CHAPTER 1
INTRODUCTION

1.1 INITIAL STEPS

1.1.1 BACKGROUND

Urban areas in the past have not received much attention in terms of their planning, development and management despite the fact that cities and economic development are inextricably linked. Because of high productivity of urban areas, economic development activities get located in cities. Accordingly, it is desirable that settlements are provided with necessary planning and development inputs so that their orderly growth and development is ensured. This would also be necessary for ensuring efficient functioning of human settlements, for improving their productivity and for providing desirable quality of life to its residents in order to cater to their economic, physical and metaphysical needs. The urban development strategy for any state thus assumes importance for not only its economic emancipation but also its physical well-being.

Therefore, the real challenge for the planning and development of towns/cities is to promote balanced development in all spheres of urban life, physical, social and economic in a comprehensive manner. There is need to make urban transition efficient, equitable and cost effective by making policies and bringing out new projects/schemes. For this Master Plan preparation becomes the guiding principle for wiping out the deficits in urban infrastructures, mining the problems and exploring the potentials as per the town/city people.

"Master Plan (MP)" is identified as a strategic tool to achieve the above objectives.

Considering the role and importance of rational and orderly growth of urban centers, the Government of Punjab intends to streamline the development process in urban settlements to ensure that these settlements continue to achieve their objectives of improved efficiency and productivity. Accordingly, it is desirable to have a stringent check on haphazard development and have an optimum land-use plan for these cities/ towns. In the process, the state government has taken the decision to prepare Master Plans for all towns and cities for a directed development, and to provide world-class amenities to its people.

Punjab Urban Planning and Development Authority is an apex institution established in July 1995 for promoting the development of balanced urban growth in the State of Punjab. PUDA has undertaken the task providing planned residential, commercial and industrial spaces incorporating the latest state of the art technology and town planning norms.

In this process, PUDA has taken up the preparation of the Master Plan for Gurdaspur Local Planning Area with the guidance from Government of Punjab to address the infrastructure and service delivery gaps in Gurdaspur and to make the growth and development of local planning area rational. The key objective of the Master Plan is to formulate a long-term vision and strategy to make the Local Planning Area vibrant, livable and creditworthy. Besides rationalizing the land use pattern, the Master Plan will also facilitate the identification of sectoral investments and reform areas needed to transform the Gurdaspur Local Planning Area.

1.1.2 OBJECTIVES

The prime objective of the Master Plan is to promote, guide and rationalize the future growth and development of urban centers. It will endorse growth in the desired direction; promote economic development, improving service delivery and providing amenities to its people. Master Plan ensures rational policy choices besides providing a flexible framework based on ground realities for a defined time span.

Master Plan is an appropriate and scientific tool for promoting systematic & planned growth of the city.

(i) Identifying existing gaps in physical and social infrastructure & to bridge those gaps.
(ii) Making city assessment and to suggest strategies for its economic development.
(iii) Leveraging economy.
(iv) Rationalizing of land use and their interrelationships.
(v) Minimizing haphazard and uncontrolled growth of town/cities and to achieve planned growth and development in order to provide healthy living environment.
(vi) Promote better urban governance and resource generation for planned urban development.
(vii) Rationalizing the orderly movement of traffic and transportation within the town and defines the area for laying down network of various services.
(viii) Indicating spatial distribution of physical/social infrastructure for optimum use.
(ix) Ensuring systematic, balanced & integrated development.
(x) Framing mechanism/strategies for solving out the core area problems.

1.1.3 SCOPE OF WORK

The scope of Master Plan to be prepared covers the following aspects:

- Collection and review of available data, documents, reports etc and site visits
- Sector studies in terms of demand, supply and identifying gaps in service delivery.
- Formulation of vision and working out strategy
- Formulation of concept plan and policies for the growth centers, development corridors etc.
- Preparation of Integrated Infrastructure Plan for all areas constituting designated Local Planning Area as per projected requirements
- Preparation of detailed Zonal Development Plan including approximate location and extent of land uses such as residential, industrial, commercial etc. and Development Control Regulations.
- Review of ongoing and proposed development projects and other schemes announced by the govt. under JNNURM, UIDSSMT, OUVGL schemes etc. and to incorporate them in the plan
- Incorporation of all the statutory provisions under "The PR & TP and development Act-1995 as (amended 2006)"
- Formulation of framework for implementation of the Master Plan, Zoning Plan and Development Control Regulations
- Prioritizing the projects and formulation of Investment Plan
- Formulate Investment Plan with appropriate financing strategies.
- Focus on the reforms to be carried out at the State and District level in consonance with the vision and strategic plan outlined to sustain the planned interventions

1.1.4 LEGAL FRAMEWORK FOR MASTER PLAN

PREPARATION OF MASTR PLANS UNDER, "THE PUNJAB REGIONAL AND TOWN PLANNING AND DEVELOPMENT ACT, 1995 (AMENDED 2006)"

