# REPORT

## *REVISED MASTER PLAN DERABASSI 2031*

**CLIENT**

DEPARTMENT OF TOWN AND COUNTRY PLANNING, PUNJAB,

**CONSUTANT**

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# PREFACE

In today's world where urban centres are growing at an astonishing pace, large amount of resources are being spent on the development of various urban settlements but the condition of these towns continues to deteriorate because of piecemeal nature of expenditure and lack of definitive development schemes. In view of this, Department of Town Planning, Punjab has undertaken the preparation of the Revised GIS based Master Plans for Dera-Bassi Town for which the Department has outsourced the work to **M/S NF Infra tech Service Private Limited, New Delhi.**

The studies involved in the preparation of Master Plan for Dera-Bassi (2015-2031) concerns with the areas crucial to planning and development of the sub- region. It has been a great privilege for **M/S NF Infra tech Service Private Limited, New Delhi** to undertake the assignment of formulating the Revised Master Plan of Dera-Bassi (2015-31). In this Master Plan, the development proposals have been framed after a detailed study and analysis of the crucial issues related to economic development, infrastructure, transportation, housing, environment and urban sustainability.

**(Harnek Singh Dhillion)**

Chief Town Planner

Town Planning Organisation, Punjab

## TEAM COMPOSITION

| | |
|---|---|
| Mr. Harnek Singh Dhillon | Chief Town Planner, PUDA |
| Mr. Gurpreet Singh | Senior Town Planner |
| Mrs. Gagandeep Kaur Brar | District Town Planner |
| Mr. Jagdeep Singh | Assistant Town Planner |
| Mr. Vinty Kaundal | Draughtsman |

| **Working Team (Consultant)** | **NF Infratech Service Pvt. Ltd, New Delhi** |
|---|---|

**Team**

| | |
|---|---|
| Mr. Manish Dahiya | Senior Urban Planner |
| Mr. Rajat Gupta | Urban Planner |
| Ms. Wajiha Aziz | Urban Planner |
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| Mr. Abhishek Singh | Senior GIS Expert |

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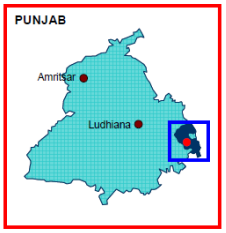
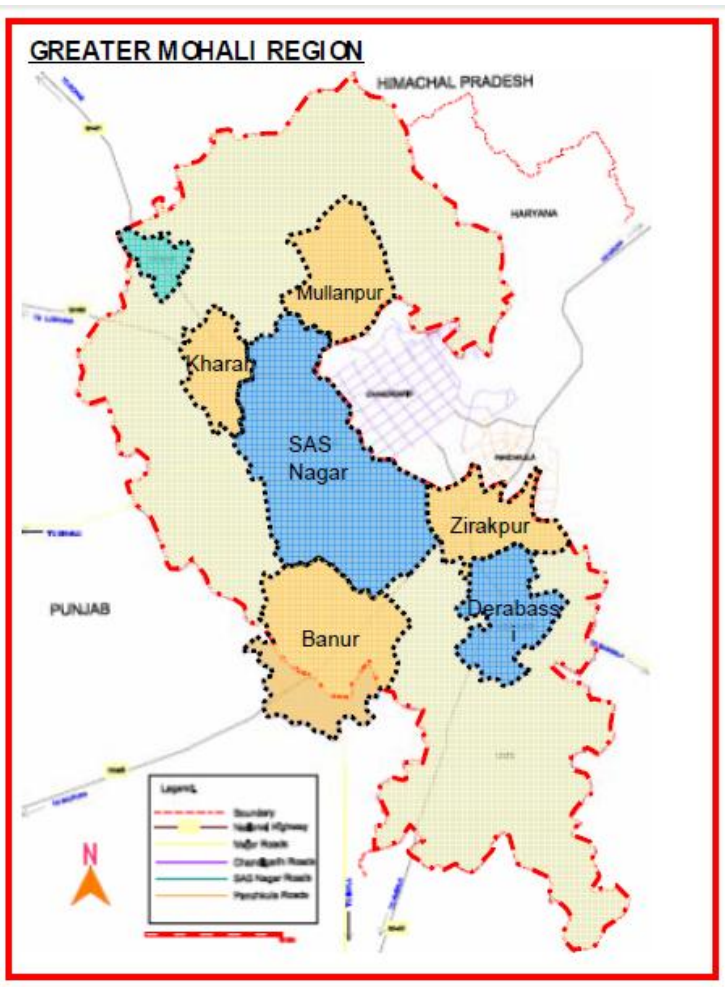
# 1 Introduction & Project Understanding

## 1.1 Background & Project Understanding

Greater Mohali Region (GMR) includes Derabassi LPA, and other 5 LPA s. It geographically expands to an area of about 1190 sq.km. It is located towards western part of Chandigarh in the state of Punjab.


The entire region is divided into six local planning areas, namely

1) SAS Nagar
2) Derabassi
3) Kharar
4) Mullanpur
5) Banur
6) **DeraBassi**

The Vision of DeraBassi LPA is envisioned to create a strong identity as one of Punjab's core industrial towns, where full spectrum of industrial businesses and activities will be accommodated through balanced allocation of adequate land for different industrial clusters.

### 1.1.1 Broad steps in Existing Master Plan

- To develop and nurture the industrial spectrum of DeraBassi by promoting and creating the town as one of Punjab's modern and planned industrial centre with vibrant specialized and industrial parks and catering to a variety of industrial types.
- To strike a balance in the distribution of land use for predominant industrial uses alongside providing adequate support, such as technical schools and sports/recreational facilities.
- To minimize adverse impact of existing polluting industries or non-conforming uses through the regularization of existing unplanned industrial land pockets especially along the Sukhna Choe and more stringent pollution controls for the industrial affluent & outflow away from the drainage system.
- To create conducive park-like environment for industrialists to carry out their business/ industrial activities through proper planning by providing good infrastructure and efficient transportation network with supporting social amenities.

- To place greater environmental emphasis on landscaping at all important nodes and entrances in the specialized industrial parks and industrial areas, so as to project themselves as eco-friendly, green specialized industrial parks and introduce new planned urbanized image for DeraBassi.
- To provide a variety of housing types and adequate accommodation to house the new working population projected to work in the 'Free Enterprise Zone'.

### 1.1.2 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

## 1.2 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 updation 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.

# 2 Regional Context & Setting

## 2.1 Introduction

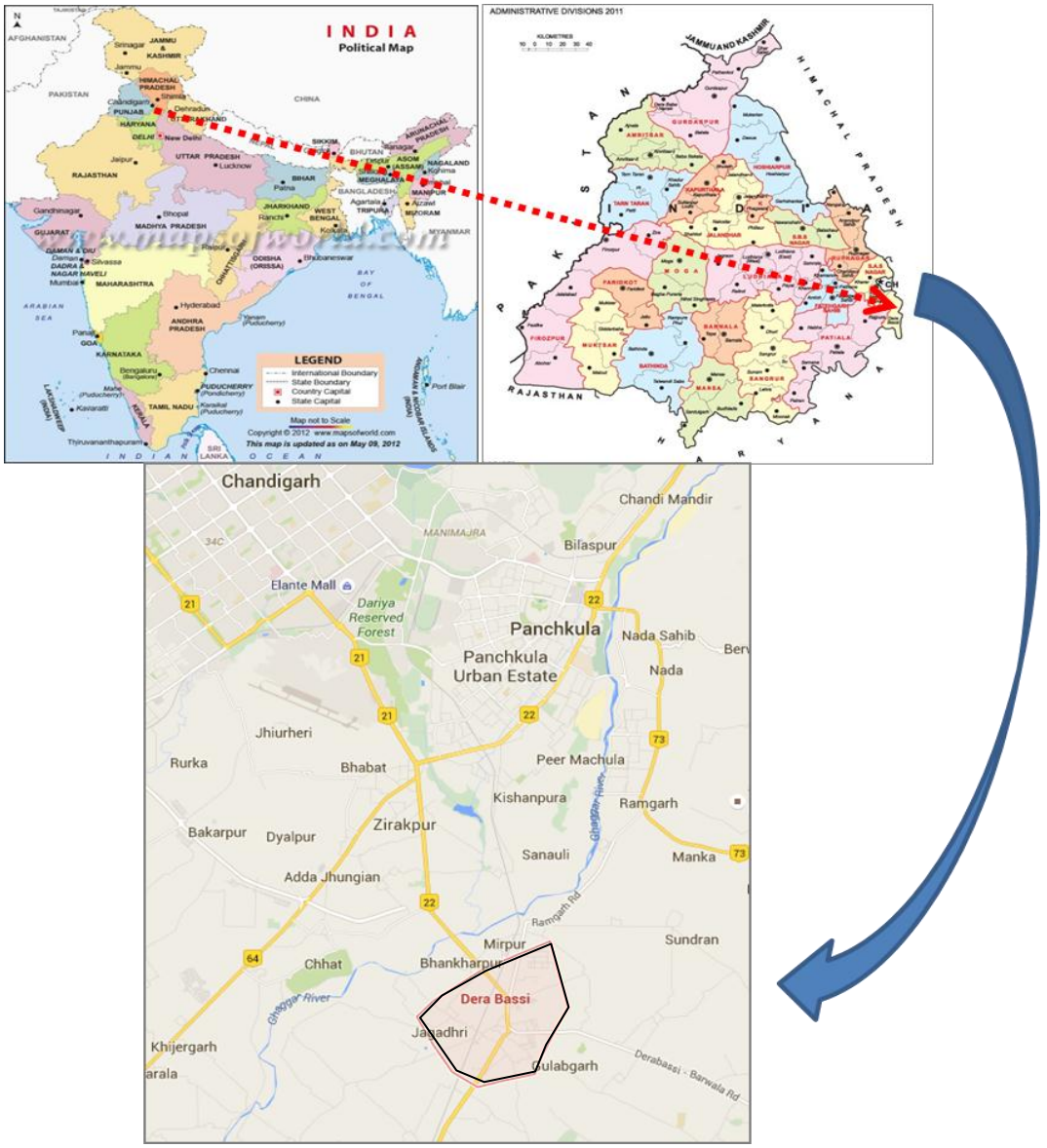
DeraBassi is a satellite town of Chandigarh at a distance of 21 kilometres located in the Derabassi tehsil of Sahibzada Ajit Singh Nagar (Mohali) district in the state of Punjab. DeraBassi LPA is a part of Greater Mohali Regional planning area.

DeraBassi is a city and a municipal council in Mohali district in the state of Punjab, India. Derabassi comes under tehsil DeraBassi. DeraBassi is located on the Chandigarh – Delhi National Highway, 20 km from Chandigarh. It is strategically located near the boundary of Haryana, Himachal Pradesh and Union territory of Chandigarh.

DeraBassi Local Planning Area is towards the north-east of Chandigarh. It is bounded by NH22, Major District Road - D and PR10.

## 2.2 Location Context

Figure 2-1: DeraBassi regional context




## 2.3 Regional Setting and Connectivity

DeraBassi lies on National Highway-21, about 21 km away from Chandigarh. The town is bounded by Panchkula in North and Ambala in South district of Haryana. It is bordered by Patiala district of Punjab in West Side.

Table 2-1 Road distance of the DeraBassi town from the surrounding urban centres

| S. No | Town | Distance (Km.) |
|---|---|---|
| **1** | Chandigarh (State Capital of Punjab & Haryana | 21 |
| **2** | Panchkula, H.R | 18 |
| **3** | Mohali, SAS Nagar (District Headquarter) | 27 |
| **4** | Derabassi | 9 |
| **5** | Ambala, Haryana | 29 |
| **6** | Patiala | 49 |
| **7** | Ludhiana | 121 |
| **8** | Shimla, H.P | 122 |
| **9** | Amritsar | 262 |

## 2.4 GMR Regional Master Plan

JURONG Consultants Pte Ltd was engaged to undertake preparation of Vision plan, Regional Plan & Master plans for the six local planning areas. The Regional Plan maps out the vision for the GMR and long term physical development for a projected population of 4.5 million people. The master plan identifies the land use zones to guide future development. Regional Plans also specify the ancillary, related or compatible activities allowed within each zone.

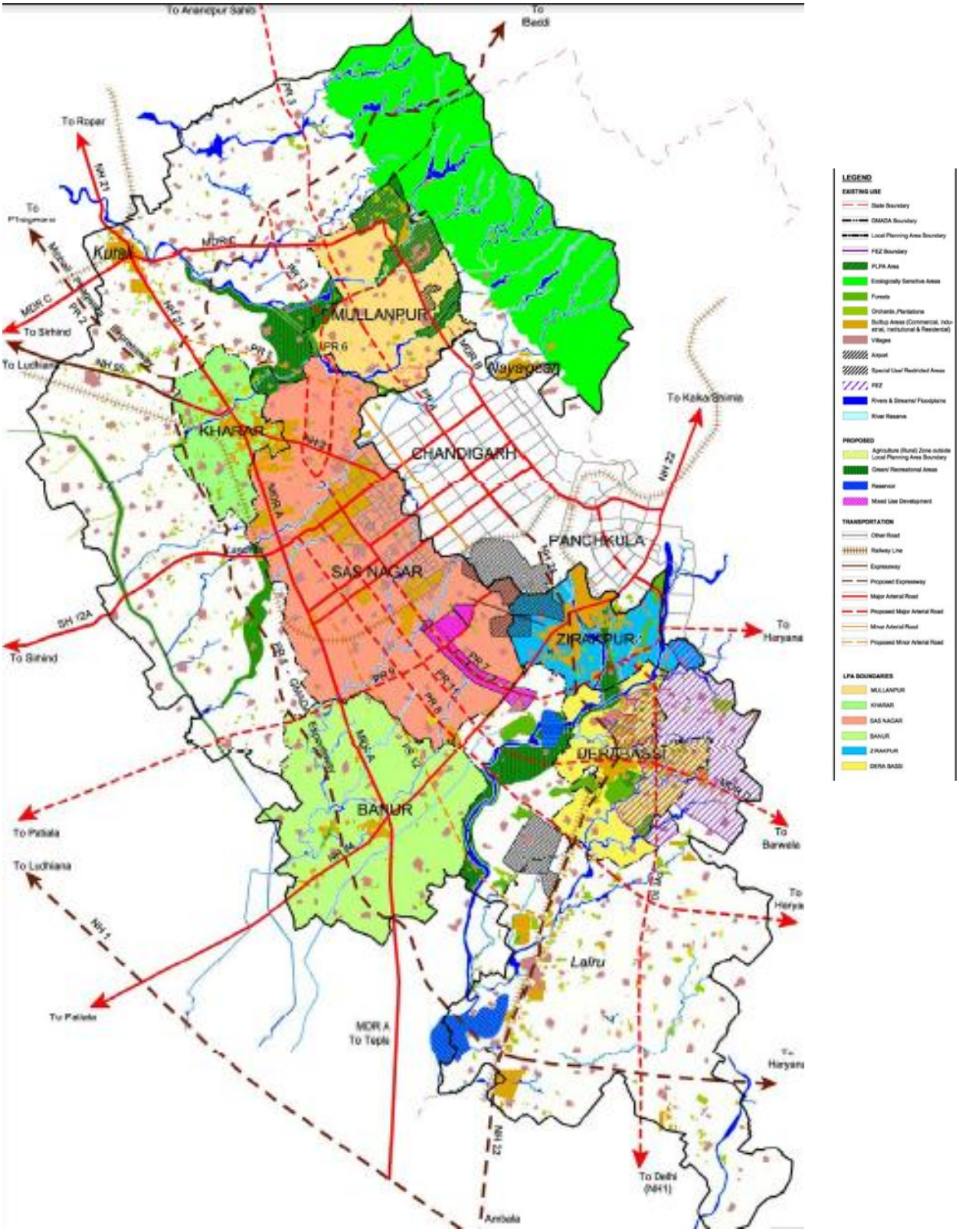
Table 2-2 Greater Mohali Region- Land Use Distribution

| S. No. | Use | Area | 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 | 21.0 |
| 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** |

Table 2-3 Greater Mohali Region- Urbanisable Area Land use distribution

| S. No. | Land Use | Area | Percentage |
|---|---|---|---|
| 1 | Residential | 22065 | 52% |
| 2 | Commercial | 4654 | 11% |
| 3 | Industrial | 6914 | 16% |
| 4 | Institutional | 5213 | 12% |
| 5 | Recreational & Open Spaces | 3894 | 9% |
| 6 | **Total** | **42740** | **100%** |

Figure 2-2: Regional Plan Land use-GMR LPA area



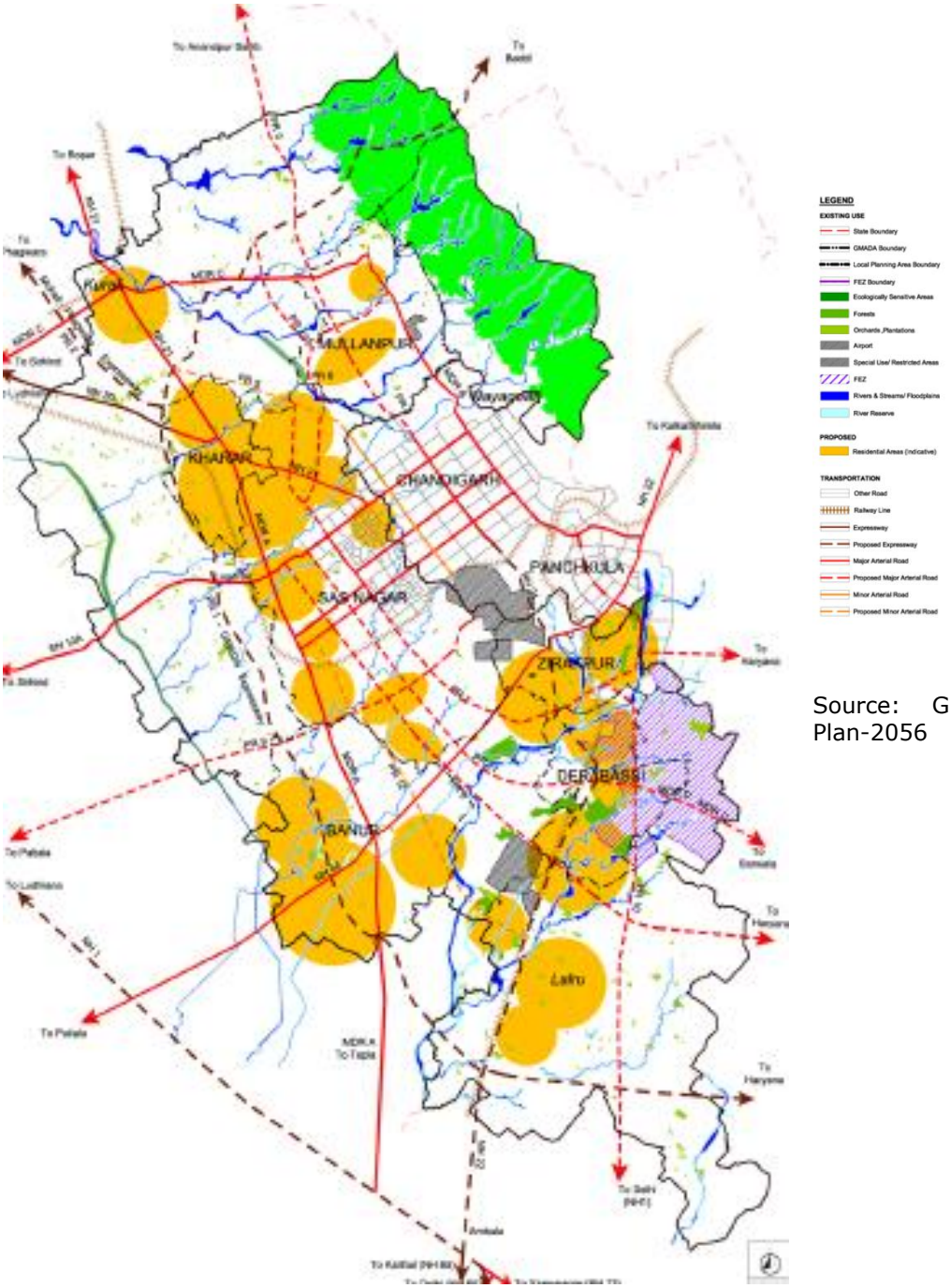

Source: GMR Regional Plan-2056

### 2.4.1 Residential Development

Approx 53% of the Greater Mohali local planning area is proposed under residential land use.Approx 800 ha.of land from sector 66/82 to village Chatt was acquired for developing an "Aero city" which will include institutional, commercial and residential use. Other private developers active in the region include DLF, Emaar, and Country Coloniser & Unitech etc.

