

TABLE OF CONTENTS

List of Figures	iii
List of Tables	iii
List of Maps	v
1 Introduction and Project Understanding	6
1.1 Introduction and Project Understanding	6
1.2 Broad features of the Master plan 2008-2031 for local planning area	6
1.2.1 Vision in Master Plan 2008-2031 Zirakpur Local Planning Area	6
1.2.2 Scope of Work Overview	7
1.3 Introduction	9
1.4 Locational context	9
1.4.1 Greater Mohali Region and SAS Nagar.....	9
1.5 GMR Regional Master Plan	10
1.5.1 Land use Distribution:	10
1.5.2 Residential (Housing Demand)	12
1.5.3 Commercial	14
1.5.4 Industrial Development	14
1.6 Transportation	15
1.6.1 Road Connectivity	15
1.6.2 Rail Connectivity	16
1.6.3 Air Connectivity	16
1.7 Land Use and proposed development.....	18
1.7.1 Existing Land use	18
1.7.2 Planning Proposal and proposed land use distribution.....	20
2 Revision of Master Plan 2008-31 for local planning area	22
2.1 Vision	22
2.2 Projected Objective and Scope.....	22
2.2.1 Objective.....	22
2.3 Planning Approach and Methodology.....	22
2.3.1 Vision of the Revised Master Plan 2008-2038	22
2.4 Development Goals	23
2.5 Planning Approach.....	23
2.6 Detailed Methodology adopted for the preparation of revised master plan/zonal/sector plan	24
2.6.1 Step 1- Completion of Survey & Data Collection	24
2.6.2 Step 2- Preparation of Draft Master Plan/ Zonal Plan/ Sector Plan	25

2.6.3	Step 3- Preparation of Revised Draft Master Plan/Zonal Plan/ Sector Plan.....	27
2.6.4	Step 4- Preparation of Revised Draft Master Plan/Development Plan/ Sector Plan	28
2.6.5	Step 5- Preparation of Revised final Master Plan/ Zonal Development Plan/ Sector Plan	28
3	Existing Land Use.....	29
3.1	Existing Land Use Distribution.....	30
3.1.1	Residential	30
3.1.2	Commercial	31
3.1.3	Industrial	32
3.1.4	Institutional.....	33
3.1.5	Parks & Recreational	34
3.1.6	Utilities	35
3.1.7	Agriculture	35
3.2	Existing Villages and Municipal Area	36
3.3	Demography of the Town	37
3.3.1	Population	37
3.3.2	Literacy Rate	37
3.3.3	Sex Ratio	38
3.4	Economic Base.....	39
3.4.1	Worker's Classification	39
3.4.2	Occupational structure	39
3.5	Social Infrastructure	40
3.5.1	Health Facilities.....	40
3.5.2	Education	41
3.5.3	Safety.....	42
3.5.4	Postal services	42
3.5.5	Private Multiplex.....	42
3.6	Physical Infrastructure:	42
3.6.1	Water Supply	42
3.6.2	Drainage	45
3.6.3	Solid waste.....	45
3.6.4	Power Supply.....	46
3.6.5	Sewerage	46
3.6.6	Slums in Zirakpur	47
3.7	Transportation:	50
4	Population projection and Density	54
4.1.1	Revised Estimates for Population Projection 2031	54
4.1.2	Water Supply.....	58
4.1.3	Sewerage	58

4.1.4	Solid waste generation	58
5	Deviations in Master plan	59
5.1	Why Zirakpur has the High Growth Rate?	60
5.1.1	Inadequacy in Tri-city:	60
5.1.2	Amazing Connectivity:	60
5.1.3	Healthy Environment:	60
5.1.4	Plenteous Residential Societies in The Future:	60
5.1.5	Preferred by All:	61
6	Proposed land use	62
7	Development Strategies:	65
8	Controls and Detailed Controls for Zirakpur	66

List of Figures

Figure 1	Location of Zirakpur in Greater Mohali Region	6
Figure 2	Location of Zirakpur	9
Figure 3	Broad steps involved in revised master plan:	23
Figure 4	Methodology of the revised Master Plan	26
Figure 5:	Urban literacy rate 2011	38
Figure 6	Comparative urban sex ratio analysis- India, State, District and Town 2011	38
Figure 7:	Worker's Classification 2011	39
Figure 8	Occupational structure of Zirakpur town	40
Figure 9	Multispecialty JP Hospital in Zirakpur	41
Figure 10	Number of Electricity connections in Zirakpur	46
Figure 11	Deviation against Master Plan 2031 in Lohgarh and Singhpura	59
Figure 12	Deviations against Master plan 2031 in Bir per machhaila	59
Figure 13	Deviations against Master Plan 2031 In FEZ	59

List of Tables

Table 1-1	GMR Land Use Distribution	10
Table 1-2	Projected Land use distribution for Zirakpur	11
Table 1-3	Land Requirement for Residential Development	12
Table 1-4	Proposed Economic clusters and activities	14
Table 1-5	Industrial Land use Distribution	15
Table 1-6	Distance from Important Urban Agglomeration	16
Table 1-7	Existing Land use	18
Table 1-8	Proposed Land use distribution in Zirakpur LPA Master Plan 2031	20

Table 3-1 Existing Land Use Distribution.....	29
Table 3-2 Villages in Zirakpur LPA	36
Table 3-3 Municipal Wards of Zirakpur	36
Table 3-4: Urban population, 2011	37
Table 3-5: Household size analysis- India, State, District and Town,2011	37
Table 3-6: Urban literacy rate- India, State, District and Town, 2011	37
Table 3-7: Work Force Participation Ratio of Zirakpur town	39
Table 3-8 Occupational structure of Zirakpur town 2011.....	39
Table 3-9 Health care Facilities in the Zirakpur town	40
Table 3-10 Category wise number of schools in Zirakpur	41
Table 3-11 Educational Facilities in the LPA Zirakpur.....	41
Table 3-12 Water Supply Service Details	43
Table 3-13 Water detail in L.P.A	43
Table 3-14 Number of Electricity connections in Zirakpur.....	46
Table 3-15 Details of sewerage system network	47
Table 3-16 Slums in Zirakpur	47
Table 3-17 Distance from Important Urban Agglomeration.....	50
Table 3-18 Traffic volume from Patiala to Chandigarh	52
Table 3-19 Traffic volume from Delhi to Chandigarh.....	53
Table 4-1 Projections of Educational Facility.....	55
Table 4-2 Norms for Health facilities and projected requirements.....	56
Table 4-3 Norms for community buildings and projected requirements	56
Table 4-4 Area required for parks, playground and open spaces	57
Table 4-5 Norms for petrol pumps and projected requirement.....	57
Table 4-6 Norms for milk booth and projected requirements	58
Table 4-7 Projections for Water Supply.....	58
Table 4-8 Projections for Sewerage.....	58
Table 4-9 Projections for Solid waste	58
Table 6-1 Proposed land use Distribution 2031	63
Table 7-1 Minimum Plot size Category.....	66
Table 7-2 Group Housing outside MC Limits	66
Table 7-3 Criteria for stand – alone commercial complexes (more than double storey's) Item	67
Table 7-4 The road buffer requirements are provided as below:	69
Table 7-5 Proposed Land Use Zones with permissible land uses.....	71

List of Maps

Map 2-1 location of Zirakpur Proposed Land Use in Greater Mohali Region 2058	11
Map 2-2 Proposed Residential Zones of GMR	13
Map 2-3 Proposed road network	17
Map 3-1 Existing land use of Zirakpur	19
Map 3-2 Proposed Land use in Zirakpur LPA Master Plan 2031	21

1 Introduction and Project Understanding

1.1 Introduction and Project Understanding

Zirakpur is one of the six local planning areas under Greater Mohali region. The region has been envisioned to develop a planned area for 4.5 million people. The local planning areas in the region are,

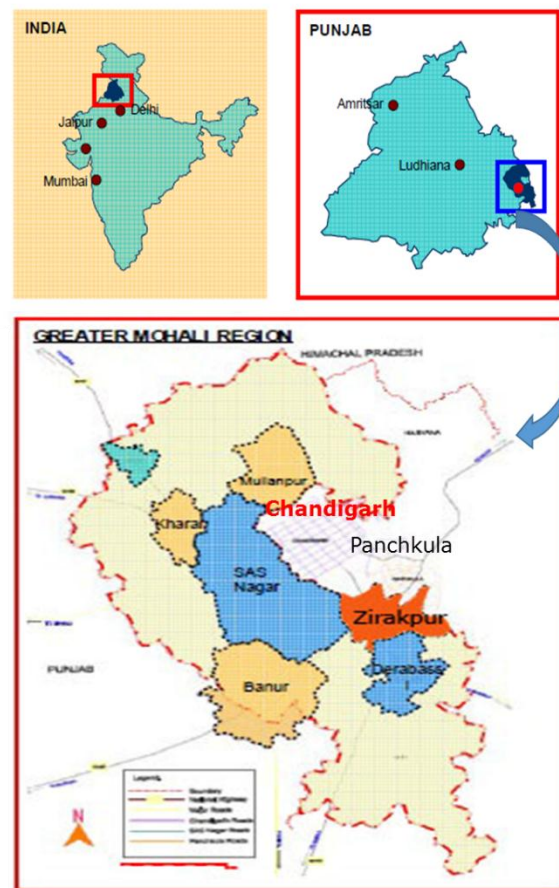
- Central SAS Nagar
- Dera-Bassi
- **Zirakpur**
- Banur
- Kharar
- Mullanpur

Zirakpur in Greater Mohali Region

The master plan 2008-2031 for Zirakpur Local Planning area was prepared by Jurong Consultant Pte Ltd for Punjab Urban Planning and Development authority. The master plan has the influence of Regional Plan 2008-2058 prepared for Greater Mohali Region prepared by the same consultant.

The Government of Punjab has initiated preparation of the revised plan for Zirakpur and **NF Infratech Service Pvt. Ltd.** consultant has been entrusted with the responsibility to prepare the revised integrated master plan for zirakpur local planning area.

Figure 1 Location of Zirakpur in Greater Mohali Region



1.2 Broad features of the Master plan 2008-2031 for local planning area

1.2.1 Vision in Master Plan 2008-2031 Zirakpur Local Planning Area

As per master plan 2008-2031, Zirakpur was envisioned and flourished not only as a premier business hub but also a distinctive and sustainable playground for the Greater Mohali Area. The existing rivers and their surrounding waterfronts were to be enhanced so as to become the prime physical assets for the proposed Zirakpur regional centre. Zirakpur being the regional centre offers a new lifestyle for the 21st century. It was planned with new ideas to,

- Protect unique environmental, historical and cultural resources;
- Capitalize on the regional assets and resources to promote dynamic and sustainable economic development;
- Ensure equitable distribution of resources environmental, economic and social.
- Ensure a conducive environment to work

- Introduce a total business environment.

Emphasis was placed on encouraging consolidated growth around public transport/ urban centre nodes, and well connected communities with distinct local character/identity. Zirakpur's planning initiatives included renewable energy, solar and wind energy usage, water recycling, zero effluent discharge, zero or low carbon impact development, abundant greenery and a walk able environment. Zirakpur was proposed not only a prime business hub but it would also become a town where the physical developments harmonize with the natural environment. In other words, the build environment merges with the natural environment as a single entity.

1.2.2 Scope of Work Overview

The scope of work of the following project is as follows:

- **Analysis of existing master plan proposals** and to come up with recommendations to improve the overall Master Plan;
- **Verification of revenue based existing land use plan and master plan** for proper implementation and ground-truthing of existing development indicating the khasra nos.
- **Review of already approved layout plans of different promoters** in order to check the congeniality and contiguity of the approved layout plans and to suggest measures for improving the congeniality and contiguity across these layout plans;
- **Revenue based updating of Existing Land Use Plan using GIS platform;**
- **Detailing of Proposed Land use plan indicating the detailed land use planning along with traffic and transportation plan, infrastructure plan etc.**
- Preparation of detailed landscape plan including planning and design of special landscape areas;
- **Preparation of Sector/ Zonal Plans;**
- Suggesting amendments in infrastructure/ service plans if any, which will include location of STPs/ Water Works/ Electric Grid Stations etc. and design of water supply, sewerage, Storm water, electricity networks etc.
- Suggesting changes wherever require in the zoning regulations/ development controls/ density norms for each and every pocket depicted in the Sector/ Zonal plans of the Master plan;
- **Incorporating all the amendments if any, suggested by the Punjab Regional and Town Planning and Development Board** after considering the objections/ suggestions received from the general public in response to the Public notice.
- **A proper Implementation Schedule**
- The sector/ zonal plans for all zones in conformity with the proposals of the Master Plan should provide the following details:
- Every sector/ zonal plan shall be based on revenue map of the area and shall have area varying between 150 to 200 acres.
- Sector/ zonal plans shall be at the scale of 1:2500. The scale can be altered, wherever it is not possible to make the plan on this scale but care has to be taken that the altered scale should be suitable to depict all the details in the zonal plan clearly.

- Every sector/ zonal plan shall depict the land use, road circulation, public and semi-public facilities, utilities, green/ landscape areas, etc. as proposed in the Master Plan and as per requirements of that particular sector/ zone. The areas proposed for public uses/ green spaces, etc. shall be judiciously distributed in the overall sector.
- The road hierarchy of the sector/ zone shall consist of sector roads, intra sector roads and intra cluster roads having road width 200', 100' and 80'/ 60' roads respectively. Every intra cluster road should touch every 50 acre chunk of land falling anywhere in the sector, also ensure the integration of road circulation with the adjoining sectors.
- The zoning regulations/ development controls for each land use falling in the sector/ zone is to be prepared, keeping in view the various legal provisions/ policies/ guidelines/ restrictions issued by the Government from time to time for the regulation of various land uses/ buildings.
- The road cross sections of all the roads proposed are to be prepared.

1.3 Introduction

Zirakpur is a satellite town of Chandigarh located in the Derabassi Tehsil of Sahibzada Ajit Singh Nagar district in the state of Punjab. It is situated on the foothills of Shivalik hills in eastern most part of Punjab.

1.4 Locational context

Figure 2 Location of Zirakpur



1.4.1 Greater Mohali Region and SAS Nagar

Sahibzada Ajit Singh Nagar is the 18th district of Punjab. It consists of three blocks. Zirakpur falls under Dera-Bassi block of the district. Depending on the urban agglomeration Greater Mohali Region has been delineated which includes six Local Planning Areas. They are Central SAS Nagar, Dera-Bassi, Zirakpur, Banur, Kharar and Mullanpur.

Zirakpur

Zirakpur town is only 12 Km distant from the State Capital and Union territory, Chandigarh. The LPA of Zirakpur covered an area of 38.29 square kilometers.

1.5 GMR Regional Master Plan

The Integrated Master Plan for Greater Mohali Region has been developed for the span of 2008-2058. This Regional Plan maps out the vision for the GMR and long term physical development for projected population of 4.5 million people. The various zones reflect the permissible predominant use of land within the areas demarcated. The Regional Plans also specify the ancillary, related or compatible activities allows within the permissible predominant use of the land. The table below illustrates the proposed distribution of various land uses within the Greater Mohali Region.

1.5.1 Land use Distribution:

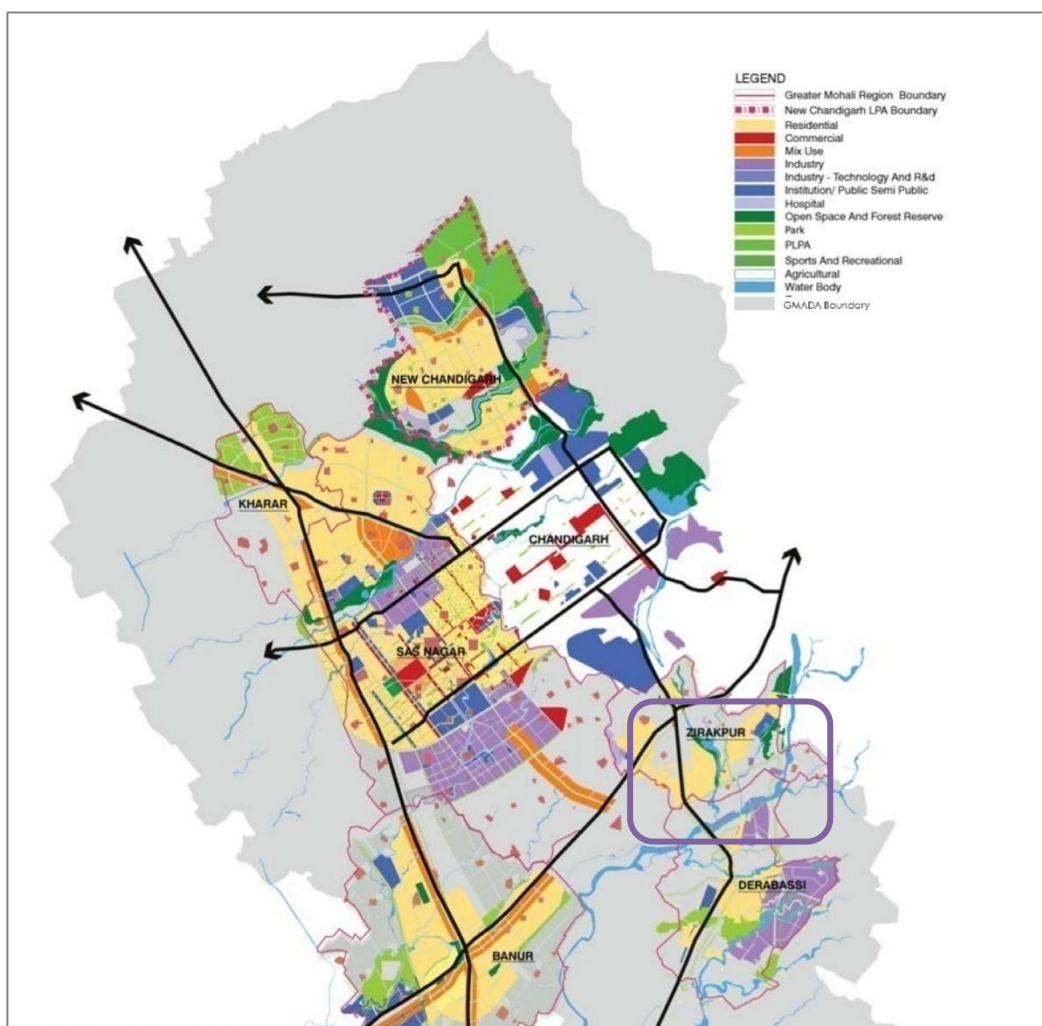
Table 1-1GMR Land Use Distribution

Sl. No.	Land Use	Area (Ha)	Percentage (%)
1	Urbanizable area	42,740	35.9
2	Industrial	2,478	2.1
3	Rural settlements	4,567	3.8
4	Agriculture area within LPA	18,483	15.5
5	Agriculture area outside LPA	24,990	21
6	Recreational	4,370	3.7
7	Forests	12,281	10.3
8	Water bodies	2,890	2.4
9	Transportation	4,885	4.1
10	Restricted development zone	1,351	1.1
	Total	119,036	100

Source: Greater Mohali Regional Plan 2008-2058

According to GMR Master plan, among all the local planning area in the region Zirakpur accounts for 4, 30,128 projected population for 2056. The projected population in 2031 was estimated to be 1, 29,038 persons. The available land area was 4024 hectare and the land use classification was provided for 1032 Hectare out of the area. The detailed information about the projections and land use classification was provided in the table below.

