kali bari	-do-
52	Bando Wali Rakh	-do-	97	Khadargal	-do-
53	Gali Ghat	-do-	98	Dharnor	-do-
54	Beli Charana	-do-	99	Bain Bajalta	-do-
55	Kulliyan	Jammu	100	Kuppar	-do-
55	Kulliyan	Jammu	101	Parkalta	-do-
56	Shikli Gir Kulliyan	-do-	102	Malhore	-do-
57	Sunjwan	-do-	103	Patli	-do-
58	Bhathindi Upper	-do-	104	Sahaura	-do-
59	Rakh Reaka	-do-	105	Jarale Chak	-do-
60	Channi Choadi	-do-	106	Dolian	-do-
61	Langer	-do-	107	Nowanabad	Bishnah
62	Nuhal	Samba	108	Chak Chuhe	-do-
63	Gowal	-do-	-	-	-

F. Extended Local Area limits of Revised Master Plan Jammu-2032 to be notified under the J&K Development Act, 1970. vide SRO 83 Dated 09-03-2016

Sl. No.	Name of Mohalla/Village	District	Sl. No.	Name of Mohalla/Village	District
1	Chak Daulat	**Jammu**	32	Chak Jafar	32
2	Dhami	-do-	33	Chak Mahani	33
3	Kahliyan	-do-	34	Gurha Singo	34
4	Ram Bagh	-do-	35	Harsch Tokriyan	35
5	Dond Pur	-do-	36	Yaswan	36
6	Khandwal	-do-	37	Paryal	37
7	Laliyal	-do-	38	Sama Chak	38
8	Mokhra	-do-	39	Gho Manhasan	39
9	Bhadur Khan	-do-	40	Hari Pur	40
10	Nougaran	-do-	41	Karlup	41
11	Sikander Pur	-do-	42	Rattan Pur Gurdyal	-do-
12	Sultan Pur	-do-	43	Kangdel	-do-
13	Chak Sardar Desa Singh	-do-	44	Chak Abtara	-do-
14	Kotli Charkan	-do-	45	Chak Mian Sahb Singh	-do-
15	Prithvi Pur	-do-	46	Jhumian Jattan	-do-
16	Khwas Khan	-do-	47	Khairi	-do-
17	Bhan	-do-	48	Khojpur	-do-
18	Darap	-do-	49	Ratnal	-do-
19	Bhalwal	-do-	50	Chak Mian Sukha Singh	-do-
20	Nand pur Rakwala	-do-	51	Chak Murar	-do-
21	Sapuran Pur	-do-	52	Baag Jhogian	-do-
22	Prahlad Ppur	-do-	53	Bishnah	-do-
23	Karpal Pur Charkan	-do-	54	Chak Bana Brahmana	-do-
24	Mandal	-do-	55	Chak Bhana Jattan	-do-
25	Chak Nuiade	-do-	56	Chak Qadar	-do-
26	Chak Hira	-do-	57	Chak Subha	-do-
27	Baran	-do-	58	Dulehan	-do-
28	Kheri	-do-	59	Fatwal	-do-
29	Nandni	-do-	60	Jhomian Brahmana	-do-
30	Chak Dina	-do-	61	Jindor Khurd	-do-
31	Rattan Pur Paras	-do-	62	Kanhal	-do-

63	Mohammadpur	-do-	84	Gho Manhasan	-do-
64	Mujua Lakhmi	-do-	85	Rada	-do-
65	Atmapur	-do-	86	Radi	-do-
66	Ban Sultan	-do-	87	Rakh Abtal	-do-
67	Tindey Kalan	-do-	88	Rakh Rada	-do-
68	Khalas	-do-	89	Vijaypur	-do-
69	Kharian	-do-	90	Palli	-do-
70	Langotian	-do-	91	Chak Bana	-do-
71	Rattian	-do-	92	Chak Salarian	-do-
72	Chak Alwal	-do-	93	Kandal	-do-
73	Darso Pur	-do-	94	Burj Sheru	-do-
74	Gazian	-do-	95	Rattanpur	-do-
75	Kotli Mian Fateh	-do-	96	Langthat	-do-
76	Malik Pur	-do-	97	Basi Khurd	-do-
77	Tutrey	-do-	98	Makhu Mera	-do-
78	Makhan Pur Gojran	-do-	99	Kerali Kalan	-do-
79	Maralian	-do-	100	Bandhral	-do-
80	Badali	**Samba**	101	Dwal	-do-
81	Chak Bagian	-do-	102	Gho Brahmana	-do-
82	Gadwal	-do-	103	Chak Hira	-do-
83	Ghagour	-do-			