**Derabassi shares a percentage of 5.66 % of the total residential land use of the GMR planning area**

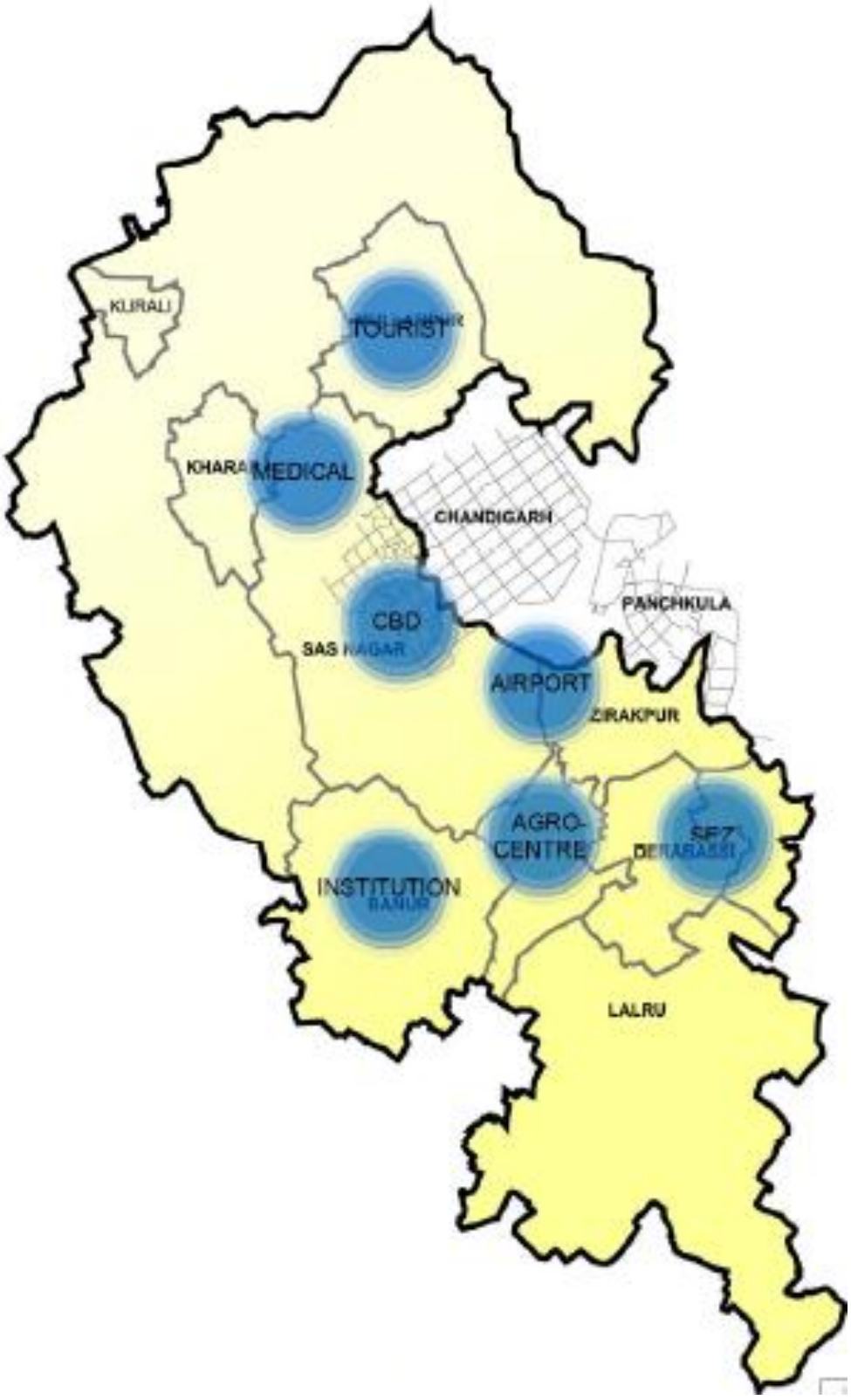
Figure 2-3 Proposed Residential Land use within GMR




Source: GMR regional Plan-2056

### 2.4.2 Commercial & Mixed Land use development

Figure 2-4 Strategic Economic Focal Points of growth



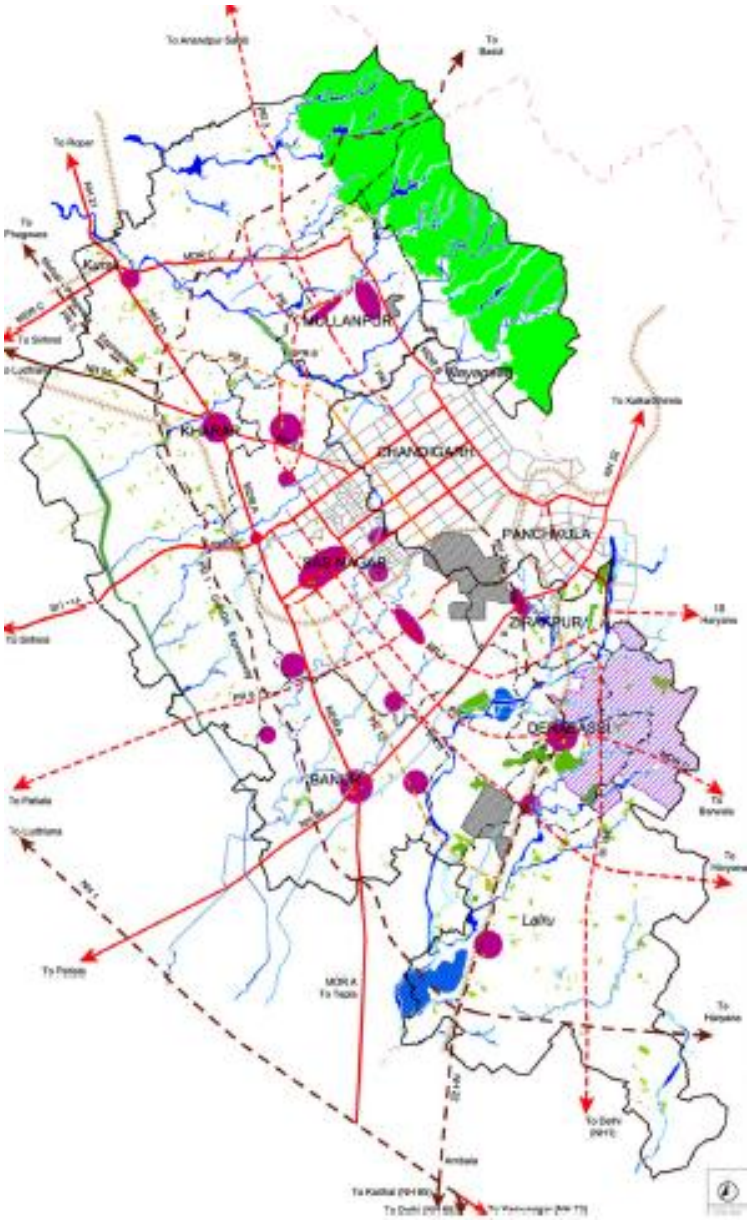

Source: GMR Regional Plan-2056

Main concentration of commercial activities within GMR region was in Chandigarh & Mohali districts. In the proposed master plan knowledge based business parks & mixed use corridors were proposed away from city centres which will potentially become the future growth centres of the region.

The expansion of the airport and the development of CBD within SAS nagar would enhance the related communities with an international business and aviation transportation presence.

DeraBassi had been proposed as one of the commercial node in the GMR regional Plan

Figure 2-5 Proposed Commercial Nodes

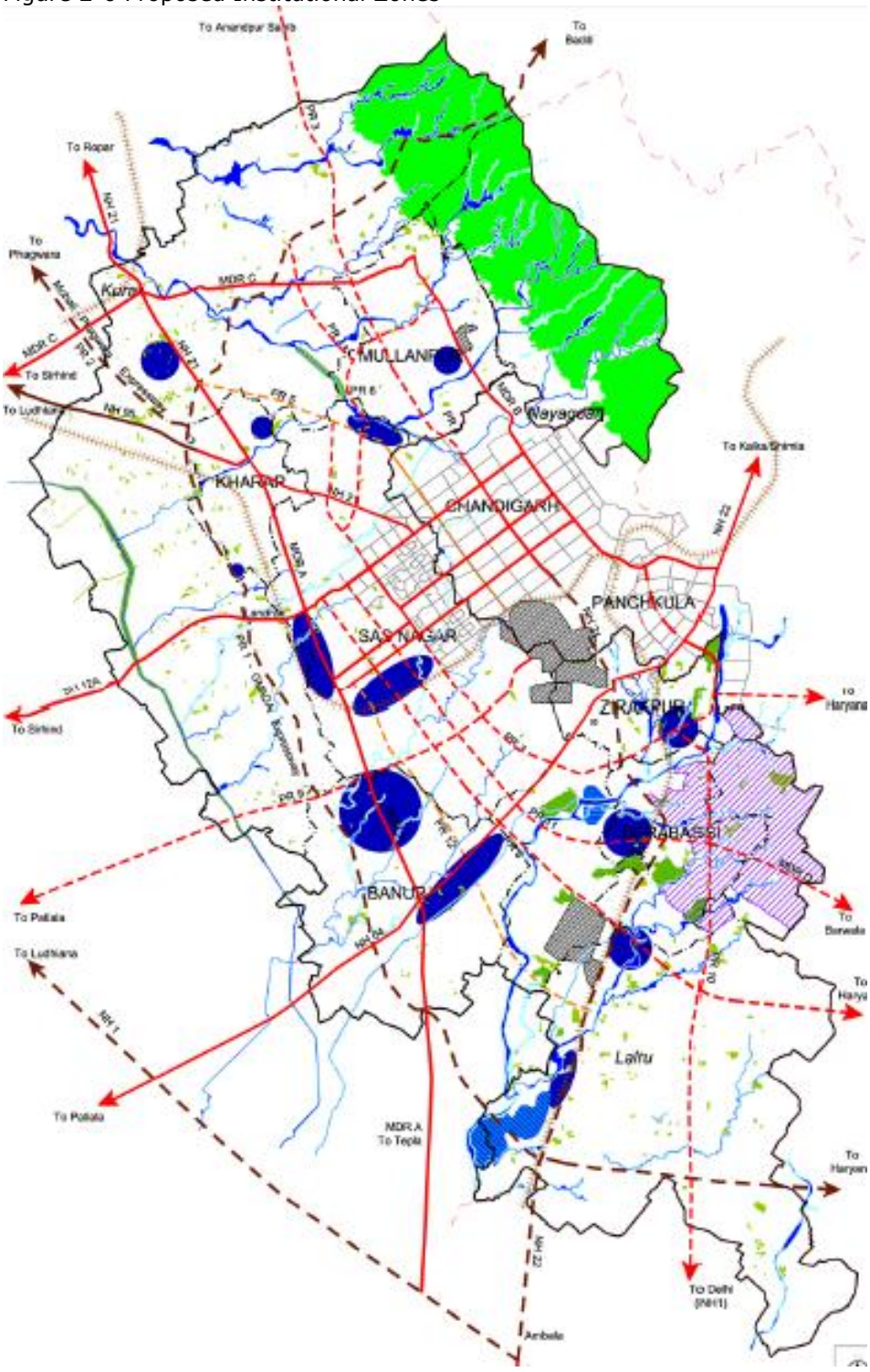



Source: GMR Regional Plan-2056

### 2.4.3 Institutional/ Health Development

Banur is located aprox. 21 km from Derabassi. Incentives were given to education institutions around Banur to locate their campuses to further develop Banur as an educational hub. The allocation of land has already been done for the same.

Figure 2-6 Proposed Institutional Zones




Source: GMR Regional Plan-2056

### 2.4.4 Industrial development

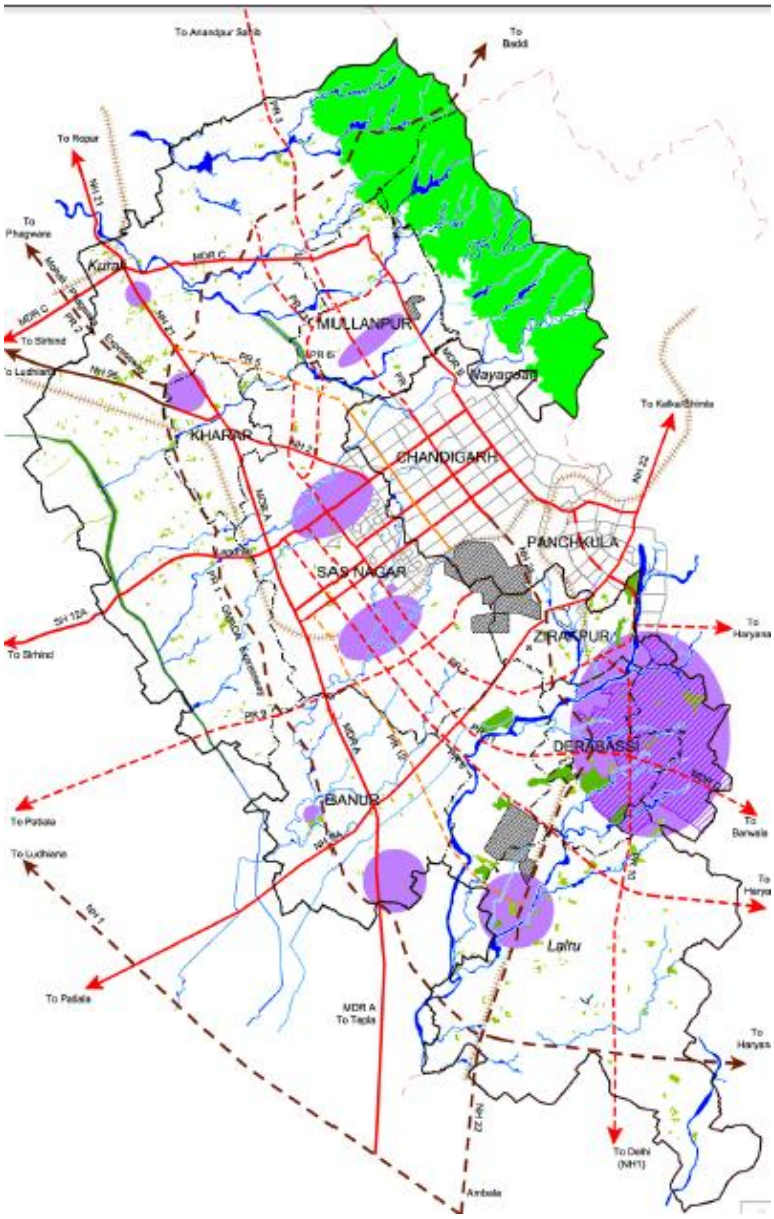
Many manufacturing industrial land uses were converted into Special Economic Zones (SEZ's) and Research and Development (R&D) centres.

The planning intent for DeraBassi Local Planning Area as one of the promising industrial town of Punjab.

| Local Planning Area | Industrial Allocated (ha) |
|---|---|
| Banur | 1598 |
| Derabassi | 1740 |
| Kharar | 215 |
| Kurali | 142 |
| Lalru | 533 |
| Mullanpur | 542 |
| SAS Nagar | 1556 |
| Zirakpur | 572 |

1740 ha of land has been allocated under Industrial Land use for light manufacturing industries in Derabassi which is 25.3% of the total industrial area proposed in the GMR.

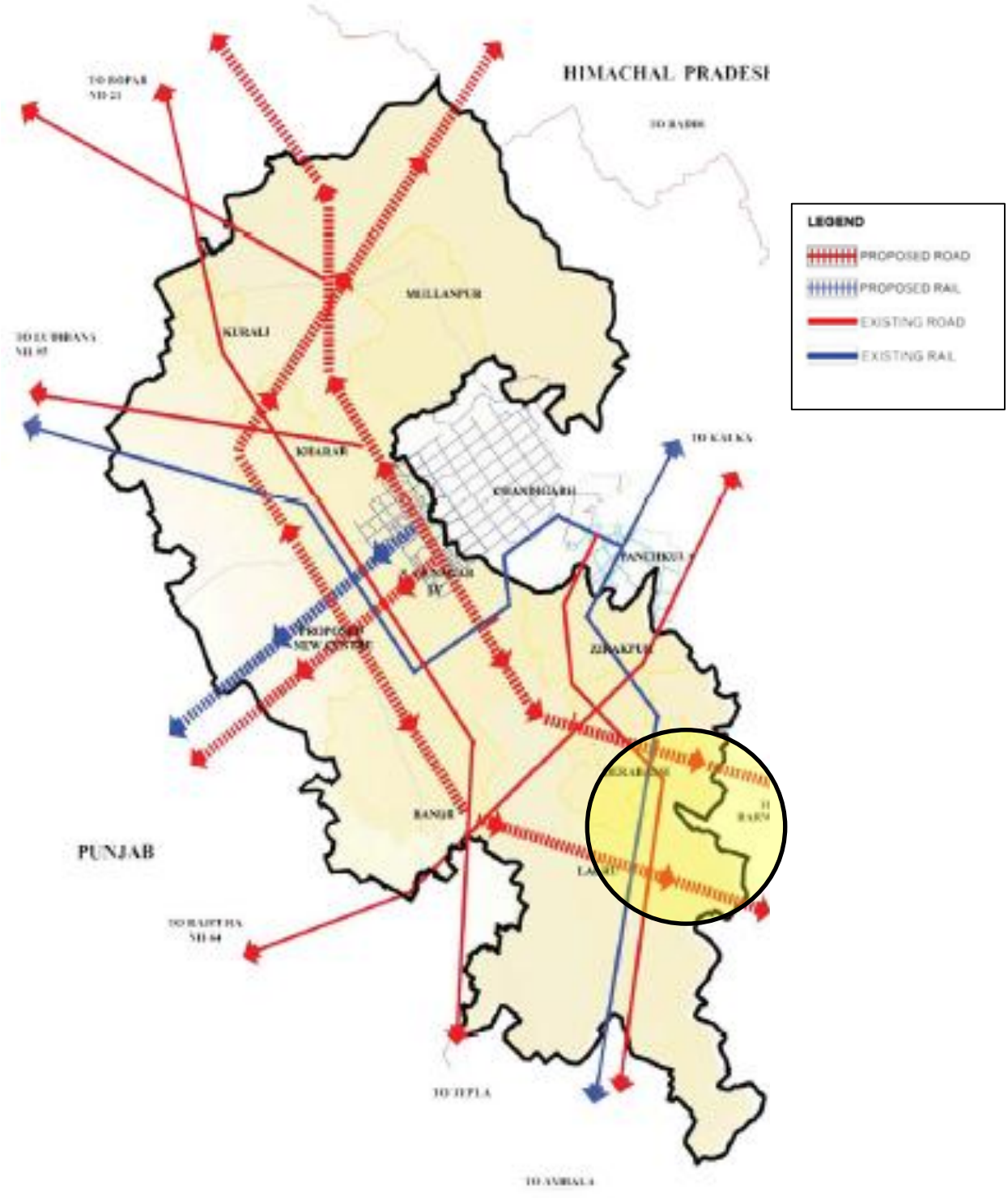
Figure 2-7 Proposed Industrial Growth




Source: GMR Regional Plan-2056

## 2.5 Transportation

Figure 2-8 Transportation Plan




Source: GMR Regional Plan-2056

The above Map shows that the DeraBassi is well connected by Road and Railway and a new road is also proposed to enhance the road connectivity to the SAS Nagar.

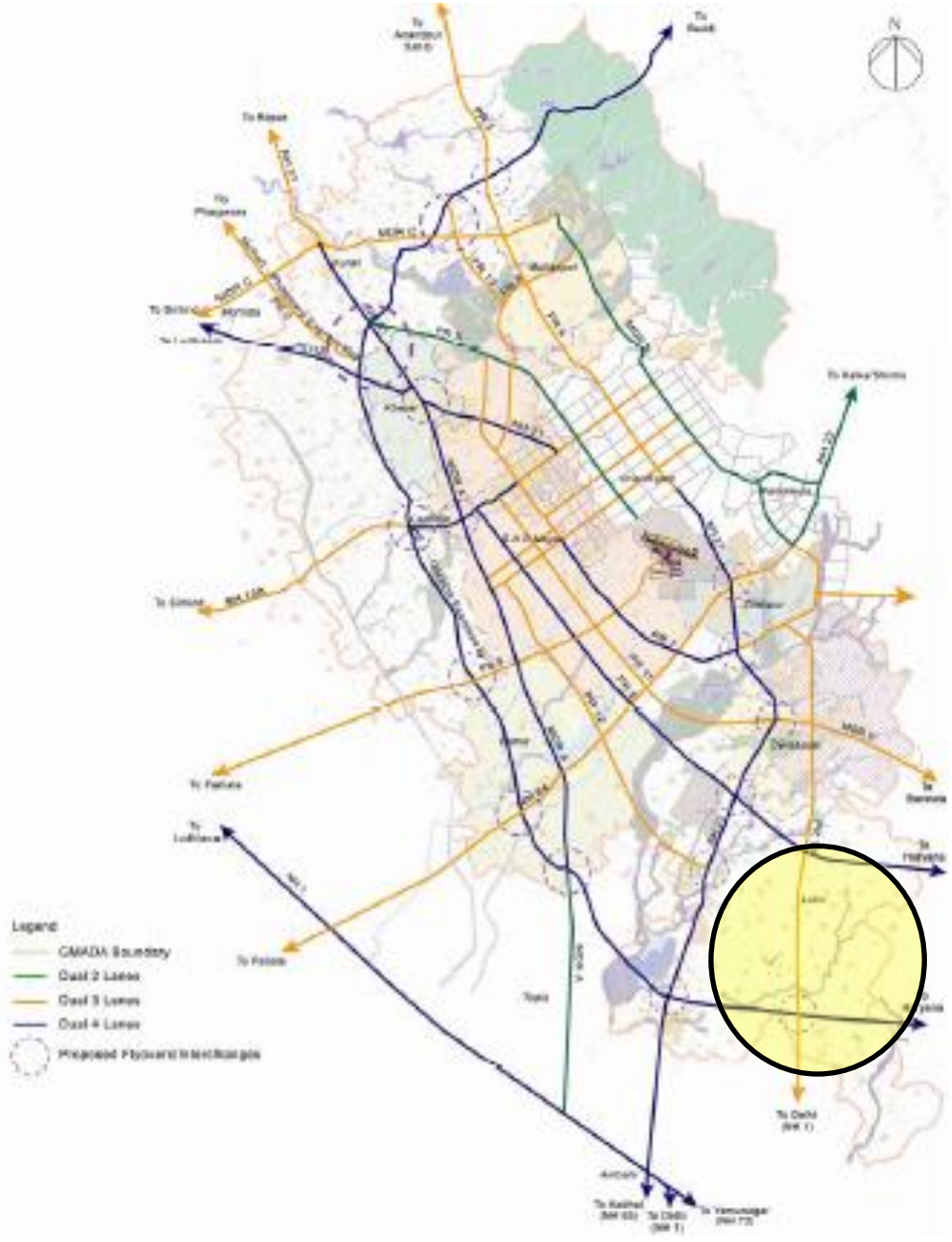
### 2.5.1 Road Connectivity

The GMR is well connected to its hinterland through a network of National Highways, State Highways and Major District Roads

| S.No. | Name of Road | |
|---|---|---|
| **1** | NH-1 | To Ambala and Further to Delhi |
| **2** | NH-21 | To Roper |
| **3** | NH-22 | To Shimla |
| **4** | NH-95 | Ludhiana |

**PR 11: Connection to DerraBassi.** This proposed major arterial road running in a south-east direction. North of PR 8 is required to cater for the high demand flows in the south-east direction from SAS Nagar. **At Derabassi, the proposed road connects to the existing MDR -D.**

Figure 2-9 Proposed road network, lane requirement and proposed interchanges



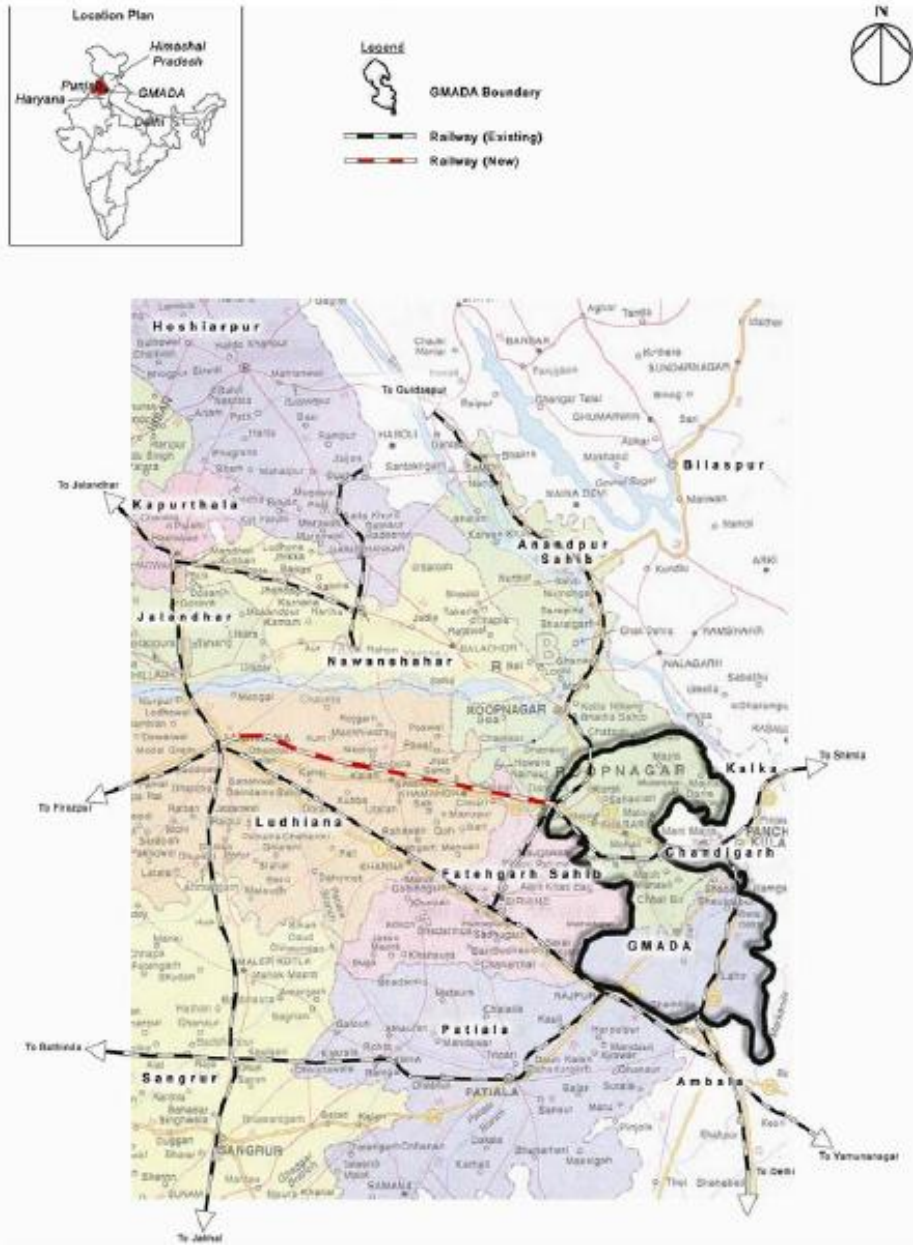
Source: GMR Regional Plan 2056

### 2.5.2 Rail connectivity

Outside the study area, twin track railway lines run from the east viz from Delhi and Mumbai and meet at Ambala. From there, the railway line runs as a single track in the north-south direction from Ambala to Chandigarh. From Chandigarh the single track line further links to Kalka. From Kalka to Shimla the line is a narrow gauge single track. The single track Chandigarh to Morinda line is newly built and serves the north-east and north-west of the study area. There are plans to extend this railway line further westwards from Morinda to Ludhiana.