Map 1-1 location of Zirakpur Proposed Land Use in Greater Mohali Region 2058



Source: Greater Mohali Regional Plan 2008-2058

Table 1-2 Projected Land use distribution for Zirakpur

LPA	Zirakpur
Projected Population 2056	430128
% of Population Growth Expected by 2031 (assumptions based on Overall Phasing Strategy)	30%
Projected Population 2031	129038
Classification of Town	Regional Center
Available Land Area (Ha)	4024
Gross Town Density (ppa)	125
Gross Residential Density (ppa)	250
Residential Land Requirement	516

Land use Classification	%	Area (Ha)
Residential	50	516
Commercial	8	83
Industrial	8	83
Institutional	5	52
Recreation & Open Space	10	103
Transportation	12	124
Utility	6	62
Contingency	1	10
Total	100	1032

Source: Greater Mohali Regional Plan 2008-2058

1.5.2 Residential (Housing Demand)

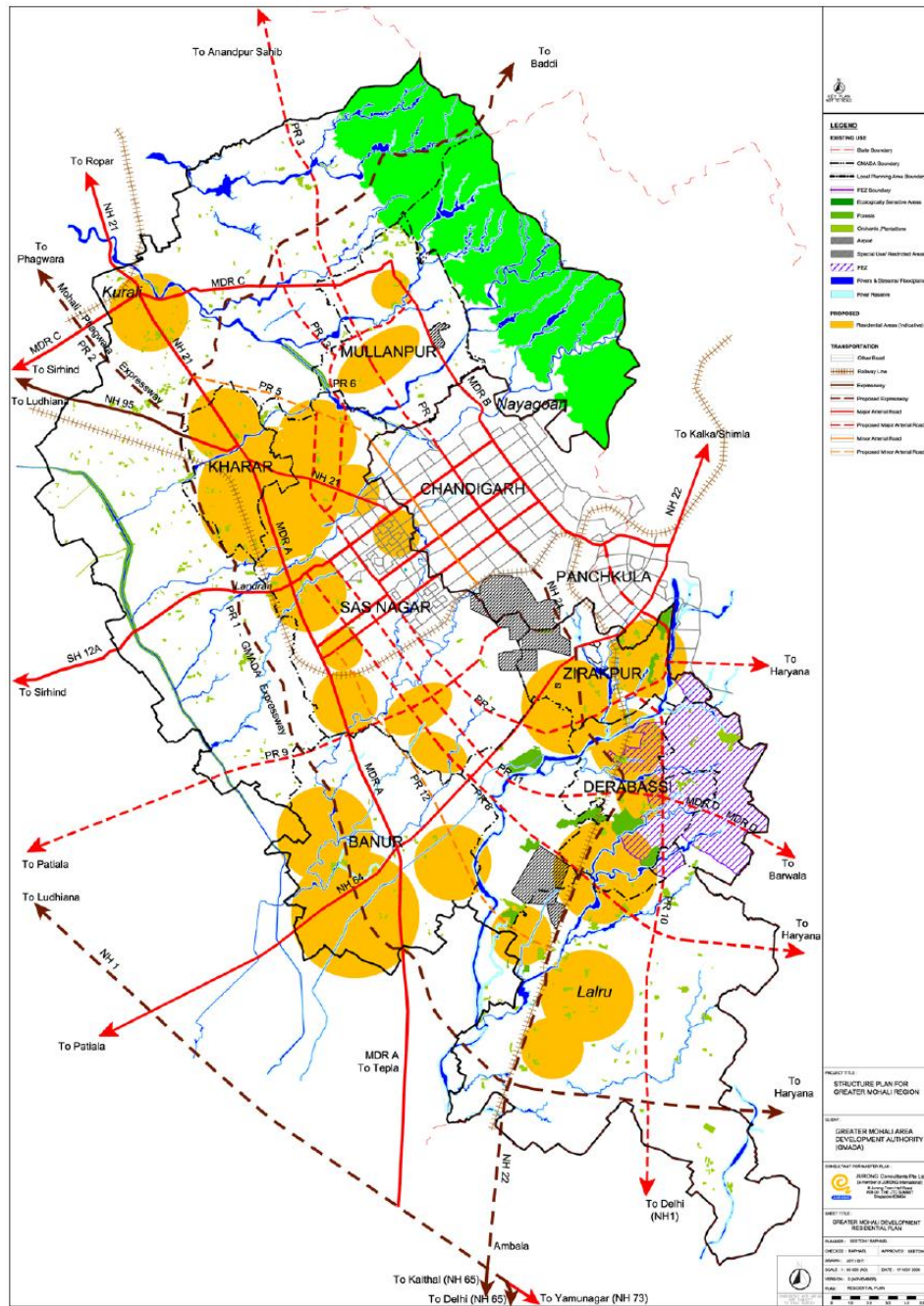
Based on the total projected population of GMR in the regional master plan and its distribution in the various local planning areas, the total residential land requirement for Zirakpur was computed to be 2140 hectares based on average gross residential density.

Table 1-3 Land Requirement for Residential Development

Local Planning Area	Average Density (pph)	Total Land Required (Ha)
Banur	100	5,804
Dera Bassi	200	1,248
Kharar	200	2,024
Kurali	200	795
Lalru	200	2,503
Mullanpur	100	1,392
SAS Nagar	175	5,369
Zirakpur	250	2,140

Source Greater Mohali Regional Plan 2008-2058

Map 1-2 Proposed Residential Zones of GMR



Source Greater Mohali Regional Plan 2008-2058

1.5.3 Commercial

According to Framework for Development Strategies in the Regional Master plan, Zirakpur-SAS Nagar-Kharar-Mullanpur corridor was targeted for immediate growth for the next 15-20 years. This corridor comprises the airport, the FEZ, S.A.S Nagar, Mullanpur and Zirakpur. At the south eastward link towards Panchkula, Zirakpur was considered to become a commercial center to capture more residential oriented development at Panchkula. One of the two technological Knowledge-Business Park Corridors was also to be planned at Banur-Zirakpur Corridor.

1.5.4 Industrial Development

The GMR Regional Plan focused on the identification of the 7 key primary areas; potentially to be considered as critical mass economic zones, in which Zirakpur was considered to be the zone of Hardcore manufacturing, Warehousing, Medium and small manufacturing.

Table 1-4 Proposed Economic clusters and activities

Economic Cluster	Primary/Secondary Economic Activities
Central S.A.S Nagar	CBD
	Arts and Culture Centre Financial District
	Administrative Centre
South-Eastern S.A.S Nagar	Airport Hub
	Logistic Hub
	Aviation Related Industries
Zirakpur	Hardcore Manufacturing
	Warehousing
	Medium/small manufacturing
Banur- Zirakpur Corridor	Instructional-Knowledge Belt
	Business-Technological Corridor
	Regional Park
	Southern Gateway (direct linked to Delhi)
Shivalik Hills	Nature Conservation and Preservation
	Public enjoyment of the fauna and flora
	Regional Ecological Park
	Micro-Climatic Modifiers
Mullanpur	Resort Centre
	Low Density Country Living
	Northern Gateway
Agriculture (Rural) Zone	Diversification of Agriculture Activities
	RGC, critical mass approach to rural development
	Preservation of agriculture lands

Source Greater Mohali Regional Plan 2008-2058

In industrial land distribution of GMR 572 ha of land is allocated was Zirakpur specifically for industry. The industrial land distribution is shown in the table below.

Table 1-5 Industrial Land use Distribution

Local Planning Area	Industrial Land Allocated (ha)	Possible Types of Industries
Banur	1598	Light Manufacturing
Derabassi	1740	Light Manufacturing
Kharar	215	Light Manufacturing
Kurali	142	Light Manufacturing
Lalru	533	Light Manufacturing
Mullanpur	542	Business park, Media-Oriented Industries
SAS Nagar	1556	Light Manufacturing
Zirakpur	572	Manufacturing

Source Greater Mohali Regional Plan 2008-2058

1.5.4.1 Investment region

The Greater Mohali Region had been identified as one of the four “Investment Regions” in Punjab, with a focus on knowledge-based industries. The total investment in the mega projects in the Greater Mohali Region was estimated to be around INR435 billion in between 2007-2011. SAB Industries Ltd was developing an integrated township in Zirakpur at an estimated cost of INR 21.7 billion. A real estate project of 300 Acres had been proposed at the periphery of Zirakpur by IREO Funds Limited. The planned investment in creating floor space for IT/ITeS operations in the Greater Mohali Region was INR 80.8 billion. The industrial park for IT/ITeS and high-tech knowledge based activities on the Zirakpur-Banur road was the biggest project in the sector which was expected to be completed by 2009 at an estimated investment of INR 15.8 billion by Futuristic Technology Infrastructure Private Limited. More than 50 new multiplexes were being developed in the region with investments of INR 75 billion from 2007 to 2011. Gulistan Infrastructure Pvt. Ltd and Fantasy Hotels Ltd were developing two hotel properties in Zirakpur at proposed investments of INR 2.02 billion and INR 1.31 billion respectively. A shopping mall was to be constructed by Silver City Housing and Infrastructure in Zirakpur.

1.6 Transportation

1.6.1 Road Connectivity

The Greater Mohali Region is well connected with other parts of India by means of road. The connecting road network to the region consists of National Highways, State Highways and Major District Roads. Four National Highways pass through the region are namely NH1, NH21, NH 22 and NH 95. NH1 connects the region with Ambala and New Delhi, NH 21 connects to Ropar, NH 22 connects to Shimla and NH 95 to Ludhiana. Zirakpur is connected with NH 21, NH 22 and NH 64 with the other part of the region.

Table 1-6 Distance from Important Urban Agglomeration

Sl. No	Town	Distance (Km.)
1	Chandigarh (State Capital of Punjab & Haryana)	12
2	Panchkula, H.R	9
3	Mohali, SAS Nagar (District Headquarter)	18
4	DeraBassi (Tehsil Headquarter)	9
5	Ambala, Haryana	38
6	Patiala	58
7	Ludhiana	112
8	Shimla, H.P	113
9	Amritsar	253

1.6.2 Rail Connectivity

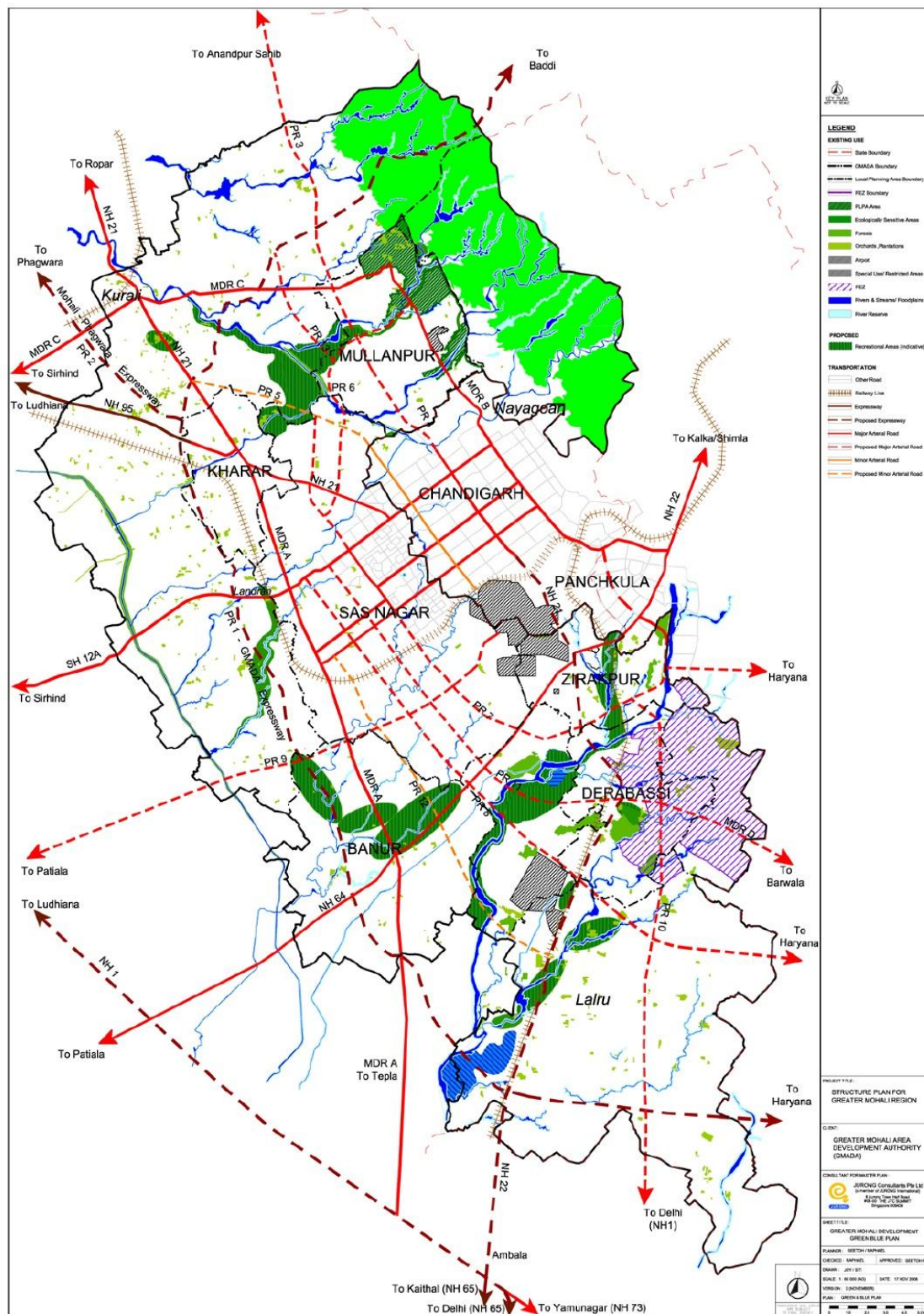
A twin track railway line runs from Delhi and Mumbai which meets at Ambala. The single track from Ambala connects to Chandigarh. Further this track runs to Kalka in North. A newly built single track line from Chandigarh to Morinda serves north-east and north-west part of the region. Nearest railway to Zirakpur was Chandigarh.

1.6.3 Air Connectivity

The nearest airport is Chandigarh airport, which is about 4 kilometers from the town. Chandigarh has direct flights to Srinagar, Delhi, Leh, Mumbai and Bengaluru (Erstwhile Bangalore).

An MOU was recently signed between the Airport Authority of India (AAI) and the Punjab and Haryana governments for the building of a new international airport terminal on the south side of the runway at Mohali. This new terminal will be built on a 300 acre site and will have all the facilities of a modern international airport.

Map 1-3 Proposed road network



Source: Greater Mohali Regional Plan 2008-2058

Main features of proposed road network:

The Master Plan total road network comprised of the existing roads and laced over by the proposed new roads includes the following:

- NH-21
- NH-22
- NH-64

PR 7: This proposed major arterial road runs in a south-easterly direction between Sectors 66-A and 81 in SAS Nagar, for better access between SAS Nagar and Zirakpur, Derabassi and Panchkula and further extended to connect to Haryana. PR 7 would also provide a direct link via PR 9 to the new Chandigarh Airport terminal. West of SAS Nagar, this major arterial road system continues as the PR 6.

PR 10: This proposed major arterial road runs generally southwards from Panchkula Sector 20 along an alignment generally east of and parallel to NH 22 to the proposed GMADA Expressway and further southwards towards Delhi. PR10 will bypass the major and congested Zirakpur intersection of NH-21, NH-22 and NH-64. This proposed road would serve the proposed industrial areas planned at Derabassi and will provide a direct linkage for the freight traffic to other areas and states.

1.7 Land Use and proposed development

1.7.1 Existing Land use

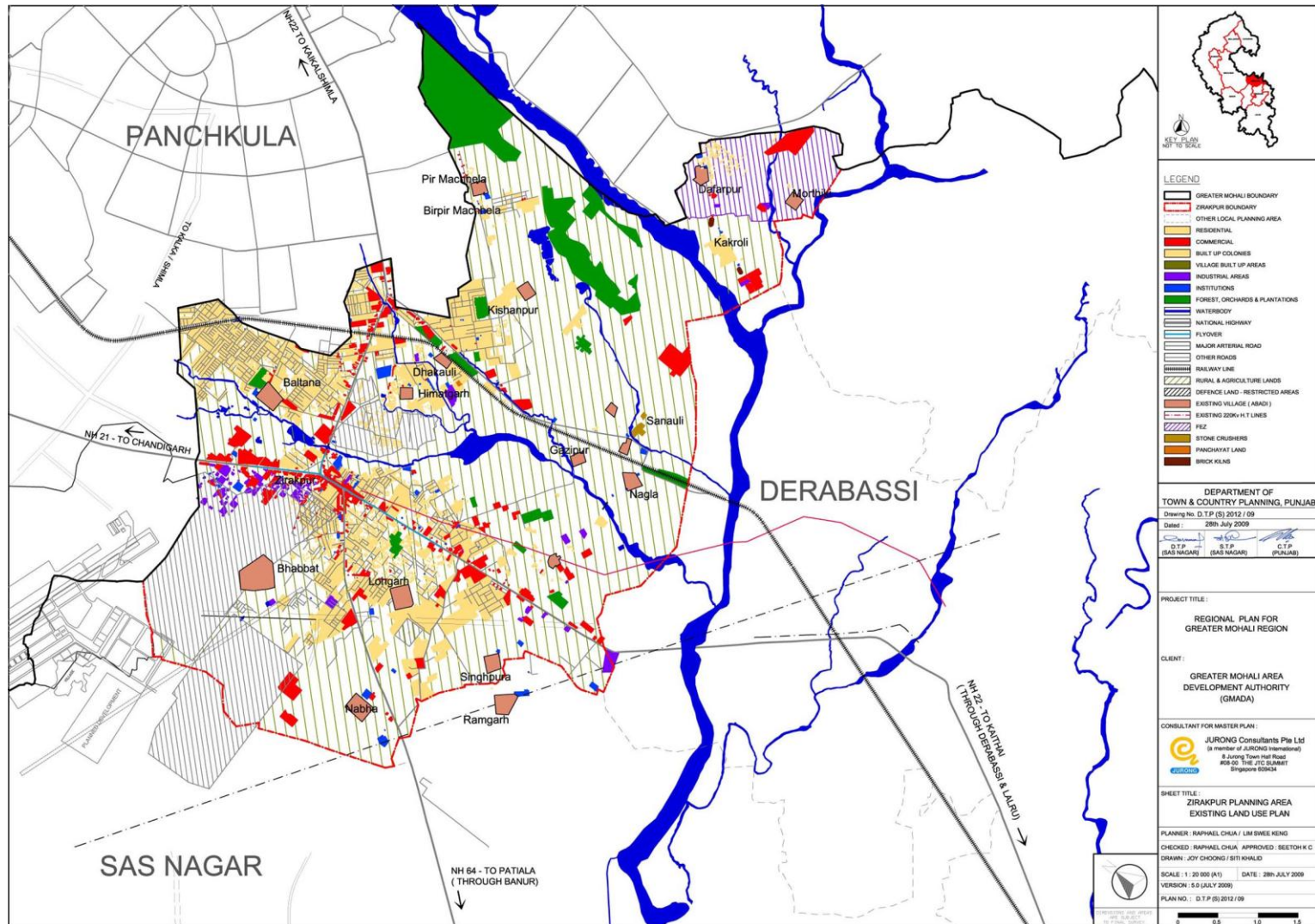
Zirakpur LPA had an existing area of 3829.1 hectare. The local planning is more urbanized than other LPAs in the surrounding. Land use under agriculture has the largest share which is 63.4% of the area. 14.3 percent of the land is under restricted land area. The detail of existing land use is shown in the table below.