Note: Left out Villages if any, which falls within the LPA as per the Land Use Plan shall be deemed to be included in the LPA limit of Jammu Master Plan-2032.

ANNEXURE-B List of Maps

ANNEXURE-C Road Cross Sections

ANNEXURE-D Swot Assessment

Assessment of the strengths, weaknesses, opportunities and threats to a city forms a basis for the preparation of its comprehensive Development Plan. A city level SWOT analysis has been done based on an assessment of the status of various sectors of the city

STRENGTHS

Jammu is the largest city in the Jammu Region and the winter capital of the state of Jammu and Kashmir, India. Jammu is also known as the City of Temples" as it has many beautiful and historical temples and shrines. With its fastest growing urbanisation and booming infrastructure, the winter capital of state is the 2nd largest city of the State.

SECTORS	STRENGTHS
Location & Linkages: - Jammu city is strategically located and well connected with various economic nodes of	
	• Winter capital of Jammu and Kashmir. • It is approximately 600 km away from the national capital, New Delhi and is linked with a National Highway. • Easily accessible from other cities of the country through rail, Road and air transport.
City Economy: - The city's economy is enjoying a period of high growth.	
	• Jammu is the main cultural and economic centre of Jammu province and the state. • The city has a number of plastics, polythene, paint, printing, polish, hardware, bakery industries. • The industrial estates of Gangayal and Bari-Brahmana are the largest in the entire state. • Jammu has a number of food-grain mills, art and crafts, woolen mills and artistic embroidery.
Tourism: - Tourism is the largest industry in Jammu. It is also a focal point of pilgrims going to Vaishno Devi and also to the Kashmir Valley.	
	• India's famous pilgrim destination. • Attracts a large number of national pilgrims and tourists. • Well connected to all leading tourist destinations like Kashmir, Poonch, Doda, Ladakh and
Heritage: - Jammu is famous for its heritage and culture and is known as –The City of Temples‖.	
	• Jammu has many historic places like Mubarak Mandi, Purani Mandi, Rani park, Amar Mahal, Bahu Fort, Raghunath temple, Ranbireshwar temple, Peer Meetha etc.
State Reforms: - State Government is undertaking various institutional and legislative reforms.	
	• Proactive government • Strengthening of Urban Development agencies for poverty alleviation, housing and employment opportunities for destitute and military affective people.

WEAKNESSES

Major areas of the city's weakness include infrastructure, weak urban growth management, lack of environmental management and slums

SECTORS	WEAKNESS
Infrastructure: :- Weaknesses of water supply, sewerage, solid waste, drainage systems as discussed below—	
	• Lack of solid waste management facilities (for treatment and disposal) in the city leading to Dumping of garbage and land pollution. • Lack of drainage and sewerage network and leading to environment hazards. • Lack of infrastructure facility like water supply, sewerage and unauthorized colonies. • Lack of parking space in the city. • Disposal of untreated industrial waste into Tawi river
Urban growth and land management:- High rate of population growth and urbanization leading to problems mentioned below—	
• Haphazard growth of the city due to poor housing and poor provision of infrastructure. • Lack of proper resting facilities for pilgrims • Lack of open spaces and parks.	
Conservation :- Lack of awareness among city people towards heritage conservation	
	• Lack of integration of heritage concern • Lack of proper database management in each sector especially in heritage and infrastructure development. • Ineffective maintenance of heritage sites like Bahu Fort, Shaheedi Chowk.
Environment :- The fast growing urban agglomeration is leading to :-	
	• Degradation of river Tawi • Loss of traditional water system • Extreme depletion of ground water • Contamination of pipe water with sewerage
Slums in cluster	
	• Increasing population. • Poor infrastructure facility for re-settlement of colonies