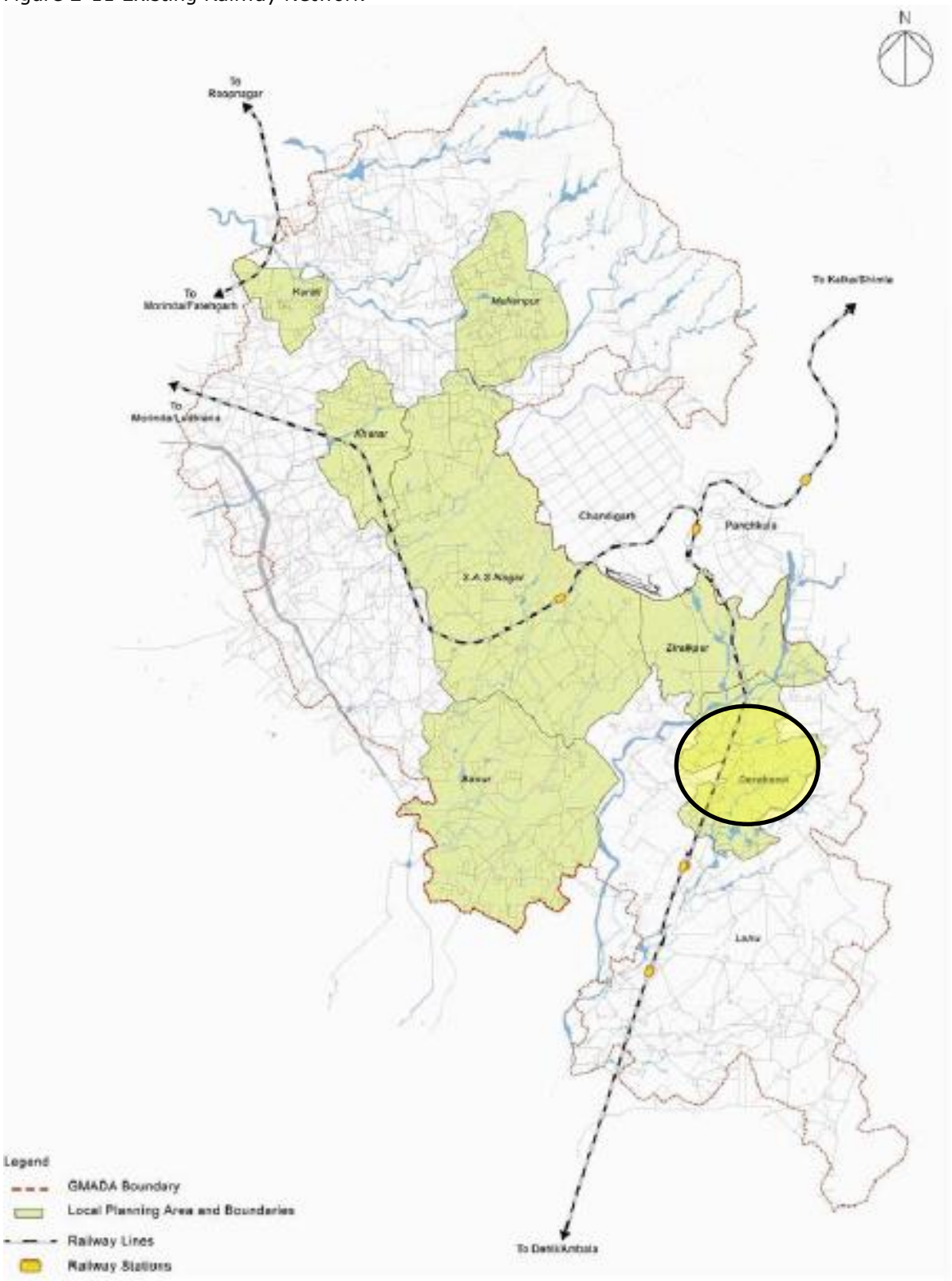
Appropriate land uses eg.heavy industrial and ware housing that can benefit from rail access can be proposed to capitalize. Such sites could include areas in the **vicinity of Derabassi** and Lalru. The use of the railway for the movement of raw materials and finished goods will help reduce goods vehicle traffic along the major roads.

Figure 2-10 Regional Railway Network




Source: GMR Regional Plan-2056

Figure 2-11 Existing Railway Network



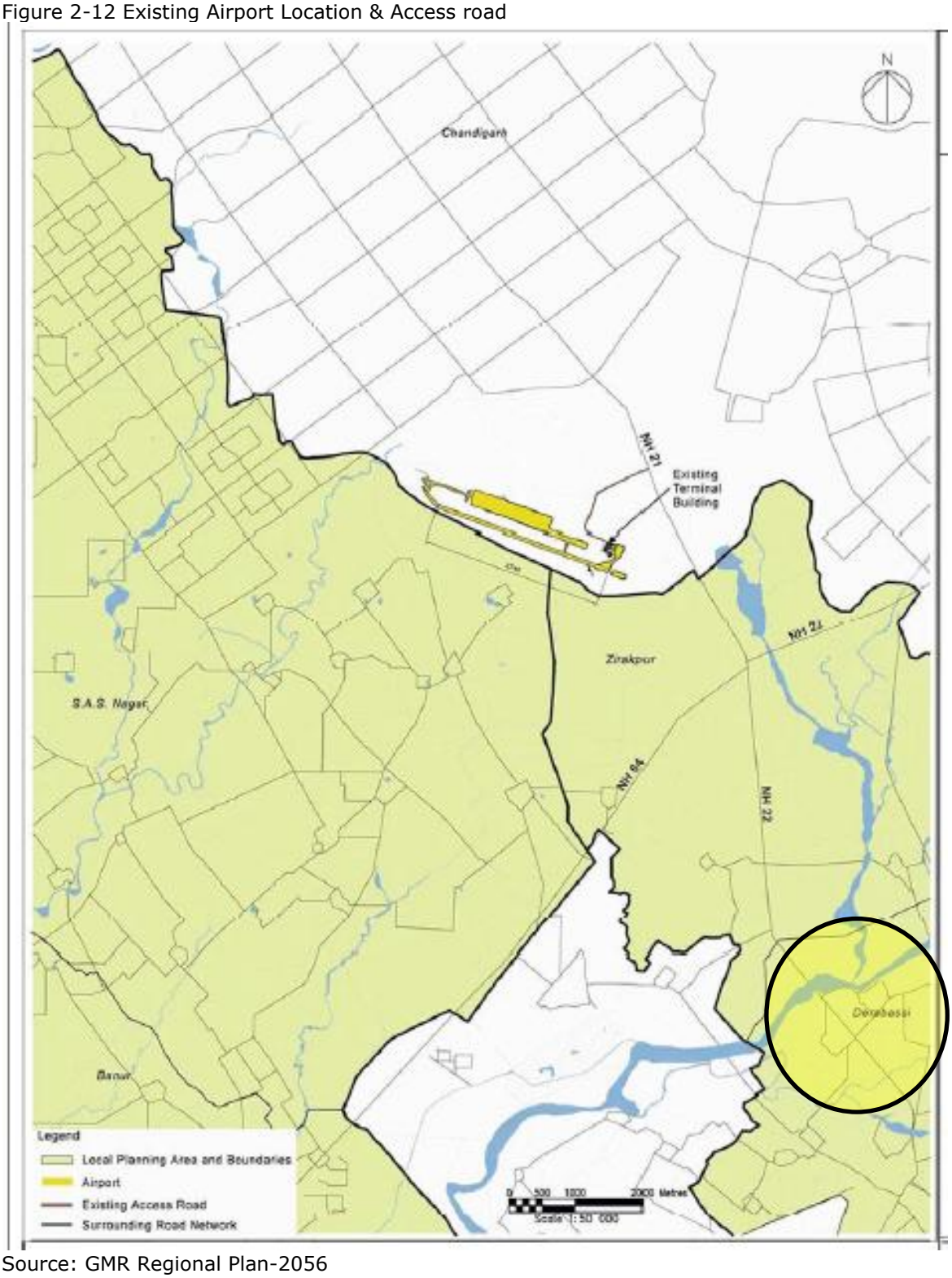

Source: GMR Regional Plan-2056 Report

### 2.5.3 Airport

The existing airport is a regional airport sited about 12 km to the east of Chandigarh.

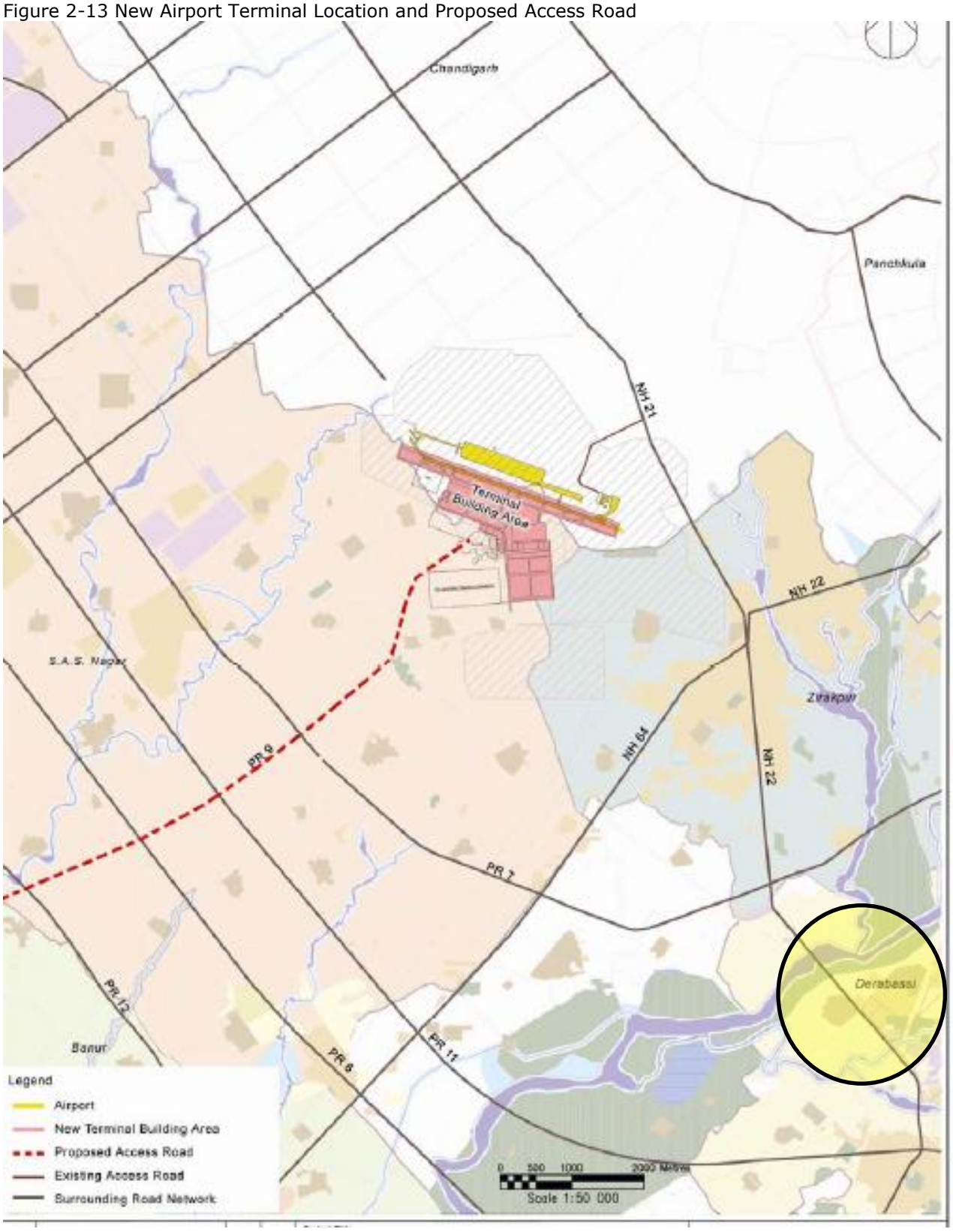
An MOU was recently signed between the Airport Authority of India (AAI) and the Punjab and Haryana governments for the building of a new international airport terminal on the south side of the runway at Mohali. This new terminal will be built on a 300 acre site and will have all the facilities of a modern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

Figure 2-12 Existing Airport Location & Access road




Source: GMR Regional Plan-2056

Figure 2-13 New Airport Terminal Location and Proposed Access Road




Source: GMR Regional Plan-2056

# 3 Master Plan-2031 for local planning area Dera Bassi

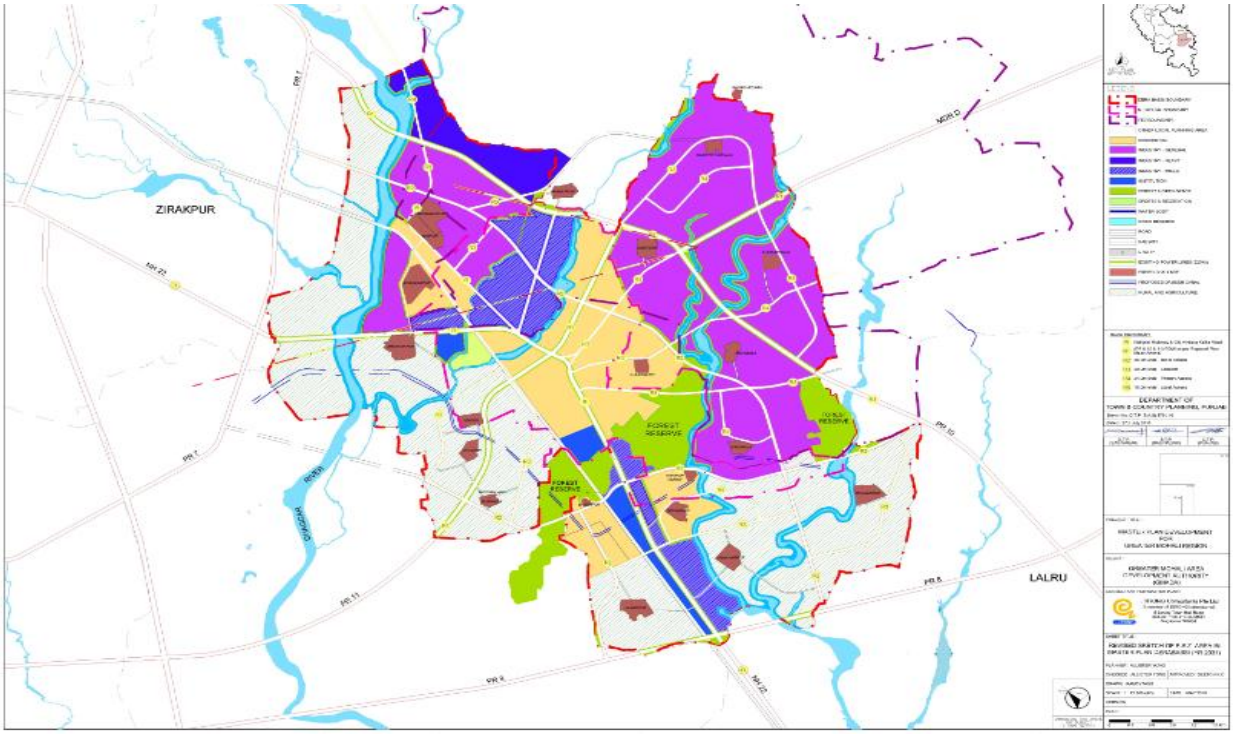
In the course of planning the LPA for Dera Bassi, planning issues were surfaced and clarified with GMADA prior to the conceptualizing the final plan for Dera Bassi. The planning proposals for Dera Bassi would outline the development objectives of the town. The focus of the land use proposal was to ensure adequate and balanced spread of residential and industrial land so that sustainability could be achieved. Active allocation of complementing land uses was displayed through seamless integration of land uses, transport and economic activities. Land to be accommodated for the Year 2031 and 2056 will be covered in this plan.

## 3.1 Land use & Proposed Development

Table 3-1 Proposed Land use Classification as per Master plan 2031

| Land use Classification | Proposed for 2031 | |
|---|---|---|
| | **Area(Ha)** | **Percentage (%)** |
| **Residential** | 433 | 8 |
| **Mixed use** | 0 | 0 |
| **Industrial** | 774 | 15 |
| **Industrial-Mixed** | 152 | 3 |
| **High Technology/IT** | 121 | 2 |
| **Forest reserve** | 181 | 3 |
| **Existing river** | 182 | 4 |
| **River reserve** | 213 | 4 |
| **Green & open space** | 120 | 2 |
| **Roads & rail** | 461 | 9 |
| **Recreational** | 18 | less than 1 % |
| **Institutional** | 42 | 1 |
| **Existing built-up** | 515 | 10 |
| **Utilities** | 35 | 1 |
| **Rural & agricultural** | 1,780 | 34 |
| **Development area** | **5,193** | **100** |

Figure 3-1 Proposed Land use Classification as per Master plan 2031




Source: Master Plan DeraBassi-2031

### 3.1.1 Industrial

A total land area of 295 ha had been designated for the use of Pharmaceutical & Chemical Park on the north-eastern part of DeraBassi. On ground, there were already quite a number of established and prominent industrial developments involved in pharmaceuticals and life sciences, such as Nectar Life Science and HPL Additives.

About 68 ha of land had been designated for the use of the "Red" category industries. Such allocation of land for this use will guide effective land use planning and help industrialists to select suitable industrial premises for their businesses.

Labour intensive and unclean industrial activities such as brick kilns, sand mining and stone crushers which generate more adverse effects to the environment could bezoned as **Heavy industries.**

The rest of other light industrial activities and trades which were on-going in DeraBassi would be zoned as **General industries.**

About 152 ha of land near the central and along the south of DeraBassi LPA had also been proposed for the use of Industry Mixed.

About 121 ha of land was safeguarded for the use of high technology and value-added kind of industrial development in form of Science, R&D, IT and biotechnology parks.

This use was specifically set aside for non-pollutive industries and businesses that engage in high-technology, research and development, high value-added and knowledge-intensive activities.

### 3.1.2 Residential

The residential land use quantum for the Year 2031 had been provided at 433 ha, which was about 8% of the total development area for DeraBassi.

In the plan for the Year 2031, the residential area was largely located in the central part of the town, within and adjoining the Municipal Limits boundary.

The High Density housing was proposed along a corridor fronting the Sukna Choe with the existing built-up areas for DeraBassi town and along the railway belt.

The Low Density residential areas were tucked away from the public where there was seclusion from bustling activities. This was to introduce exclusivity for use of private villas and bungalow housing for residents who prefer more exclusive and natural living environment.

The remaining land of 315 ha was for the Medium Density housing, which was planned as a transition area between the High and the Low Density housing areas.

The residential land use quantum for EWS takes up 10% of the High Density residential land use.

### 3.1.3 Forest reserve, green and open space

Presently, there were already two large tracts of forest areas covering a total land area of 181 ha within DeraBassi deemed as protected forest reserved to preserve the natural characteristic of the town.

To preserve the natural characteristics of the town, a 120 ha of land was proposed for the use of green linkages, buffers and open space.

### 3.1.4 Institution and recreation

For year 2031, 18 ha of land was proposed for recreational use and 42 ha of land for institutional use.

### 3.1.5 Transportation

For proposed transportation plan for Year 2031 for DeraBassi, new road proposals had been brought in the road network of LPA. Widen of accesses and roads to the villages had been proposed.

The following list points out the proposed road connectivity which has been adopted and planned for DeraBassi LPA.

- There would be **an improvement to the alignment of PR11**, where it would be diverted north of the existing DeraBassi town centre via a flyover, instead of cutting through the existing town centre which would lead to acquisition of private land and properties.
- The **existing road would be retained** as a lower hierarchical road to protect the existing businesses fronting this down-graded road.
- **PR10 would connect northwards to PR7** for linkage to Zirakpur and southwards to Lalru, ultimately forming road linkage to the proposed GMADA Expressway (PR 1). PR8 which borders the DeraBassi periphery on the south eventually links to PR10 to form an alternative connection to the proposed GMADA Expressway (PR 1).
- **A new minor arterial would connect PR8 to PR7** as this route will be necessary to provide access to the existing developments at Old Kalka Road
- The **existing village road through the protected forest area would be retained**

- **A new collector road through the FEZ connecting to PR10** would also be proposed to improve the connectivity of the FEZ as an entity and internalize the traffic movements.
- **Collector road, CL10 will link to NH22** as a Left-In- Left-Out (LILO)
- **A new collector road** was proposed to provide better linkage of the industrial lands at the **north of DeraBassi** (beyond DeraBassi LPA boundary).
- A **new collector road was introduced at the south of DeraBassi** (just beyond the forest reserve outside DeraBassi LPA) so as to provide more direct routes to connect the residential areas in the south.

# 4 Revision for the Master Plan 2008-2031 for Local Planning Area

## 4.1 Vision of the revised Master Plan

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.

## 4.2 Development Goals

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

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

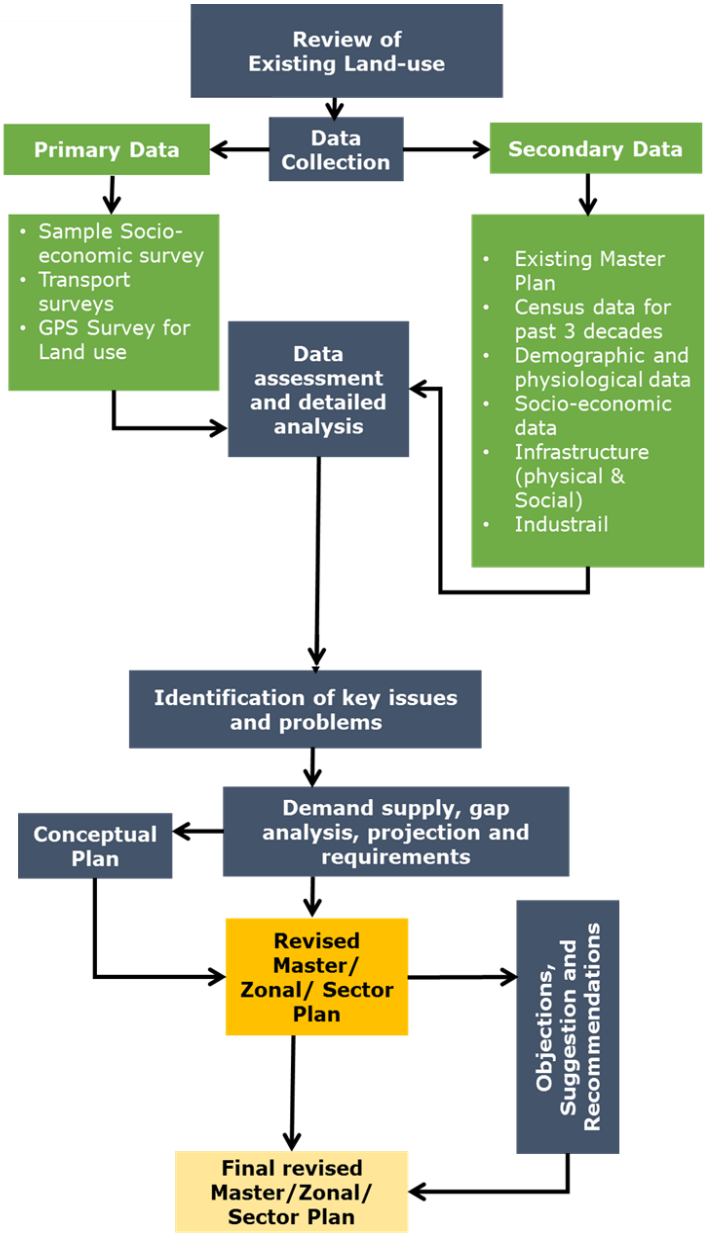
## 4.3 Master plan Approach for DeraBassi

Figure 4-1: Broad steps involved in revised master plan

### 4.3.1 Approach and Methodology

- The Preparation of the revised Master plan for Dera-Bassi, 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.