Table 1-7 Existing Land use

Land use	Area (Ha)	%
Agriculture	2426.6	63.4
Water body	89.7	2.3
Rural Settlement	93.2	2.4
Special Use (Military)	15.7	0.4
Open Space	65.1	1.7
Industry (Brick Kilns)	24.7	0.6
FEZ	188	5
Commercial	114.1	3
Colonies	262.7	6.9
Restricted Areas	549.3	14.3
Total	3829.1	100

Source: Zirakpur Local Planning Area, Master Plan 2031

Map 1-4 Existing land use of Zirakpur



Source: Zirakpur Local Planning Area, Master Plan 2031

1.7.2 Planning Proposal and proposed land use distribution

Zirakpur is envisioned to develop as a regional center for Greater Mohali Region. It is accompanying with industrial clusters, sports hub and a large urban playground. The development strategy taken for the master plan was to further boost the physical development, to redistribute the population to achieve a more even spread, to dictate the development direction. The LPA was divided in four growth clusters. Western part is identified as airport and business growth cluster, the north cluster was set to be the regional center and regional park growth cluster. The eastern cluster was identified as institutional, Business Park and FEZ growth cluster. The locations of these clusters were selected in such a way to stimulate their growth along the growth corridor between new arterial road and PR7.

In the proposed land use distribution residential area had been increased to support the population growth. Industrial and green open spaces were also increased in the proposed plan due to expected growth in planned industrial estate and Business Park. The proposed land use distribution in Master Plan 2031 is shown in below.

Table 1-8 Proposed Land use distribution in Zirakpur LPA Master Plan 2031

Land use	Percentage %
Residential	23.4
Agriculture	11.3
Rural Settlement & Villages	23.2
Industrial	7.9
Institutional	0.4
Green Spaces (Open Space, Recreational, Park)	7.3
Restricted Area	10.2
Others (water bodies, roads, built-up, etc)	16.3
Total	100

Source: Zirakpur Local Planning Area, Master Plan 2031

Legend of Proposed Land Use Plan, Zirakpur 2031

LEGEND

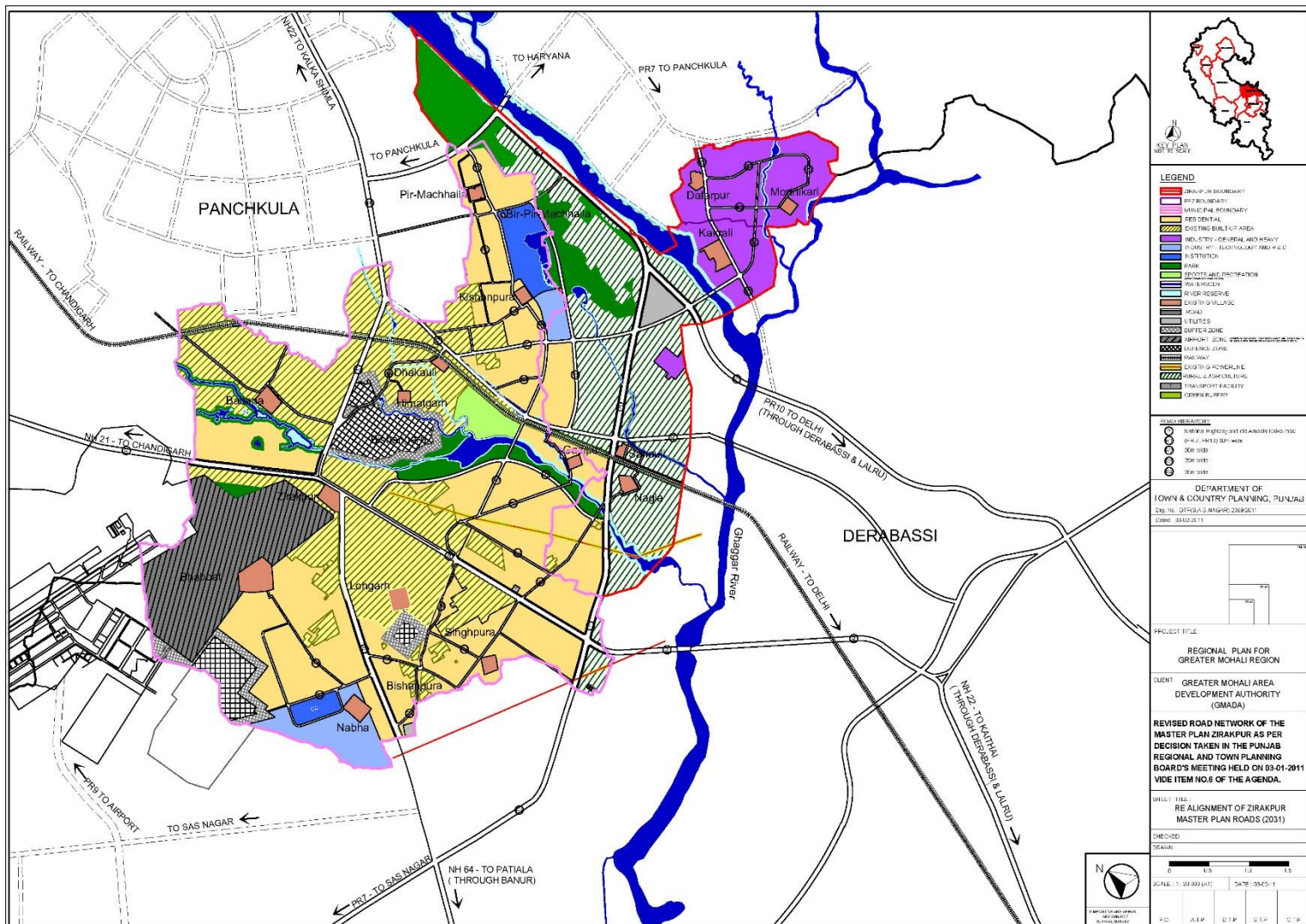
	ZIRAKPUR BOUNDARY
	FEZ BOUNDARY
	MUNICIPAL BOUNDARY
	RESIDENTIAL
	EXISTING BUILT-UP AREA
	INDUSTRY - GENERAL AND HEAVY
	INDUSTRY - TECHNOLOGY AND R & D
	INSTITUTION
	PARK
	SPORTS AND RECREATION
	WATERBODY

	WATERBODY
	RIVER RESERVE
	EXISTING VILLAGE
	ROAD
	UTILITIES
	BUFFER ZONE
	AIRPORT ZONE (100M BUFFER ZONE OF AIRPORT)
	DEFENCE ZONE
	RAILWAY
	EXISTING POWERLINE
	RURAL & AGRICULTURE
	TRANSPORT FACILITY
	GREEN BUFFER

ROAD HIERARCHY

	National Highway and old Ambala Kalka road
	(PR-7, PR10) 60m wide
	30m wide
	25m wide
	20m wide

Map 1-5 Proposed Land use in Zirakpur LPA Master Plan 2031



Source: Zirakpur Local Planning Area, Master Plan 2031

2 Revision of Master Plan 2008-31 for local planning area

2.1 Vision

The Vision of the revised plan is to introduce strategic economic growth initiative in a sustainable manner such that it is:

- Economically Viable
- Regionally Contextual
- Environmentally Sustainable
- Socially beneficial
- Institutionally Executable
- Politically Acceptable

2.2 Projected Objective and Scope

2.2.1 Objective

The main objective of the project is to review the implementation of the approved master plan, revise the master plan to support its vision and update the existing master.

- To generate high service facilities attracting various developmental activities, investment and industrial houses.
- To Improve transport network for faster communication and linkages to hinterland and other growth centres.
- To provide decent housing for all sections of the society.
- To have pollution free zones with conservation of environmental resources.
- To manage natural and human resources
- To frame effective land policies and development proposals for eradicating bottle necks for future development.
- To provide high level of physical and social infrastructure
- To reenergize institutional and administrative system to manage future urban development.

2.3 Planning Approach and Methodology

2.3.1 Vision of the Revised Master Plan 2008-2038

With the above background and inconsonance with the integrated master plan of Zirakpur.

The Vision of the revised plan will be

- 1) Introducing strategic economic growth initiative in a sustainable manner
- 2) Promoting a comprehensive planned township that will enhance quality living, ensuring accessibility and managing overall growth.

2.4 Development Goals

The key development goals for the preparation of revised integrated master plan for Zirakpur will be such that it would be

- Socially beneficially
- Regionally connected
- Environmentally sustainable
- Financially Viable
- Institutionally Executable and;
- Politically acceptable

2.5 Planning Approach

The Preparation of the revised Master plan for Zirakpur will be accomplished in different stages. The present report underlines the approach and methodology in various stages and constitutes a part of Stage-I on project Initiation.

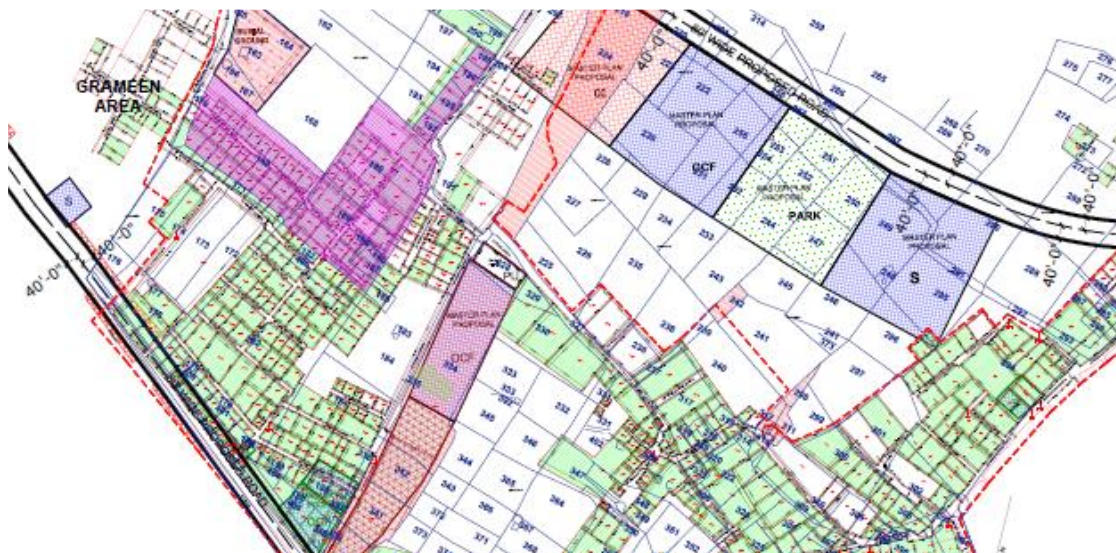
Figure 3 Broad steps involved in revised master plan:



2.6 Detailed Methodology adopted for the preparation of revised master plan/zonal/sector plan

2.6.1 Step 1- Completion of Survey & Data Collection

- **Preparation of Base map** using high resolution satellite imagery (Quick Bird/ Worldview/ Cartosat) on GIS platform that shall be updated via GPS survey and Super-imposition of Base map on village sajra plans
- **Data requirement: NF Infratech request issuance of following data by the client:**
 - ✓ **Existing land use plan** showing topography, existing vegetation, roads, built up, HT lines, villages, Defence zone etc.
 - ✓ **Approved Regional/Master plan:** Master Greater Mohali regional plan 2056 in GIS format, Approved Master plan Zirakpur 2031 in GIS format
 - ✓ **Administrative boundaries** e.g. State, Regional Plan, MC, Village and Local Planning area in GIS format
 - ✓ **Revenue maps** of the all villages under local planning area inn GIS format
 - ✓ **Approved layout plans** in GIS format
 - ✓ **Layout details of infrastructure and other technical reports** (if available) for individual report



- **Preparation of existing land use map along with analysis**
 - Preparation of existing land use map on GIS platform that shall be updated via GPS survey and Super-imposition of existing land use map on village sajra plans
 - Analysis of the existing land use split in terms of proportion and evaluation of the existing situation
 - Existing land use analysis to examine the deviations/ violations of Master Plan uses
- **Superimposition of Master Plan proposals on the existing land use map**

- Study and analysis of the differences in existing land use pattern and notified Master Plans
- Noting the deviations/ violations in each of the proposed zones.
- Existing land use distribution and its analysis
- **Preparation of Inception Report**
 - Highlighting the existing profile of the zones
 - Broad approach and methodology

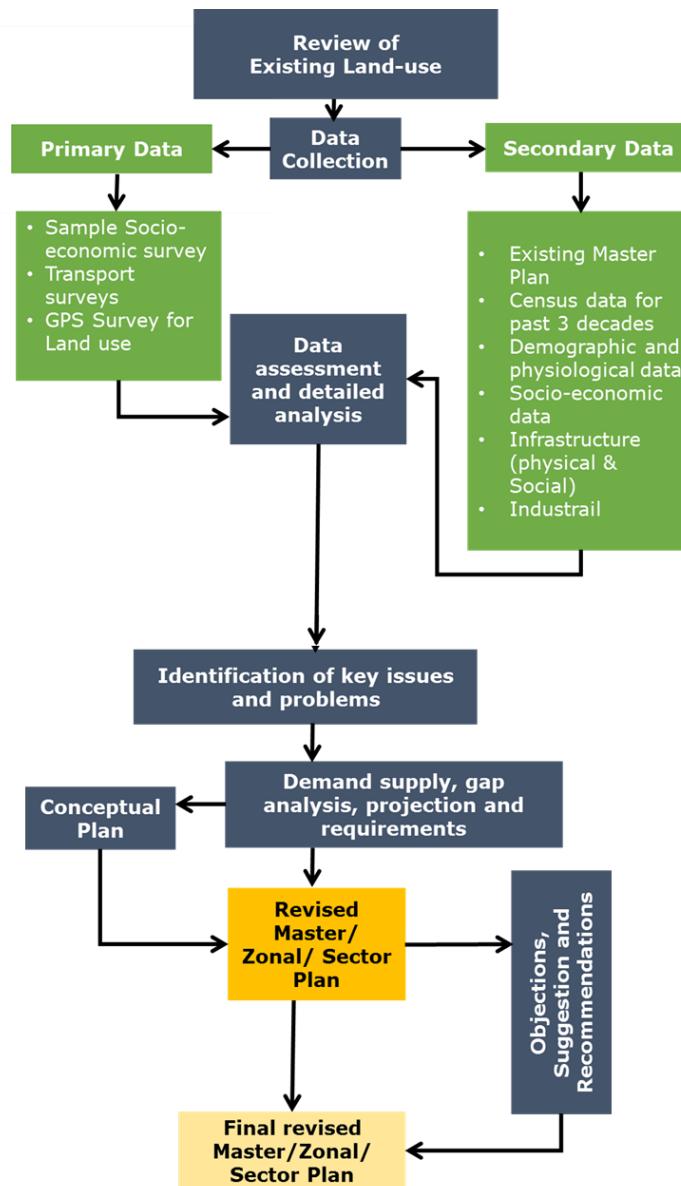
2.6.2 Step 2- Preparation of Draft Master Plan/ Zonal Plan/ Sector Plan

- **Detailed analysis involving:**
 - Slope analysis, sunlight, wind direction analysis, geology, soil and ground water status
 - Environmentally and ecologically sensitive areas
 - Site potentials, constraints and other attributes
- **Identification of Growth Centres & Growth Points with respect to projected population, economic growth rate, significance of transport linkages, etc.**
 - Analysis of proposed land use, estimation of projected population and density pattern, workforce and occupational structure in each zone
 - **Transport surveys:** This will include the following transport surveys
 - ✓ Traffic volume count surveys
 - ✓ Roadside Interview Survey (OD Survey)
 - ✓ Road network inventory
 - ✓ Junction survey
 - The output will be as under
 - ✓ review of existing road pattern network
 - ✓ Traffic generation and forecast
 - ✓ Transport infrastructure assessment and improvement infrastructure
- **Assessment of Physical and Social Infrastructure, and estimation of future requirements**
 - **Utility Infrastructure Approach:** For Power supply, Water supply, Sewerage, Drainage,
 - Assessment of the existing physical infrastructure and analysis of the gap/ deficit/ surplus
- **Delineation of environmentally sensitive & heritage areas**
 - Identification of environmentally sensitive areas, reserved forest areas, eco sensitive and conserved areas such as bird sanctuaries, animal reserves etc.
 - Identification and assortment of existing heritage structures
 - Identification of polluting industries
- **Proposals for infrastructure facilities and introduction of Green Modules**
- **Proposals for conservation and improvement of natural vegetation, river streams and water-sheds**
- **Zonal Development Proposals**
 - Identification and establishment of priority areas for development
 - Appropriate density pattern proposal based on character and carrying capacity of the zones

- Proposals for social infrastructure facilities like education, health, recreation, etc.
- Equitable distribution of local/ regional community facilities
- Conducting of stakeholder meetings for identification of local problems and issues
- **Policies and strategy framework for development of the zone**
 - An Integrated and inclusive planning approach to align Zonal Development Plan with the Master Plan
 - Implementation of planning proposals: Industrial corridors, Express Way, Cargo Centre, SEZ, etc. in accordance with the concerned agencies/ authority
 - Strategy for regularization of unauthorized colonies and redevelopment of slum
 - Policy adoption w.r.t. proposed circulation system such as Transit Oriented Development (TOD) or Car centric green field development



Figure 4 Methodology of the revised Master Plan



▪ **Implementation Framework and schedule**

- Phasing and prioritization of development
- Inter-departmental coordination, convergence and integration
- Implementation Strategy through public, private & cooperative sector

2.6.3 Step 3- Preparation of Revised Draft Master Plan/Zonal Plan/ Sector Plan

▪ **Preparation of revised draft MP/ ZDP/ SP after:**

- Receiving due comments/ suggestions/ objections/ recommendations on various aspects of proposed Zonal Development Plans/ Sector Plans from the Authority

- Analysis and re-evaluation of received comments
- Incorporation of changes/ modifications with due considerations to received comments/ suggestions/ objections from the Development Authority

2.6.4 Step 4- Preparation of Revised Draft Master Plan/Development Plan/ Sector Plan

- **Preparation of revised draft MP/ZDP/ SP after:**
 - Invitation of objections/ suggestions from public on various aspects of proposed Zonal Development Plans by the Authority
 - Analysis and re-evaluation of received comments
 - Incorporation of changes/ modifications with due considerations to received comments/ suggestions/ objections (public) from the Development Authority
 - Submission of the draft final Zonal Development Plans for approval from Development Authority

2.6.5 Step 5- Preparation of Revised final Master Plan/ Zonal Development Plan/ Sector Plan

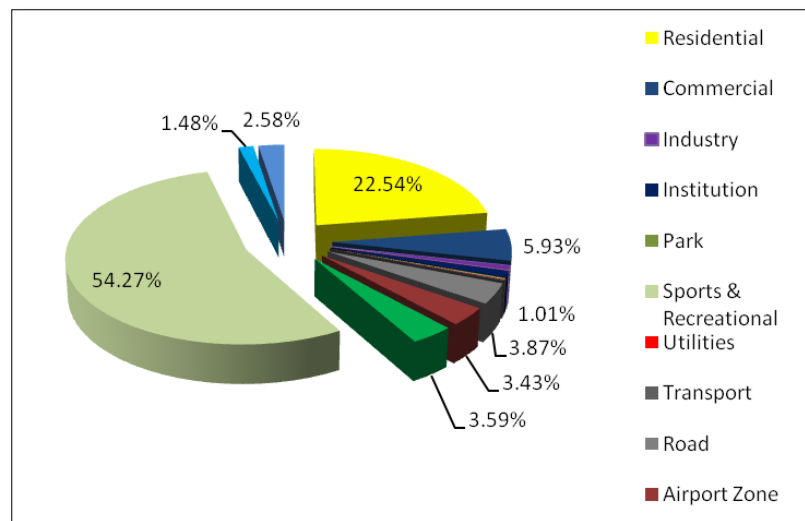
- **Preparation of final MP/ZDP/ SP after:**
 - Incorporation of changes/ modifications with due considerations to received comments/ suggestions/ objections from the Development Authority and the State Government

3 Existing Land Use

Since development along the corridor is limited, major land use along the corridor comprises of agricultural land and occupies 54.28% of the total use followed by residential use which is 22.54%. Institutional & parks use needs enhancement as it can be seen very low in existing Land use distribution.