OPPORTUNITIES

The city has several aspects that are potential opportunities. The main opportunities are in the areas of economic growth, proposed projects, state initiated reforms and heritage

SECTORS	OPPORTUNITIES
Economic competitiveness	
	• With presence of good connectivity, it can strongly be developed as nodal centre and get linked to other economically vibrant cities • High literacy rates • It can attract many tourist because of its rich heritage and culture • Due to good connectivity Jammu city has potential to attract private developers in housing and infrastructure sector • Farming, animal husbandry and horticulture contribute to the state's economy • Potential growth for woolen industries, dry fruit export and special varieties of herbal tea.
State Urban Reforms	
	• City is initiating reforms in urban governance by implementing various governance models like E- governance and PPP models for project implementation • The government is currently focusing on urban slums and improvement of basic services
Urban Heritage	
	• Rich culture and heritage can attract the tourists • The local arts and crafts can be showcased for attracting business and shoppers

THREATS

SECTORS	THREATS
Economy	
	• Wholesale trade of wool, dry fruits in core walled city attracts workers and traders to the city and thus leading to deterioration of city environment. • Inadequate infrastructure on economic opportunities like Roads, power failure etc.
Infrastructure	

	• The high population growth can lead to further pressure on infrastructure sector • Lack of sewerage system, solid waste management, poor distribution of water that leads to health problems and increase unhygienic conditions in the city • Poor infrastructure in new colonies and urban villages are a threat to local residents
Institutional reforms	
	• Capacity building of all the government organizations, if inadequate, would result in non-implementation of fiscal reforms • Fiscal reforms are a key for carrying out projects and provision of infrastructure in a sustainable manner.
Conservation	

ANNEXURE-E Cultural Heritage of Jammu /Grade 3 Heritage

S.No.	Name of Monument / Site	Location
1.	Marble Hall and Fountain Hall	Mubarq Mandi Complex
2.	Pink Hall	Mubarq Mandi Complex
3.	Badi Deodi	Mubarq Mandi Complex
4.	Gole Ghar	Mubarq Mandi Complex
5.	Darbar-e-aam	Mubarq Mandi Complex
6.	Old Magistrate Complex	Mubarq Mandi Complex
7.	Main Deodi	Mubarq Mandi Complex
8.	Gadvai Khana	Mubarq Mandi Complex
9.	Royal Courts	Mubarq Mandi Complex
10.	Raja Amar Singh's Queen's palace	Mubarq Mandi Complex
11.	Army Headquarters	Mubarq Mandi Complex
12.	Gureli Mahal	Mubarq Mandi Complex
13.	Rani Bandral	Mubarq Mandi Complex
14.	Rani Charkan Palace	Mubarq Mandi Complex
15.	Rani Kathar wali palace	Mubarq Mandi Complex
16.	Darbar Hall	Mubarq Mandi Complex
17.	Raja Ram Singh Palace	Mubarq Mandi Complex
18.	Rani Bandrali Palace (Sheesh Mahal)	Mubarq Mandi Complex
19.	Alexender School	Id-Gah Road
20.	Hari Singh School	Shahidi chowk
21.	Tourist Reception Centre	Vir Marg
22.	DC Office	Circular road
23.	Ghummat Gate	Ghummat bazaar
24.	Mahal of Raja Ram Singh's Queen	
25.	GOVT. Girls Higher Secondary School Mubarq Mandi	Mubarq Mandi
26.	Dennis Gate (Vivek Ananad Chowk)	Jogi Gate
27.	Reverend's residence	
28.	Bardari	
29.	Out Houses (4)	
30.	Amar Mahal Museum & Library	Ram Nagar
31.	Hari Niwas Palace	Ram Nagar
32.	Lakshmi Bhavan (Gym)	
33.	BJP Office	Kachi Chouuni