**Methodology:**

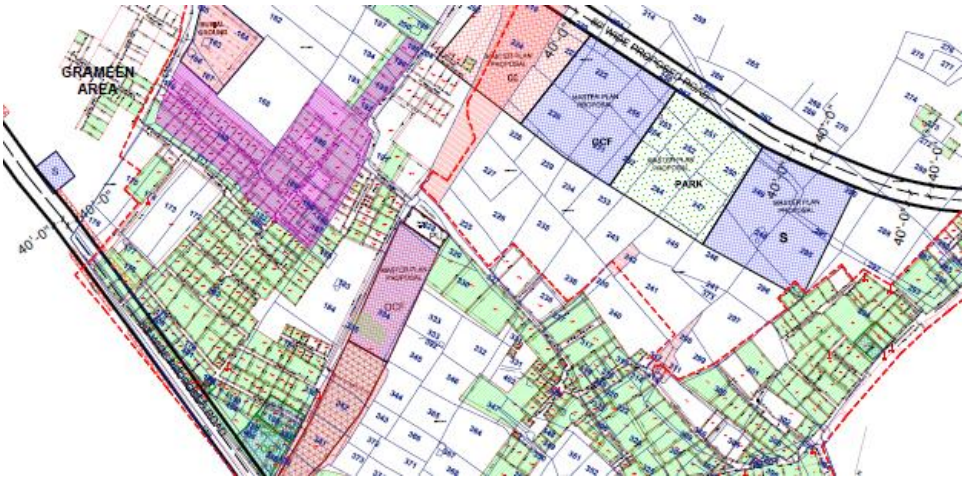



### 4.3.2 Detailed Methodology adopted for the preparation of revised Master plan/Zonal/Sector plan

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

- **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 Derabassi 2031in 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

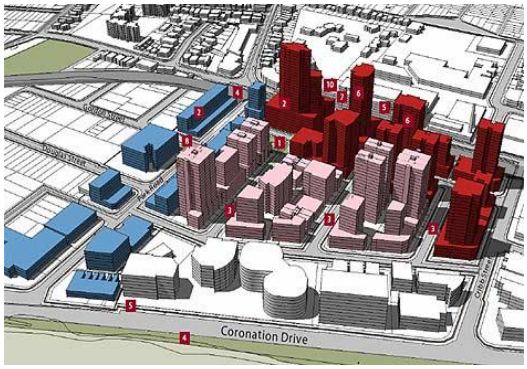



- **Preparation of existing land use map along with analysis**
- Preparation of existing land use map on GIS platform that shall be updated via GPS survey and Super-imposition of Base map on village sajra plans
- Analysis of the existing land use split in terms of proportion and evaluation of the existing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

**STEP 2: PREPARATION OF DRAFT MASTER PLAN/ZONAL DEVELOPMENT 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
- **Assessment of Physical and Social Infrastructure, and estimation of future requirements**
  - 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**
- **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

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

**STEP 3: PREPARATION OF REVISED DRAFT MASTER/ZONAL DEVELOPMENT PLAN/ SECTOR PLAN**

- **Preparation of revised draft 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

**STEP 4: PREPARATION OF REVISED DRAFT ZONAL DEVELOPMENT PLAN/ SECTOR PLAN**

- **Preparation of revised draft 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

**STEP 5: PREPARATION OF FINAL ZONAL DEVELOPMENT PLAN/ SECTOR PLAN**

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

# 5 Existing Land use LPA Derabassi

Before the planning concepts and ideas can be developed for the local planning area, it is important to encapsulate a detailed and comprehensive understanding of the natural state of the planning area and study of the current social situation of the planning area. This will allow for the planning team to identify any potential issues and drawbacks at the very initial stage and address these issues prior while conceptualizing the future plans for Derabassi LPA.

Table 5-1 Existing Land use distribution of LPA Derabassi

| Sr. No | Category | Sub Category | Area(Hec.) | Percentage |
|---|---|---|---|---|
| **1** | Residential | Urban | 578.78 | 11.14 |
| | | Rural | 136.17 | 2.62 |
| **2** | Commercial | | 47.59 | 0.92 |
| **3** | Industry | Industries | 328.14 | 6.32 |
| | | Stone Crusher | 62.93 | 1.21 |
| | | Brick Klin | 5.84 | 0.11 |
| **4** | Institution | Health & Medical Care | 8.45 | 0.16 |
| | | Educational | 32.08 | 0.62 |
| | | Govt. Offices | 6.30 | 0.12 |
| | | Religious | 6.21 | 0.12 |
| | | Police Station | 0.19 | 0.00 |
| | | Civic & Community | 1.80 | 0.03 |
| **5** | Park | | 1.37 | 0.03 |
| **6** | Sports and Recreational | | 5.02 | 0.10 |
| **7** | Utilities | Water | 5.66 | 0.11 |
| | | Power | 5.67 | 0.11 |
| | | Sewerage | 1.04 | 0.02 |
| **8** | Transportation | Road | 113.71 | 2.19 |
| | | Railway Track | 42.28 | 0.81 |
| | | Railway Land | 5.38 | 0.10 |
| | | Terminals | 3.21 | 0.06 |
| **9** | Agriculture | | 2902.69 | 55.87 |
| **10** | Water body | River | 69.19 | 1.33 |
| | | Major Drain | 60.07 | 1.16 |
| | | Pond | 6.04 | 0.12 |
| **11** | Forest | | 237.03 | 4.56 |
| **12** | Plantation | | 113.58 | 2.19 |
| **13** | Open Land | | 314.94 | 6.06 |
| **14** | Vacant Land | | 93.69 | 1.80 |
| | **Total** | | **5195.05** | **100.00** |

Source: Computed Values, 2015

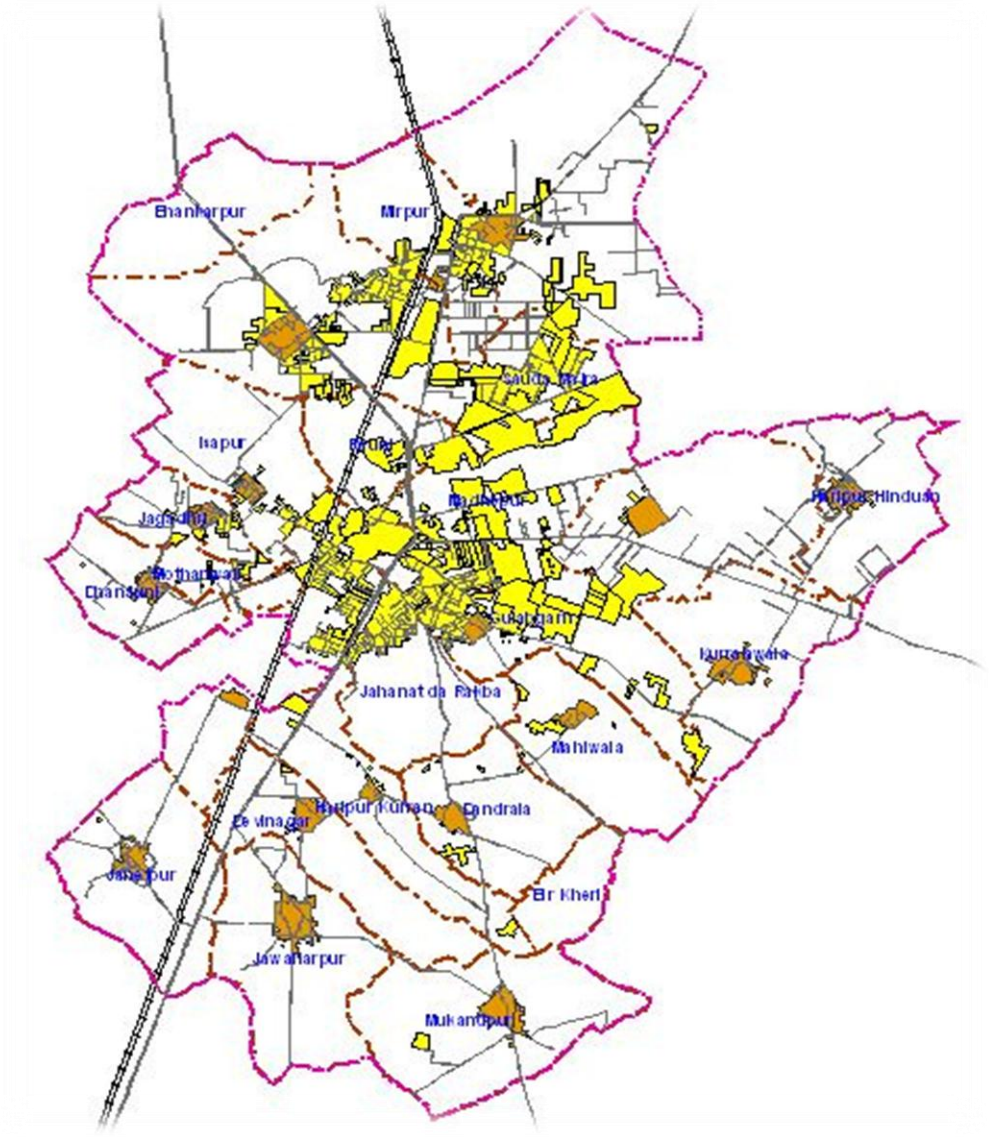
## 5.1 Existing land use Derabassi

The table 5.1 showing the percentage of existing land use distribution of LPA Derabassi under various categories.

### 5.1.1 Residential

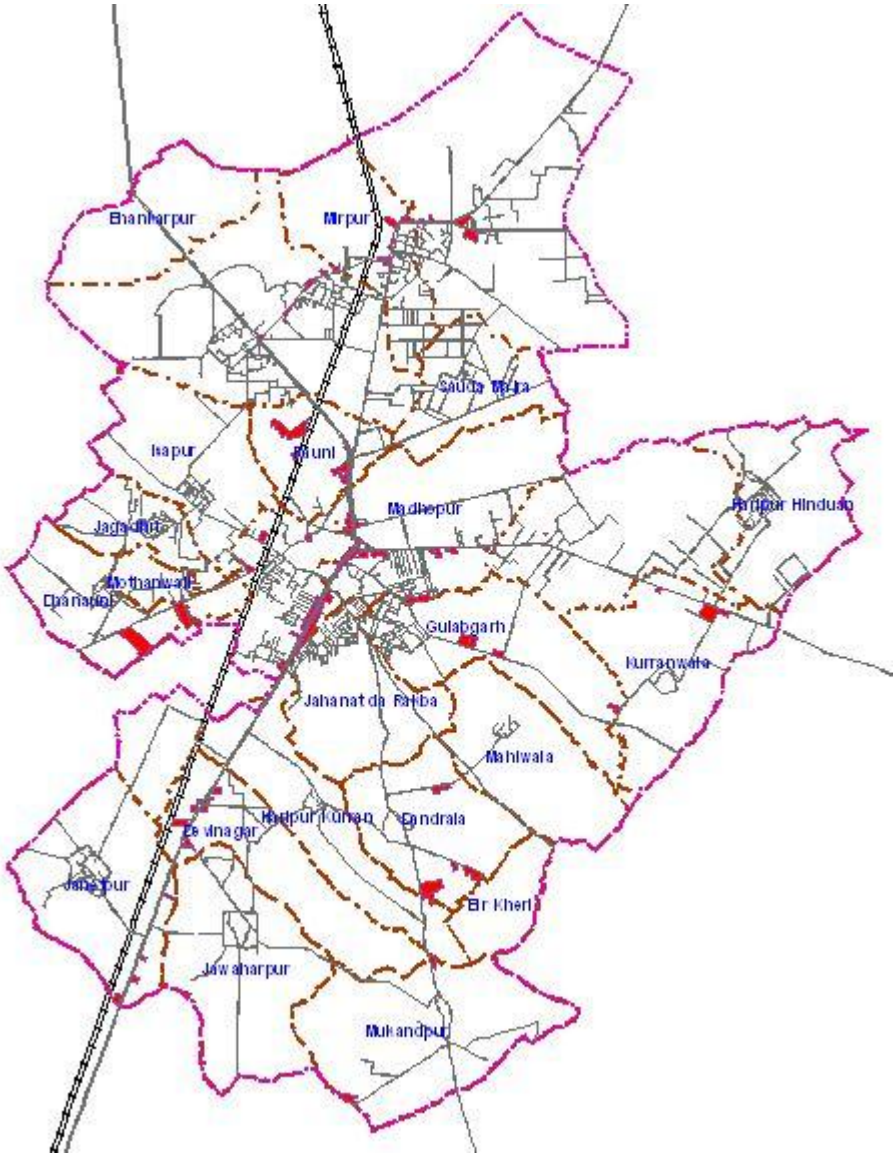
Despite the industrial lands which are currently built-up in the area, DeraBassi is still under-developed and rural, where there are abundant protected forests, green and open spaces. After analysis of data, it has been found that the existing villages in Dera Bassi take up about only 2.6% of the total LPA area. The existing urban residential and committed areas for residential development to-date only make up a mere 11.14% of total LPA area. The Residential area in the Derabassi LPA is 13%.The Derabassi town is having maximum townships coming up and the most of the township is coming along the National Highway which is passing through the Derabassi. Moreover the Derabassi town is influenced by the Chandigarh.

Figure 5-1 Existing residential of LPA Derabassi



### 5.1.2 Commercial

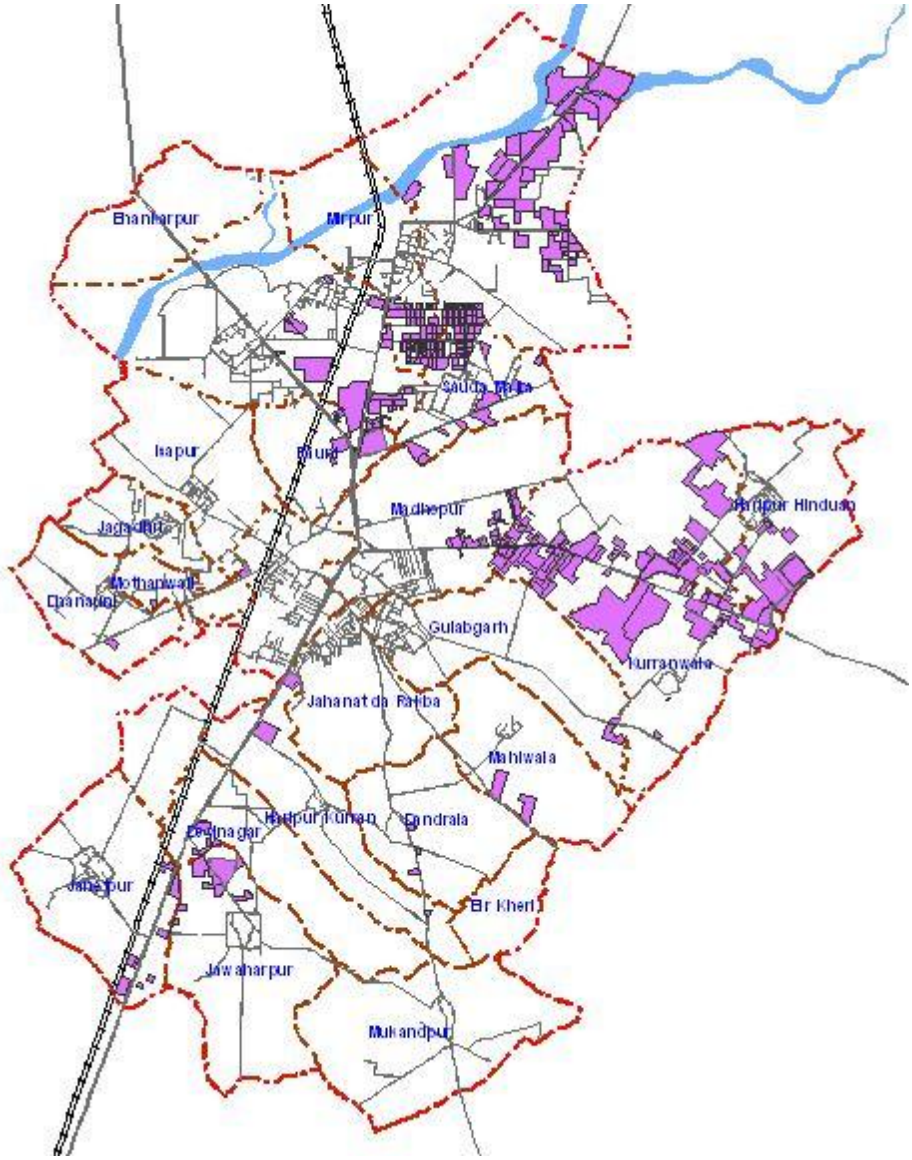
Figure 5-2 Commercial areas of LPA Derabassi




The total area covered under commercial use is 0.9% out of the total area. The total commercial area consists of retail and wholesale shops and one of the major commercial area is old Bazaar. Derabassi old settlement area has commercial land use along at Barwala road, Rampur road and NH-22.

### 5.1.3 Industrial

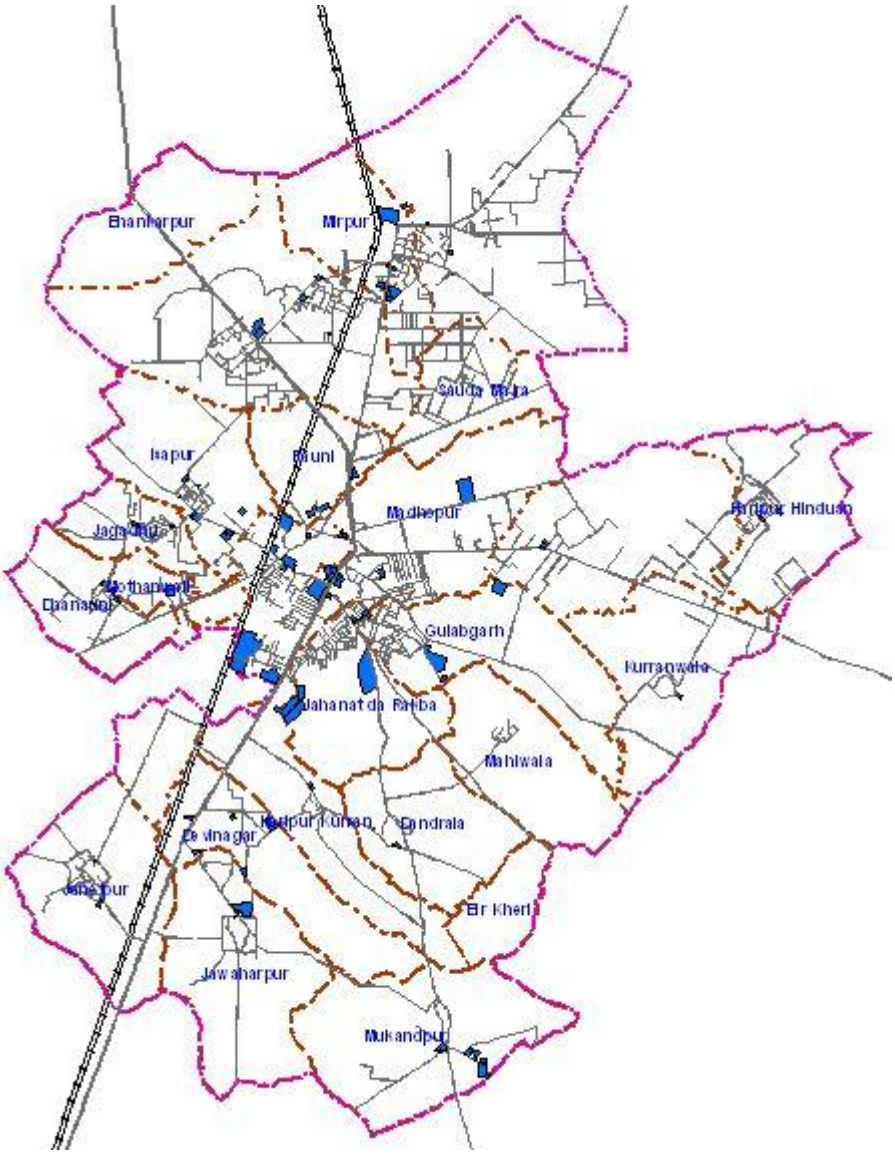
Figure 5-3 Industrial distribution in LPA Derbassi




The existing industrial lands are mostly located in the northern part of Dera Bassi and amounts to about 7.64 % of the overall land use distribution; some 397 ha of land. These comprise of industries, brick kilns and stone crushers, which are located mainly in the north and east of the local planning area. The industrial focal point of Dera Bassi starts at the northern part of Dera Bassi, bounded by the Mubarikpur & Mirpur villages, along the Old Kalka Road.

### 5.1.4 Institutional

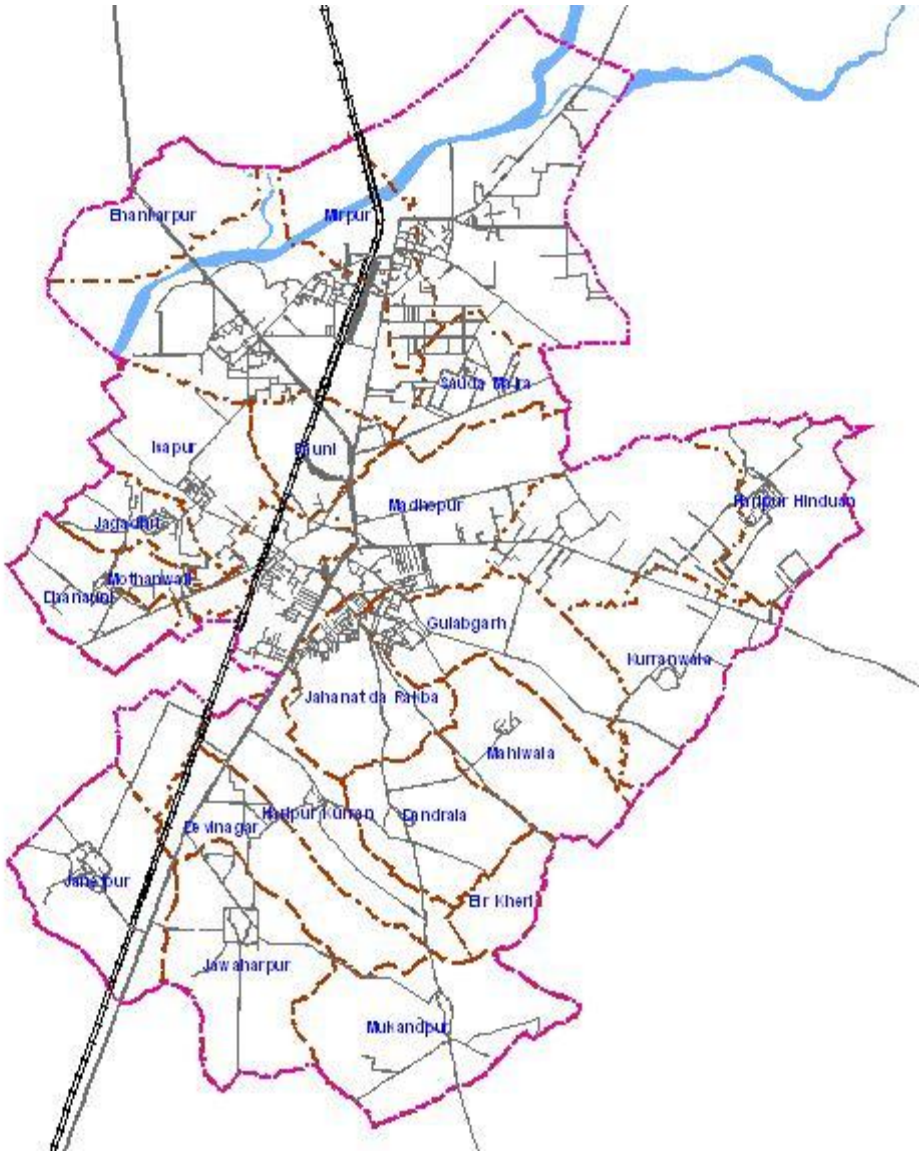
Figure 5-4 Institutions in LPA Derabassi




The above figure shows that out of total planning area, Derabassi has 1.06% of Institutional area which predominantly comprises school, colleges, engineering and dental colleges. Derabassi have major road connectivity with National Highway which encourages private institutions as well as government institutions i.e. senior secondary schools and engineering colleges. The predominantly institutes are Government College of Commerce & Arts, religious institutions, primary & secondary schools e.g. D.A.V Public School and an engineering college named SSIET; Sri Sukhamani Institute of Engineering & Technology.