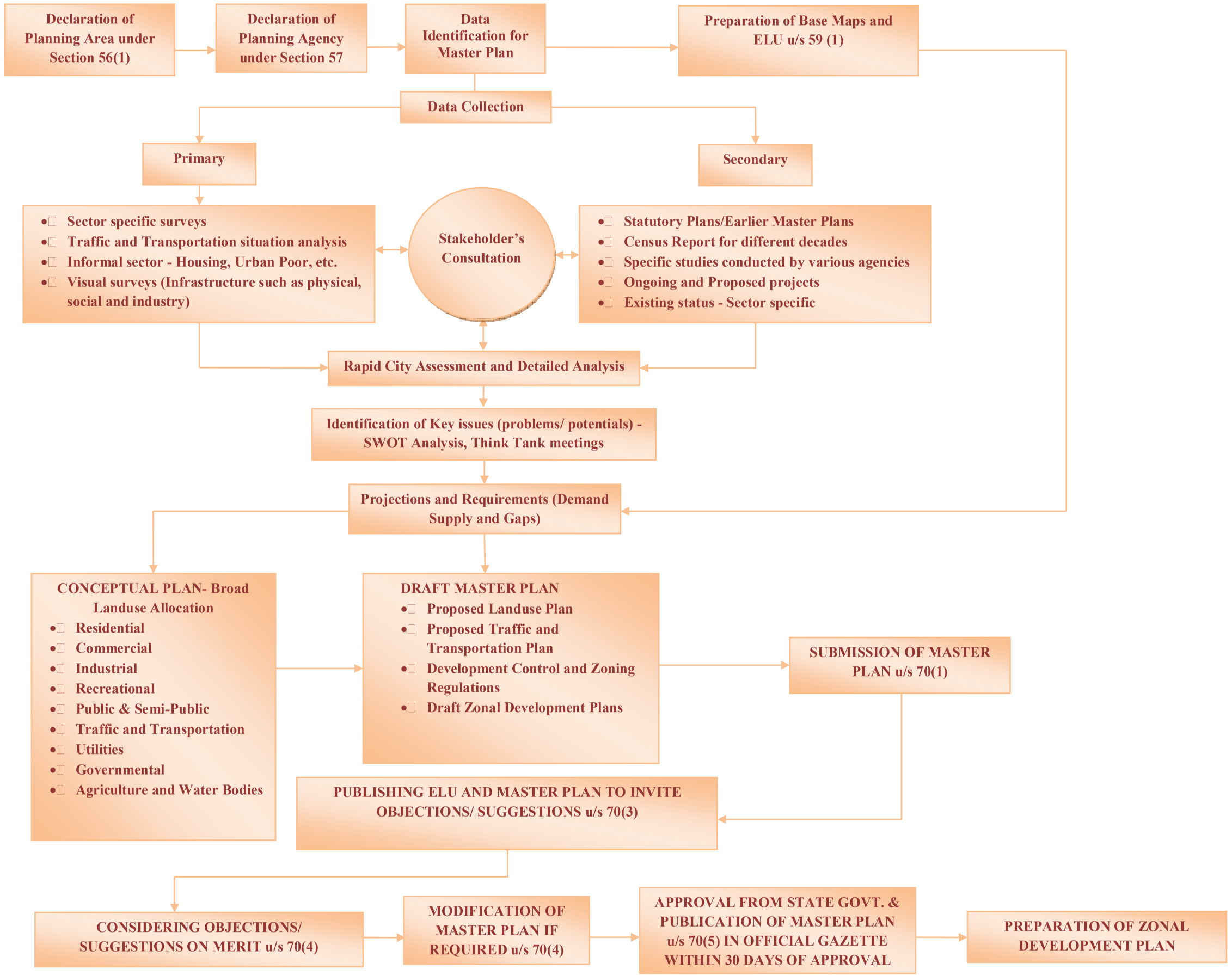
To control and regulate the development of towns and cities in the state of Punjab, the Master Plans are to be prepared as a statutory requirement. Procedure for preparing the Master Plan under the Punjab Regional and Town Planning and Development Act, 1995 (hereinafter called PRTPAD, Act 1995 as amended 2006), has been defined in Chapter X of the said Act.

1.1.5 APPROACH TO THE MASTER PLAN

Approach to the preparation of Master Plan would involve outlining the critical issues of town development, undertaking a demand-supply gap analysis and formulating a management framework including outlining strategies and guidelines for future growth and development of Gurdaspur LPA. It will also include options for promoting rational development through the introduction of a regulatory mechanism including realistic planning and management interventions within the overall regulatory and institutional framework. A development action plan comprising of implementation schedule, role of stakeholders, regulation and institutional strengthening mechanism will form integral form of the Master Plan. The Master Plan will take into account the status of municipal services - its fiscal status, operational and management procedures, besides putting in place effective monitoring mechanism. The preparation of the Master Plan will be based on existing trend of development taking into account Development Plans/Schemes of public and private agencies operating in the city and contributing towards its growth and development.

The detailed methodology for the preparation of Master Plan of Gurdaspur LPA defining the data collection, city/town assessment, preparing thematic maps, identifying gaps in service delivery and infrastructure network, identifying strength, weakness, opportunities and threats, preparing Existing Landuse Plan, Development Plans, Zonal Development Plan, etc. as defined below (refer fig no. 1):

Fig no.1 METHODOLOGY



1.1.6 METHODOLGY FOR MASTER PLAN

The various stages of preparation of Master Plan include:

1. Identification of Local Planning Area (as per the Government notification under PRTDA- 1995 (amended in 2006).
2. Preparation of Existing Land Use Plan
    - *Using Satellite Imageries*
    - *Using Available Plans*
    - *Ground Surveys*
    - *Revenue Plans*
3. Assessment and analysis of Local Planning Area in terms of
    - *Regional Setting*
    - *Historical Evolution*
    - *Demographic Studies*
    - *Socio-Economic Studies*
    - *Traffic and Transportation*
    - *Physical Infrastructure (Water Supply, Sewerage, Solid Waste Management, Electricity)*
    - *Social Infrastructure (Educational, Medical, Recreational, Miscellaneous Facilities)*
    - *Environmental Studies*
    - *Heritage and Tourism*
    - *Growth Pattern*
    - *Land Use Studies*
    - *Available studies and report*
    - *Ongoing and Proposed Projects*
4. Involving Stakeholders (through FGD's and personal interviews)
    - *Meeting with experts*
    - *Think Tank meetings*
    - *NGO's/ Private agencies*
    - *Public Representatives*
5. Gaps and Problem Identification through
    - *Comparison with available norms and standards*
    - *Identification of the critical problems and infrastructure gaps*

6. Carrying out SWOT analysis b*ased upon*
    - *Studies made and analysis carried on.*
    - *City assessment*
    - *Stakeholder's perception*
    - *Identified problems and gaps*
    - *Identifying major socio-economic drivers*
7. Working out requirements
    - *Population Projections*
    - *Norms and Standards*
    - *Broad Landuse Requirements*
8. Defining Conceptual Framework through
    - *Defining Vision for future growth and development*
    - *Identifying broad objectives*
    - *Laying down Mission statements for critical areas*
9. Preparation of Concept Plan
10. Evolving Proposed Land Use Plan and Traffic &Transportation Plan along with Development Control Regulations (DCR's)
    - *Based on existing land use plan*
    - *Studies and assessment made*
    - *Gaps and problem identified*
    - *Stakeholder's perception*
    - *Objectives framed*
    - *Future population growth*
    - *Future infrastructure requirements*
    - *Available land for development*
11. Preparing Phasing and Investment Plan
12. Evolving Zonal Plans based on Proposed Land Use Plan

1.1.7 LOCAL PLANNING AREA

Initially the Gurdaspur Local Planning Area comprised of 31 rural settlements (3 included in M. Cl) and one urban settlement i.e. Gurdaspur M.Cl. The Gurdaspur Local Planning Area was notified under section U/S56 (i) of the Punjab Regional and Town Planning and Development Act, 1995 (amended 2006) vide notification number **12/4/2007 -4 HGI/6784** dated 22-08-2007 (Exercising the power vested under Section 56(7) of the Act). Subsequently, considering the importance of Keshopur Wetland, 15 villages have been added in the Gurdaspur Local Planning Area wide notification no. 12/04/2007-4HG2/2580 dated 05.08.2010. (Refer annexure no. I)

The Gurdaspur Local Planning Area covers an area of 7624 hectares with a total population of 1, 17,546 persons for preparation of the Master Plan. It comprises of 46 rural settlements (3 included in M.Cl) and one urban settlement of Gurdaspur M.Cl. The list of all settlements falling in Gurdaspur L.P.A is attached as annexure II showing area and population details.