Table 3-1 Existing Land Use Distribution

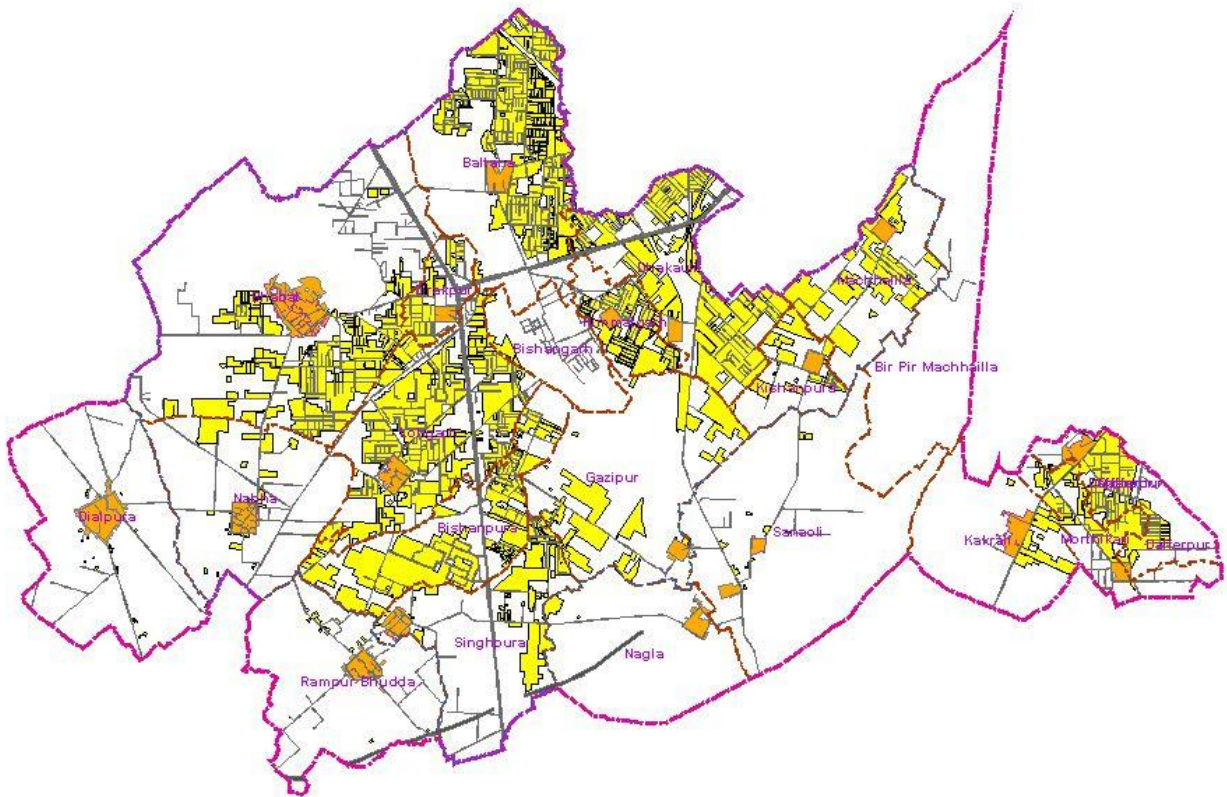
Sr. No	Category	Sub Category	Area (Ha.)	Percentage
1	Residential	Urban	879.04	22.54
		Rural	103.31	
2	Commercial		258.33	5.93
3	Industry	Industries	19.66	0.89
		Stone Crusher	6.03	
		Brick Klin	12.89	
4	Institution	Health & Medical Care	1.88	1.01
		Educational	26.48	
		Religious	10.95	
		Civic & Community	4.87	
5	Park		4.8	0.11
6	Sports and Recreational		4.5	0.10
7	Utilities	Water	1.1	0.07
		Power	0.97	
		Sewerage	0.77	
8	Transport		5.64	0.13
9	Road		168.48	3.87
10	Airport Zone		149.45	3.43
11	Forest		156.43	3.59
12	Agriculture	Plantation	50.37	54.28
		Open/Vacant Land	308.91	
		Agriculture	2006.78	
13	Waterbody	River	17.79	1.48
		Major Drain	34.95	
		Pond	2.78	
		Marshy Land	4.78	
		Others	4.38	
14	Special Use		112.45	2.58
	Total		4358.77	100.00



3.1 Existing Land Use Distribution

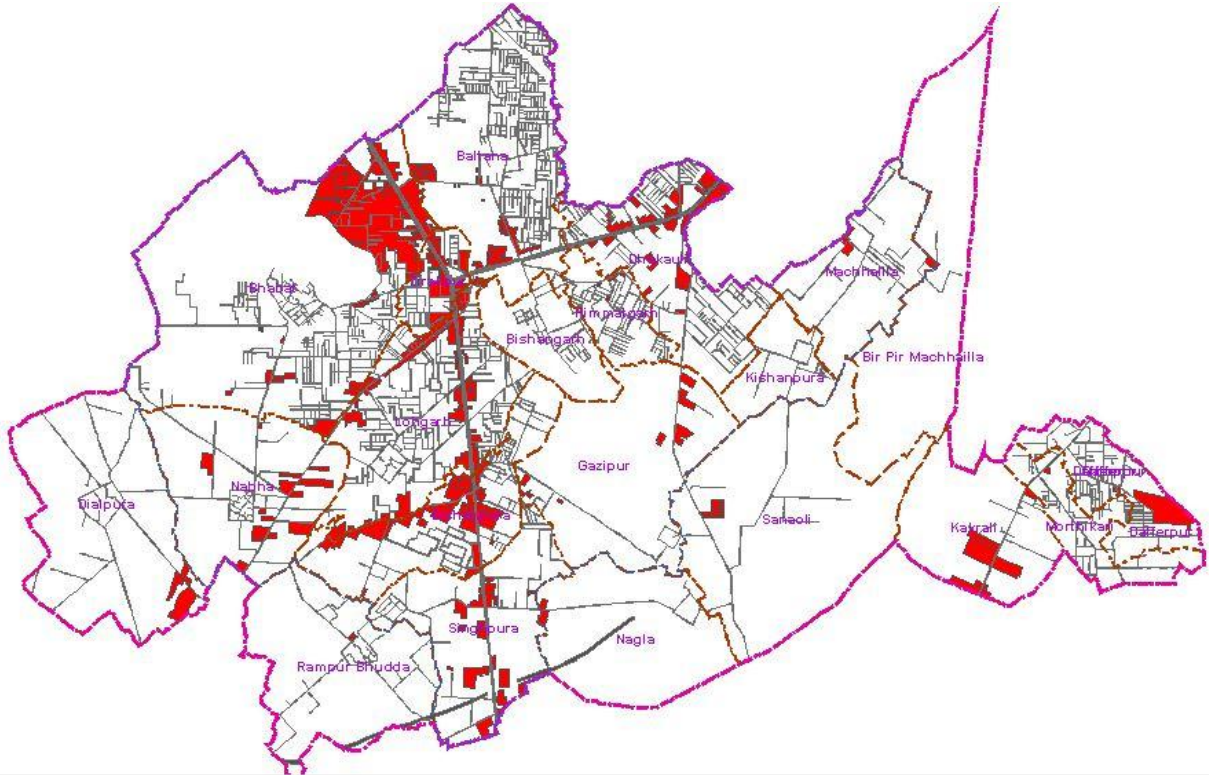
3.1.1 Residential

After agriculture, major land use is residential and covers 22.54% of the total area (4358.77 ha) in which Urban area is covers of 879.04 ha. consists of colonies & townships such as Unicity, Motia homes, Jernail Enclave, Sunny Enclave along NH-21 **towards Chandigarh**, Hem Vihar Phase-I, Guru Gobind Singh Nagar, Mamta Enclave along NH-22 **towards Shimla**, Guru Nanak Colony along **Rampur Road**, Vasant Vihar Phase-II, Kamdhenu Homez, Shalimar Enclave along Old Ambala Road, Badal Colony, Royal Estate, New Defence Colony, Preet Colony along **Dera bassi Road** & rural area consists of 103.31 ha. such as villages like Dafferpur, Mothikari, Sanaoli, Bir Pir Machhailla, Kishanpura, Gazipur, Dhakauli, Himmatgarh, Bishangarh, Lohgarh, Nabha, Dialpura & Singhpura are the major villages which lie in proximity to the major roads



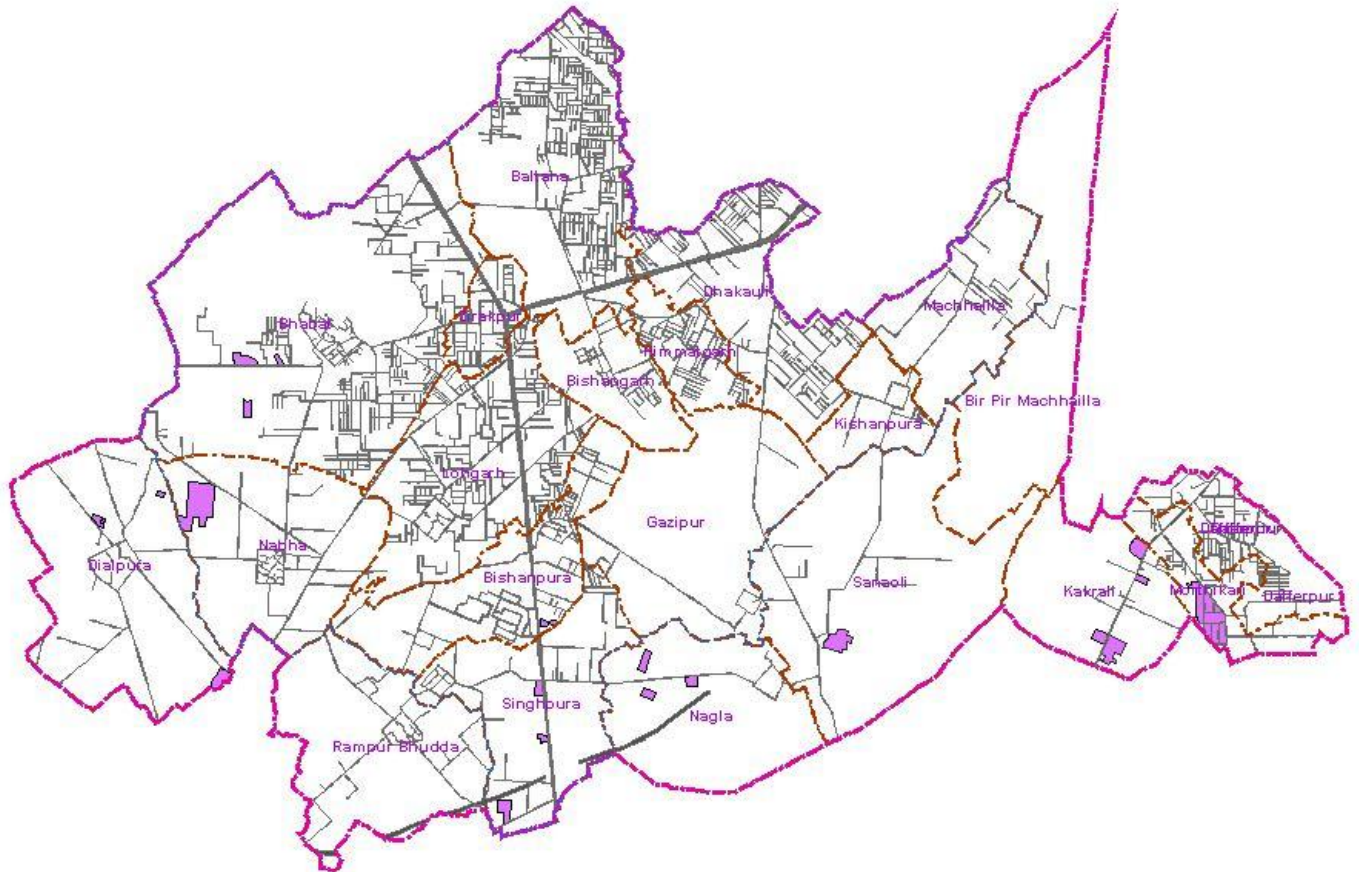
3.1.2 Commercial

Commercial area covers 5.93% of the total area (4358.77 ha) i.e. 258.33 ha. There are 20-25 banquet halls located along major roads i.e. Shimla Road, Patiala Road, Ambala Road, Ramp Road & Old Ambala Road. Godowns cover 57.76 ha. mainly located near by Airport Zone.



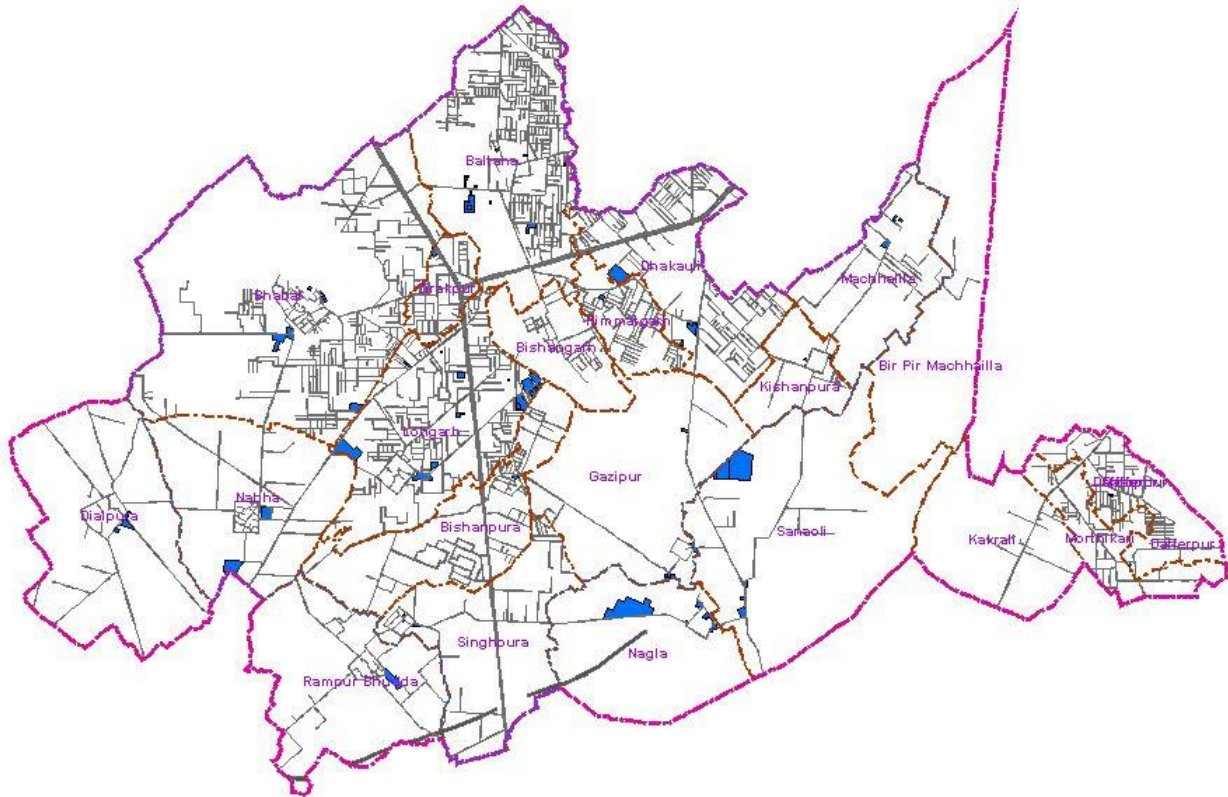
3.1.3 Industrial

Industrial area covers 0.89% of the total area (4358.77 ha) i.e. 38.58 ha. The main industrial area is situated in Village Morthikri of Zirakpur area comprises of 30-35 units. Stone crusher are located along the Ghaggar River. About 13 ha. of area covers brick-kiln units situated mainly in Villages like Bhabat, Kakrali & Nabha.



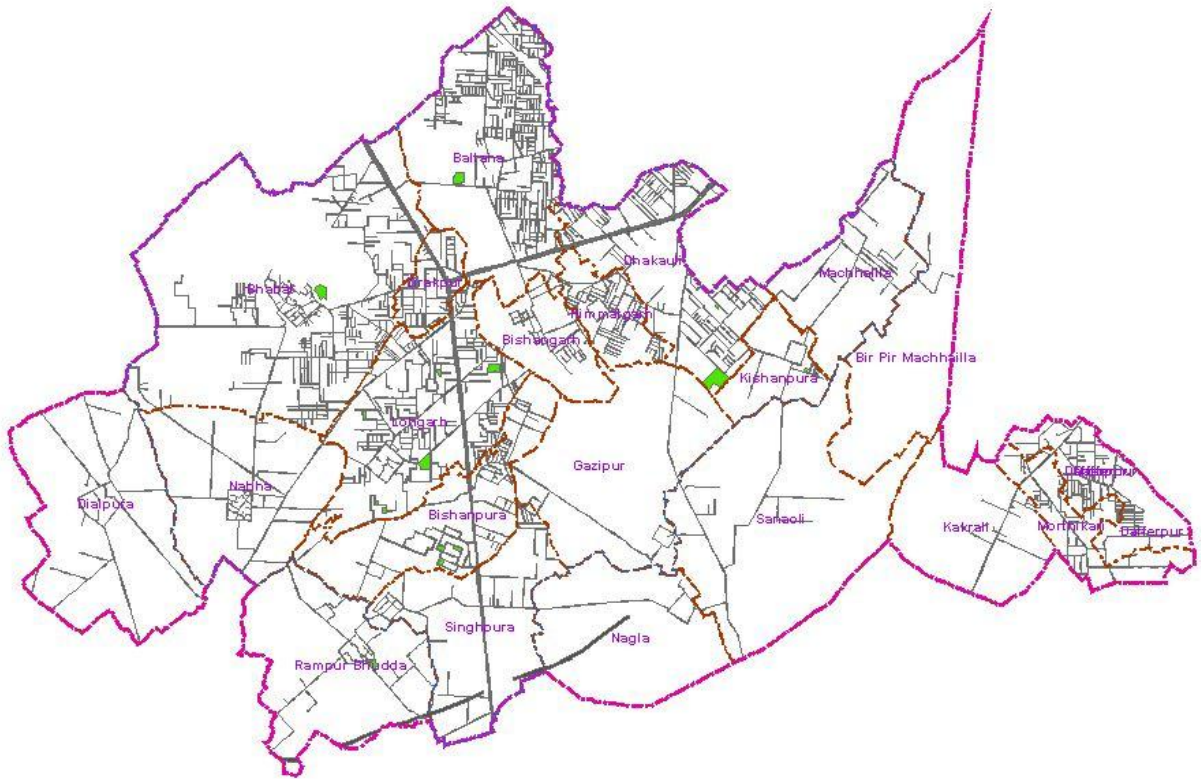
3.1.4 Institutional

Institutional area covers 1.01% of the total area (4358.77 ha) i.e. 44.18 ha. There is lack of higher educational facilities within both M.C Limit & L.P.A, Zirakpur where as almost every village has been served by elementary school facilities. There is one Pvt. College located along Old Ambala road at Sanaoli Village which is under construction.