### 5.1.5 Circulation

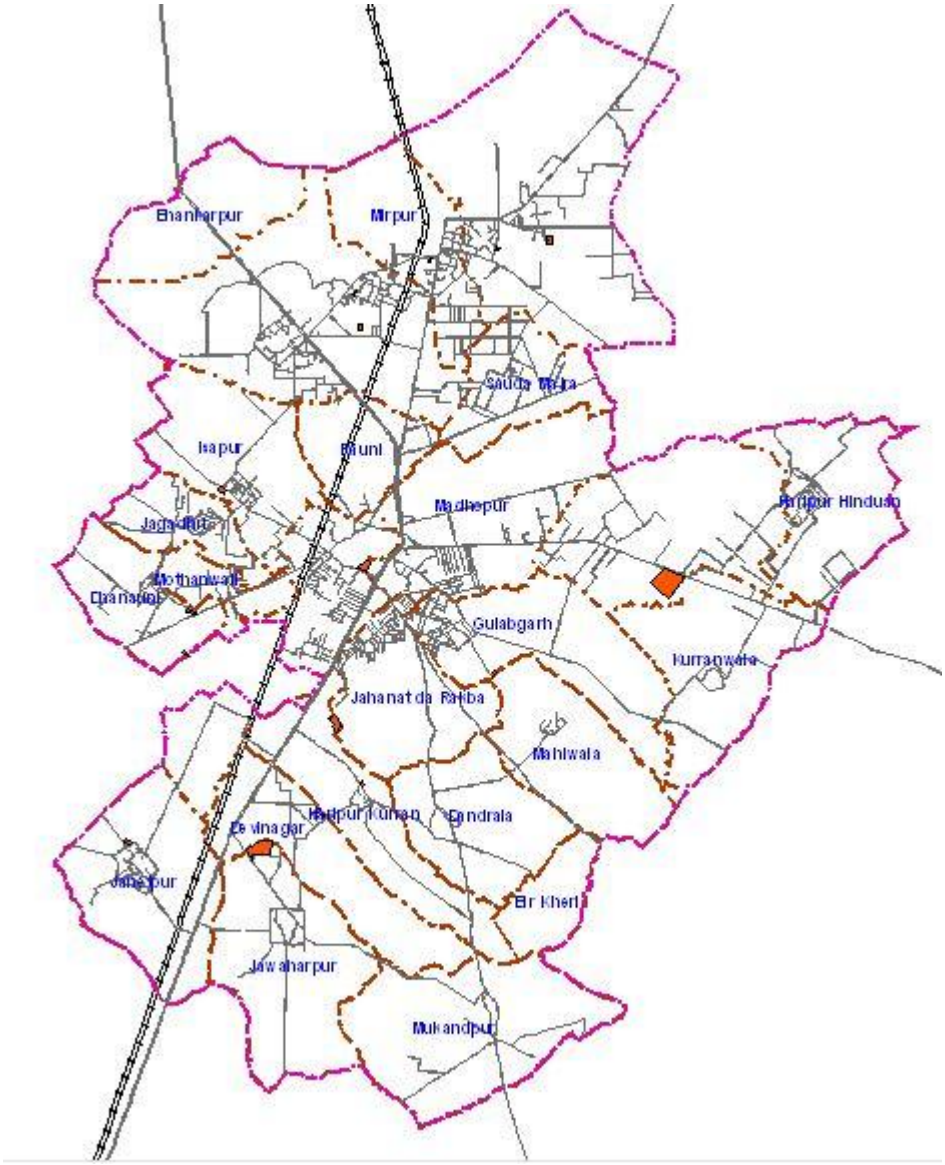
Figure 5-5 Existing road network in LPA Derabassi




Circulation refers to the means by which we get around on roads sidewalks and include by vehicle, by bicycle or on foot. Residents often cite increase traffic and congestion as one of the most undesirable effects of growth. The above figure shows that out of total planning area, Derabassi has 3.18% area under circulation. Derabassi has major connectivity through NH-22 and PR-11.

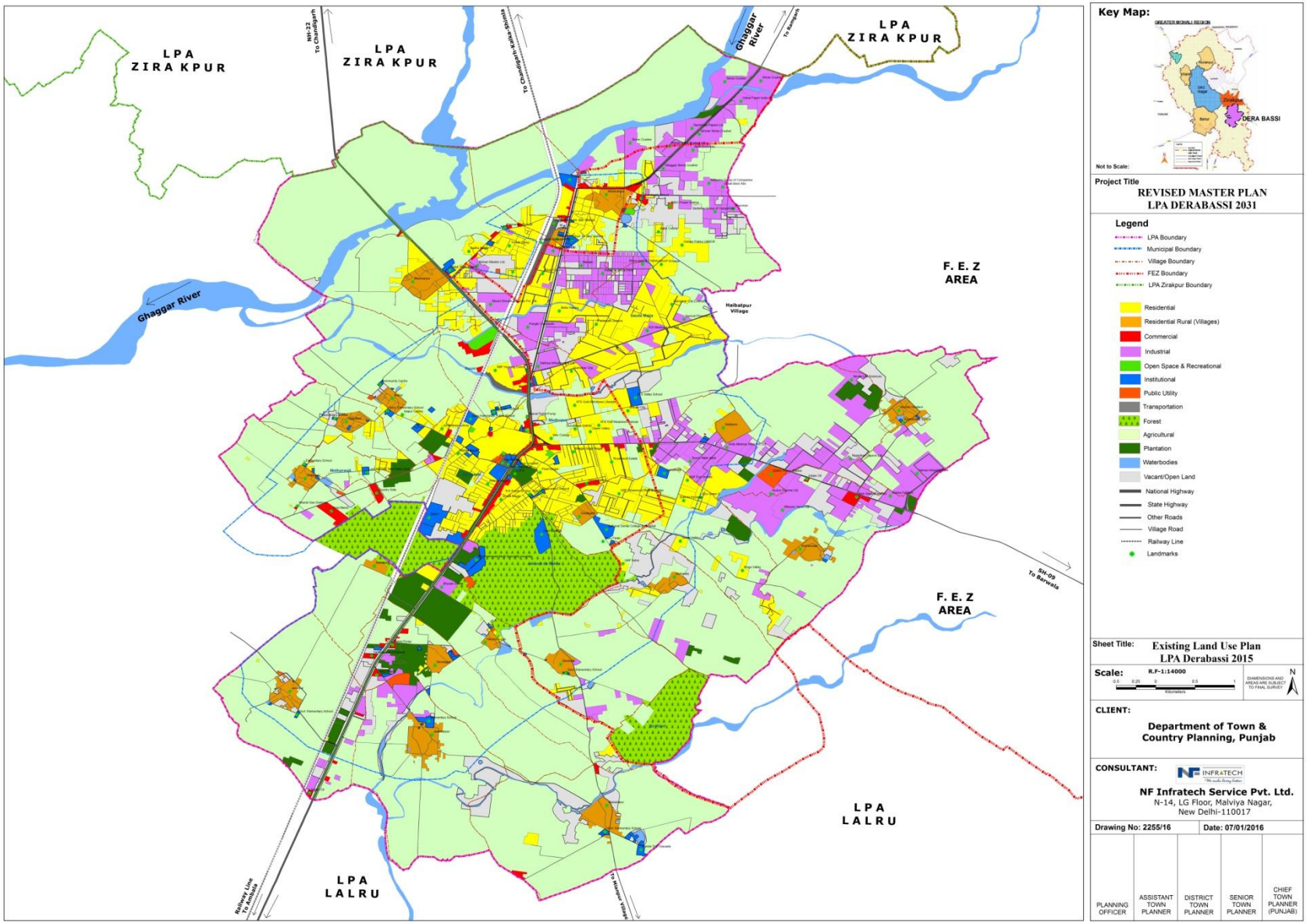
### 5.1.6 Utilities

Figure 5-6 Existing Utilities in LPA Derabassi




Public utilities such as water and sewer system are essential to ensure public health and safety by providing safe drinking water and lessening the discharge of pollutants to the environment. The community facilities, utilities and public services chapter of master plan is a useful tool for the community leaders to use for the planning feature, needs of its population. The area under utilities is 0.2% out of the total planning.

Figure 5-7 Existing Land Use of LPA Derabassi 2015



## 5.2 Existing Urban & Rural Area

As per 2011 census, The LPA consist of

- 3 towns in Urban area accommodating 4465 households & a population of 21952 persons.
- 21 Villages accommodating 3895 households and a population of 19246 persons.

Table 5-2 Urban Areas of LPA Derabassi

| Name | Character | Households | Population | Males | Females | Working Population |
|---|---|---|---|---|---|---|
| **Bhankharpur (CT)** | Urban | 2176 | 10768 | 5776 | 4992 | 3498 |
| **Mirpur (CT)** | Urban | 1191 | 5967 | 3145 | 2822 | 2012 |
| **Mubarakpur (CT)** | Urban | 1098 | 5217 | 2782 | 2435 | 1897 |

Table 5-3 villages of LPA Derabassi

| Village Name | Total Households | Total Population of Village | Total Male Population of Village | Total Female Population of Village |
|---|---|---|---|---|
| **Devinagar** | 290 | 1231 | 679 | 552 |
| **Haripurkuran** | 97 | 509 | 271 | 238 |
| **HaripurHinduan** | 287 | 1527 | 828 | 699 |
| **Saidpura** | 624 | 2598 | 1443 | 1155 |
| **Kuranwala** | 470 | 2223 | 1276 | 947 |
| **Gulabgarh** | 161 | 791 | 434 | 357 |
| **Dandrala** | 92 | 497 | 262 | 235 |
| **BirDandrala** | | 0 | | |
| **BirBakarpur** | | 0 | | |
| **Bakarpur** | 24 | 140 | 82 | 58 |
| **Mahiwala** | 71 | 364 | 205 | 159 |
| **Mirpur** | 169 | 895 | 470 | 425 |
| **Janetpur** | 155 | 822 | 451 | 371 |
| **Jawaharpur** | 433 | 2352 | 1285 | 1067 |
| **Mukandpur** | 362 | 1896 | 994 | 902 |
| **Mothanwali** | | 0 | | |
| **Isapur** | 256 | 1267 | 687 | 580 |
| **Jagadhri** | 240 | 1179 | 617 | 562 |
| **Dhanauni** | 164 | 955 | 521 | 434 |
| **Mukandpur** | | 0 | | |
| **BirKheri** | | 0 | | |

## 5.3 Connectivity

### 5.3.1 Road Connectivity

DeraBassi is at a distance of 21 km from Chandigarh on the National Highway-21. The Town is well connected by road to other cities e.g. Ambala, Panchkula, Shimlaby the National Highway-22.

### 5.3.2 Rail Connectivity

DeraBassi is directly connected by railways by station Ghaggar. Chandigarh is the nearest railway station at the distance of 18 Km and it is well connected to all the major cities of India.

### 5.3.3 Air Connectivity

The nearest airport is Chandigarh airport, which is about 13 kilometres from the town. Chandigarh has direct flights to Srinagar, Delhi, Leh, Mumbai and Bengaluru (Erstwhile Bangalore).

## 5.4 Characteristics of Derabassi

### 5.4.1 Climate and Physiographic

The town has a sub-tropical continental monsoon climate having, hot summers, cool winters, good monsoon rainfall. It has great variation in temperature (4 °C to 43 °C). Sometimes winter frost occurs during December and January. The town also receives winter rains from the western disturbance. The rainfall is mostly received in the monsoon. The Ghaggar river flows from the north of the town.

### 5.4.2 Demography

#### *5.4.2.1 Population*

According to Census of India 2011, DeraBassi Town has a population of 26,295. It is governed by the Municipal Council of DeraBassi. Males constitute 54% and females constitute 46% of the population. Average household size of the town is less than India, Punjab and same as district average. The town has witnessed 66% growth from 2001 to 2011 census.

Table 5-4: Urban population analysis

| 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 |
| DeraBassi Town | 26,295 | 4.83 % of District Urban Pop. | 14,102 | 12,193 |

Table 5-5: Comparative household size analysis- India, State, District and Town

| 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 |
| DeraBassi Town | 20,587 | 4.5 |

The town of DeraBassi has faced a steep growth for last five decades.

Table 5-6 Decadal Growth Rate 1971-2011 of DeraBassi town

| Population Decadal Growth Rate 1971 2011 | | | |
|---|---|---|---|
| **Year** | Total Population | Population Growth Rate (%) | Pop. Density (Persons/Sq.km.) |
| 1971 | 5807 | 43.55 | 290 |
| 1981 | 7421 | 27.29 | 371 |
| 1991 | 9602 | 29.39 | 480 |
| 2001 | 15841 | 54.90 | 792 |
| 2011 | 26295 | 66.00 | 1315 |

Figure 5-8 Total Population of the Dera-Bassi (1971-2011)

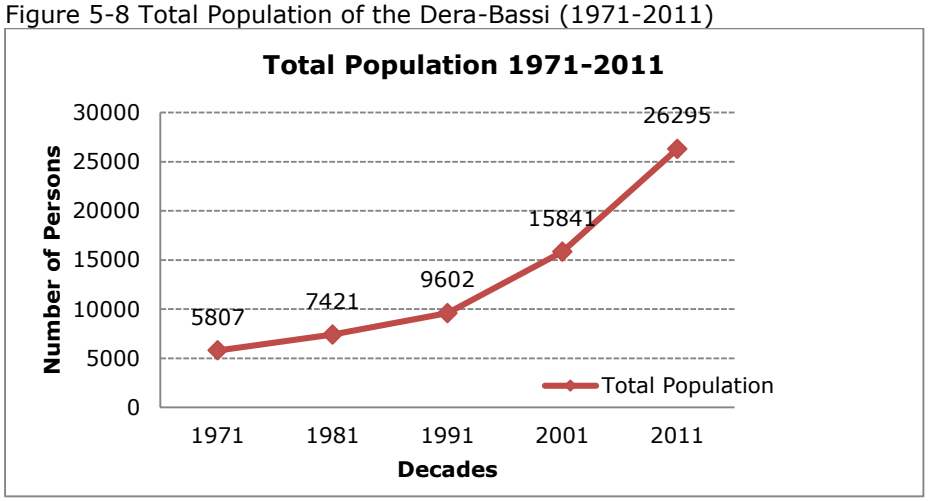
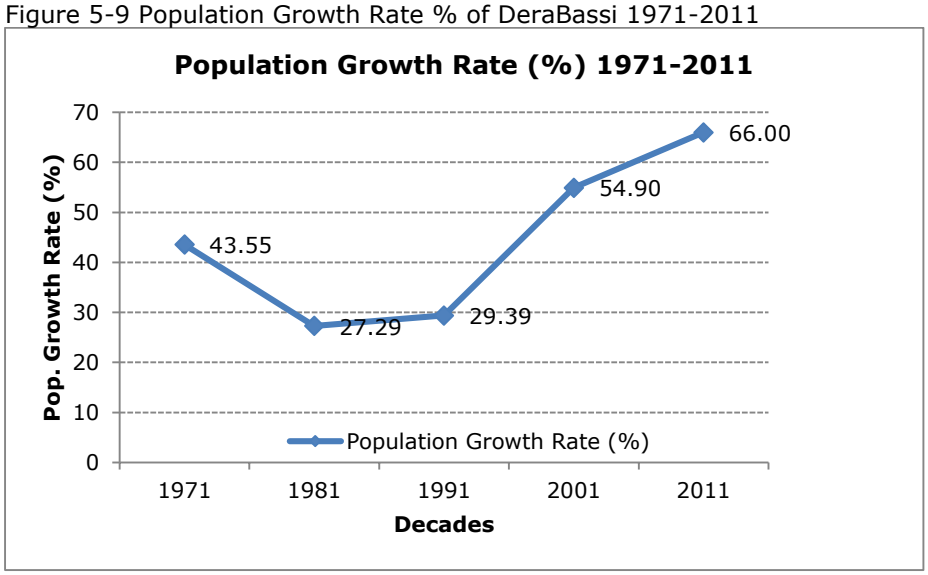


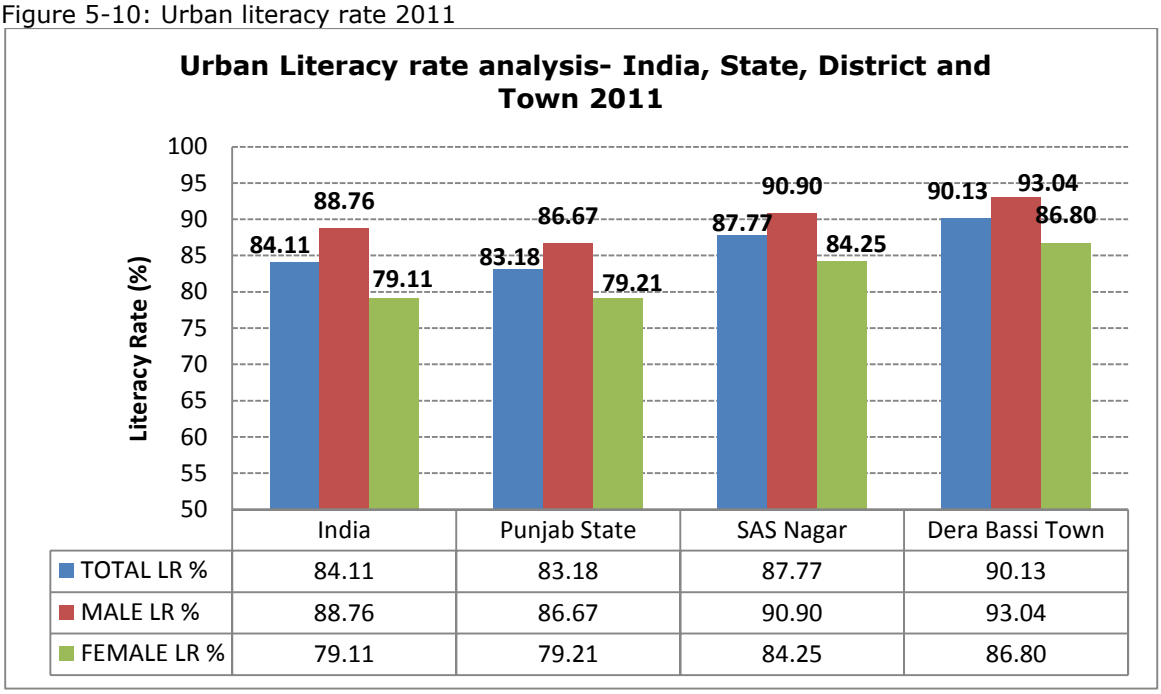

Figure 5-9 Population Growth Rate % of DeraBassi 1971-2011




**Literacy Rate**

DeraBassi town has a literacy rate of 90.13%, 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.

Figure 5-10: Urban literacy rate 2011

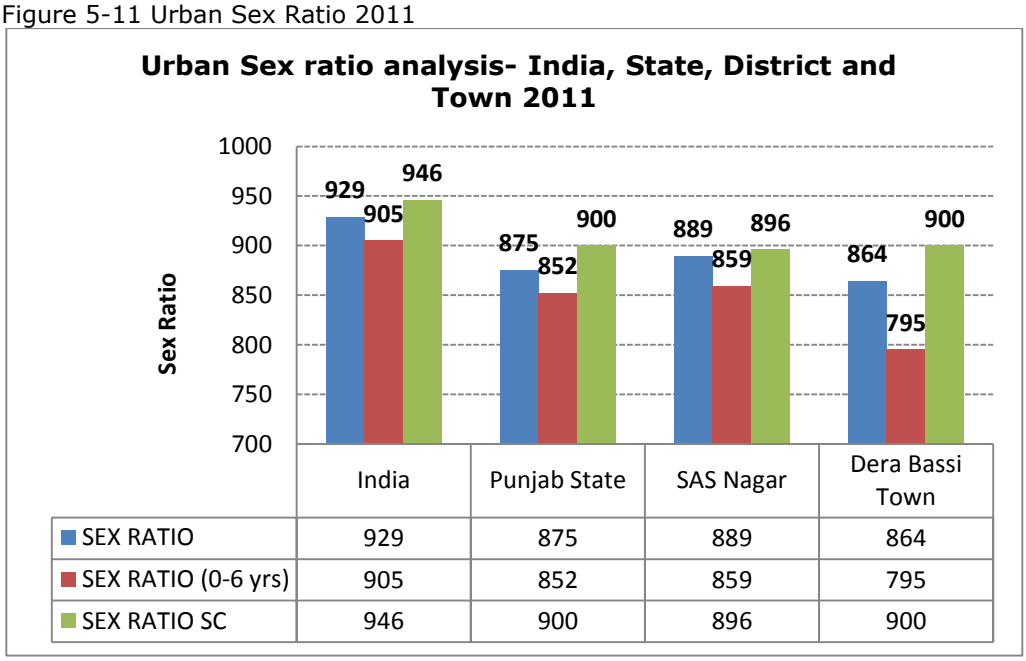



| | India | Punjab State | SAS Nagar | Dera Bassi Town |
|---|---|---|---|---|
| TOTAL LR % | 84.11 | 83.18 | 87.77 | 90.13 |
| MALE LR % | 88.76 | 86.67 | 90.90 | 93.04 |
| FEMALE LR % | 79.11 | 79.21 | 84.25 | 86.80 |

#### *5.4.2.2 Sex Ratio*

Sex ratio of DeraBassi town is low compared to India but higher than state and district average. Sex ratio of SC population is higher than of whole population sex ratio.

Figure 5-11 Urban Sex Ratio 2011




| | India | Punjab State | SAS Nagar | Dera Bassi Town |
|---|---|---|---|---|
| SEX RATIO | 929 | 875 | 889 | 864 |
| SEX RATIO (0-6 yrs) | 905 | 852 | 859 | 795 |
| SEX RATIO SC | 946 | 900 | 896 | 900 |

### 5.4.3 Economic Base

DeraBassi is an Industry based town and its economic growth is based upon the Industrial Area.

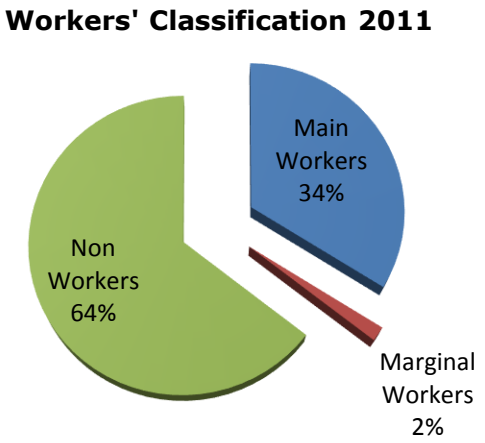
#### *5.4.3.1 Worker's Classification*

Table 2.7 shows that out of the total workers (9,340), the population of main workers is 8,924. The remaining are marginal workers. The Work Force Participation Ratio (WFPR) of the town is 35.52%.

Table 5-7 Work Force Participation Ratio of DeraBassi town 2011

| Type of Workers | No. of Persons | Percentage (%) |
|---|---|---|
| Main Workers | 8924 | 33.94 |
| Marginal Workers | 416 | 1.58 |
| Non Workers | 16955 | 64.48 |
| **Total Workers** | 26295 | 100.00 |

Figure 5-12: Worker's Classification 2011



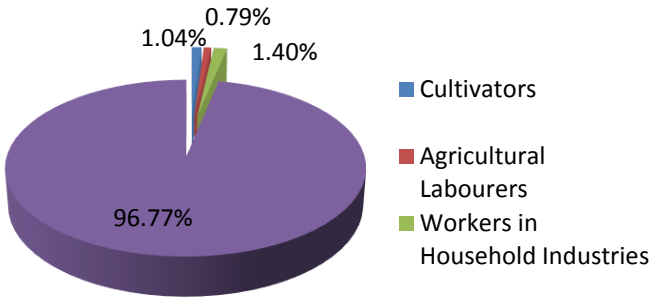

### *5.4.3.2 Occupational structure*

Figure 2.8 describes the occupational structure of the total workers which includes the main and marginal workers of the town. Cultivators, agricultural labourers and workers in household industries constitute only 3.23% of the work force which shows that majority of people (96.77%) are engaged in tertiary activities e.g. trade and other services.