While delineating the Gurdaspur Local Planning Area, following factors as mentioned in rule 22 of the Punjab Regional and Town Planning and Development (General) Rules 1995have been considered, which are as follows:

- Administrative/ Revenue boundaries of the villages/ urban centers
- Geographical features of the area including Nano Nangal Distributary branch of UBDC and other physical features like roads and railway lines.
- Means of communication and accessibility
- Present and future growth trends and distribution of the population
- Preservation of historical and cultural heritage of the areas
- Urban expansion trends and management of periphery areas for ecological and environment balance
- Dispersal of economic activities to alleviate pressure on Gurdaspur town and balanced development of the area

It is observed that the Gurdaspur Local Planning Area is 2.12% of the total area of district Gurdaspur and constitute 5.59% of the total district population.

Table 1: Area and Population of Different Settlements in Gurdaspur District

Sl. No.	Settlement	Area (Hectares)	Population (2001)
1	Gurdaspur (M. Cl.+Outgrowth)	1,085 (0.30%)	68,441 (3.25%)
2	Village LPA	6,470 (1.82%)	49,105 (2.33%)
3	Total LPA	7624* (2.12%)	1,17,546 (5.59%)
4	Gurdaspur District	3,56,400	21,04,011(2001) 22,99,026 (2011)

Source: Census of India, 2001, Note-Percentages are calculated with respect to district area and population

Note: Area of settlements falling in LPA is taken from ELU map prepared by PRSC, while Area of Gurdaspur District is taken from Statistical Abstract of Punjab, 2007. The population data is from Census of India, 2001.
*As per notification, partial areas of 8 villages have been added into the Gurdaspur M.Cl while as per the E.L.U. prepared by PRSC, whole area of these 8 villages have been added in the M.Cl area. Accordingly, the area provided by PRSC has been taken as final for the preparation of Master Plan.

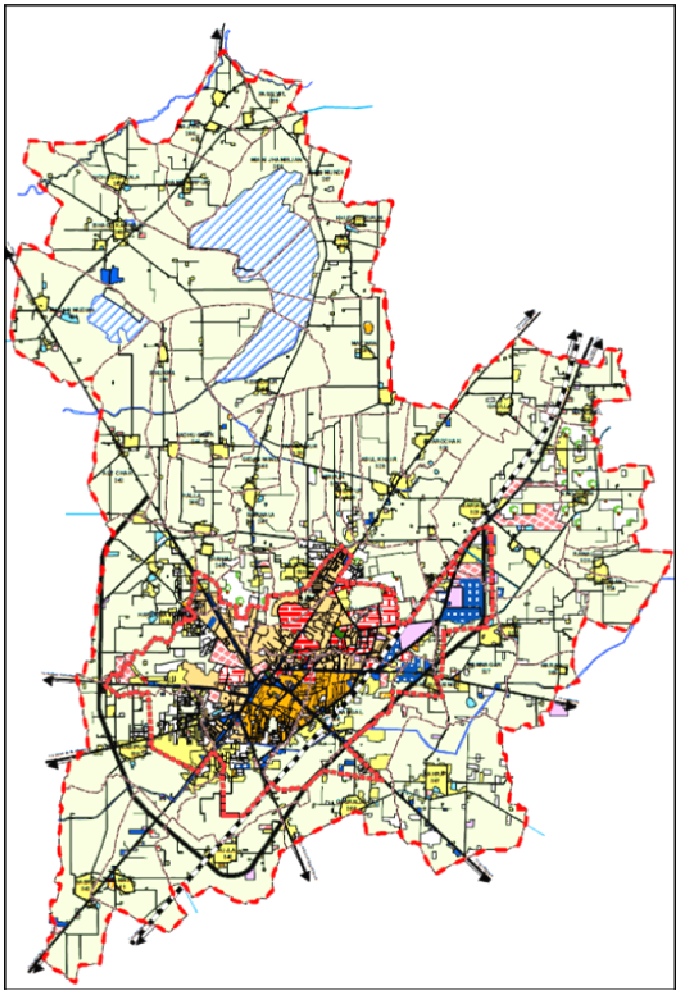


Fig No.2: Local Planning Area of Gurdaspur

1.2 REGIONAL SETTING

The Gurdaspur Local Planning Area forms part of Gurdaspur district, which is one of the four border districts of Punjab, the other three are namely Amritsar, Tarn Taran and Ferozepur. The district shares boundaries with 6 other such as Kathua district of Jammu & Kashmir in the north, Chamba and Kangra districts of Himachal Pradesh in the north-east respectively, Hoshiarpur district in the south-east, Kapurthala district in the south, Amritsar district in the south-west and Pakistan in its north-west. The Chakki river separates the Gurdaspur district from the Kangra district (Himachal Pradesh) on the east and the Beas River separates it from the Hoshiarpur district in the south-east and Kapurthala district in the south. (Refer fig no. 2).

Gurdaspur district due to its alluvial soil has strength mostly because of agro-based activities. A Portion of the district is also situated beyond the River Ravi.

Gurdaspur M.Cl is the administrative headquarter of the district. The average elevation of town from mean sea level is 242 meters. It is located on the Amritsar-Pathankot highway (NH-15). The town has good connectivity with other parts of district and state through rail and road network. NH-15 passes through the town connecting it to all major destinations like Amritsar, Batala, and Pathankot etc. The road provides linkages with the state of J&K and Himachal Pradesh and with the rest of country.