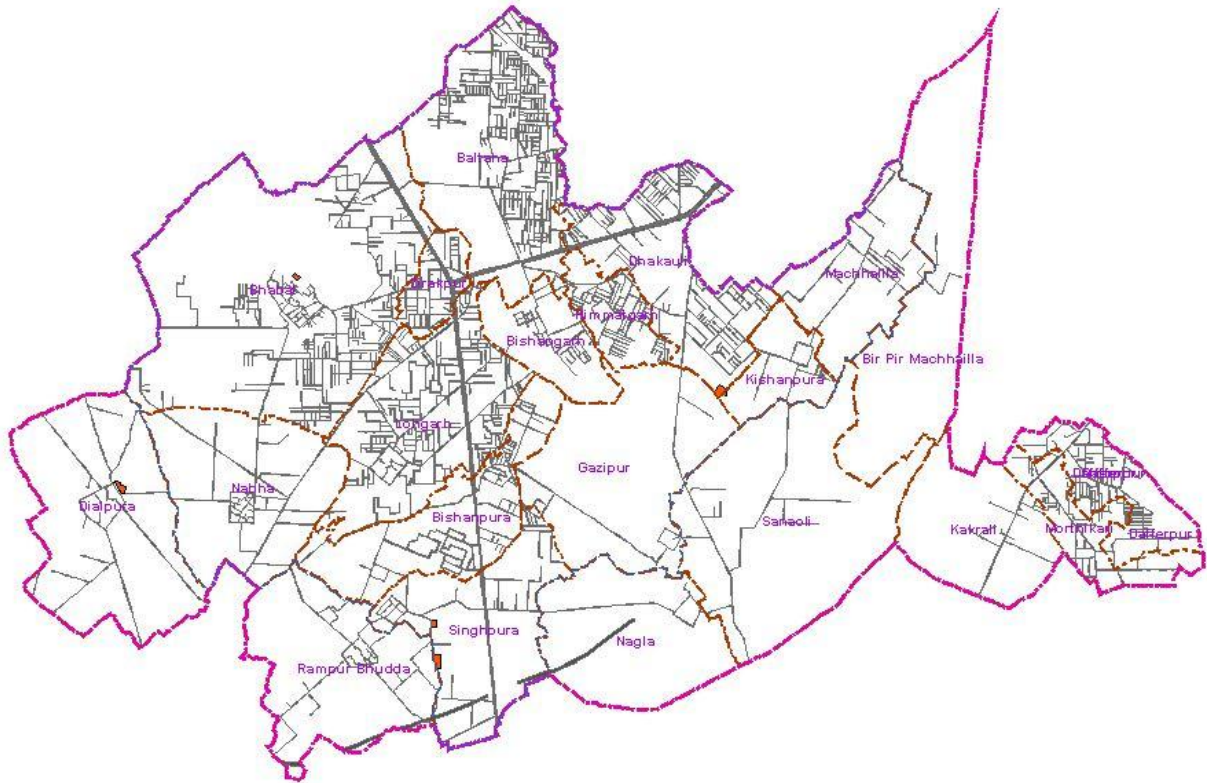
3.1.5 Parks & Recreational

There is lack of area under parks in Existing Landuse of Zirakpur which covers only 0.11% of the total area (4358.77 ha) i.e. 4.8 ha. consists of open grounds for sports related activities. Recreational area covers 0.10% of the total area (4358.77 ha) i.e. 4.5 ha.



3.1.6 Utilities

Area under utilities covers 2.84 ha. of the total area (4358.77 ha). There is a electric substation of 66 KV located in Dhakauli Village. Most of the villages have been served by OHR facilities. There is a Sewage Treatment plant located in Singh pura Village.



3.1.7 Agriculture

A large part of existing Zirakpur Local Planning area is agricultural land. Agricultural land use accounts for 2426.6 Ha which is approximately 63.4% of the area.

3.2 Existing Villages and Municipal Area

There are seven villages inside LPA Zirakpur consisting 5,681 population with 1,086 households. The demographic details of the villages are shown in the table below.

Table 3-2 Villages in Zirakpur LPA

Name of Village	Area (Ha)	Households	Population	Males	Females
KISHANPURA	438	31	151	85	66
NAGLA	203	256	1319	705	614
MORHIKARI	84	62	318	160	158
DAFARPUR	101	383	1943	1047	896
BIR PIR MACHHALIA (Uninhabited Village)	264	-	-	-	-
SANAULI	370	135	699	366	333
KAKRALI	168	219	1251	684	567
DIALPURA	294	544	3013	1581	1432
RAMGARH BHUDDA	233	320	1484	800	684

Source: Village Directory Punjab, Census 2011

Municipal Area of Zirakpur serves a population of 95,553. Male population is 50,497 which account 52.85% and female population is 45,056 which accounts 47.15% of the population. Literacy rate of the town is 77.15%. Working population is 33,735 accounting 35.31% of the population. The area comprises of 15 Municipal Wards. The demographic details of the wards are shown in Table below.

Table 3-3 Municipal Wards of Zirakpur

Ward No	Households	Population	Males	Female	Literate Population	Working Population
1	1538	7302	3796	3506	5906	2468
2	1514	6688	3512	3176	5133	2461
3	3873	17221	9142	8079	13262	6166
4	1000	4842	2562	2280	3632	1646
5	916	4181	2237	1944	3127	1537
6	1605	7135	3724	3411	5355	2614
7	1405	6542	3565	2977	5019	2410
8	395	2010	1055	955	1502	622
9	739	3605	1913	1692	2694	1272
10	947	4338	2246	2092	3646	1531
11	1043	4951	2674	2277	3360	1726
12	1609	7454	3949	3505	6082	2486
13	1019	4870	2544	2326	3880	1773
14	1608	7974	4171	3803	5902	2781
15	1376	6440	3407	3033	5215	2242
Total	20587	95553	50497	45056	73715	33735

Source: PCA Punjab, Census 2011

3.3 Demography of the Town

3.3.1 Population

According to the Census of India 2011, Zirakpur Town had a population of 95,553. It is governed by the Municipal Council of Zirakpur. Males constitute 53% and females constitute 47% of the population. Average household size of the town is same as that of India, lower than Punjab and higher than district average. The town has witnessed **281.9%** growth from 2001 to 2011 census.

Table 3-4: Urban population, 2011

Particulars	Total Urban Population	% To Total Population	Male	Female
India	377,106,125	31.15	195,489,200	181,616,925
Punjab State	10,399,146	37.38	5,545,989	4,853,157
SAS Nagar	544,611	54.76	288,269	256,342
Zirakpur Town	95,553	17.55 % of District Urban Pop.	50,497	45,056

Source: PCA Punjab, Census 2011

Table 3-5: Household size analysis- India, State, District and Town, 2011

PARTICULARS	URBAN HOUSEHOLDS	AVERAGE HOUSEHOLD SIZE
India	808,88,766	4.6
Punjab State	2,154,958	4.8
SAS Nagar	120,288	4.5
Zirakpur Town	20,587	4.6

Source: PCA Punjab, Census 2011

3.3.2 Literacy Rate

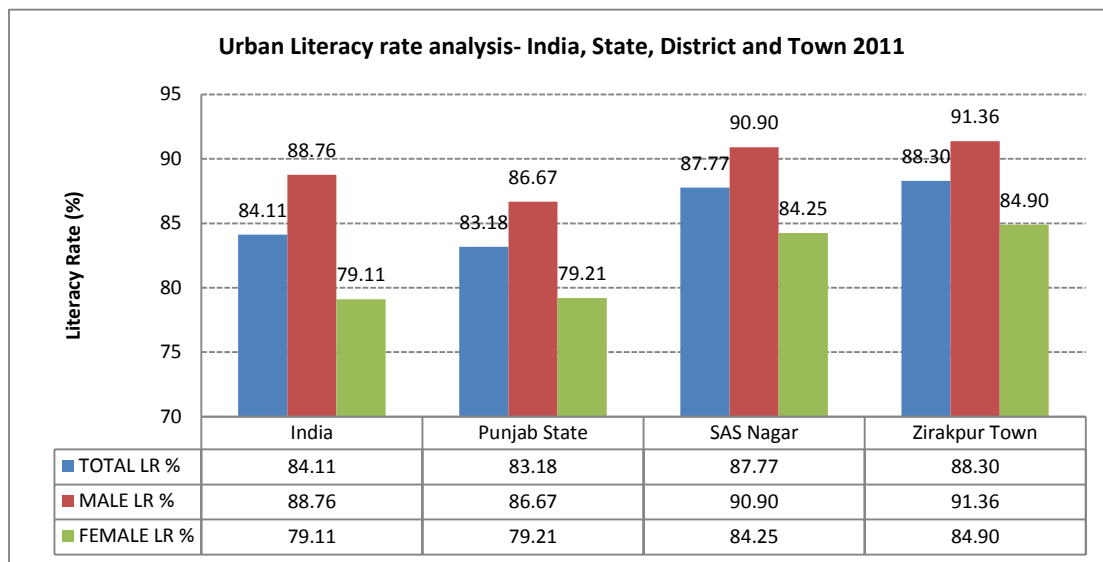
Zirakpur town has a literacy rate of 88.30%, which is higher than the urban literacy rate of India (84.11%), State average (83.18%) and district average (87.77%). Comparison of literacy among males and females show that more percent of male are literate than females and this holds true also for the state and the country as whole. Female literacy rate of town is also higher compared to India, State average and as well as district average.

Table 3-6: Urban literacy rate- India, State, District and Town, 2011

Particulars	Total LR %	Male LR %	Female LR%
India	84.11	88.76	79.11
Punjab State	83.18	86.67	79.21
SAS Nagar	87.77	90.90	84.25
Zirakpur Town	88.30	91.36	84.90

Source: PCA Punjab, Census 2011

Figure 5: Urban literacy rate 2011



Source: PCA Punjab, Census 2011

3.3.3 Sex Ratio

Sex ratio of Zirakpur town is low (892), compared to India (929) but higher than state (875) and district average (889). In the case of SC population too, the sex ratio is also very low (912) in comparison to India but higher than Punjab state and Mohali district.

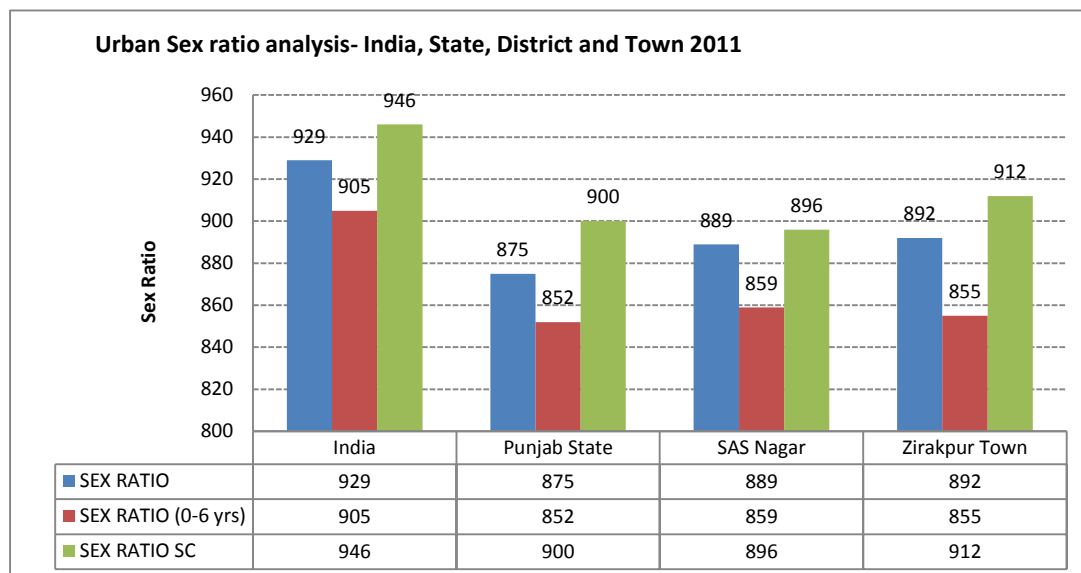


Figure 6 Comparative urban sex ratio analysis- India, State, District and Town 2011

Source: PCA Punjab, Census 2011

3.4 Economic Base

Zirakpur is a residential based town and its economic growth is based upon the trade and commercial activity.

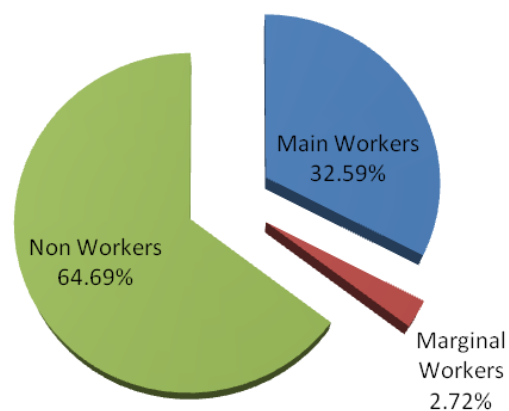
3.4.1 Worker's Classification

Out of the total workers (33,735), the population of main workers is 31,136. The remaining are marginal workers. The Work Force Participation Ratio (WPR) of the town is 35.31%.

Table 3-7: Work Force Participation Ratio of Zirakpur town

Type of Workers	No. of Persons	Percentage (%)
Main Workers	31136	32.59
Marginal Workers	2599	2.72
Non Workers	61818	64.69
Total	95553	100.00

Figure 7: Worker's Classification 2011



3.4.2 Occupational structure

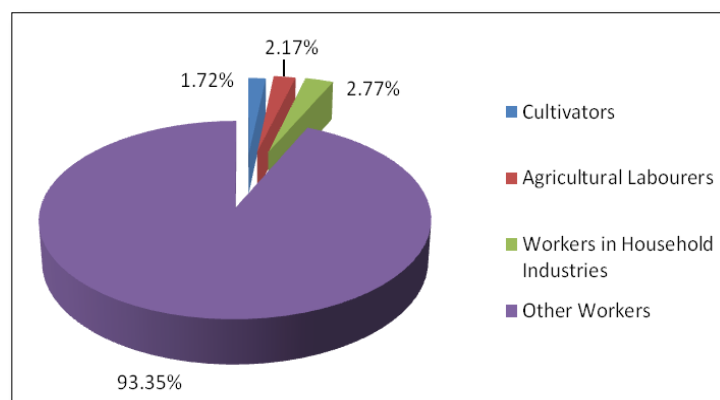
Occupational structure of the total workers includes the main and marginal workers of the town. Cultivators, agricultural labourers and workers in household industries constitute only 3.89% of the work force which shows that majority of people (93.35%) are engaged in tertiary activities e.g. trade and other services.

Table 3-8 Occupational structure of Zirakpur town 2011

Occupation	Total No. of Workers (Main + Marginal)	
	No. of Persons	Percentage (%)
Cultivators	580	1.72

Agricultural Labourers	731	2.17
Workers in Household Industries	934	2.77
Other Workers	31490	93.35
Total	33735	100.00

Figure 8 Occupational structure of Zirakpur town



Source: PCA Punjab, Census 2011

3.5 Social Infrastructure

Social infrastructure refers to the facilities and the process involved to ensure education, health facilities and community development in any town. The social infrastructure includes the education system, health care, social and cultural facilities, parks and open spaces, etc. The different components of social infrastructure will help to know how well a town is equipped with facilities. The provision of education, health, etc. defines the quality of life. As the town expands and population increases, the gap between demand and supply of these essential services widens, which deteriorates the quality of life in urban areas.

3.5.1 Health Facilities

Table 3-9 Health care Facilities in the Zirakpur town

Sr. No.	Dispensary/Health Centre	Dispensary/Health Centre Doctors	Dispensary/Health Centre Doctors	Dispensary/Health Centre Para Medical Staff	Veterinary Hospital	Veterinary Hospital Doctors	Non-Government In and Out Patient	Non-Government Charitable Hospital/Nursing Home	Non-Government Medicine Shop
1	3	3	2	9	2	2	150	4	25

Source: Census 2011

The Health Facilities in the Zirakpur town are good. The numbers of health centre are 3. The number of Doctors. The average IN and OUT patients are 150. There are also 2 veterinary hospitals in the

Zirakpur. The Non-government Medicine shops are 25 which show that the medical facility in the town is good. There is one multi-specialty Hospital in the town catering the needs of the people.

Figure 9 Multispecialty JP Hospital in Zirakpur



3.5.2 Education

Educational facilities play an important role in the overall development of a Town. These facilities enhance the economic growth and employment. At present, Zirakpur have 13 government primary schools, 17 private primary schools, 3 government senior secondary schools, at the regional level, it has 20 primary schools, 12 high secondary, 6 secondary schools, 1 private secondary school. 1 government senior secondary school and three private senior secondary schools. The availability of educational institutions at various categories like technical and non-technical education has been absent in the town.

Table 3-10 Category wise number of schools in Zirakpur

Sr. No.	Govt. Primary School	Private Primary School	Govt. Middle School	Private Middle School	Govt. Secondary School	Private Secondary School	Govt. Senior Secondary School	Private Senior Secondary School
1	13	17	3	14	3	9	1	3

Source: Census 2011

Table 3-11 Educational Facilities in the LPA Zirakpur

S.No.	Village Name	Govt Pre - Primary School	Private Pre - Primary School	Govt Primary School	Govt Middle School	Govt Secondary School	Govt Senior Secondary School
1	Kishanpura	0	0	0	0	0	0
2	Nagla	0	0	1	0	0	0

3	Morthikari	0	1	1	1	0	0
4	Dafarpur	0	0	1	1	1	0
5	BirPirMachhalia	0	0	0	0	0	0
6	Sanauli	0	0	1	0	0	0
7	Kakrali	0	0	1	1	0	0
8	Dialpura	0	0	1	1	1	1
9	RamgarhBhudda	0	0	1	1	1	1
10	Lohgarh	0	0	0	0	0	1
11	Gazipur	0	0	0	0	1	0
12	Bhabat	0	0	0	0	0	1
13	Dhakauli	0	0	0	1	0	0
14	Baltana	0	0	0	0	1	0
Total		0	1	7	6	5	4

Source: Census 2011

The Educational facilities in the town are present in almost every village of the local planning Area except Kishanpura. The Educational facilities in the Zirakpur LPA are good and are well distributed according to the population.

3.5.3 Safety

There is one police station and one police chowki in the Zirakpur MC.

3.5.4 Postal services

There is one post office and two sub post offices at lower level in the Zirakpur MC.

3.5.5 Private Multiplex

There are 3 cinema halls in the zirakpur town for the recreational purposes named Paras Downtown Square near the bus stand Zirakpur.

3.6 Physical Infrastructure:

3.6.1 Water Supply

Existing water supply network covers 100% of the population and with the network length of 200 Kms. Slum areas are well connected to water supply as well with 100% coverage and 3.8 Kms of network length.