34.	St. Paul Church	
35.	Cowie Hall (Church)	
36.	Ranbir Library	Kachi Chouuni
37.	Vinayka Dharamshalla	Chand Nagar
38.	Arya Samajh School	Fatiu Chowgan
39.	Science College Main Block (Old Hall)	Canal Road GGM Science College
40.	Hostel Block Science College	Canal Road GGM Science College
41.	Chemistry lab	Canal Road GGM Science College
42.	Physics & Chemistry department	Canal Road GGM Science College
43.	Geology Department	Canal Road GGM Science College
44.	Physics lab	Canal Road GGM Science College
45.	Central library	Canal Road GGM Science College
46.	Residence of education minister	Canal Road GGM Science College
47.	Govt Higher Secondary School	Canal Road
48.	Ranbir School	Parade
49.	Gandhi Bhavan	Dogra Hall
50.	State Guest House	Canal Road
51.	Poonch House	Talab Tillo
52.	Wazir Villa	
53.	Old Stores	
54.	Peer Baba Mazaar	Satwari near Airport
55.	Gole Mahal Hazuri Bagh,	Talab Tillo, Jammu
56.	Old School Satwari	Satwari, Jammu

Source: Official Website of Directorate of Archives, Archaeology & Museums, Jammu, 2016 & INTACH, Jammu Chapter

ANNEXURE-F List of Heritage Temples- Jammu, J & K

S.No.	Name of Monument / Site	Location
1.	Raghunath Temple	Raganuth Bazaar
2.	Samarak Maharaja Gulab Singh	Raganuth Bazaar
3.	Samarak Maharaja Ranbir Singh	Raganuth Bazaar
4.	Samarak Maharaja Amar Singh	Raganuth Bazaar
5.	Ranbireshwar Temple	Shalimar Road
6.	Ram Temple	Purani Mandi
7.	Radha Krishan Temple	Purani Mandi
8.	Sardaran Temple	Panjtirthi
9.	Radha Krishan Temple	Panjtirthi
10.	Satnayarayan Temple	Panjtirthi
11.	Samadhi Maharani Shebaji	Gumat
12.	Samadhi Maharani Rakbalaji	Gumat
13.	Samadhi Maharani Kaluriji	Gumat
14.	Samadhi Maharani Ari Bandraliji	Gumat
15.	Samadhi Maharani Charakji	Gumat
16.	Samadhi Maharani Baloriaji	Gumat
17.	Samadhi Maharani Bhauji	Gumat
18.	Samadhi Maharani Bhutiaji	Gumat
19.	Samadhi Maharani Katochji	Gumat
20.	Ranbireshwar Temple 1	Gumat
21.	Ranbireshwar Temple 2	Gumat
22.	Chowganslathia Temple	Mubarq Mandi
23.	Shri Lakshmi Narayan Mandir	Link Road
24.	Radha Krishan Temple	PacciDacci
25.	Shri Hanuman Ji Temple,	Raghunath Temple Complex
26.	Bhairav Temple	Panjtirthi
27.	Shri Shiv Nabh Temple	……
28.	Samadhi Suchet Singh	Panjtirthi
29.	Gadha –dhar Temple	Panjtirthi
30.	Dau Temple,	Circular Road
31.	Chintpurni Temple	Circular Road
32.	Savitri Temple	Circular Road
33.	Peer Khoh Temple,	Circular Road

34.	Rani Kalhuri Temple	Circular Road
35.	Radakrishna Ram Talai Temple	Circular Road
36.	Diwan Temple,	Pacca Danga
37.	Diwan Anant Ram Ji Temple	Pacca Danga
38.	Radha Krishan Temple	Pacca Danga
39.	Amreshwar Temple	Pacca Danga
40.	Panchvaktra Temple,	Kanak Mandi
41.	Ram Temple	Gumat
42.	Burj Temple	Sui
43.	Hanuman Temple	Sui
44.	Raganuth Temple	Sui
45.	Radha Krishan Temple	Sui

Source: INTACH, Jammu Chapter, 2015