The location of Gurdaspur from major urban settlements of the State is given below:

Table 2: Distance of Major Urban Settlements from Gurdaspur Town

Place	Distance (Kms)
Batala	32
Pathankot	37
Jammu	147
Amritsar	70
Jalandhar	99
Hoshiarpur	83
Dinanagar	13
Chandigarh	217

Source: Gurdaspur District Gazetteer Supplement

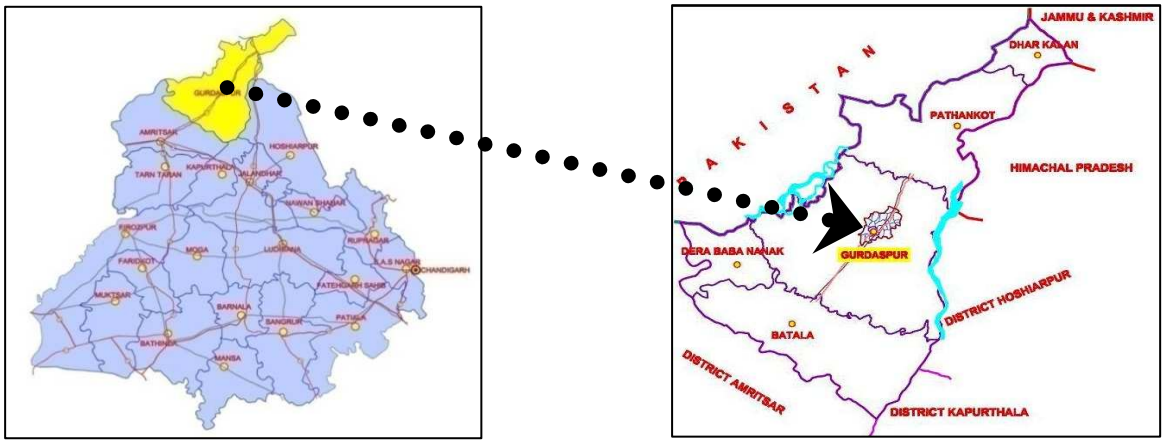


Fig No. 3: Location of Gurdaspur District with Reference to Punjab

1.3 PHYSIOGRAPHY AND CLIMATE

1.3.1 TOPOGRAPHY

The Gurdaspur town forms part of upland plain of Gurdaspur district. The upland plain in general is flat, featureless plane, with a local relief about 2 to 6 metres. From the human and economic point of view, this is the most important physiographic feature in the district. The Beas and the Ravi are the two main rivers flowing through the district. The Beas strikes the border of the Gurdaspur district at Mirthal, a place about 19.2 km south of Pathankot. The Chakki Khad is main tributary of Beas in the Gurdaspur district. River Ravi with its south

west course forms the boundary between the Punjab and the Jammu and Kashmir State for about 40 km. There are local swampy depressions which are known as Chhambs. The largest of these is the Kahnuwan Chhamb which stretches along the Beas River in the Gurdaspur district. Another prominent swampy depression is the Keshopur Chhamb which is the part of Gurdaspur LPA and located 5kms north of the Gurdaspur town.

Tributaries and Canals:

Nangal distributary, Nabipur cut drain and part of the Kiran Nallah in the North flows through the LPA. The distributary passing through LPA takes care of the irrigation facilities of the area through many minors but generally, water does not reach at the tail ends of minors as no distillation is done at regular intervals.

1.3.2 CLIMATE

(i) Seasons and their Durations:

The cold season starting with November to the early part of March is followed by the hot season, which lasts till the end of June. July, August and the first half of September constitute the wet months due to southwest monsoon. The period from mid-September to about the middle of November may be termed as the post-monsoon or transitional period.

(ii) Temperature:

June is generally the hottest month with the mean daily temperature hovering around 41° C and the mean daily minimum temperature at about 27° C. The day temperature may reach even 45° C. The nights, however, are as warm as they are during summers. On account of the increased moisture, the weather is often sultry and uncomfortable during monsoon season. After the monsoon during mid-September, there is a rapid drop in the temperature especially during night. January is usually the coldest month with the maximum mean daily temperature placed at about 19° C and the minimum mean daily temperature at about 6° C. Cold waves affect the district in the wake of passing western disturbances in winter when the minimum temperature drops down to about a degree or so below freezing point.

(iii) Rainfall:

The average annual rainfall in the district is 656 mm. The rainfall generally increases from the south-west towards the northeast. About 70 per cent of the annual rainfall is received during the monsoon months i.e. July to September with July being the wettest month. There is also some rainfall during the period from December to March in association with passing western disturbances, and this amounts to about 12 % of the annual rainfall.

(iv) **Winds:**

During the south-west monsoon season, wind blows from directions between south-west and north-east, but on many days in the afternoons, westerly to north-westerly winds also blow. In the rest of the year, westerly to north-westerly winds predominate except in the latter half of the summer season when easterlies and south-easterlies blow on some days.

1.4 HISTORICAL PERSPECTIVE

Historical Growth

Gurdaspur is the district headquarters, situated on the Amritsar –Pathankot Road (NH-15) and the Amritsar-Batala-Pathankot railway line. It is also connected with Sri Hargobindpur, Mukerian (Hoshiarpur District) Dera Baba Nanak and Dorangla. Several Sikh Gurus are closely associated with the town. Banda Bairagi as persuaded by Guru Gobind Singh in 1706, raised war against the Mughals and used the district of Gurdaspur as a base from which he operated to raid country up to Lahore.

The history of district reveals that the Maharaja Ranjit Singh broke power of Ramgarhia and Kanhaya Misal. After annexation of Punjab to British territory in April 1849, Adinanagar district was constituted having headquarter at Dinanagar. This District included Gurdaspur tehsil, a greater portion of the Batala Tehsil and villages of Pathankot tehsil.

Major Events Relating with Planning & Development

The history of Gurdaspur town dates back to ancient time and includes series of such events, which helped in shaping its future planning activities. (Refer table no.3)

Table 3: Major Events Related with Planning & Development of District Gurdaspur

PLANNING AND DEVELOPMENT EVENTS	
YEAR	**EVENTS**
1849	Adinanagar constituted as a district
1852	District offices shifted to Gurdaspur and name of the District changed from Adinanagar to Gurdaspur
1867	Municipality constituted
1884	Amritsar –Pathankot broad gauge line was opened in 1884. It enters the district just near the Jaintipur station and passes through the Tehsils of Batala, Gurdaspur and Pathankot.
1907	Punjab Canal Colonies Act in Feb 1907. It restricted the right of the colonizers to make and denied them the right to cut trees on their land
1920	Byelaws were introduced in the town
1920	SGPC set up by Sikhs for management of Sikh shrines and many Gurudwaras came under SGPC in Gurdaspur district.
March 1968	Office of DTP ,Gurdaspur established at Pathankot
1981	DTP office shifted to Gurdaspur
23 Dec 1983	The Improvement Trust Gurdaspur was constituted
1990-2010	Master Plan was prepared for Gurdaspur
2007	Gurdaspur Local Planning Area (LPA) was notified

Source: Gurdaspur District Gazetteer & DTP Office

CHAPTER 2
DEMOGRAPHIC PROFILE AND ECONOMIC BASE

2.1 DEMOGRAPHIC CHARACTER

Gurdaspur Municipal Council is the most urbanized settlement of the LPA. It comprises of 58.22% population of the total population of LPA. It holds 12.79% of urban population of the Gurdaspur district. Gurdaspur ranks third most populated town of the district after Pathankot with 31% and Batala, with 23% of the total population of district. Among the villages in LPA, the highest populated are Bariar and Aujla with population ranging from 2000 to 4000. The least populated village is Mankaur Singh having population of 9 persons only.