Table 3-12 Water Supply Service Details

Water Supply								
Source of Water Supply	Total supply of water (MLD)	Nos. of tube wells	Nos. of WTP	Existing length of water supply lines (Kms)	% of total population covered	% Covered by Total Area	% Covered by slum area	Existing length of water supply in slum area (Kms)
Tube well	12.45	17	Nil	200	100%	72%	100%	3.8

Source: MC Zirakpur

Table 3-13 Water detail in L.P.A

Sr. No.	Tube Well Name	Motor Rating (In HP)	Depth in Mtrs.	Discharge in Liter per minute in L.P.A
1	AKS Colony	32.5	240	900
2	Adarsh Nagar	50	250	1200
3	AnandVihar	30	220	800
4	Baltana School	30	220	900
5	Bhabat Community Centre-2	32.5	220	900
6	Bhabat O.H.S.R-2	41	280	1100
7	Bhabat Stadium-3	32.5	240	900
8	Bhabat Mari Wala-4	41	260	1100
9	Bhabat Zohri Wala-5	25	220	700
10	Bishanpura	25	220	800
11	Dashmesh Colony Himmat garh	25	230	800
12	Dashmsh Enclave Lohgarh	32.5	250	800
13	Dhakloli Hospital	32.5	220	800
14	Dushera Ground Baltana	32.5	240	800
15	EktaVihar	41	300	1100
16	Govind Vihar	33	240	900
17	Green City Dhakoli	32.5	240	850
18	Green Enclave Lohgarh	32.5	220	800
19	Gurdev Nagar Bhabat	32.5	230	900
20	Harmilap Nagar-1 Market	32.5	230	800
21	Harmilap Nagar-2 Mandir	32.5	220	850
22	Harmilap Nagar-3 NR H.No=619	32.5	220	800
23	Harmilap Nagar NR Railway Line	15	180	800

Sr. No.	Tube Well Name	Motor Rating (In HP)	Depth in Mtrs.	Discharge in Liter per minute in L.P.A
24	Harmilap Nagar NR Gurudwara	15	180	500
25	Hemvihar	32.5	250	800
26	Jarnail Enclave-1	41	260	1100
27	Jarnail Enclave-2 Godown	32.5	240	800
28	Kalgidhar Enclave Baltana	33	250	800
29	Krishna Enclave Dhakoli	25	220	700
30	Lajpat Nagar Bishnapura	30	220	750
31	Lohgarh Park	32.5	260	700
32	Lohgarh Village	32.5	230	700
33	Laxmi Enclave	25	220	800
34	M.S. Enclave ShaniMandir	33	230	800
35	M.S. Enclave Shiv Mandir	41	230	1000
36	Mamta Enclave	33	230	800
37	N.D Colony Zirakpur	33	260	700
38	Nabha Sahib	41	260	1100
39	Parvati Enclave	32.5	260	800
40	Peer Muchalla	32.5	260	750
41	Preet Colony Stadium	33	250	800
42	Saini Vihar-1	33	220	800
43	Saini Vihar-2	33	260	850
44	Saini Vihar-2 Booster Pump	20		1200
45	Saini Vihar-3	33	240	850
46	Saini Vihar-3 Mandir	33	240	800
47	Shanti Enclave Dhakoli	33	240	900
48	Shalimar Enclave	33	240	900
49	ShriBalaji Enclave	33	260	700
50	ShivalikVihar	30	250	800
51	SkynetLohgarh	25	220	700
52	Tribune Colony	33	240	800
53	Wadhwa Nagar Mandir	33	240	800
54	Guru Govind Singh Nagar	33	240	900
55	Govind Vihar-1	33	200	900
56	Govind Vihar-2	33	200	800
57	Swami Enclave Park	33	240	900
58	Sadha Shiv Enclave	5		400

Sr. No.	Tube Well Name	Motor Rating (In HP)	Depth in Mtrs.	Discharge in Liter per minute in L.P.A
59	Sigma City	50	260	1200
60	Singhpura	33	240	900
61	Bhudha Sahib	33	200	700
62	BasantVihar	50	280	1200
63	Vaishali Enclave	41	280	1100
64	Ravindra Enclave	50	300	1100
65	Dee Ess Estate Dhakoli	41	280	1000
66	Lohgarh Nr Sunrise	50	280	
67	Shiva Enclave	41	280	
68	Harkrishna Enclave Wadhwa Nagar			
69	Defence Colony Lohgarh			

Source: MC Zirakpur

The source of water is underground. The water level depth is upto 300 feet and the potable water is upto 200 feet. The quality of the drinking water is good therefore there is no need for the water treatment plant. The number of tube wells in the Zirakpur Town is 17 from which 12.45 MLD of water is supplied to the town and 55900 Litres per minute is supplied to the villages in the LPA area. The water supply network covers 85% of the total population of the town. The length of water supply in the slum area is 3.8 kms. The percentage of the slum area covered under the water supply network is 95%.

Key issues: According to the Municipal Council of Zirakhpur wastage of water is a huge problem in the town.

3.6.2 Drainage

There is no storm water drainage network laid in the Zirakpurtown. The storm water is catered by the seasonal nallahs and natural drains.

3.6.3 Solid waste

Solid waste comprises of waste generated from different sources. Major sources of generation are individual households, industries, trade and commerce, hotels and restaurants, healthcare institutions including dispensaries and hospitals, animals and floating populations in terms of tourists, hawkers, etc.

In MC Zirakpur, there are 3 wards and the method of collection of solid waste is door to door. The total solid waste generation is 33 tons. The numbers of sweepers employed by the MC zirakpur are 906. The MC Zirakpur has two tractors, two dumpers, one loader and one JCB for the collection and

disposal of solid wastage. There are twelve secondary dumping sites. The main dumping site is of two acres. The work is done under Solid waste Management Rules 2000.

3.6.4 Power Supply

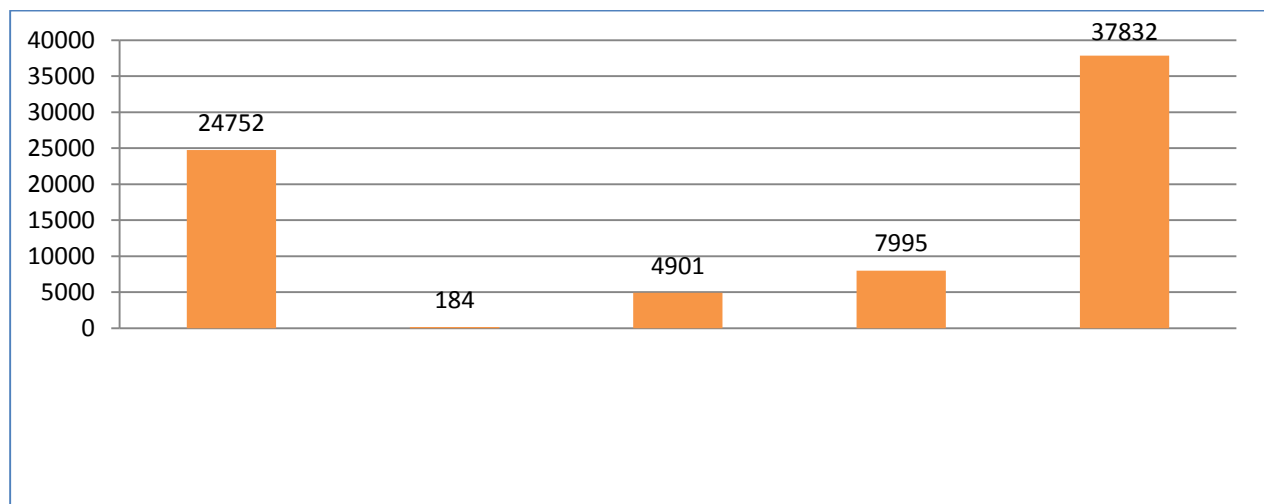
Zirakhpur town is provided with 37832 power supply which includes domestic, industrial, commercial and street lighting.

Table 3-14 Number of Electricity connections in Zirakpur

Sr. No.	Domestic Connection (Numbers)	Industrial Connection (Numbers)	Commercial Connection (Numbers)	Road Lighting Connection (Numbers)	Total
1	24752	184	4901	7995	37832

Source: Census 2011

Figure 10 Number of Electricity connections in Zirakpur



Source: census 2011

The numbers of electricity connections in zirakpur are 37832. Out of the total number of connections 24572 are domestic connections, 184 are industrial connections, 4901 are commercial connections and 7995 are road lighting connections. The Zirakpur area is 100% electrified with 24*7 electricity supply. The street lights coverage is 100% and are in good working condition.

3.6.5 Sewerage

Under MC Zirakpur, the 95% of the area is covered under sewerage. The length of the existing sewerage line is 195 Kms. There is one Sewerage treatment plant installed at Sighpura village of capacity 17.3 MLD serving the whole town. There are 1218 domestic and 120 commercial connections.

Table 3-15 Details of sewerage system network

Sl. No.	Criteria	Quantity
1	Length of Existing Sewerage System	195 Kms
2	No. of Domestic Sewerage Connections	1218
3	No. of Commercial Sewerage Connections	120
4	Length of sewerage network in slum	3.40 Kms
5	No. of Sewerage connections in Slum Area	263
6	No. of Sewage Treatment Plants	1
7	% of total population covered	80
8	% of total area covered	95
9	% of slum population	92
10	% of slum area covered	95
11	No. of points of sewerage disposal	1

Source: census 2011

3.6.6 Slums in Zirakpur

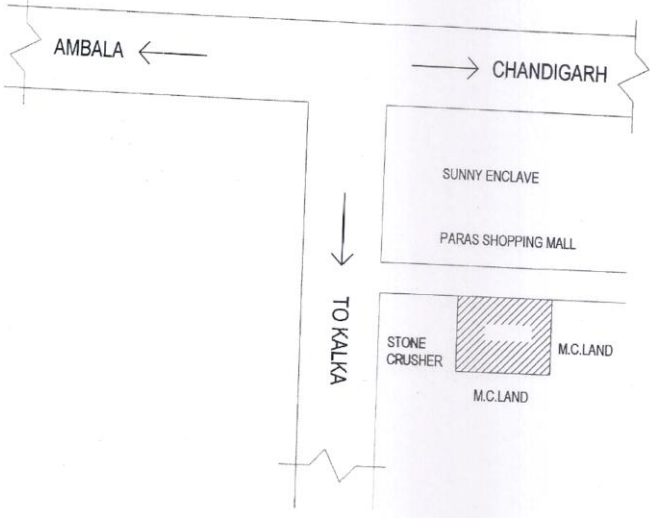
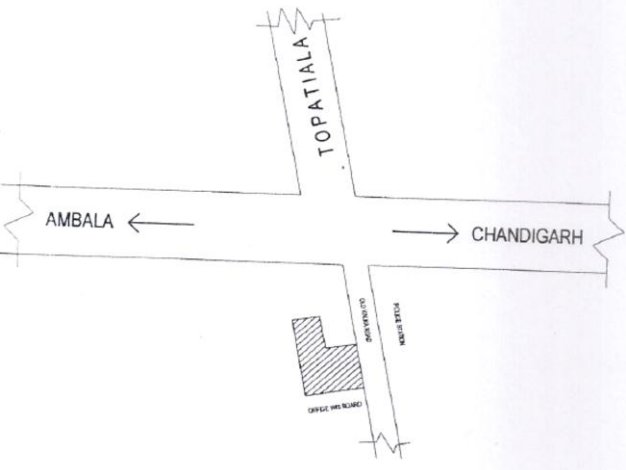
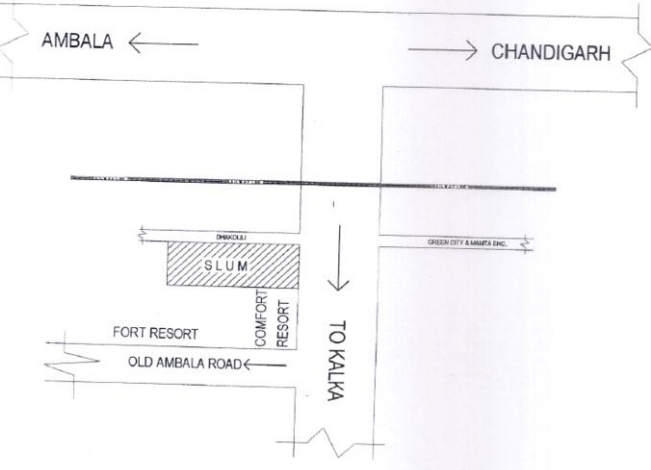
Table 3-16 Slums in Zirakpur

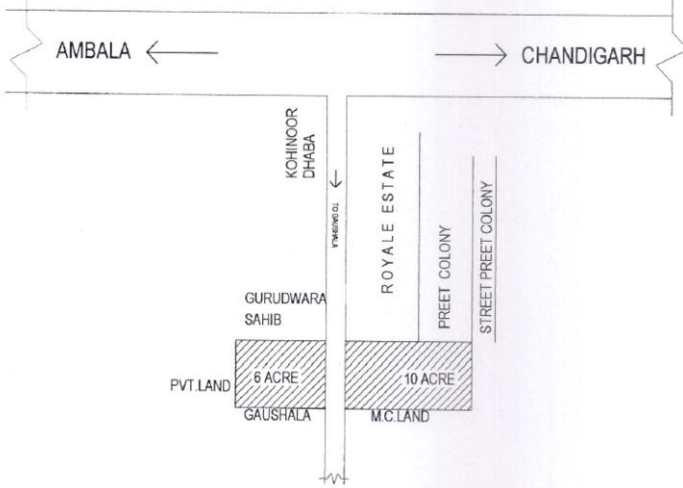
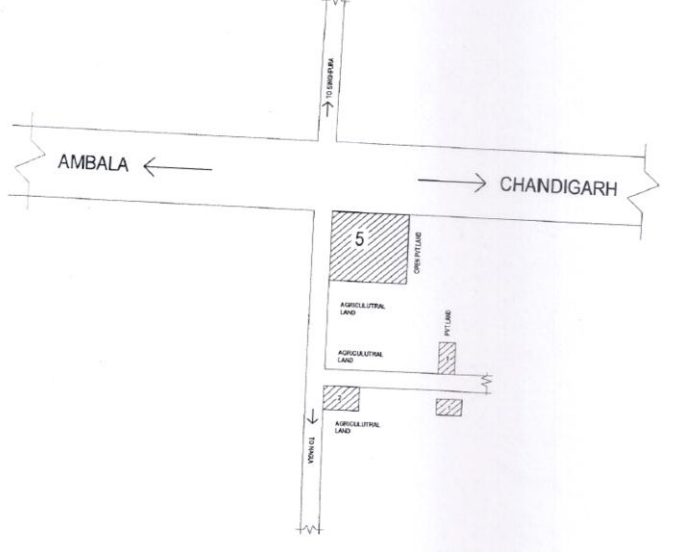
Sr. No.	Name of Slum	Nos. of Slum House			Popula tion	Details of Running Slum improve ment program me	Area & Bun dary Detai ls of Slum Area (Acre s)	Title & Owner ship	If title is not his name. Name of owner ship of land	Land availabl e for Relocati on
		Katcha	Pucca	Jhuggi						
1	Zirakpur-Kalka Road before Yadvindra Bridge left hand side (Ward-14)	20	8	Nil	167	Nil	2	Self Owned		Available
2	Ambedkar Colony opp. Comfort Banquet on the Railway Land adj. Haryana Boundary	166	6	2	988	Nil	15	Railway Land	Railwa y Land	Available

	(Ward-2)									
3	Ambedkar Colony opp. Comfort Banquet on the Railway Zirakpur Kalka Road (Ward-2)	65	11	Nil	445	Nil	3	Railway Land	Railway Land	Available
4	Adarsh Colony Zirakpur to Old Kalka road app. Police Station Lohgarh (Ward-5)	8	79	2	635	Nil	10	MCZ	MCZ	Available
5	Sukhn Colony Bishanpur (Ward-4)	31	48	13	514	Nil	16	MCZ	MCZ	Available
6	Bazigar Colony village Singhapura Limit Area	20	21	Nil	244	Nil	9	Self Owned		Available

Source: MC Zirakpur

S.No	Layout	Location
1		Ambedkar Colony opp. Comfort Banquet on the Railway Land adj. Haryana Boundary (Ward-2)

2		Zirakpur-Kalka Road before Yadindra Bridge left hand side (Ward-14)
3		Adarsh Colony Zirakpur to Old Kalka road app. Police Station Lohgarh (Ward-5)
4		Ambedkar Colony opp. Comfort Banquet on the Railway Zirakpur Kalka Road (Ward-2)

5		Sukhn Colony Bishanpur (Ward-4)
6		Bazigar Colony village Singhpura Limit Area

3.7 Transportation:

Zirakpur is connected with NH 21, NH 22 and NH 64 with the other part of the region.

Table 3-17 Distance from Important Urban Agglomeration

Sl. No	Town	Distance (Km.)
1	Chandigarh (State Capital of Punjab & Haryana)	12
2	Panchkula, H.R	9
3	Mohali, SAS Nagar (District Headquarter)	18
4	DeraBassi (Tehsil Headquarter)	9
5	Ambala, Haryana	38
6	Patiala	58
7	Ludhiana	112
8	Shimla, H.P	113

Patiala chowk:

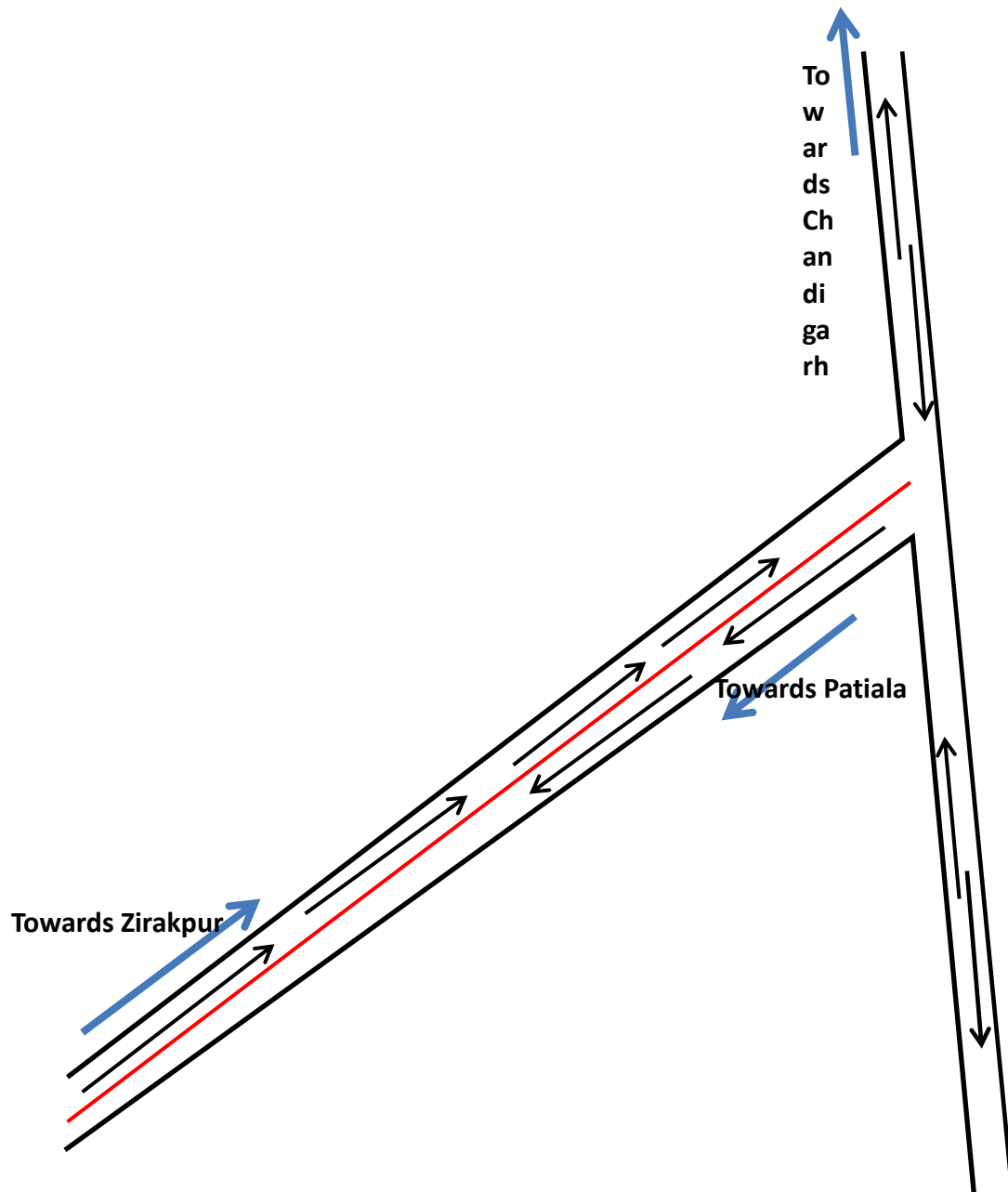


Table 3-18 Traffic volume from Patiala to Chandigarh

Traffic Volume @ Patiala Chowk - Patiala to Chd (9:00 AM to 10:00 AM)			
Vehicle Type	Numbers	Passenger Car Equivalency factor	Volume(V)
Car/Jeep	500	1	500
Cycle-Rickshaw	180	1.5	270
Auto	540	1	540
Bike/Scooter	750	0.5	375
Bus/ Truck	190	3	570
Total			2255
V/C Ratio			0.6
Traffic Volume @ Patiala Chowk - Patiala to Chd (5:00 PM to 6:00 PM)			
Car/Jeep	650	1	650
Cycle-Rickshaw	150	1.5	225
Auto	280	1	280
Bike/Scooter	580	0.5	290
Bus/ Truck	170	3	510
Total			1955
V/C Ratio			0.54
<i>Note : Passenger Car Equivalency Factor is taken from IRC 86-1983</i>			