Table 5-8: Occupational structure of DeraBassi town

| OCCUPATION | TOTAL NO. OF WORKERS (MAIN + MARGINAL) | |
|---|---|---|
| | **No. of Workers** | **Percentage (%)** |
| Cultivators | 97 | 1.04 |
| Agricultural Labourers | 74 | 0.79 |
| Workers in Household Industries | 131 | 1.40 |
| Other Workers | 9038 | 96.77 |
| **Total** | 9340 | 100.00 |

Figure 21: Occupational structure of DeraBassi town



# 6 Existing Social and Physical Infrastructure & Projections

## 6.1 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.

### 6.1.1 Health Facilities

Table 6-1 Heath care Facilities in the Derabassi town

| Sr. No. | Category | Numbers | Beds Numbers | Doctors Strength | Para Medical Staff |
|---|---|---|---|---|---|
| **1** | Hospital Allopathic | 1 | 30 | 7 | 65 |
| **2** | Dispensary/Health Centre | 2 | 0 | 2 | 4 |
| **3** | Family Welfare Centre | 1 | 6 | 2 | 2 |
| **4** | Maternity and Child Welfare Centre | 1 | 6 | 2 | 2 |
| **5** | Maternity Home | 1 | 6 | 2 | 2 |
| **6** | Veterinary Hospital | 1 | 0 | 2 | 0 |

Source: Census 2011

The Health Facilities in the Derabassi town are good. The numbers of health centre are 2, Hospital Allopathic- 1, Family welfare centre-1, Child welfare centre-1,Maternity home-1,Vetrinary hospital-1 catering the whole needs of the town where as if we talk of the villages only Haripurkuran and saidpura have health facilities and all other villages are dependent upon deraBassi for health Infrastructure.

Table 6-2 Health facilities in Derabassi LPA

| Sr. No. | Village Name | Mobile Health Clinic | Mobile Health Clinic Doctors Total Strength | Mobile Health Clinic Doctors In Position | Mobile Health Clinic Para Medical Staff Total Strength | Mobile Health Clinic Para Medical Staff In Position | Non Government Medical facilities Charitable | Non Government Medical facilities Medical Prctitioner with other Degree | Non Government Medical facilities Medical Practitioner with no Degree | Non Government Medical facilities Medicine Shop |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Devinagar | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | Haripurkuran | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| 3 | HaripurHinduan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 4 | Saidpura | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 5 | Kuranwala | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 |
| 6 | Gulabgarh | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 7 | Dandrala | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | BirDandrala | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | BirBakarpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | Bakarpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11 | Mahiwala | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | Mirpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13 | Janetpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | Jawaharpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 15 | Mukandpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 16 | Mothanwali | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 17 | Isapur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 18 | Jagadhri | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19 | Dhanauni | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20 | Mukandpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21 | BirKheri | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 22 | Mehmadpur | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 3 |

Source: Census 2011

### 6.1.2 Education

Educational facilities play an important role in the overall development of a Town. These facilities enhance the economic growth and employment. At present, Derabassi have 1 government primary schools, 3 private primary schools, 1 government senior secondary schools,7 private secondary,1 govt.senior secondary and 5 private senior secondary. Moreover Derabassi also have degree colleges both government and Private. Private engineering college, polytechnic and vocational

Table 6-3 Category wise number of schools in Derabassi

| Sr. No. | Category | Sub Category | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | School | Govt. Primary School | Private Primary School | Govt. Secondary School | Private Secondary School | Govt. Senior Secondary School | Private Senior Secondary School | | | | | |
| | | 1 | 3 | 1 | 7 | 1 | 5 | | | | | |
| 2 | Degree College | Govt. Degree College-Art | Private Degree College-Art | Govt. Degree College-Science | Private Degree College-Science | Private Degree College-Commerce | Govt. Degree College-Art and Science | Private Degree College-Art and Science | Govt. Degree College-Art, Commerce | Private Degree College-Art, Commerce | Govt. Degree College-Art, Science, Commerce | Private Degree College-Art, Science, Commerce |
| | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 3 | Engineering College | Private-Engineering College | Private-Management Institute | Private-Polytechnic | Private-Vocational | | | | | | | |
| | | 1 | 1 | 1 | 1 | | | | | | | |

Source: Census 2011

Table 6-4 Educational Facilities in the LPA Derabassi

| Sr. No. | Village Name | Population | Govt Pre Primary School | Private Pre Primary School | Govt Primary School | Private Primary School | Govt Middle School | Private Middle School |
|---|---|---|---|---|---|---|---|---|
| **1** | Devinagar (18) | 1231 | 0 | 0 | 1 | 0 | 0 | 0 |
| **2** | Haripurkuran (17) | 509 | 0 | 0 | 1 | 0 | 0 | 0 |
| **3** | HaripurHinduan (3) | 1527 | 0 | 0 | 1 | 0 | 0 | 0 |
| **4** | Saidpura (10) | 2598 | 0 | 2 | 1 | 2 | 0 | 0 |
| **5** | Kuranwala (4) | 2223 | 0 | 0 | 1 | 0 | 1 | 0 |
| **6** | Gulabgarh (9) | 791 | 0 | 0 | 1 | 0 | 0 | 0 |
| **7** | Dandrala (8) | 497 | 0 | 0 | 1 | 0 | 0 | 0 |
| **8** | BirDandrala (8/1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **9** | BirBakarpur (16/1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **10** | Bakarpur (16) | 140 | 0 | 0 | 0 | 0 | 0 | 0 |
| **11** | Mahiwala (5) | 364 | 0 | 0 | 1 | 0 | 0 | 0 |
| **12** | Mirpur (156) | 895 | 0 | 0 | 1 | 0 | 0 | 0 |
| **13** | Janetpur (19) | 822 | 0 | 1 | 1 | 1 | 0 | 0 |
| **14** | Jawaharpur (202) | 2352 | 0 | 1 | 1 | 0 | 1 | 2 |
| **15** | Mukandpur (201) | 1896 | 0 | 0 | 0 | 1 | 0 | 0 |
| **16** | Mothanwali (38) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **17** | Isapur (39) | 1267 | 0 | 0 | 1 | 0 | 0 | 0 |
| **18** | Jagadhri (37) | 1179 | 0 | 0 | 1 | 0 | 0 | 0 |
| **19** | Dhanauni (36) | 955 | 0 | 0 | 1 | 0 | 0 | 0 |
| **20** | Mukandpur (22) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **21** | BirKheri (6/1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **22** | Mehmadpur (35) | 1165 | 0 | 0 | 1 | 0 | 0 | 0 |

Source: Census 2011

The Educational facilities in the town are present in almost every village of the local planning area. The Educational facilities in the Derabassi LPA are good and are well distributed according to the population.

## 6.2 Physical Infrastructure:

### 6.2.1 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 6-5 Water Supply Service Details

| Sr. No. | Protected Water Supply | System of Storage | Capacity Source 1 (in kilo litres) |
|---|---|---|---|
| **1** | TW/B | OHT | 675000 |

Source: MC Derabassi

The source of water is underground. The water level depth is upto 400 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. There is one OHT tank of capacity 675000 kilolitres of water is supplied to the town

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

### 6.2.2 Drainage

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

### 6.2.3 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 Derabassi, there are 14 wards and the method of collection of solid waste is door to door. The total solid waste generation is 450 tons. In Derabassi industrial Solid waste form the much quantity of solid waste. The work is done under Solid waste Management Rules 2000.

### 6.2.4 Power Supply

The town is provided with 21341 power supply which includes domestic, industrial, commercial and street lighting.

The numbers of electricity connections in Derabassi are 21341.Out of the total number of connections 16418 are domestic connections, 604 are industrial connections, 2455 are commercial connections and 1684 are road lighting connections. The Derabassi area is 100% electrified with 24*7 electricity supply. The street lights coverage is 100% and are in good working condition

Table 6-6 Number of Electricity connections in Derabassi

| Sr. No. | Electricity Domestic Connection | Electricity Industrial Connection | Electricity Commercial Connection | Electricity Road Lighting Connection | Total Connections |
|---|---|---|---|---|---|
| **1** | 16418 | 604 | 2455 | 1864 | **21341** |

# 7 Population Projection & Density

## 7.1 Population Projection & Density

In the Master Plan 2031 for Dera-Bassi LPA the proposed population for 2031 was projected as 86,335 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.

## 7.2 Revised Estimates for Population Projection 2031

As per 2011 census, the total population of Derabassi LPA was 66,598 persons. During 2001-2011, the population of the LPA has increased at 37.41% growth rate. With the continuation of the present population trend, the total population of LPA by the year 2021 and 2031 would be 91,514 and 1, 25,750 respectively.

## 7.3 Projections as per Norms and Standard

Planning norms are adapted from Urban and Regional Development Plans Formulation and Implementation 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.

### 7.3.1 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.

Table 7-1 Norms for Education Facilities

| 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 | Cre'che | 25000 | 0.05 Ha | | 4 | 5 | |
| 2 | Nursery and Primary 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 | 18 | 25 | 4 |
| 3 | High/Higher Secondary School | 15000 | Area per School =1.6 Ha Ground Coverage=40% FAR=1.00 Maximum Height=15m Play area=25% | | 6 | 8 | 14 |
| 4 | College | 1,00,000 | Area per College=4 Ha Ground Coverage=40% FAR=1.00 Maximum Height=15m Play area=25% | | 1 | 1 | |
| 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*

### *7.3.2* 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 7-2 Norms for Healthcare Facilities

| 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 | Dispensary | 15000 | 0.20 Ha | Ground Coverage 40%, FAR is 1.5 | 6 | 8 | 4 |
| 2 | Health Centre | 50000 | 0.60 Ha | | 2 | 3 | |
| 3 | Polyclinic | 1 lakh | 1 Ha | | 1 | 1 | |
| 4 | Hospital | 1 lakh | 3.70 Ha | | 3 | 8 | |

Source: PUDA Guidelines 2013

### 7.3.3 Norms for Fire station and security infrastructure

One Fire Station/Sub-Fire station to be provided within distance of 5-7 km covering a population of 2, 00,000 of 1 hectare each and Sub-Fire station to be provided within a radius of 3-4 of 0.6 Ha each. Fire Station needs to be co-ordination with water supply system to provide for fire hydrants/water tanks. Fire services to be fully equipped to deal with fire accidents in the multi

storied Buildings and buildings in the narrow streets of old town. The number of fire stations is estimated depending upon the projected population of 2021 and 2031.

Table 7-3 Norms for Safety Facility

| Sl. No. | Category | Distribution or Population Served per unit | Area Requirement | Required No. of facilities by 2021 | Required No. of facilities by 2031 |
|---|---|---|---|---|---|
| 1 | Sub fire station/ Fire Post | Within 3-4 km radius | 0.6 Ha (with essential residential accommodation) | Already exist | Already exist |
| 2 | Fire Station | 2 lakh population or 5-7 km radius | 1Ha with residential accommodation | | |
| 3 | Disaster Management Centre | One in each administrative zone | 1 Ha along with suitable open area 2 Ha if soft parking, temporary shelter, parade ground etc. included | | |

Source: URDPFI Guidelines 2015

### 7.3.4 Norms for Socio Cultural Facility

Social as well as cultural facilities are essentially required for development of the town. Anganwadi, community room, community hall, cultural centre, meditation and spiritual centre, recreational club and religious facilities are estimated and mentioned in below table.

Table 7-4 Norms for Socio-Cultural 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 | Community Centre | 30,000 | 0.6 ha | Ground coverage 40%, FAR 1.5, Building control, setback, parking as mentioned in | 3 | 4 | |
| 2 | Religious Site | 15,000 | 0.1 ha | | 6 | 8 | |
| 3 | Police Post | 30,000 | 0.2 ha | | 3 | 4 | |
| 4 | Police Station | 1,00,000 | 0.8 ha | | 1 | 1 | |
| 5 | Sub-Post Office | 25,000 | 80 sq. mt | | 4 | 5 | |
| 6 | Telephone Exchange | 1,00,000 | 0.8 ha | | 1 | 1 | |

Source: PUDA Guidelines 2013

### 7.3.5 Norms for Sports Activities

The hierarchies of sports amenities to be provided as per norms are residential unit play area, neighbourhood play area and district sport centre. The following table explains the number of facilities required.

Table 7-5 Norms for Sports Activities

| Sl. No. | Category | Population per unit | Land Area Requirement | Required No. of facilities by 2021 | Required No. of facilities by 2031 |
|---|---|---|---|---|---|
| 1 | Residential unit play area | 5000 | 5000 Sqm | 18 | 54 |
| 2 | Neighborhood play area | 15000 | 1.5 Ha | 6 | 18 |
| 3 | District sport center | 1 lakh | 8 Ha | 1 | 2 |

Source: URDPFI Guidelines 2015

### 7.3.6 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 7-6 Requirement of Parks and open spaces

| | |
|---|---|
| **Local Planning Area of DeraBassi 2031** | 5193 ha |
| **Norm for Parks and open spaces as per PUDA guidelines** | minimum 6% of planning area |
| **Total area for parks, open spaces and playground** | 311.58 ha |

Source: PUDA Guidelines 2013

### 7.3.7 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 7-7 Norms for petrol pumps and projected requirements

| | |
|---|---|
| **Norm for Parks and open spaces as per PUDA guidelines** | 1 per 100 ha gross residential area |
| **Gross residential area in Dera Bassi 2031 LPA** | 433 |
| **Required No. of facilities by 2031** | 4 |

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 7-8 Norms for Milk parlour and projected requirements

| Sl. No. | Category | Population Served per unit | Required No. of facilities by 2021 | Required No. of facilities by 2031 | Existing No. of facilities |
|---|---|---|---|---|---|
| 1 | Milk Booth | 5,000 | 18 | 25 | |

Source: PUDA Guidelines 2013

### 7.3.8 Utility Network

- 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.

## 7.4 Physical Infrastructure

### 7.4.1 Norms for water supply

Table 7-9 Water supply norms and projected requirements

| Water demand for 2021 Population | Water demand for 2031 Population |
|---|---|
| 12.35 MLD | 17 MLD |

Source: Computed Values

The water demand for the projected population is projected to be 17 MLD. This also covers the 100% water supply line in Derabassi area.

### 7.4.2 Norms for Sewage

Table 7-10 Sewage water projections

| Sewage generation for 2021 Population | Sewage generation for 2031 Population |
|---|---|
| 9.8 MLD | 13.58 MLD |

Source: Computed Values

The projected sewerage generation according to the projected population 2031 is 13.58 MLD. Proposal will also cover 100% sewerage line and connection to the Derabassi area. One STP is also proposed in 2031.

### 7.4.3 Norms for solid waste

Table 7-11 Solid waste projections

| Solid waste generation for 2021 Population | Solid waste generation for 2031 Population |
|---|---|
| 41.20 ton per day | 56.58 ton per day |

Source: Computed Values

The solid waste collection is calculated on the basis of standards set by municipal Solid Waste (MSW) Generation in India. The average solid waste generation taken is .48kg per person.

# 8 Deviations in Previous Master Plan

In the various parts of the Dera-Bassi the development has come against the proposals i.e as follows

- Along the proposed road PR-10 in Mubarakpur and Sauda Majra, development has come and thus proposals cannot be implemented.
- In Saidpura, Kurranwala, Haripur Hindaun, Industrial units have come against the proposed road hierarchy along Barwala.
- Growth of Commercial, Industrial and Residential units against proposed roads in Bakarpur, Devinagar and Haripur Kurran.
- Development of residential colonies on proposed alignment of PR-11 in Jagadhari and Isapur Villages.

Figure 8-1 Industries and Residential development against Proposed roads e.g. PR-10 in Mubarakpur and Sauda Majra.

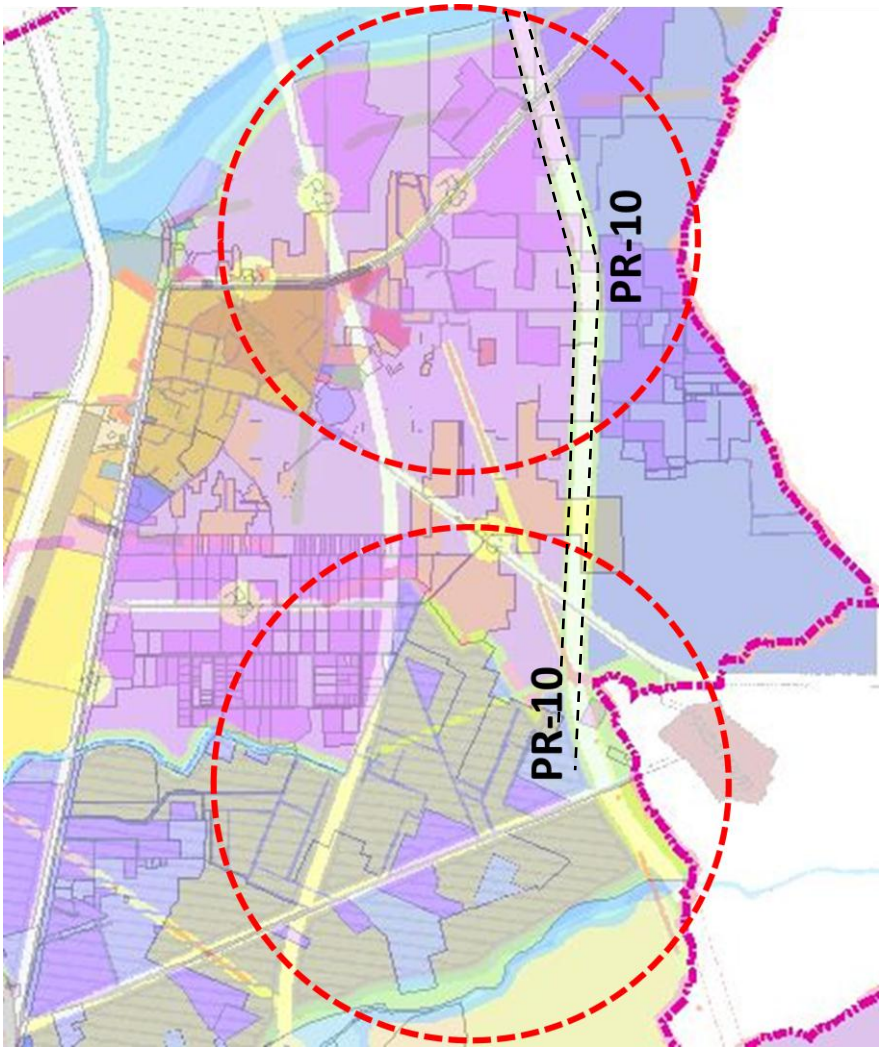


Figure 8-2 Industrial units against the proposed road hierarchy along Barwala road in Saidpura, Kurranwala, and Haripur Hindaun.

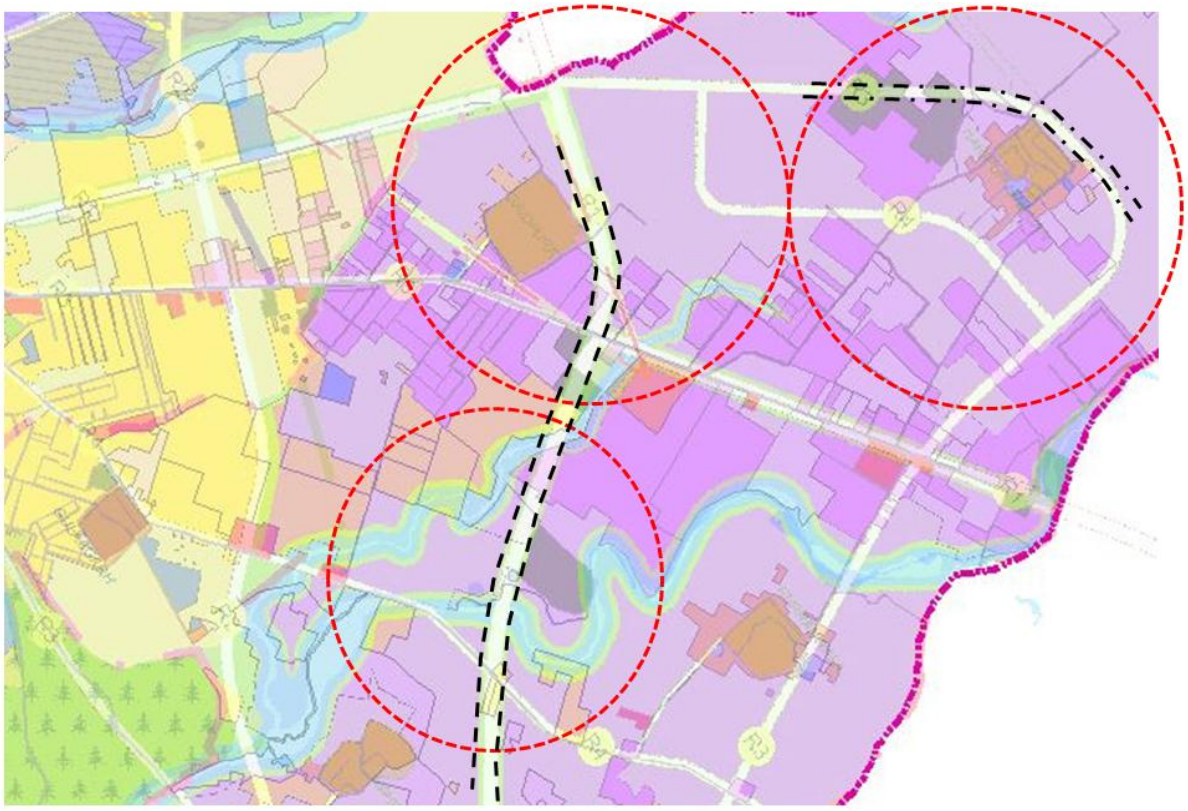


Figure 8-3 Growth of Commercial, Industrial and Residential units against proposed roads in Bakarpur, Devinagar and Haripur Kurran.