Table 4: Distribution of Urban Population in Major Towns of Gurdaspur District

Area	Urban Population	% to District Urban Population
Gurdaspur District	5,35,223	-
Pathankot	1,68,485	31%
Batala	1,25,677	23%
Gurdaspur	68, 441	12.79%

Source: Census of India, 2001

There are 4 settlements in the highest category of population. These settlements have a potential to develop as growth centres of the Gurdaspur town. Twenty one settlements fall in the category of below 800. Twelve settlements are within range of 800-1600 and remaining seven settlements fall in 1600 – 2400 population category (refer table 5)

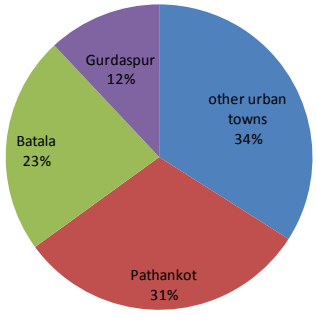


Fig no. 4: % Share of of Gurdaspur Town in District Urban Population

Further, in order to determine the hierarchy of settlements falling in L.P.A, they have been categorized into 4 broad groups (refer table 5). 48.8% of village settlements in Gurdaspur L.P.A fall under the population range of below 800 persons followed by 27% of the villages in the category of population range 800- 1600. Only 7% of the villages fall in the category of population above 2,400. (Refer map 1)

Table 5: Hierarchy of Settlements in Gurdaspur LPA

Sr. No.	Settlement Group	No. of Settlements	%
1	Below 800	21	48.8
2	800-1600	12	27.9
3	1600-2400	7	16.3
4	> 2400	3	7.0

Source: Census of India 2001

From the map 1, it is evident that settlements with higher population are situated along the major roads of L.P.A. As a result, greater accessibility is the major factor responsible for their

growth/ development. For example, Bariar, Jiwanwal, Babri, Madowal fall along NH-15, Nabipur falls along Dera Baba Nanak Road (MDR), village Ghurala, Aujla fall along Shri Hargobindpur (ODR) and Tibri Cant. Road (ODR).

2.1.1 POPULATION GROWTH

The total population of Gurdaspur Municipal Council including outgrowth is 68,441persons as per census 2001. The growth rate of Gurdaspur M.Cl has been analyzed from time period of 1951 to 2001 which is shown in the table below.

Table 6: Growth Rate of Gurdaspur Town

YEARS	POPULATION OF GURDASPUR (M. Cl)	%
1951	22,677	36.3
1961	27,665	22.0
1971	32,064	16.9
1981	39,529	23.3
1991	54,733	38.5
2001	68,441	25.04

Source: Census of India, 2001

The decade 1941-51 witnessed communal trouble and mass migration as a result of the partition following which the town observed a growth rate of 36.3%. The subsequent two decades showed a declining growth rate which again increased to 38.5% in the decade 1981-91.

Further, it is required to be mentioned that growth rate of LPA villages is higher than M.Cl in 2001 having low density which shows the scattered development of villages within the LPA

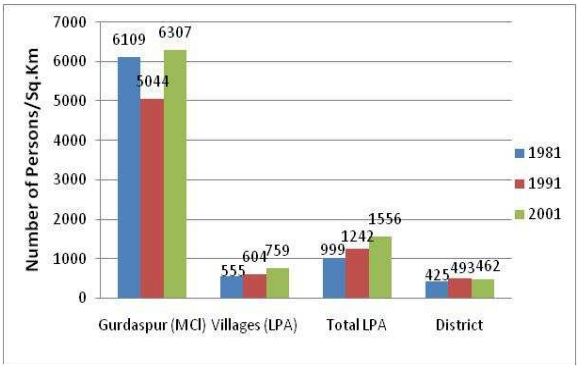


Fig no.5: Population Density in Gurdaspur LPA

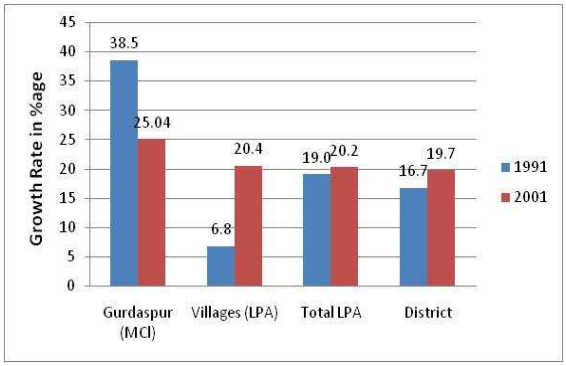


Fig no. 6: Population Growth rate in Gurdaspur LPA

2.1.2 POPULATION DENSITY

The table below gives details of the population growth rate and density in Gurdaspur M. Cl and villages in LPA. The overall density within the LPA is observed to be of the order of 1556 persons/square kilometer, which is three times the district figure of population density (462).

Table 7: Demographic Trend, Growth Rate and Density in Gurdaspur LPA

CATEGORY OF THE SETTELMENTS	TOTAL POPULATION			GROWTH RATE		DENSITY (NO. OF PERSONS/SQ.KM)		
	1981	1991	2001	1991	2001	1981	1991	2001
Gurdaspur (MCl)	39,529	54,733	68,441	38.5	25.08	6,109	5,044	6,307
Villages (LPA)	36,430	39,068	49,105	7.24	25.69	563	604	759
Total LPA	75,959	95,635	1,17,546	19.0	22.91	1,005	1,254	1,556
District	15,13,435	17,56,732	21,04,011	16.7	19.7	425	493	462

Source: Census of India, 1981, 1991, 2001

Further, the population density within Gurdaspur M.Cl is of the order of 6307 persons/square kilometer, which is four times higher than LPA. This is because the Gurdaspur M.Cl is district headquarters and the third most urbanized settlement of the district after Pathankot and Batala. The population density in the rural settlements in the LPA is of the order of 759 persons/square kilometer.