Traffic volume from Zirakpur to Patiala			
Traffic Volume @Zirakpur to Patiala (9:00 AM to 10:00 AM)			
Vehicle Type	Numbers	Passenger Car Equivalency factor	Volume(V)
Car/Jeep	556	1	556
Cycle-Rickshaw	110	1.5	165
Auto	400	1	400
Bike/Scooter	521	0.5	260.5
Bus/ Truck	130	3	390
Total			1771.5
V/C Ratio			0.33
Traffic Volume @Zirakpur to Patiala (5:00 PM to 6:00 PM)			
Car/Jeep	520	1	520
Cycle-Rickshaw	130	1.5	195
Auto	610	1	610
Bike/Scooter	630	0.5	315
Bus/ Truck	124	3	372
Total			2012
V/C Ratio			0.37

Table 3-19 Traffic volume from Delhi to Chandigarh

Delhi to Chandigarh (Patiala Chowk) 9:00 AM to :00 AM			
Vehicle Type	Numbers	Passenger Car Equivalency factor	Volume(V)
Car/Jeep	760	1	760
Cycle-Rickshaw	176	1.5	264
Auto	460	1	460
Bike/Scooter	810	0.5	405
Bus/ Truck	224	3	672
Total			2561
V/C Ratio			0.7
Delhi to Chandigarh(Patiala Chowk) 5:00 PM to 6:00 PM			
Car/Jeep	810	1	810
Cycle-Rickshaw	150	1.5	225
Auto	300	1	300
Bike/Scooter	750	0.5	375
Bus/ Truck	200	3	600
Total			2310
V/C Ratio			0.64
Note : Passenger Car Equivalency factor is taken from IRC 86-1983			

In the above tables, the traffic volume is counted in the Patiala chowk junction. The traffic volume is counted in the three roads of the junction-Zirakpur to Patiala, Patiala to Zirakpur and Delhi to Chandigarh. The survey has been done in Peak hours (9:00am-10:00am) and (5:00pm-6:00pm). From every road we have taken the maximum VC Ratio. The average VC ratio coming from all the three leg of the Patiala chowk is 0.53. Moreover the junction is signalized.

4 Population projection and Density

In the Master Plan 2031 for Zirakpur LPA the proposed population for 2031 was projected as 129,038 following Regional Plan for Greater Mohali Region. The gross residential density is proposed to be 175 persons per Acre. High density of population has been imposed.

4.1.1 Revised Estimates for Population Projection 2031

As per 2011 census, the total population of Zirakpur LPA was 1, 05,728 persons. During 2001-2011, the population of the LPA has increased at 192.77% growth rate. With the continuation of the present population trend, the total population of LPA by the year 2021 and 2031 would be 2, 92,461 and 8, 08,974 respectively.

Planning Norms and Standard

Planning norms are adapted from PUDA guidelines, 2015. Space norms and standards have been defined for different socio-economic infrastructure to be developed in the town for revision of the Master Plan and for working out the requirements for different amenities. This includes its spatial distribution in order to ensure equitable distribution within different parts of the town. However, heritage buildings shall be governed by a system of specific guidelines to be framed for such buildings involving adaptive re-use through multiple uses such as residential, commercial, social, and cultural uses to promote conservation and preservation of such sites. The adaptive use shall be based on the detailed study and analysis of such historical buildings.

Planning Norms for Education Institution

For ascertaining the need and requirement of various levels and categories of educational institutions in the context of the town, planning norms have been worked based on the basis of projected population for 2021 and 2031 in order to ensure that educational facilities of required quantity and quality are available uniformly to the entire population. Further, the norms have been defined in terms of areas to be provided under each unit. The level of facilities to be provided have been categorized into general-purpose education at the school, undergraduate and post graduate level.

Educational Facilities

Table 4-1 Projections of Educational Facility

Sl. No.	Category	Population Served per unit	Area Requirement	Other Controls	Required No. of facilities by 2021	Required No. of facilities by 2031	Existing No. of facilities
1	Crèche	25,000	0.05 Ha		12	32	
2	Nursery, Primary and Middle School	5000	Area per School =0.3 Ha Ground Coverage=40% FAR=0.75 Maximum Height=8m	25% of site area to be used as play area, Adequate parking space for buses, vehicle of staff and students	58	162	61
3	High/Higher Secondary School	15,000	Area per School =1.6 Ha Ground Coverage=40% FAR=1.00 Maximum Height=15m Play area=25%	25% of site area to be used as play area, Adequate parking space for buses, vehicle of staff and students	19	54	25
4	College	1,00,000	Area per College=4 Ha Ground Coverage=40% FAR=1.00 Maximum Height=15m Play area=25%	25% of site area to be used as play area, Adequate parking space for buses, vehicle of staff and students	3	8	
Additional higher level of educational facilities, if any, specified in the statutory or non-statutory master plan shall be provided in the planning of the sector in addition to facilities mentioned above, for which adequate adjustment in the proportion of the area shall be made.							

Source: PUDA Guidelines 2013

Norms for Healthcare Facilities

Health care facilities shall be provided and distributed in such a manner that it covers the entire area and the population in order to make the facility available to every resident of the town irrespective of his location or place of residence. It must cover all the land use including residential, commercial, and industrial, institutional etc. A well-defined hierarchy will be essential to meet both the basic and

specialized needs of the health care. The facilities are estimated in accordance to projected population of 2021 and 2031.

Table 4-2 Norms for Health facilities and projected requirements

Sl. No.	Category	Population served per unit	Area requirement	Other development controls	Required No. of facilities by 2021	Required No. of facilities by 2031	Existing No. of facilities
1	Dispensary	15000	0.20 Ha	Ground Coverage 40%, FAR is 1.5	19	54	3
2	Health Centre	50,000	0.60 Ha		6	16	3
3	Polyclinic	1 lakh	1 Ha		3	8	
4	Hospital	1 lakh	3.70 Ha		3	8	4

Source: PUDA Guidelines 2013

Community Buildings

Table 4-3 Norms for community buildings and projected requirements

Sl. No.	Category	Population Served per unit	Area Requirement per unit	Other Controls	Required No. of units by 2021	Required No. of units by 2031
1	Community Centre	30,000	0.6 ha	Ground coverage 40%, FAR 1.5, Building control, setback, parking as mentioned in	10	27
2	Religious Site	15,000	0.1 ha		19	54
3	Police Post	30,000	0.2 ha		10	27
4	Police Station	1,00,000	0.8 ha		3	8
5	Sub-Post Office	25,000	80 sq. mt		12	32
6	Telephone Exchange	1,00,000	0.8 ha		3	8

Source: PUDA Guidelines, 2013

PARKS OPEN SPACES AND PLAY GROUNDS

Provision of park, open spaces and playgrounds shall be provided as per norms specified below. However, where the land ownership of the promoter is less than a sector, in such cases competent authority may allow inverse variation in the area of specific categories including green belt/sector level park depending upon the pattern and location of land ownership, subject to the overall area limit defined below.

- Total area earmarked for Parks/Open Spaces, Playgrounds shall not be less than 6%. However, open spaces with less than 15 meter width shall not be counted in the area under green parks.

- Open spaces coming under the HT lines and less than 15 meter in width shall not be counted towards parks/open spaces.
- Open area/ Play area attached to institutions/Public buildings shall also not count towards area under parks/open spaces.
- Open spaces shall be distributed over the entire Sector/project area in order to optimize the utilization of such spaces by the majority of residents.
- One Sector level/major park with minimum area of 1.25 hectare should be provided, preferably along the shopping street in the center of the sector.
- Play Ground/s of appropriate size may be provided in each sector. The area wherever provided, shall be in the shape of single chunk with length and width fixed in a manner so as to facilitate the use of the site as a play ground for various games.

Table 4-4 Area required for parks, playground and open spaces

Local Planning Area of Zirakpur 2031	4360 ha
Norm for Parks and open spaces as per PUDA guidelines	minimum 6% of planning area
Total area for parks, open spaces and playground	262 ha
Existing area of parks, open space and play ground	9.3 ha

Source: PUDA guidelines, 2013

OTHER AMENITIES

- Appropriate sites for Taxi stand shall be marked in each sector as part of parking provided in the sector level shopping/convenient shopping and
- Site for petrol pump @ one petrol pump for 100 hectare of gross residential area shall be provided and shall form part of the commercial component.

Table 4-5 Norms for petrol pumps and projected requirement

Norm for Parks and open spaces as per PUDA guidelines	1 per 100 ha gross residential area
Gross residential area in Zirakpur 2031 LPA	1450 ha
Required No. of facilities by 2031	15

Source: PUDA Guidelines 2013

- Sites for milk booth @ one milk booth for 5000 population shall be provided. Such sites shall be made integral part of the convenient shopping

Table 4-6 Norms for milk booth and projected requirements

Sl. No.	Category	Population Served per unit	Required No. of facilities by 2021	Required No. of facilities by 2031
1	Milk Booth	5,000	58	162

Source: PUDA Guidelines 2013

- Suitable sites, as per norms specified, for water works, EGS, solid waste management, sewerage treatment plant and recycling of treated water shall be provided as part of the project planning.
- Appropriate arrangements for rain water harvesting shall be made within the project area.

4.1.2 Water Supply

Table 4-7 Projections for Water Supply

Water demand for existing Population	Water demand for 2021 Population	Water demand for 2031 Population
12.45 MLD	39.5 MLD	109.2 MLD

Water demand is estimated assuming water demand as 135 lpd and projected population for 2021 and 2031.

4.1.3 Sewerage

Table 4-8 Projections for Sewerage

Sewage generation for existing Population	Sewage generation for 2021 Population	Sewage generation for 2031 Population
9.96 MLD	31.6 MLD	87.36 MLD

Sewerage is calculated as 80% of fresh water demand

4.1.4 Solid waste generation

Table 4-9 Projections for Solid waste

Solid waste generation for existing Population	Solid waste generation for 2021 Population	Solid waste generation for 2031 Population
33 tons	131.6 ton per day	364 ton per day

Solid waste is calculated as 0.45kg per person per day

5 Deviations in Master plan

In the Zirakpur Master plan 2031, the proposed roads have been encroached by the Built up area so these proposals cannot be implemented. The same proposals cannot be implemented in the areas Singhpura, Lohgarh, Dafferpur, Kakrali, Morthikari and Bir per Machallaila.

Figure 11 Deviation against Master Plan 2031 in Lohgarh and Singhpura



Figure 13 Deviations against Master Plan 2031 In FEZ

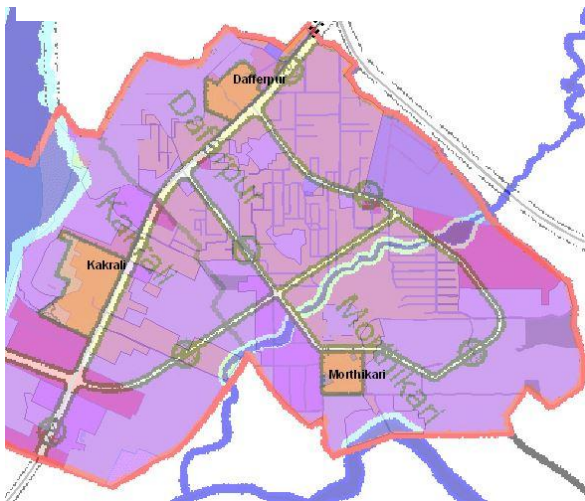


Figure 12 Deviations against Master plan 2031 in Bir per machhaila



2.
In
the

Master Plan 2031 for Zirakpur LPA the proposed population for 2031 was projected as 129,038

following Regional Plan for Greater Mohali Region. The gross residential density is proposed to be 175 persons per Acre. High density of population has been imposed but as per 2011 census, the total population of Zirakpur LPA was 1, 05,731 persons and this will cross the projected population 2031 in the next two years. During 2001-2011, the population of the LPA has increased at 176.60% growth rate. With the continuation of the present population trend, the total population of LPA by the year 2021 and 2031 would be 2, 92,461 and 8, 08,974 respectively. Therefore to cater the growing populations more area was needed. So in The Revised Master plan 2031,two more villages Rampur and Dailpura are added having area 233.98 and 296.66 hectares respectively.

5.1 Why Zirakpur has the High Growth Rate?

5.1.1 Inadequacy in Tri-city:

Scarcity of land in the tri-city area, i.e. Chandigarh, Panchkula and Mohali is the major factor of this huge boom in real estate of Zirakpur. Also, it is hard to find a location at an affordable price in Chandigarh and Panchkula. Real Estate Marketers believe that Zirakpur is the best location to invest in property, in the range of 28 to 40 lacs. A cost Effective property value is yet another main reason of growing popularity of this place for real estate investments.

5.1.2 Amazing Connectivity:

Zirakpur has a great connectivity with the major nearby cities of Punjab and other states. Located near to Chandigarh-Ambala Highway, Zirakpur gives connectivity benefits as it takes 30-45 minutes from here to reach Chandigarh. With the completion of Aerocity Road, Zirakpur will become equidistant from Chandigarh, Mohali and Panchkula. Zirakpur is well connected with these and other neighbouring areas through air-conditioned and non-air-conditioned local buses. In the second phase of the Chandigarh Metro, Zirakpur will be connected with other parts of the region.

Further, you can reach Shimla in 3 hours while Delhi in just 4 hours. It feels really amazing for outsiders in terms of moving to a new location. In addition to this, it is also near to International Airport at a distance of just 10 Kms. Thus, Zirakpur is attracting not only small investors, but also to large investors because of its unified connectivity.

5.1.3 Healthy Environment:

While planning to get a house for our family, it is very important to choose a place which is pollution free and has healthy surroundings. Zirakpur is a place fulfilling all these requirements. You can get facilities like parks for children, open areas, walking paths and more. Most residential projects in Zirakpur, have laid a lot of stress on ensuring that the homes are surrounded by greenery.

5.1.4 Plenteous Residential Societies in The Future:

There are many popular residential societies in Zirakpur, offering both ordinary and extravagant apartments and flats. Additionally, these societies also offer a broad variety of services which include a

wide range of comfort and features such as, round the clock security, fire fighting arrangements, Covered Stilt Parking, Kids Play Area, community hall, health club and so on, all under your budget.

5.1.5 Preferred by All:

Zirakpur is a place that is preferred by almost, people of all age groups. Whether they are senior citizens, youth or kids, Zirakpur has now become everyone's prime choice. Senior citizens prefer to live here because of its peace & security. As far as children are concerned, there are ample options available for their education and skills development. Housewives also have several options like Big Bazaar, Metro, Pantaloons and so many big brands where they can enjoy their shopping. Also, you will find some very fine places of entertainment here like Multiplexes, Gardens and parks, Zoo, etc., where you can spend quality time with your families and friends. The Rajiv Gandhi Chandigarh Technology Park, has put Chandigarh on India's IT/ITeS map. Major Indian and multinational corporations such as Quark, Infosys, Dell, IBM and Tech Mahindra have set up offices in the city and its suburbs. This facilitates the youth of Zirakpur in terms of their career and job perspective.

Considering this scenario, Zirakpur has become one of the most demanding markets for real estate investment, especially for those who are looking for a sound property investment to put in their hard earned money. Hence, for those who are looking for Flats in Chandigarh, but restricted because of their budget, can go for investment in Zirakpur.