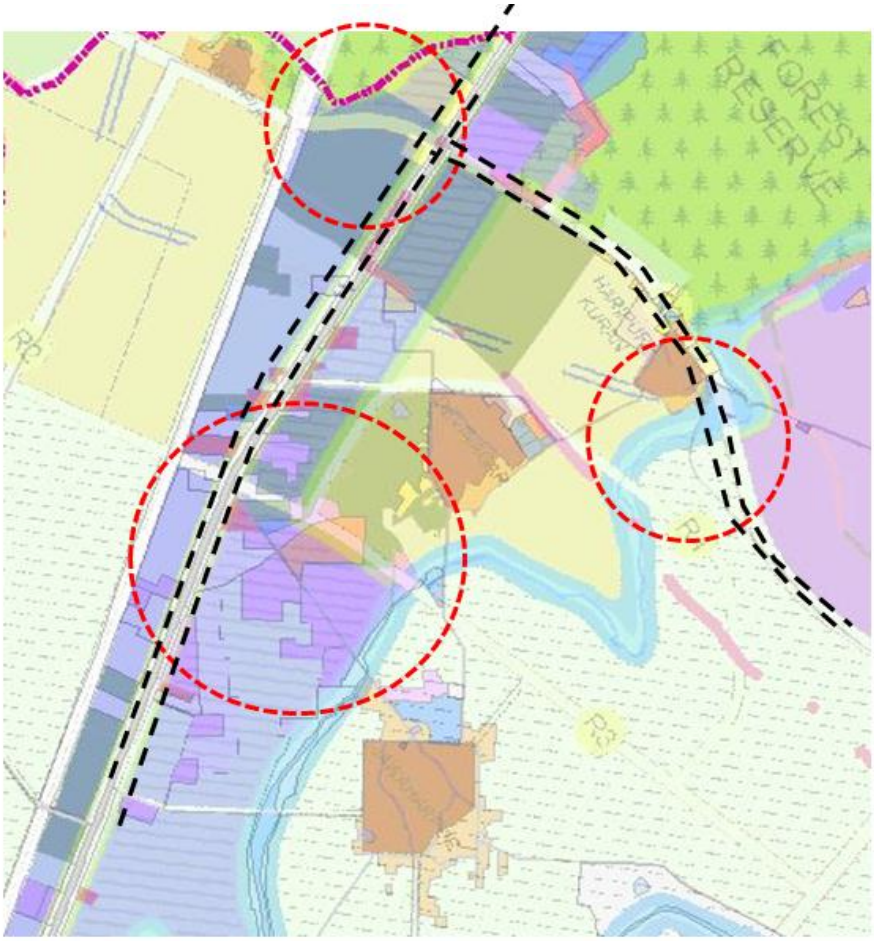
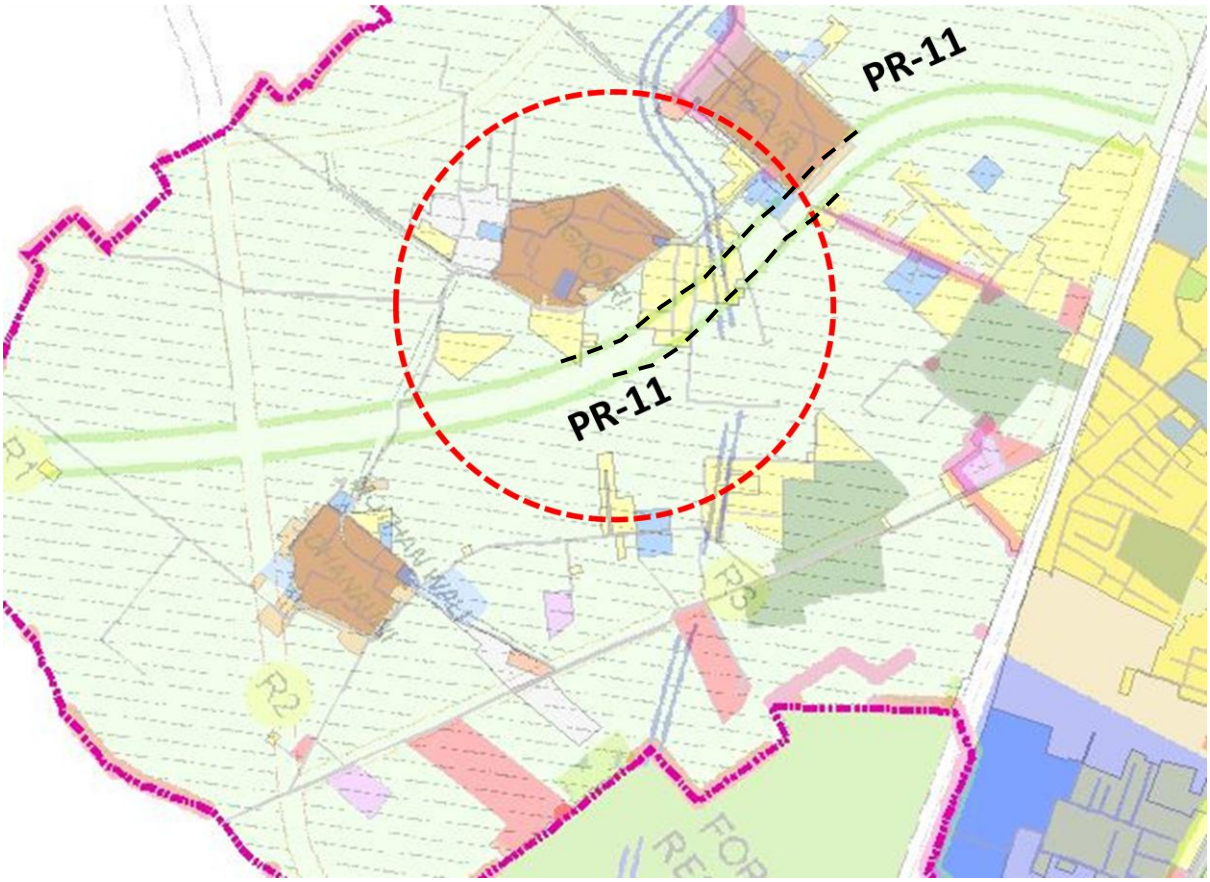


Figure 8-4 Development of residential colonies on proposed alignment of PR-11 in Jagadhari and Isapur Villages




In the Master Plan 2031 for Derabassi LPA the proposed population for 2031 was projected as 86,335 following Regional Plan for Greater Mohali Region but as per 2011 census, the total population of DeraBassi LPA was 66,598 persons and with the present growth rate it will cross the projected population within one decade so to cater the population high residential areas has been proposed.

# 9 Proposed Land use

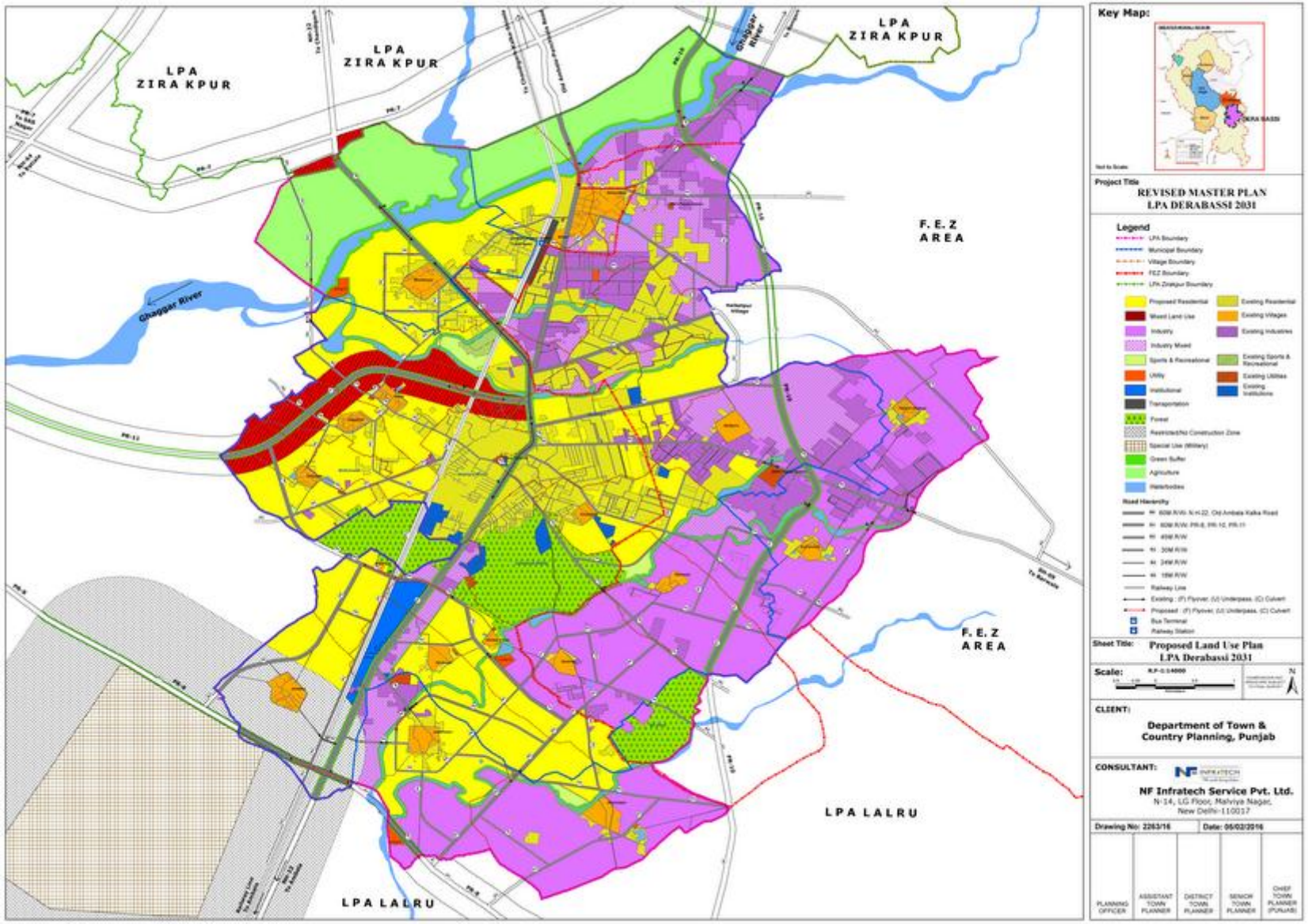
In the course of planning the LPA for Dera Bassi, planning issues were surfaced and clarified with GMADA prior to the conceptualizing the final plan for Dera Bassi. The planning proposals for Dera Bassi will outline the development objectives of the town. The focus of the land use proposal is to ensure adequate and balanced spread of residential and industrial land so that sustainability can be achieved. Active allocation of complementing land uses is displayed through seamless integration of land uses, transport and economic activities. The proposed land use plan for LPA Derabassi has prepared for the year 2035.

Table 9-1 Proposed Land use Distribution of LPA DeraBassi 2031

| Proposed Land Use, Derabassi LPA 2031 | | | |
|---|---|---|---|
| **Sr. No.** | **Land Use Categories** | **Area in Hectare** | **Percentage(%)** |
| **1** | Existing Built-Up (Residential, Industries, Recreational, Institutions, Utilities etc.) | 1106.59 | 21.30 |
| **2** | Residential | 966.07 | 18.60 |
| **3** | Existing Villages | 128.05 | 2.46 |
| **4** | Mixed Land Use | 172.74 | 3.33 |
| **5** | Industry ( Heavy, General, Mixed) | 723.20 | 14.20 |
| **6** | Industry Mix | 655.74 | 12.33 |
| **7** | Sports and Recreational | 18.86 | 0.36 |
| **8** | Utilities | 14.53 | 0.28 |
| **9** | Transport | 52.54 | 1.01 |
| **10** | Proposed Roads | 347.45 | 6.69 |
| **11** | Restricted/No Construction Zone | 119.21 | 2.29 |
| **12** | Forest | 211.18 | 4.07 |
| **13** | Waterbody | 138.89 | 2.67 |
| **14** | Green Buffer | 184.33 | 3.55 |
| **15** | Agriculture | 355.67 | 6.85 |
| | **Total** | **5195.05** | **100.00** |

Source: Computed Values

Figure 9-1 Proposed Landuse LPA Derabassi 2031



## 9.1 Residential

The Residential area has been kept high as to cater the projected population of the revised master Plan 2031.The residential area has been proposed to 18.6% from 13%.The projected population of Derabassi Town for the year 2031 works to be about 1,25,750 persons therefore the demand for residential areas would be quite more. The land required for residential use to accommodate projected population of 1, 25, and 750 of Derabassi works out to be 966.07 hectares for urban residential purpose. The potential areas all around municipal limits of Derabassi , and area along existing linkages having trend of residential growth and thus have been earmarked for residential purpose. Besides this the areas around new proposed roads would also become potential with the proposals of new accessibilities. Assessing the future trend of development, the areas like Bankarpur, Isapur, Jagadhari, Dhanauni, Janetpur, Bakarpur, Madhopur, Devinagar and Jawaharpur have been proposed for the Residential development. The various types of developments which can take place in Residential use are Commercial**,** Group Housing**,** Apartments**,** Township**,** Semi-detached house**,** Detached House**,** Serviced Apartment**,** Institution and Hostel (e.g. for working women, students & youths).

## 9.2 Industrial

The Industrial land use has been raised to 26.54% from 8%. DeraBassi is one of the industrial promotive town in whole of the Punjab and the Punjab is also providing incentives to the industries as mentioned in the Punjab Industrial Promotion Policy 2013.Moreover the Derabassi is having a good connectivity and thus it gives a good attractive point to Industrial growth. The industries will consist of General, mix and heavy industries. The total area proposed for the Industrial use is 1378 hectares out of which 991.11 hectares is for industrial development where as 387.83 hectares has been proposed for the mixed industrial use. The mixed industrial use shall be permissible for Industry (green and orange), Residential, Commercial, Institutions**.**

**Free Enterprise Zone**

In the early stage of the project, it was discovered that the boundary of Dera Bassi LPA overlapped a substantial portion of an existing Free Enterprise Zone. There was uncertainty as to the extent of allowable planning boundary in view of the presence of the overlapping FEZ area in Dera Bassi. The adopted approach is to study the regulating Acts which are pertinent to the FEZ guidelines and to propose the planning approach by abiding to these Acts.

(a)_"Report of the State level Committee for policy framework for Chandigarh Periphery Controlled Area and regulating constructions therein", Point 4e (i):

**"**The area declared as Free Enterprise Zone (FEZ) near Dera Bassi should continue to be used for industries outside Municipal Limits or otherwise planned for industry, although institutions could also be permitted in accordance with the prescribed guidelines issued vide notification 17/17/1/5Hg2/311 dated 11.1.2008 of the Housing and Urban Development Department, Punjab. In order to ensure rational development and provision of basic infrastructure and services in the area, a broad developmental framework needs to be prepared along with a development plan indicating roads/ trunk infrastructure, including areas reserved for residential and institutional needs."

This translates that the area affected by the FEZ should be planned to accommodate as much industrial lands with sufficient provision of infrastructure and other supporting uses.

The safe planning rationale behind this is to propose that as much industrial lands are consolidated and located within the FEZ boundary. This proposal has allowed for pragmatic and better land use allocation and containment of industrial uses away from designated residential lands.

(b) "SEZ Rules Act 2005":

**"**The Empowered Committee on Mega Projects has already permitted integrated mixed use Industrial Parks, where at least 60% of the land is used for industry." – Which means that mixed-use Industrial Parks can be planned for DeraBassi with at least 60% of land is permitted for industries.

- Categorization of industries

As in the Regional Plan for GMADA, industries that fall under "Red" category would only be allowed in Dera Bassi LPA in the areas earmarked for such industry because a sizeable area safeguarded for the 'free enterprise zone' is primarily to manage and contain the environmental concerns of such industries and they have to get the clearance from the Punjab Pollution control Board.

Table 9-2 List of "Red" industries

| S/No. | Industries |
|---|---|
| 1 | Fertilizer (nitrogen/ phosphate) |
| 2 | Cement |
| 3 | Tanneries |
| 4 | Pulp & paper |
| 5 | Manufacturing of dyes & dye intermediates |
| 6 | Pesticides manufacturing of formulation except where no emissions are involved |
| 7 | Basic drug, pharmaceutical and formulations |
| 8 | Slaughterhouse above 70 no. total live weight killed or discharging effluent 1,000 lts/day and animal bone processing |
| 9 | Heat treatment/ tempering/ electroplating/ surface coating and hardening |
| 10 | Dyeing and processing cotton/ wollen/ synthetic yarn/ fabric discharging effluent 1,500 lts/day |
| 11 | Oil extraction, vegetable ghee/ hard oil using hazardous substances in process |
| 12 | Processing paddy, rice, maize barley above 15t/day or discharging effluent 1,500 lts/day |
| 13 | Stone crushers |
| 14 | Processing industries for dairy, food, vegetables/ fruit discharging effluent more than 1,500lts/day |
| 15 | Processing/ manufacturing of chemicals including organic, inorganic acids and its compounds, zinc, lead oxides, chlorinated paraffin wax and zinc recovery etc. |
| 16 | Industrial units having induction furnace/ arc furnace or other furnace using more than 150kg/hour of solid fuel or 100lts/hr of liquid fuel |
| 17 | Brick kiln and lime kiln |

The "Green" category industries are industries not covered in the above said "Red" category.

From the list of "Red" industries already existing, it became apparent that such industries occupying future residential lands would have to be phased out in the future as per in provisions of the Punjab Regional Town Development Act. In the meantime, some environmental controls have to be introduced and regulated in Dera Bassi considering that these existing industries are generally pollutive, hence preventive measures through use of green and physical buffers around such industries has to be stressed and enforced.

### 9.3 Mixed land use

The mixed land use is proposed along both sides of PR-11 and NH-22 upto 200 metres (from restricted area of Janetpur to the forest area of Bakarpur). On Devinagar, Haripur kuran and Jawaharpur along the NH-22, mixed industries landuse is proposed. From the existing land use it has been clear that the various types of activities are coming along the roads.e.g. Residential, Commercial, Industrial and Institutional so keeping in mind the existing trend mixed and industrial mix land use has been proposed along the Proposed Roads.

### 9.4 Transportation

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. Ghaggar Railway station is the Major railway station in Derabassi and is now going to be converted into double Broad Guage. The Existing Bus stand, Derabassi needs to be upgraded with improved infrastructure. Three overbridge has proposed on Ghaggar river-Old Ambala Panchkula Road, PR-10 and R4 Road behind Bankarpur Village. The proposed Railway Over bridges are as follows:

- On R2 road near Bakarpur village.
- On PR-11.
- On PR-8 and NH-22.

The area under the proposed roads is 347.45 hectares. The major focus in this road network is to widen and strengthening of existing 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-22 and Old Ambala- Kalka Road.
- R1 has R/W-60m and roads under this category are like PR-8,PR-10 and PR-11
- R2- R/W-45m
- R3- R/W-30m
- R4- R/W-24m
- R5- R/W-18m

### 9.5 Sports and Recreational

The area to be developed under this landuse is 18.86 hectares at verious locations and is kept near the choes and nallahas. Various activities shall come under this use Sports complex, Indoor stadium, Swimming complex, Golf course, Golf driving range, Recreation club, Camp site, Water sports centre, Adventure camp, Theme park, Turf club, Cricket club, Handicraft-thematic fair.

## 9.6 Green Buffer

The green belt of 15 metres is proposed along the NH-22, PR-10 and PR-11. Green buffer has been proposed along the river and the Nallahs so that natural features do not get encroached. 30 m buffer has been proposed along the rivers where as 15 m buffer has been proposed along the nallahs. A Green belt of 15 meters also proposed around STP/ETP in the residential areas.

## 9.7 Agriculture

The land of 355.67 hectares has kept reserved for agriculture purpose in the north of the Ghaggar River. The permissible activities under this category shall be 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) and Utilities.

# 10 Controls and Detailed Controls for Dera Bassi

The purpose of the Development Control Regulations is to assist developers and end-users within Dera-Bassi 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 Dera Bassi 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.

## 10.1 Residential

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

Table 10-1 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.Cl. 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 10-2 Group Housing (outside M.C. limits)

| **Minimum Plot size** | |
|---|---|
| For General Category<br>For EWS | 2 acres<br>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 norms of local government shall be applicable*.

Table 10-3 Farm House

| | |
|---|---|
| Minimum agricultural land holding | 2.5 acres* |
| FAR | 0.04 |
| Ground Coverage | 2% |
| Number of storey's | 2 |
| Height | Single Storey 18'-0"<br>Double Storey 28'-0" |
| Hard Surface | 10% |

*Area other than under the built up farm house shall be exclusively used for agricultural and its allied activities

**Note:** 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.

## 10.2 Commercial

**At local level**

There shall be provisions 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 10-4 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 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.

3. 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.
4. 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.

a) **Development Controls around the Designated Industrial Use Zones**

The industrial development regulations and controls prepared for Dera Bassi 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 no. 8355-CTP(PB)/SD-46, dated 13.11.2009 of Master plan Derabassi u/s 70(5) 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.

Presently, the Dera Bassi area is heavily regarded as one of Punjab's key industrial towns as many industrial developments have been allowed to reside and operate in this town. There is a crucial need to enforce vital environmental provisions around these industrial–developments so as to preserve the quality of life for the surrounding land uses such as the existing villages, schools and agricultural lands. Environmental impact can be mitigated by ensuring that the different types of industrial development are sited in designated areas and pollution control measures are incorporated in their design.

As explained in the land use chapter, Dera Bassi will consider the following special uses for industrial land:

1. General & Heavy Industries
2. High-Technology/ IT Park

**General and Heavy Industries development regulations**

The classification of industries is defined as follows:

- Light & clean industries = Green industry
- General industries = Non-Red/Green industry
- Heavy industries – Red industries

The following lists down the typical uses under light and general industries: Manufacture of made-up textile goods (except wearing apparel) without dyeing, bleaching and/ or other finishing operations).

- Servicing and refilling of fire extinguishers.
- Packing and bottling of medicinal herbs and medicated oil.

- Manufacture of aluminium window frames and grilles from Aluminium extrusions without spray-painting operations.
- Packing of dried foodstuff.
- Manufacture of containers and boxes of paperboard.
- Printing, publishing and allied industries.
- Vehicle / motorcycles repair and servicing
- Sales & installation of tyres & batteries
- Sale & installation of car accessories
- Food manufacturing, food catering
- Manufacture of furniture & fixtures.
- Manufacture of musical instruments.
- Manufacture of wooden & cane containers & small cane wares.
- Manufacture of emergency lighting and power supply system.
- Repair and maintenance of engines, motor and mechanical pumps.
- Industrial laundry services without scheduled boilers.
- Manufacture of sporting and athletic goods
- Blending of detergents and cleaning preparations, perfumes, hair-care products, cosmetics and other toilet preparations.

Where Heavy industries are classified as Red industries category:

- Fertilizer (nitrogen/ phosphate)
- Cement
- Tanneries
- Pulp & paper
- Manufacturing of dyes & dye intermediates
- Pesticides manufacturing of formulation except where no emissions are involved
- Basic drug, pharmaceutical and formulations
- Slaughterhouse above 70 no. total live weight killed or discharging effluent 1,000 lts/day and animal bone processing
- Heat treatment/ tempering/ electroplating/ surface coating and hardening
- Oil extraction, vegetable ghee/ hard oil using hazardous substances in process
- Processing paddy, rice, maize barley above 15t/day or discharging effluent 1,500 lts/day
- Stone crushers
- Processing industries for dairy, food, vegetables/ fruit discharging effluent more than 1,500lts/day
- Processing/manufacturing of chemicals including organic, inorganic acids and its compounds, zinc, lead oxides, chlorinated paraffin wax and zinc recovery etc.
- Industrial units having induction furnace/ arc furnace or other furnace using more than 150kg/hour of solid fuel or 100lts/hr of liquid fuel
- Brick kiln and lime kiln

The "Green" category industries are general industries which are not covered in the above said Red category.

- Light/ clean factories should not generate air and water pollution as well as noise and smell nuisance that can affect neighbouring premises. Such factories are allowed to use only minimal quantities of hazardous substances such as solvents, acids and other chemicals and should not generate large quantities of trade effluent or solid wastes. There has to be a minimal buffer distance of at least 50 m between a light industrial building and the nearest residential building.
- Industrial developments within General industry zoning generally do create some air, water and noise pollution arising from its operations. Hence, there should be a buffer distance of at least 100 m between a general industrial building and the nearest residential building.
- Developments within Heavy industry zoning generally produce odor, fumes, noise and may generate considerable quantities of solid wastes. They may require treatment plants for liquid wastes. These industries are usually located in designated industrial estates that are at least 500 m to 1,000 m between the boundaries of a factory and the nearest residential building.
- Essentially, within the interface of the 2 zones, it can be planned for the following -
- (a) clean industry where it imposes no buffer constraint as it involves no manufacturing, only packaging or assembling for re-distribution,
- (b) Roads & utilities,
- (c) Park & green & light recreational activities,
- (d) Institutional uses such as police post, civil defense post, post office where there is no residential population. Home for the aged, etc is not allowed.
- (e) Petrol kiosk,
- (f) General warehousing & distribution centres
- Depending on the scale of operations, food industries can also be classified into light, general or heavy category. However, in order to prevent cross-contamination due to residual emissions from neighbouring premises, food industries should be sited in industrial premises in areas designated as food zones or in areas with compatible industrial uses.
- For new clusters of stone crushers industries, the guidelines and pollution control measures made under the Punjab Pollution Control Board will have to be abided:
- A green belt of width specified by the Punjab Pollution Control Board will be provided all around the cluster.
- Only one approach from National Highway/ Scheduled Road will be provided to the cluster.
- All new clusters of stone crushers shall get the layout plan from the Town and Country Planning Department, Punjab.