Taking into consideration the ward wise density in Gurdaspur M.Cl, the highest density is observed in three wards namely 2, 5 and 17 where it is of the order of above 300 PPH (refer table 8 and annexure IV). 19.04 % of the wards namely 3, 12, 20 and 21 have density in the range of 200-300 PPH while 52.38% of the wards (11 in number) fall in the population range less than 100.

Table 8: Ward-Wise Density in Gurdaspur Town

Density	Range (PPH)	No. of Wards	%age
High	Above 300	3	14.29
Medium II	200-300	4	19.04
Medium I	100-200	3	14.29
Low	Less than 100	11	52.38
Total		21	100.00

Source: Municipal Council Gurdaspur

Considerable variation has been found within different wards of the town (refer annexure IV). The average density of the town is 62 PPH. As against this, the lowest density has been found to be 14 P.P.H in ward no.8. The core area is highly dense and density goes on decreasing as we move from core to peripheral areas. Looking at the pattern of population distribution in Gurdaspur M.Cl, it is observed that 26% of the town's population resides in only 5 % of the town area i.e. high-density wards. The high density area of the town include old area, Bus stand, Geeta Bhawan Mohalla, Circular Road, area around Jhulna Mahal, Hanuman Chowk and its surrounding area, the commercial area of Andruni, Sadar and main Bazaar. The low-density area comprises of railway station area, area around milk plant and grain market, area around Dera Baba Nanak and Hargobindpur Road.

2.1.3 SEX RATIO

On observing the sex ratio in Gurdaspur LPA, it has been observed that the sex ratio in the Gurdaspur M.Cl has increased to 892 females per 1000 males in the year 2001 from 852 in 1991. This is due to the fact that male population from rural areas move towards town in search of employement. Further, when compared to the district figure, the villages in LPA have higher sex ratio than Gurdaspur M.Cl area.

Table 9: Sex Ratio in Gurdaspur LPA

CATEGORY OF SETTELMENTS	SEX RATIO (NO. OF FEMALES/1000 MALES)	
	1991	2001
GURDASPUR (M.Cl)	852	892
Villages (LPA)	908	907
District	903	890

Source: Census of India, 1991, 2001

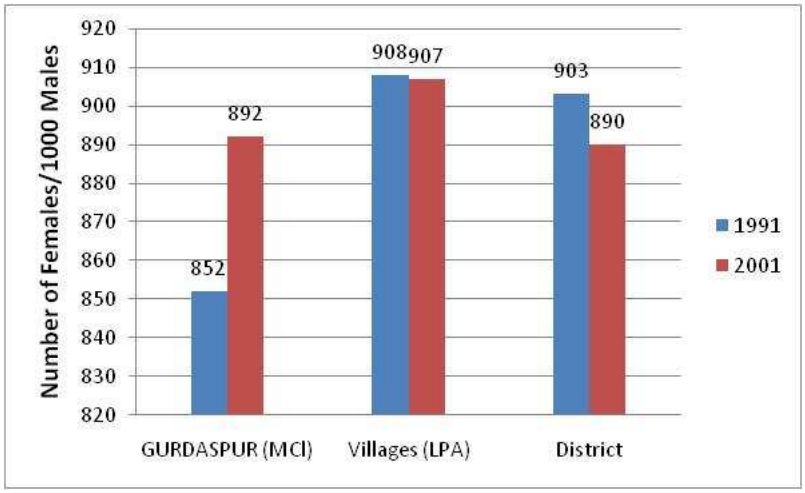


Fig no.7: Sex Ratio of Gurdaspur LPA in Comparison to District

Although, the sex ratio of Gurdaspur M.Cl is comparable to district figure but the sex ratio for Gurdaspur M.Cl shows an increasing trend while district shows a declining trend. This decrease in sex ratio could be due to increasing male migration to other neighbouring districts such as Amritsar, Hoshiarpur, kapurthala etc for work and other reasons.

2.1.4 LITERACY RATE

The literacy rate in Gurdaspur LPA shows an increasing trends both in urban and rural areas. The literacy rate in Gurdaspur M.Cl increased from 70% to 77% in the year 1991 and 2001 respectively. Likewise, the literacy rate in villages in LPA also jumped from 47% in 1991 to 62% in 2001. On comparing the literacy rate in Gurdaspur M.Cl and of villages in LPA with that of the district figure, it is found that the Gurdaspur M.Cl has the highest literacy rate while literacy rate of villages falling in LPA (62%) is comparable to that of the district's figure which is of the order of 63.90% in 2001.

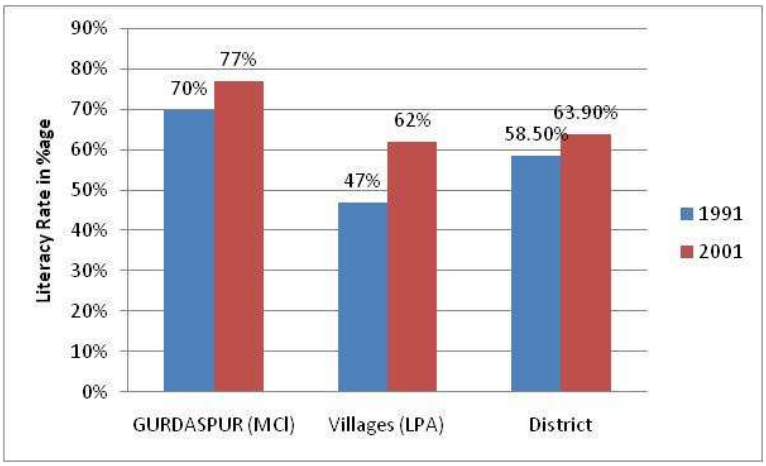


Fig no.8: Literacy Rate in Gurdaspur LPA and District

2.1.5 SC/ ST COMPOSITION

On observing the SC population within Gurdaspur LPA, it has been found that the villages in LPA have high degree of SC population (45.50%) when compared to Gurdaspur M. Cl (19.8%) and the district figure, which is of the order of 24.74% in 2001. It can be observed that approximately half of the population residing in the villages in LPA belong to SC/ST category.