6 Proposed land use

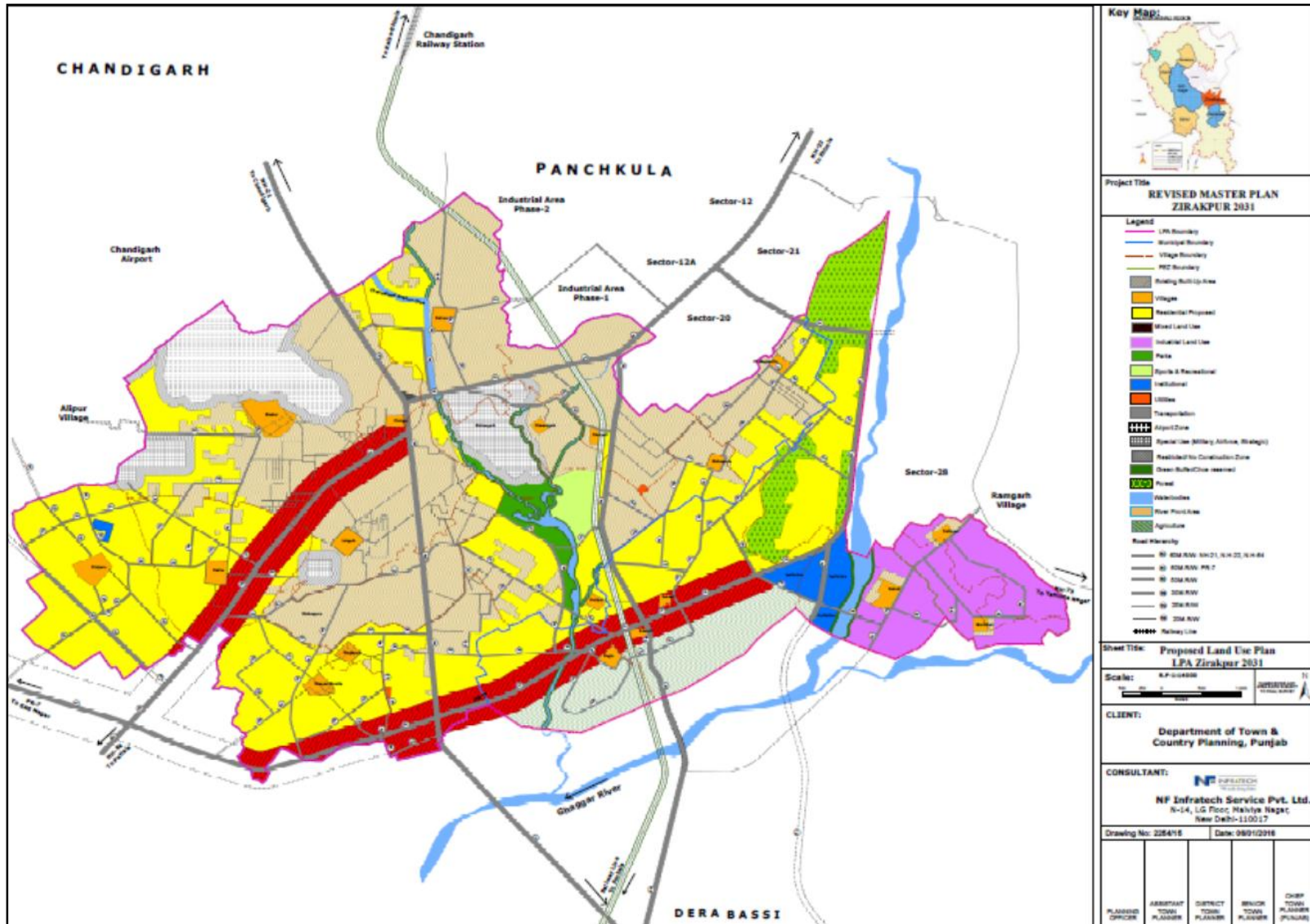


Table 6-1 Proposed land use Distribution 2031

Sr. No.	Land Use Categories	Area (Hectares)	Percentage(%)
1	Existing Built-Up	1147.08	26.32
2	Residential	1449.43	33.25
3	Existing Villages	94.17	2.16
4	Mixed Land Use	322.36	7.40
5	Industry	235.06	5.39
6	Institution	50.5	1.16
7	Park	44.29	1.02
8	Sports and Recreational	30.19	0.69
9	Utilities	1.59	0.04
10	Transport	6.04	0.14
11	Road	331.46	7.60
12	Airport Zone	149.45	3.43
13	Special Use	101.5	2.33
14	Restricted/No Construction Zone	100.59	2.31
15	Forest	143.42	3.29
16	Water body	91.42	2.10
17	River Front	1.73	0.04
18	Green Buffer	58.49	1.34
	Total	4358.77	100

Source: Computed Values 2016

- The rise in residential area from 22% to 33% is inevitable to accommodate the growing population from 2008-2031.
- The Road network is proposed in such a way that there is maximum connectivity to all the villages. Existing roads have been reshaped and connected to the high Hierarchy of Roads. The proposed road hierarchy in the revised master plan is as follows:
 - R0 indicates the R/W-60m of the existing roads N.H-21, N.H-22, N.H-64
 - R1 has R/W-60m and roads under this category are like PR-7.
 - R2- R/W-50m
 - R3- R/W-30m
 - R4- R/W-25m
 - R5- R/W-20m
- The number of industries is expected to increase in Zirakpur LPA. Such growth is expected as a result in the growth in the number of planned industries estate and business parks. It is because of this expected / perceived employment opportunity that intra-urban migration is expected to be the main catalyst in population growth for Zirakpur LPA.

- The growing emphasis is on high technological, knowledge based, IT related industries and services. This spectrum of economy activities will further intensify the attractiveness of the LPA. For Zirakpur, the Business Park, the Regional Centre, Aviation Hub, Educational Hub, Sports Hub and Service sector will propel future growth even further. As a result, the gradual decrease in land used over time for agriculture can be expected to accommodate this growing population, new economic activities and industries. Industries in Zirakpur will naturally shift towards more the service-oriented businesses such as IT, Health and Tourism. Although, these economic activities are the trend.
- Existing brick kilns, stone crushers, wastelands and other incompatible land uses will be removed due to its unsuitability with the surrounding land use and the potential hazard it poses to the area and people living and commuting in Zirakpur LPA.
- There is no change in the area of the restricted defense land and the airport expansion land.
- In the Zirakpur, the mixed land use comprising of institutions, commercial and Residential is seen along the Roads. So keeping in view the scenario we have proposed the Mixed Land use along PR-7.

7 Development Strategies:

- In the older part of Zirakpur, where possible, new housing forms should be encouraged to be built within empty pockets within the existing developments. Every opportunity should be created to encourage the redevelopment of older settlements area so as to encourage a rejuvenation of 'out-of-date' life styles. Appropriate development incentives shall be introduced to start this process going.
- In the east, the area in close proximity to Panchkula and the FEZ. The housing focus for this area should be of high density but affordable. They are to cater for lower income industrial workers expected to be attracted to the FEZ industrial area.
- In the south, areas around the regional centre. The type of housing here should focus on high density; an urban living sort. This is to cater for the number of professional and service sector people who work in the regional centre. The focus here should be on a housing stock that caters to the "yuppie" generation.
- In the west, area in close proximity to airport, due to the height constraint, the type of housing focus here should be mainly on the medium rise development. New experimental forms of living such as townhouses and clustering living housing should be encouraged here. This type of innovative lifestyles should attract the creative people working and studying around the Business Park and institution of higher learning propose to be located within this area.
- The projections in social infrastructure as well as physical infrastructure has been based on the Norms based on PUDA guidelines but specific area is not mentioned and is kept flexible.

8 Controls and Detailed Controls for Zirakpur

The purpose of the Development Control Regulations is to assist developers and end-users within Zirakpur LPA to strive for a more quality and environmentally friendly development. In addition to the common development control parameters applicable to the whole of the GMADA, special and detailed controls are applied to the specific areas in the Zirakpur planning area as these would regulate the requirements for each of the land uses. Developers are requested to abide to the zoning and planning intention of the plan. Development proposals that have been granted approval by the Competent Authority previously will continue to be honoured and shall not be affected by these controls.

Residential

Minimum area and development of a residential colony within Master Plan Zirakpur shall be as per the provisions of PAPR Act, 1995 and guidelines issued by govt. from time to time:

Table 7-1 Minimum Plot size Category

Minimum Plot size Category	Minimum Plot size (Outside M.C. Limit)
Residential Plotted	10 acres
Group Housing General	2 acres independent
EWS	2.5 acres

Note:

- i. Minimum area of colony within M.C.I. limits shall be as per Local Govt. Norms or as amended from time to time
- ii. The lowest hierarchy street within residential zone of Master Plan shall be minimum 40 feet wide or as prescribed in the guidelines issued by govt. from time to time.
- iii. The saleable area of any plotted residential colony shall be as per the provisions of PAPR Act, 1995 or as amended from time to time.

Table 7-2 Group Housing outside MC Limits

Group Housing (outside M.C. limits) Minimum Plot size	
For General Category For EWS	2 acres 2.5 acres
Minimum Road width	For group housing stand-alone projects, minimum width of approach road is 60".
Minimum Frontage	20 meters
Permissible FAR	As per PUDA Building Rules 2013 or as amended from time to time.
Permissible Height	There shall be no restriction on the height of building subject to clearance from Air Force Authority and fulfilment of other rules such as setbacks, distance between buildings etc. However, structural safety and fire safety requirements as per N.B.C. shall be compulsory.
Parking provisions	For group housing developments, the requisite parking provision is as per Puda Building rules, 2013 or as amended from time to time.

Note:

1. Construction of residential houses sold by promoters on floor basis shall also be considered as Group/ Flatted housing developments and parking requirements shall be as per the norms governed by PUDA Building rules 2013 or as per amended from time to time.

2. For group housing within M.C. limits, the norms/ rules of local government shall be applicable.

Commercial

At local level There shall be provision for small scale, double storey commercial subject to the condition that abutting road shall have a minimum width of 60 feet with minimum 20 feet front setback from road for parking purposes. However the norms for low rise commercial developments within M.C. limits shall be as per the local body/Municipal council's rules and regulations.

Stand-Alone Commercial Complexes For stand-alone commercial complexes with height more than double storeys, the additional criteria listed in following table shall apply.

Table 7-3 Criteria for stand – alone commercial complexes (more than double storey's)
Item

Criteria for stand – alone commercial complexes (more than double storey's) Item	Permissible Norms / Standards
Minimum Plot size	1000 sq. m
Minimum Road width	80 feet
Minimum Frontage	20 m
FAR	As per PUDA Building Rules 2013 or as amended from time to time.
Maximum Ground coverage	40%
Parking	As per PUDA Building Rules 2013 or as amended from time to time.
Landscaping	If the site area is one acre or above, minimum 15% of the total area is to be reserved for landscaping purposes

Note:

1. The plot size, ground coverage, F.A.R., Height of the building and parking norms shall be as provided in the local body/municipal building byelaws, if the project is located within M.C. limit of the town.

2. The ECS shall be counted as below:

- 23 square meters for open parking
- 28 square meters for parking under stilts on ground floor
- 32 square meters for parking in the basement.
- The Development controls/Guidelines/Norms & Standards revised from time to time by the Government shall have overriding effect on the Development controls mentioned in the master plan.

- Commercial facilities are intended to serve the needs of local residents only and will not be shown separately on the Master Plan. Instead, they are subsumed under the predominant residential land use.

Development Controls around the Designated Industrial Use Zones

- The industrial development regulations and controls prepared for Zirakpur LPA are meant to guide development and to facilitate the industries to design and implement their developments successfully. Relevant legislative and regulatory guidelines for compliance of Environmental Laws under Punjab Pollution Control Board are duly incorporated in this chapter. However the industries prior to the final notification Memo no. 10/15/20016-4481/2746, dated 16th october, 2009 of Master plan Zirakpur of the Punjab Regional and Town planning and Development Act,1995, which have come under non confirming land use in this master plan may continue to operate and expand within the existing premises only provided that the industry has valid requisite permission of the Punjab Pollution Control Board and fulfils the conditions as stipulated in the 26th Meeting of the Punjab Regional and Town Planning and Development Board or as amended from time to time.

Environmental considerations:

- All the textile / dying and electroplating units shall set up treatment plants individually or collectively to achieve zero liquid discharge.
- Minimum buffer of 15 meters green belt of broad leaf trees should be provided around the boundary of village abadies falling in industrial zone of Master Plan. A buffer strip of 15 meters of broad leaf trees shall also be provided between residential areas and industries falling in industrial use of Master Plan, boundaries of which are located within 100 m from the boundary of such areas. It is clarified that 15 meter buffer shall be provided by the owner of the project who comes later.
- All residential colonies, commercial establishments like shopping malls, multiplexes etc shall maintain a minimum distance of 250 meters from the hazardous (maximum accident hazardous) industries notified by the competent authority. The distance should be measured from source of pollution / hazard in the industrial premises to the building lines as per zoning plan of the colony / complex. However for specified type of industry like Rice Sheller / sella plants, stone crushers, hot mix plants, brick kilns etc standards prescribed by PPCB or any other agency shall apply as amended from time to time

Buffer

The buffer requirements consist of a green buffer and a physical buffer. The green buffer is meant as a planting strip. Within the physical buffer, driveways, car parks and other ancillary structures are allowed.

Table 7-4 The road buffer requirements are provided as below:

Green & physical buffer specifications		
(R-0) - (R-1)	15m	5m green 10m physical
R- 2	7.5m	3m green 4.5m physical
R- 3	5m	3m green 2m physical
R- 4	2.3m	2m green 0.3m physical
R- 5	2.0m	2.0 m green

Parking guidelines for Industrial Use: Parking shall be as per PUDA building rules, 2013 or as amended from time to time.

Residential Density for Plotted Development: upto 200 ppa **Residential Density for Flatted Development:**

- ☐ E.W.S. - NA
- ☐ < DU 1200 sq ft. - 450 pp acre
- ☐ 1200 – 3000 sq ft. - 300 pp acre
- ☐ > 3000 sq ft. - 250 pp acres

Density for Affordable Housing shall be as per prevalent policy of the Government.

Other development controls and guidelines required

☐ The existing HT-lines shall be shifted along the road but outside the Right of Way to ensure unhindered R.O.W. for traffic and other services for all times.

☐ The minor „choes“ shall have minimum 15 metres wide green strips on each side. Other major „choes“ shall have minimum 30 metres green strips on each side. Realignment of „choes“ shall be permissible, wherever feasible, subject to the certification by Engineering Department to ensure free flow of storm water. After any such realignment, the river mouth, the river bed and the green strip on either side shall be maintained at least to the minimum prescribed level for this choe before realignment. In these green strips, golf course, sports and recreational activities shall be permissible but no construction would be allowed. The support facilities for these activities shall be constructed outside the green strips.

☐ Expansion of village Abadies: The contiguous expansion of village abadies falling under industrial/ agricultural zone of Local Planning Area shall be permissible to accommodate the natural growth of village abadies.

Exceptions

Any land use which is not mentioned in the legend of permissible land uses but found compatible for a particular land use zone by the Chief Town Planner, Punjab may be allowed in the respective zones.

2. Use of land covered under Optimum Utilization of Vacant Government Land (OUVGL) Scheme or any other project of the State / Central Government shall be determined by the Government at any appropriate time notwithstanding the provisions of this Master Plan.

3. Development / projects approved prior to coming in to force of these regulations shall be deemed to be in compliance with these Regulations.

4. In case the area of a project falls partially under no construction zone along a water body, relaxation of maximum upto 5% on the total area of the project shall be allowed towards calculation of saleable area in lieu of the area falling under the no construction zone. In case, the area falling under no construction zone is less than 5% of the total area of the project then the relaxation shall be proportionately less.

5. The buildings / premises for which the existing (present) land use has been retained as such in the Master Plan may continue to operate without time limit. However, in case the present use of the buildings / premises is discontinued (partially or wholly) these buildings / premises or part thereof may be put to any other compatible use with the surrounding use zone in the Master Plan provided it fulfills the other development regulations / controls as laid down in the Master Plan or as prescribed by the Govt. / Local Body from time to time.

Note:-

- *Any other notification/ order issued by the Government, which is not covered above shall be applicable wherever required.*
- ***The Development controls/Guidelines/Norms & Standards revised from time to time by the Government shall have overriding effect on the Development controls mentioned in the master plan.***

10.4 Transferable Development Rights

To facilitate development, it is necessary to accord top priority to the implementation of public utilities and infrastructure (such as roads, parks, green belts etc.) which will in turn encourage planned development/regulated urbanization. However, the respective technical agency or authority will not be able to proceed with its implementation programmes until the ownership of private land affected by these public utilities and infrastructure has been transferred to the state or to the relevant authority(s). Acquisition of private land for this purpose is proposed to be carried out through one of the following options:

☐ Cash compensation to be paid to affected land owners whose land is to be acquired or a land-pooling scheme may be formulated and implemented.

Of these options, use of mechanism of TDR (Transfer of Development Rights) is recommended due to the reasons specified below:

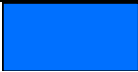
- It is relatively simple and direct mechanism to implement and execute.

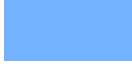
- The requisite public infrastructure projects can be implemented quickly, thus facilitating rapid urban development.
- The interests of affected landowners are protected.

The TDR scheme shall be restricted to development projects for public infrastructure and facilities which shall be announced from time to time. The additional FAR shall not be transferable from one LPA to another. The Competent Authority on priority shall finalize detailed policy guidelines on the operation and implementation of TDR Scheme.

Table 7-5 Proposed Land Use Zones with permissible land uses

S/No.	Proposed Zone	Uses	Examples of Development
1	Residential 	These are areas used or intended to be used mainly for residential development. Serviced apartments and student hostels may also be allowed. Commercial and institutional uses are allowed within residential areas if these comply with the stipulated criteria.	Residential developments include: Flat Group Housing Apartments Townhouse Semi-detached house Detached House Serviced Apartment Institution Hostel (e.g. for working women, students & youths) Allowable commercial developments in residential areas include: Single-storey commercial on road having ROW of at least 60 feet. Standalone / commercial complexes and all other commercial projects on road with a minimum ROW 80 feet.
2	Industry 	These are areas used or intended to be used mainly for high-technology and IT operations. These are areas used or intended to be used as red industries, orange industries, general and warehouse uses.	Developments for: 1. Industries 2. Industrial labour quarters 3. I.T.I./Technical Institutes/skill development centres 4. Developments for: • High-technology/ IT park • Business park • Knowledge park • Science park • Laboratories • Media hubs 5. Computer software development 6. Assembly and repair of computer hardware and electronic equipment 7. Hotels/Hospitals/Workshop/Repair Shops. 8. Cold Store/ Godown / Warehouse.
3	Educational/ Institutional	Health & Medical care	Hospitals Polyclinic Clinic Dental clinic Veterinary clinic Nursing Home

			Maternity Home Family Welfare Centre Dispensary
		Educational Institution	Kindergarten Primary school Secondary school Junior college Technical institute Polytechnic University Religious school/institute Foreign school International school Special education school (e.g. School for the Disabled)
		Place of Worship	Gurudwaras Temple Mosque Church
		Civic & Community Institution	<u>Civic Institutions</u> Courts Government Offices Foreign Mission/ Chancery Police Station Fire Station Prison Reformative Centre Disaster Management Centre <u>Community Institutions</u> Association premises Community Centre/ Club Community Hall Welfare Home Childcare centre Home for the Aged Home for the Disabled Workers' Dormitory Facility Centre <u>Cultural Institutions</u> Television/ Filming Studio Complex Performing Arts Centre Library Museum Arts Centre Science Centre Concert Hall Socio-cultural Complex
4	Forest 	These areas are used or to be intended to be used as open space and no commercial activity is allowed.	Forest reserve Wooded area Swamp area Natural open space Public promenades
5	Water Body	These are areas used or to be intended to be used for drainage	River Major drain

		purposes and water areas such as reservoirs, ponds, rivers and other water channels.	Canal Water channel Reservoir Pond
6	Road 	These are areas used or intended to be used for existing and proposed roads.	Expressway Major Arterial Road Minor Arterial Road Collector Road Primary Access Road
7	Railway 	These are areas used or intended to be used for existing and proposed railway	
8	Utility  U1 – Water U2 – Power U3 – Sewerage U4 – Solid waste U5 – IT & Communications U6 – Gas U7 – Drainage	These are areas used or intended to be used mainly for public utilities and telecommunication infrastructure, including water works, sewage disposal works and other public installations such as electric substations.	Electric sub- & grid station Gas-fired power station Raw & local water treatment works Sewage treatment plant Sewage pumping station Sewage disposal work Incineration plant Landfill site Transfer stations Treatment storage & disposal facility Telecommunications station
9	Mixed Land use 	For Educational, Institutional and Residential.	Uses defined in land use zones of residential Green category industries Group Housing. Hotels
10	Existing Villages 	These are the existing village-abadi areas.	Rural settlements to be left untouched
11	Agriculture 	These are areas used or intended to be used mainly for agriculture purposes and includes plant nursery. Also for areas to be left rural and not needed by 2031	Agro-technology park Aquaculture farm (e.g. aquarium fish) Plant nursery Hydroponics farm Agriculture research/experimental station Floral mile (i.e., nursery cum wholesale centre) Utilities Cold Stores/Ware Houses/Godowns/Agro based industries

Disaster Management

Disaster Management is one of the important aspects in today's context. The region of Zirakpur falls in seismic zone 4. In order to safeguard the Local Planning Area Zirakpur following measures have been suggested:

1. Disaster Management Plan for the area should be immediately prepared.
2. All building plan approval should be permitted where structural designs have been submitted with the building applications.
3. The concerned local body should carry out surveys to identify the vulnerable buildings / areas in the cities especially the core area of the cities.
4. Special training programs for preparing earthquake resistant designs should be conducted for engineers / architects etc.
5. The concerned local body responsible for sanctioning of building plans should have technically well trained staff to scrutinize the building plans.
6. The implementation of approved building design should be ensured at site through site inspections at three stages of construction activity i.e., when the building is at plinth level, door level and roof level.
7. Public awareness campaign through electronic / print media and through seminars / workshops should also be taken up by the local body.