Note:- Any other category which is not mentioned above shall be governed by PPCB/CPCB guidelines as amended from time to time.

Similarly for new clusters of brick kilns, the guidelines and pollution control made under the Punjab Pollution Control Board will have to be enforced and adhered to.

**(a) Setbacks**

Setbacks shall be as per PUDA Building Rules 2013 or as amended from time to time.

**(b) Buffer**

The road buffer requirements for these industrial developments are provided below:

- All industrial developments are required to provide a buffer between the road reserve line and the building.
- The minimum buffer width of setback of building depends on the hierarchy of the category of road the site fronts. There is no differentiation on the setback requirement based on the building height of the development.
- The buffer requirements consist of a green buffer and a physical buffer. The green buffer is meant as a planting strip. Small ancillary structures can also be allowed within this green buffer. Within the physical buffer, driveways, car/ lorry parks, and other ancillary structures are allowed.
- All major (80 feet and above) roads shall have 15 metres wide green belts on either side.

Table 10-5 Green & physical buffer specifications

| Road category | Minimum width of buffer | Specification of buffer |
|---|---|---|
| **(R-0) - (R-1)** | 15m | 5m green<br>10m physical |
| **R- 2** | 7.5m | 3m green<br>4.5m physical |
| **R- 3** | 5m | 3m green<br>2m physical |
| **R- 4** | 2.3m | 2m green<br>0.3m physical |
| **R- 5** | 2.0m | 2.0 m green |

**(C)Recommended minimum road width for local access road**

The recommended minimum Right Of Way (ROW) for a local road within an industrial area is 24 metres/ 80 feet, with a 3 metres/ 10 feet of side walk on either side of the carriageway. In an industrial area, it is recommended that the Carriage way for a typical local access road is 16 metres/ 52 feet.

**(d) Parking guidelines**

For the parking guidelines under this use, 1 car parking lot is to be provided per 100 sqm. of gross floor area and as per Puda building rules,2013 or as amended from time to time.

**(e) Floor to floor height**

Generally, the floor to floor height for industrial developments should not exceed 6.0m. However, this control can be varied due to the operational needs of industrial machinery. The 1st storey of industrial development can be raised by 1.2 metres (maximum) for loading and unloading purposes.

**(f) Quantum of use**

The predominant industrial use quantum shall be at least 60% of the total FAR on a global basis and the ancillary use within the entire development must not exceed 40%. Ancillary use supports the predominant industrial or warehouse operations and conducted within the same development or within the individual unit. The following lists down the typical allowable ancillary use in an industrial unit.

- Ancillary offices
- Ancillary showrooms
- Meeting rooms
- Toilets
- Mechanical & electrical services
- Sick bay room/ 1st aid room
- Childcare centre
- Independent media activities (treated as secondary use under 40% ancillary components)

**The non-allowable within this 40% ancillary quantum uses include:**

- Restaurant
- Medical clinic
- Mini-mart
- Supermarket
- Clubhouse
- Independent office, bank & other commercial use.**Single-user development**

This refers to a purpose-built development for a single occupier. Any sub-leasing of space within the building(s) is subject to the approval of Competent Authority.

| FAR Quantum | Use Type | Allowable Use under each Use Type |
|---|---|---|
| > 50% of the total Covered Area - CA (MINIMUM) | Predominant Use | Manufacturing, Assembly, Servicing/ repair workshop, storage |
| <50% of the total Covered Area - CA (MAXIMUM) | Ancillary Use supporting the Predominant Use within a Unit | Ancillary office, Ancillary showroom (own products), Meeting room, Sick room/ first aid room, Toilets, M&E services, Canteen, Child care centre |

Within each leased space, the unit shall comply with the >5

**Multiple-User Developments**

This is usually a flatted factory that can be subdivided to different spaces for lease by an industrial developer and thus could be used by multiple users. Any sub-leasing of space within the

building(s) is subject to the approval of the GMADA. The users of the individual units are independent of one another.

Table 10-6 Quantum control for uses within each leased space by each individual unit in multiple-user development

| FAR Quantum | Use Type | Allowable Use under each Use Type |
|---|---|---|
| >50% of the total Covered Area - CA (MINIMUM) | Predominant Use | Manufacturing, Assembly, Servicing/ repair workshop, storage |
| <50% of the total Covered Area - CA (MAXIMUM) | Ancillary Use supporting the Predominant Use within a Unit | Ancillary office, Ancillary showroom (own products), Meeting room, ancillary warehouse |

Within each leased space, the unit shall comply with the >50% of the Covered Area - CA as predominant industrial/ warehouse use quantum and <50% of their CA for their own ancillary uses.

Common use for the benefit for all units in a Multiple-User development include Management office, Corridor, Staircase, Lifts, Sick room/ First aid room, Communal toilets, M & E services, Canteen, Child care centre is not calculated as part of the <50% Ancillary Use.

Secondary uses are compatible but independent uses that can be considered within the 40% use quantum are canteen, childcare centre, secondary showroom and secondary warehouse. Secondary showrooms are allowed only for warehouse/ factories facing main thoroughfare and shall be confined only to the 1$^{st}$ storey. The intention is to allow the secondary showroom to spruce up the streetscape of industrial developments.

### 10.2.1 Intensity of Development

The following table stipulates the controlled intensity of the overall development in Dera Bassi LPA.

Table 10-7 Intensity of development (overall)

| Land use | FAR | Permitted uses |
|---|---|---|
| Industry<br><br>a) Industry & warehouse use<br><br><br><br><br><br><br><br><br><br>b) Technology & R&D | <br><br>FAR for general Industries as per Puda Building Rules 2013 or as amended from time to time<br><br><br><br><br><br><br><br>FAR for technology and R & D as per Puda Building Rules 2013 or as amended from time to time | a) Industrial and warehousing use – Only clean and light industries and logistics use are permitted. General industries are permitted in locations furthest from the residential areas.<br><br>Heavy/ Chemical industries must be sited at least 1km away from any residential lands.<br><br>b) High-technology/ IT park – minimum site area = 10 acres. The permitted uses will include IT parks; Science and research parks; Business Parks; Laboratories, media hubs and bio-technology parks.<br><br>c) Individual industrial plots irrespective of the category shall have FAR of 1.0 only. |
| Institution | FAR =1.0 | Permitted uses include :<br>Secondary and Tertiary educational institutions; Health Clinic, Medical Facility, Police or Fire Station, Post Office, Religious Facility, Museum/Archives, Secondary School, Medical & Engineering Colleges, Technical training institutes, international schools, sports. |
| Residential | As per Building rules | Dwelling uses:<br>a) Detached dwelling units, cluster housing, plotted housing, Single family residences, townhouses, garden apartments and apartments, villas<br>b) Worker dormitories and EWS housing<br>Permitted Ancillary Uses:<br>a) Cultural and recreational uses - parks and sports field<br>b) Nursery school<br>c) Parking area<br>d) Service uses like barber shop, beauty saloon, clinic, Laundromat etc<br>e) Police or Fire Station, Post Office<br>f) Utility and communication uses |
| Mega Residential Township | As per approved project | EWS:<br>One room and two room flats minimum 80 Units per acres. The allowable FAR is up to |

| | | |
|---|---|---|
| | | 1.2 |
| Group Housing | FAR = 2.0 | As part of the overall sector plan/ layout plans. |
| Plotted Housing | As per PUDA Building Rules 2013 or as amended from time to time. | Up to 3 storeys (Max 11.75 metres) |

**Densities**

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

### 10.2.2 High-Technology/ It Park Development Regulations

This use is specifically set aside for non-pollutive industries and businesses that engage in high-technology, research and development, high value-added and knowledge-intensive activities. These modern businesses are seeking premises which can accommodate a variety of activities, ranging from light manufacturing to other "office-like" functions. The "park-like" working environment, both within and surrounding the building, is also important to attract and retain professionals and highly-skilled technical staff.

Sizeable large area of land is accommodated for High-Technology/ IT Parks to allow for comprehensive landscaping in creating a park-like business environment for work and play. The allowable uses within this use are listed as follows:

Table 10-8 Permitted activities in High Technology/ IT park

| No. | Type of activities |
|---|---|
| 1 | Development/ production of software, maintenance of software and user training and sales |
| 2 | Upgrading of software |
| 3 | Computer system integration |
| 4 | Computer-related services |
| 5 | Plastic Product design & development |
| 6 | Fashion, furniture, Jewellery design & exhibition design |
| 7 | Oil rig design |
| 8 | Offshore structure design |
| 9 | Ships design |
| 10 | Computer systems design |
| 11 | Communication equipment design |
| 12 | Electronic instruments & device design |
| 13 | Audio/ video product design |

| | |
|---|---|
| 14 | Electrical appliances & devices design |
| 15 | Automation equipment & system design |
| 16 | Storage device (disk drives) design & development |
| 17 | Office automation equipment design |
| 18 | Opto-electronics devices design & development |
| 19 | Hybrid circuit modules devices design |
| 20 | Electric motors design |
| 21 | Electronic control system design |
| 22 | Mechantronics components design & development |
| 23 | Tooling design |
| 24 | Prototype making |
| 25 | Production planning, technology & engineering development |
| 26 | Quality assurance, technical inspection & testing services |
| 27 | Engineering design & development centre |
| 28 | Technical service centre |
| 29 | Diagnostic product design e.g. Medical, biotech |
| 30 | Systems customizing centre |
| 31 | Materials applications centre |
| 32 | Publishing (with printing) |
| 33 | CADD/CAM/ CAE support |
| 34 | Factory automation/ CIM design & development |
| 35 | Information systems design & development |
| 36 | Product demonstration |
| 37 | Project planning & management |
| 38 | Equipment & Component applications engineering |
| 39 | R&D laboratory |
| 40 | Geological analysis on well samples and rocks |
| 41 | Industrial training |

The physical planning and design controls for typical high-technology/ IT park developments are as follows.

#### 10.2.2.1 Intensity

High-Technology/ IT Parks in Dera Bassi LPA will be grouped under 2 intensity types in terms of overall FAR:

i. Medium Intensity area : FAR 3.0 (max)

ii. Low Intensity area : FAR 3.0 (max)

Or as per PUDA Building Rules 2013 or as amended from time to time.

#### 10.2.2.2 Building heights

The number of storeys for High-Technology/ IT Park building is controlled to preserve the park-like image. The maximum floor-to-floor height is not to exceed 5 metres, unless for some operational needs, waiver is to be sought from the relevant authority i.e. GMADA to allow exceeding this height limit. The maximum number of storeys permissible is as follows:

i. Medium intensity area - 5 storeys

ii. Low intensity area - 3 storeys

For IT Parks, minimum area shall be 10 acres, out of which 60% shall be used for IT, 30% for Residential and 10% for commercial purpose. FAR shall be governed by PUDA Building Rules 2013 or as amended from time to time .

### 10.3 Parking guidelines

As the ownership of cars is presumably higher than other development, 2 car parking lots are to be provided per 100 sqm. of covered area.

### 10.4 Landscaping

The minimum landscaped area (including water features) for overall development, including public and private green is 20%. Public green refers to the landscaped common open space area (excluding car park areas) that would form a central feature of the High-Technology/ IT Park. A minimum of 10% of the total development area should be set aside as private green. The green boundary buffer along all sides of each individual lot will be provided.

### 10.5 Other development controls and guidelines required

- Regulation for village abadi: Special building regulation shall be prepared for the development and regulation of an area falling within the Lal Dora or phirini of the villages falling in the LPA.
- 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.

- Note:- Any other notification order issued by Department/Government, which is not covered above shall be governed by the notifications/guidlines issued from time to time.

### 10.6 Pollution Control Requirements

- Industrial developments shall be designed and incorporated with pollution control facilities to reduce and control pollution so as to minimize any adverse pollution impact on surrounding developments.

**Water (Prevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of Pollution) Act, 1981 – (Punjab Pollution Control Board 2005)**

- As per the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and (Prevention & Control of Pollution) Act, 1981, any entrepreneur desirous of establishing a new industry expansion of its existing unit is required to obtain "consent to establish" (NOC) from the board before taking any steps for establishment/ expansion of industry.

The Board has categorized the small scale industrial units into 2 categories, namely Green category and Red Category industries, taking into consideration their pollution potential loads.

- For small scale green category industry, the Board has devised a very simplified application form for obtaining "consent to establish" (NOC) of the Board for Green Category of industries. Applications are to be enclosed with consent fee which is 50% of the prescribed for Red category of industries. Applications for NOC for Green Category of industries are decided at Regional Office level by the concerned Environmental Engineer.
- For small scale red category industry, the applications for consent to operate is decided at Zonal Office level by the concerned Senior Environmental Engineer. However some cases like brick kilns, dry rice shelter cupola furnaces (with air pollution control devices designed by Punjab State Council for Science and Technology, Chandigarh), heat treatment units (without discharge of any effluent) are decided by concerned Regional Office.
- For large/ medium scale industries, the procedure is the same as the small scale red category industries. But such applications are decided at the Head Office level.

**Environmental clearances from Government of India - *(Punjab Pollution Control Board 2005)***

- As per notification No. SO (60) dated 27 January 1994 as emended on 4 May 1994 issued by Ministry of Environment & Forests, Government of India, New Delhi, any person, who desires to undertake any new project or expansion or modernization of any existing industry which is listed in schedule-I (Annexure-III) shall be required to obtain environmental clearance from the Ministry of Environment & Forests, Government of India, New Delhi. He

will submit an application with the Secretary, Ministry of Environment & Forests, Government of India, New Delhi for this purpose. The application made shall be accompanies with EIA/ Environment Management Plants etc, prepared in accordance with guidelines issued by the Ministry of Environment & Forests from time to time.

**Revalidation of "Consent to establish" (NOC) – *(Punjab Pollution Control Board 2005)***

- Every entrepreneur is expected to complete construction of the industrial unit and the installation of the pollution control equipments within the validity period of one year of the NOC. However, in case the industry fails to implement its proposed project within the validity period of NOC, it will be required to get its NOC revalidated.

**Hazardous Substances Control**

**(Code of Practice on Pollution Control 200l, National Environmental Agency, Singapore and Punjab Pollution Control Board 2005)**

Companies that import, store and use hazardous substances are required to obtain licenses/ permits from Pollution Control Department. Approval for transportation of hazardous substances exceeding specified quantities have to be sought. The controls are to ensure that preventive measures are taken to minimize accidental releases of hazardous substances into the environment and emergency responses are to put in place to deal with all credible accident scenarios of release of hazardous substances. The preventive measures can include:

- Containers constructed and inspected in accordance with internationally acceptable standards are uses for the storage of hazardous substances and affixed with approved labels;
- Storage areas are equipped with containment as well as disposal facilities to deal with any accidental release of hazardous substances;
- Route and time of transportation are specified for the transportation of hazardous substances exceeding specified quantities;
- Drivers of road tankers and tankers carrying hazardous substances are required to undergo special training course on safety requirements and precautions, first aid and fire fighting and a refresher course once every three years;
- The owner or consignor of any consignment of any hazardous substance shall notify immediately of any accidental release, leakage or spill or hazardous substances during transport.

Under the obligations on the part of entrepreneurs under the Public Liability Insurance Act, 1991, Punjab Pollution Control Board, it has been enacted to provide an insurance cover to the persons affected by the accident occurring while handling any hazardous substance and for matters connected therewith or incidental thereto.

Every owner shall take out insurance policy providing for contracts of insurance and renewed from time to time whosoever is engaged in the handling of any hazardous substances. The responsibilities of the owner as stated under this act will be enforced to apply.

## 10.7 Toxic Industrial Waste Control

**(Code of Practice on Pollution Control 200l, National Environmental Agency, Singapore)**

Factories involved in the manufacture of chemicals will be required to install in-house treatment facilities to recycle and reuse their toxic waste or to treat their toxic wastes before they can be safely disposed.

Pathogenic wastes are listed as toxic industrial wastes. Hospitals and polyclinics are required to segregate pathogenic wastes and put in colored-coded plastic bags. These wastes are then stored in special containers for collection by licensed toxic industrial waste collectors for disposal in high temperature incinerators.

Operators of specialized toxic waste recycling, treatment and disposal plants would require obtaining licenses to collect and treat and dispose toxic industrial wastes from industries. They will also be required to obtain the necessary approval to transport the toxic industrial wastes which are exceeding the specified quantities.

## 10.8 Control of Land Pollution and Remediation of Contaminated Sites

**(Source: Code of Practice on Pollution Control 2004, National Environmental Agency, Singapore)**

When a site that is used for pollutive activities is to be redeveloped, rezoned or reuse for a non-pollutive activity, a study shall be conducted on the site to assess the extent of land contamination. If the site assessment study shows that the site is contaminated, the contaminated site shall be cleaned up to standards acceptable for the intended use.

Owners/ occupiers or the prospective buyers/ lessees may carry out the site assessment study and clean up suing in-house or second party experts, subject to the approval from the Pollution Control Department.

When a site used for a pollutive activity to be leased, transferred or sold to another party for the same or other pollutive activity, it is advisable that a site assessment study be conducted to allow parties involved to ascertain extent of existing contamination.

When a site is to be developed for a pollutive activity, it is advisable that a site assessment study be conducted to establish the baseline soil conditions for future assessment of land contamination. A report of the site assessment and a clean-up plan will be submitted to the Punjab Pollution Control Board.

## 10.9 Transferable Development Rights

It is necessary to speed up the process of development. For that, the development of public utilities such as roads, parks, green belts etc., should be done on top priority which will encourage the urbanization. To make it realistic, it is necessary that the land falling under roads, parks and green belts should be transferred to Urban Development Authorities. To acquire this land, the prevalent way adopted till date, is the cash payment of land acquired and 2nd option is to get the land through land pooling scheme which has been approved by the Government. To speed up the development process and to protect the interest of land owners, the land owners may be given 3rd

option in addition to above two options i.e. transfer of development rights on the pattern of Maharashtra.

Under this scheme if land owner transfers the land falling under roads, parks, green belts etc., to the concerned Urban Development Authority, he/she shall be entitled for additional FAR @ 1:1. No CLU, EDC, Licence/permission fees shall be charged on this FAR. The land owners according to their own choice can sell it in total or in parts to any other person. The record regarding TDR shall be maintained by the concerned Urban Development Authority on the pattern of Mumbai (Maharashtra). With this the farmer/land owners shall have 3rd option in addition to cash compensation and land pooling. To generate the value of TDR in the market, the present practice vide notification no. 17/17/01-5HG2/7623 dt.19.9.07 for additional FAR on additional payment shall, in area under GMADA jurisdiction, shall continue.

Mega projects in which more than 1.75 FAR for Group Housing and Commercial is permissible or have been allowed shall also have to purchase additional FAR from land owners. This FAR shall be purchased from within same Local Planning Area in which it is to be used. The non Mega projects shall also be entitled to purchase additional FAR on similar pattern. The development projects (Roads, Park, Green belts etc.), to be under taken by the Urban Development Authorities, shall be announced from time to time and TDRs shall be usable from such projects alone. The TDRs shall not be transferable from one Local Planning Area to other Local Planning Area.

Table 10-9 Proposed Land Use Legend & Zoning Interpretation for Dera-Bassi Master Plan

| S/No. | Proposed Zone | Uses | Types of Development |
|---|---|---|---|
| **1** | Residential | These are areas used or intended to be used mainly for residential development.<br><br>Serviced apartments and student hostels may also be allowed.<br><br>Commercial and institutional uses are allowed within residential areas if these comply with the stipulated criteria. | Residential developments include:<br>Flat<br>Group Housing<br>Apartments<br>Townhouse<br>Semi-detached house<br>Detached House<br>Serviced Apartment<br>Institution<br>Hostel (e.g. for working women, students & youths )<br>Allowable commercial developments in residential areas include:<br>Single-storey commercial on road having ROW of at least 60 feet.<br>Stand alone / 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 | Developments for:<br>1. Logistics Park<br>2. Pharmaceutical & Chemical Park<br>3. General industries<br><br>4. Heavy industries |

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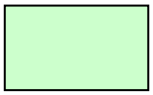
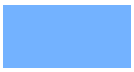
| | | be used as red industries, orange industries, general and warehouse uses. | 5. Staff quarters<br>6. Financial Weaker Section Housing (as envisaged in Housing & Urban Development Department's Notification no. 17/91/08-1HG2/7069 dated 7th Nov, 2008 subject to environmental safeguards)<br>Developments for:<br>• High-technology/ IT park<br>• Business park<br>• Knowledge park<br>• Science park<br>• Laboratories<br>• Media hubs<br>7. Computer software development<br>8. Assembly and repair of computer hardware and electronic equipment |
| **3** | Institutional  | Health & Medical care | Hospitals<br>Polyclinic<br>Clinic<br>Dental clinic<br>Veterinary clinic<br>Nursing Home<br>Maternity Home<br>Family Welfare Centre<br>Dispensary |
| | | Educational Institution | Kindergarten<br>Primary school<br>Secondary school<br>Junior college<br>Technical institute<br>Polytechnic<br>University<br>Religious school/institute<br>Foreign school<br>International school<br>Special education school (e.g. School for the Disabled) |
| | | Place of Worship | Gurudwaras<br>Temple<br>Mosque<br>Church |
| | | Civic & Community Institution | Civic Institutions<br>Courts<br>Government Offices<br>Foreign Mission/ Chancery<br>Police Station<br>Fire Station<br>Prison |

| | | | |
|---|---|---|---|
| | | | Reformative Centre<br>Disaster Management Centre<br><u>Community Institutions</u><br>Association premises<br>Community Centre/ Club<br>Community Hall<br>Welfare Home<br>Childcare centre<br>Home for the Aged<br>Home for the Disabled<br>Workers' Dormitory<br>Facility Centre<br><u>Cultural Institutions</u><br>Television/ Filming Studio Complex<br>Performing Arts Centre<br>Library<br>Museum<br>Arts Centre<br>Science Centre<br>Concert Hall<br>Socio-cultural Complex |
| **4** | Sports & Recreational  | These areas are used or to be intended to be used as sports and recreational uses. | Sports complex<br>Indoor stadium<br>Swimming complex<br>Golf course<br>Golf driving range<br>Recreation club<br>Camp site<br>Water sports centre<br>Adventure camp<br>Theme park<br>Turf club<br>Cricket club<br>Handicraft-thematic fair |
| **5** | Forest  | These areas are used or to be intended to be used as open space and no commercial activity is allowed. | Forest reserve<br>Wooded area<br>Swamp area<br>Natural open space<br>Public promenades |
| **6** | Water Body  | These are areas used or to be intended to be used for drainage purposes and water areas such as reservoirs, ponds, rivers and other water channels. | River<br>Major drain<br>Canal<br>Water channel<br>Reservoir<br>Pond |
| **7** | Road  | These are areas used or intended to be used for existing and proposed roads. | Expressway<br>Major Arterial Road<br>Minor Arterial Road<br>Collector Road<br>Primary Access Road |
| **8** | Railway | These are areas used or | |

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| | | intended to be used for existing and proposed railway | |
| **9** | Utility  | 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<br>Gas-fired power station<br>Raw & local water treatment works<br>Sewage treatment plant<br>Sewage pumping station<br>Sewage disposal work<br>Incineration plant<br>Landfill site<br>Treatment storage & disposal facility<br>Telecommunications station |
| **10** | Mixed Land use  | For Educational, Institutional and Residential. | • Uses defined in land use zone of residential and green category industry.<br>• Commercial |
| **11** | Existing Villages  | These are the existing village-abadi areas. | Farm house<br>Rural settlement<br>Pond |
| **12** | Industry Mix  | | Green category Industry<br>Residential (Plotted and Group Housing)<br>Commercial<br>Institutions<br>Hotel |
| **13** | 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<br>Aquaculture farm (e.g. aquarium fish)<br>Plant nursery<br>Hydroponics farm<br>Agriculture research/experimental station<br>Floral mile (i.e., nursery cum wholesale centre)<br>Utilities |

Note: Any other activity which is not mentioned in table 10-9 , but is compatible to landuse shall be allowed with the permission of the Competent Authority subject to fulfillment of all planning norms.