Table 10: SC Population in Gurdaspur LPA

CATEGORY OF THE SETTELMENTS	SC POPULATION			
	1991		2001	
	SC Population	% to Total Population	SC Population	% to Total Population
Gurdaspur District	4,33,827	24.6	5,20,691	24.74
Gurdaspur M.Cl	5,815	20	13,556	19.8
Villages in LPA	14,268	46.6	21,217	45.5

Source: Census of India-1991, 2001

2.2 ECONOMY AND EMPLOYMENT

2.2.1 WORKFORCE PARTICIPATION

The overall Work Force Participation Ratio (Ratio of total workers Vs total population) for Gurdaspur L.P.A stands at 29.71%, which is less than the district and state figure of 33.3% and 37.5% respectively (refer table 11). This shows that there is burden on working population as well as economy. Further, on observing the work force participation ratio in Gurdaspur LPA, it is found that villages in LPA have higher work force participation ratio that in Gurdaspur M.Cl which is due to agricultural practices prevalent in the villages that are labor intensive. It has also been analyzed from the figures given in the table below that although, there has decline in the number of non workers in the LPA from 1991 (73.24%) to

2001 (70.29%) but a declining trend is also observed in the number of main workers in the same period from 99.97% to 92.27%, which reflects significant increase in marginal workers.

Table11: Workers and Non-Workers in Towns and Villages of Gurdaspur LPA, (2001)

level		Total Population	Total Workers	Workers (% of Total Population)	Non-Workers (% of Total Population)	Main Workers (% of Total Workers)	Marginal Workers (% of Total Workers)
Punjab	2001	243,58,999	91,27,474	37.5	62.5	85.8	14.2
Gurdaspur District	1991	1756732	493395	28.08	1263337(71.9)	489809 (99.2)	3586 (0.7)
	2001	2104011	700557	33.3	1403454(66.7)	568322 (81.1)	132235 (18.8)
Gurdaspur M. Cl	1991	54733	15893	29.03	38835 (70.9)	15893 (100)	0
	2001	68441	20065	29.7	47414 (70.2)	19180 (95.5)	885 (4.41)
All Villages	1991	47549	11477	24.14	27413 (57.65)	11469 (99.93)	8 (0.07)
	2001	49105	14855	30.25	34250 (69.75)	13040 (87.78)	1815 (12.22)
Total LPA	1991	102282	27370	26.76	74912 (73.24)	27362 (99.97)	8 (0.03)
	2001	**117546**	**34920**	**29.71**	**82626 (70.29)**	**32220 (92.27)**	**2700 (7.73)**

Source: Census of India-1991, 2001

2.2.2 OCCUPATIONAL STRUCTURE

The occupational structure of Gurdaspur LPA has been assessed by the number of workers engaged in the four categories namely cultivators, agricultural laborers, household industry and others as described in census 2001 is shown in the table below.

Table 12: Trend of Distribution of Main Workers in Gurdaspur LPA

Level of Settlement		Cultivators	Agriculture Laborers	HH Workers	Other workers
Gurdaspur M.Cl	1991	375 (2.3%)	444 (2.8%)	78(0.5%)	14988(94.4%)
	2001	178 (0.88%)	278 (1.37%)	394(1.94%)	19478(95.82%)
LPA villages	1991	2635 (23.61%)	4304 (38.57%)	126(1.13%)	4094(36.69%)
	2001	3443 (19.27%)	2200 (12.32%)	726(4.06%)	11494(64.35%)
Total LPA	1991	3010 (11.13%)	4748 (17.56%)	204(0.75%)	19082(70.56%)
	2001	3621 (9.48%)	2478 (6.49%)	1120(2.93%)	30972(81.10%)

Source: Census of India-1991, 2001

Looking at the distribution of main workers in the Gurdaspur LPA, it is observed that the 81.10% of the workers in LPA is engaged in other activities (mainly tertiary activities), 2.93% in household industries and 15.97% in primary activities. Likewise, within Gurdaspur M.Cl, 95.82% of the workers are involved in tertiary activities with 1.94% and 2.25% of the workers involved in secondary and primary activities respectively. This is because Gurdaspur is the district headquarters housing number of government offices and is marked by the presence of important educational institutions. The trend observed in villages in LPA is same with 64.35% of workers involved in tertiary activities with 31.59% involved in primary activities i.e agriculture and allied activities (refer table 12).

2.2.3 DEPENDENCY RATIO

Dependency Ratio in any settlement/city is an indicator of total number of non-workers dependant on total number of workers. Gurdaspur Urban Agglomeration (city) has a higher

(2.36) dependency ratio than that of district (2.01) and the state (1.67). The dependency ratio in case of villages in the L.P.A is of the order of 2.31 and for overall LPA is of the order of 2.36 which is same as of Gurdaspur M.Cl but is higher than the figure for the state of Punjab and Gurdaspur district. This shows that there is more burden on the existing progressive economy.

Table 13: Dependency Ratio at Various Levels

State/District/Town/Village	Dependency Ratio (Dependants/ workers)
Punjab	1.67
Gurdaspur District	2.01
Gurdaspur M.Cl	2.36
Gurdaspur Urban Agglomeration	2.36
All Villages	2.31
Total LPA	2.36

Source: Census of India, 2001

2.2.4 INDUSTRIAL GROWTH:

Industrial growth for Gurdaspur have been studied in terms of nature of industries, number of units, employment status and the investment scenario of various industries. Within Gurdaspur town, majority of industries are of small scale. The number of small-scale industries increased from 281 in 1997 to 334 in 2009. About 34 small-scale industrial units have been registered from last10 years. Only one large-scale industry exists in town i.e. milk plant, which is located on NH-15 and has an area of 13 ha. The milk plant is with Gurdaspur District Cooperative Milk Produce Union Ltd and falls within Municipal limit along NH-15.

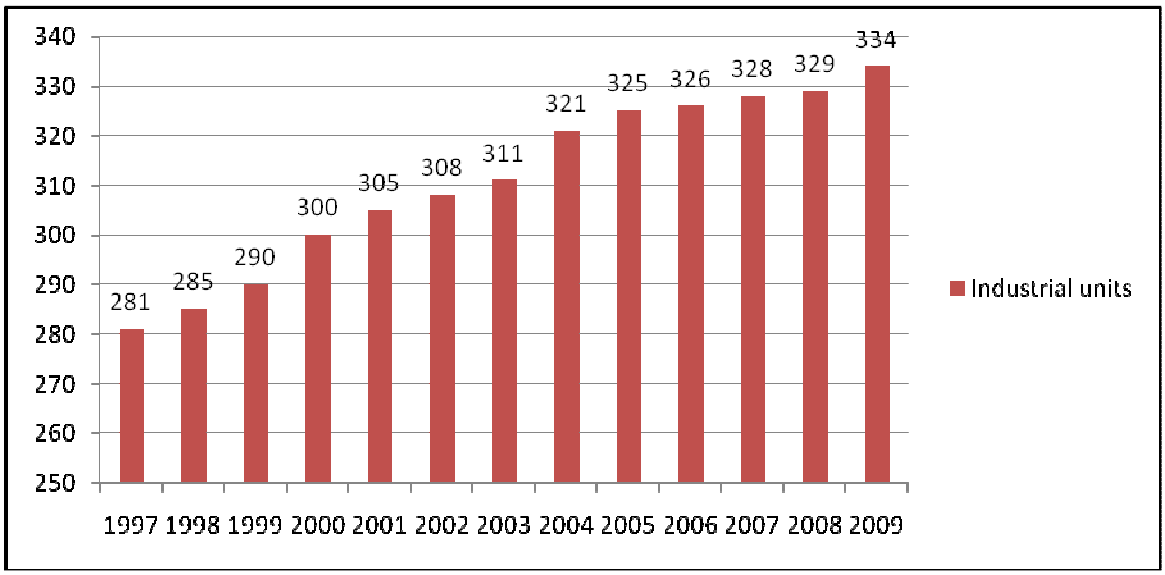


Fig no.9: Trend of Small Scale Industrial Units in Gurdaspur

It can be analyzed from the figure above that Gurdaspur is pre-dominantly having small-scale industrial units with the only large-scale industrial unit being that of Verka Milk Plant located

on NH-15. Looking at the yearly registration of industries, maximum registration of the industrial units is observed in the year 2000 and 2004. The existing industries in the town are mostly located in northern and eastern direction i.e. along NH-15 i.e Amritsar-Pathankot Road and bye pass road adjacent to grain market. If analyzed with respect to wind direction which is NW to SE, the industries are mostly located as per the wind direction.

Table 14: Major Areas of Small Scale Industry in Gurdaspur M.Cl

Sl. No.	Name	Type of Industry
1.	Amamwara Chowk	Leather shoe, repair, soap manufacturing
2.	Behrampur Road	Wooden furniture, wooden structure, electronic repair
3.	Civil line	Steel and wooden furniture
4.	GT Road Mandi	Readymade garments, Lathe work, trading of biscuits, electronic repair, wooden furniture, agriculture repair, cement jail, wheat flour, trading of detergents, printing, wooden door frames, ice factory
5.	Hanuman Chowk	Repairs of scooters, cycles, poultry incubators, trading of utensils
6.	Hardochanni Road	Cycle, scooter, auto repair, hand pump parts etc.
7.	Jail Road	Electronic repair (motor winding), oil manufacturing
8.	Jhulna Mahal	Processing industry(wheat flour and edible oil)
9.	Kahnuwan Road	Electronic repair, cattle fields, welding works, Ice factory
10.	Main Bazaar	Foot wear repair
11.	Onkar Nagar	Dry-cleaning, typing, wooden furniture, clothes dying, cement jail
12.	Pandori Road	Rice mills, gate and grills repair and manufacturing
13.	Police Line	Motorcycle repair ,bricks manufacturing
14.	Purana Bazar	Bakery products, bread, binding industry
15.	Railway Road	Conduit and PVC pipes
16.	Sadar Bazar	Printing, electric repair, ice factory
17.	Tibri Road	Wooden furniture
18.	Trimmu Road	Bicycle manufacturing, welding, brick manufacturing,

Source-District Industrial Centre Batala

Industrial Employment:

Having look at the industrial employment scenario in the Gurdaspur, it has been observed that small-scale industries are the employing 3340 workers in the year 2009. The only large-scale industrial unit in the town gives employment to 256 workers. On comparing the number of industrial units with industrial employment for the year 2009, it is found that nearly 10 workers are employed per industrial unit in the town. In addition, an increase of 12% has been observed in the employment in the small-scale industries in the Gurdaspur in the decade from 1998-2009.

Table 15: Employment in Small Scale Industrial Sector During 1998-2009

Year	Small Scale Industries	
	Yearly Addition in Employment	Total Employment
1998	23	2985
1999	38	3008
2000	15	3046
2001	23	3061
2002	33	3084
2003	59	3117
2004	89	3176
2005	33	3265

2006	16	3298
2007	19	3314
2008	7	3333
2009	55	3340

Source: District Industries Centre, Batala

Industry in LPA villages

Only 10 small-scale industrial units exist in the villages in LPA providing employment to the village population. Further, in terms of providing employment in LPA villages, small-scale industry holds 94% share against Khadi industry, which holds 6%.

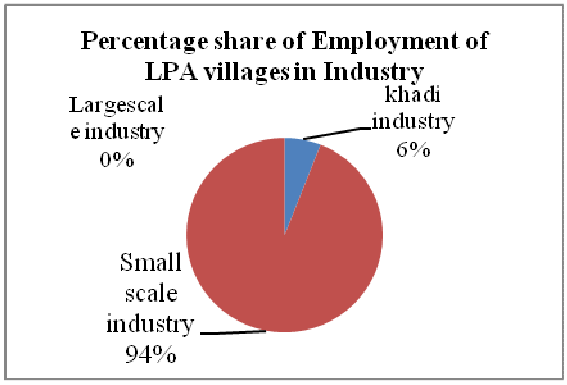


Fig no.10: Employment in Rural Village in LPA

Industrial Estate, Gurdaspur

The Industrial Estate-Gurdaspur is located adjacent to NH-15 near Grain market. The total area of Industrial Estate is 11.57 acres. It constitutes total of 46 plots with varying plot sizes.

Table 16: Industrial Estate Details

Plot sizes	Number
3 type sheds	12
0.5 acre plots	1
1200 sqyard plot	16
1000 sqyard plot	04
Less than 1000 Sq yard	02
< 100 sq yard plot	03
500 sq yard plot	08
Total	46

Source: District Industrial centre, Batala

Out of the total 46 plots as per DIC Batala, 31 plots have been developed till date with 5 plots not been developed yet. The Industrial estate lacks in the provision of storm water drainage network, which leads to water accumulation in the area especially in rainy season, thus causing damage to roads, which in turn will lead to more expenditure on roads. Hence, there is need to provide proper storm water drainage network and sewerage network in the area.

2.3 TRADE AND COMMERCE

Trade and commerce primarily constitutes the tertiary sector of the economy. It shows a good growth when the economy becomes stronger on the front of primary (agriculture and livestock) and secondary sectors (manufacturing and construction). In fact, it is the third stage of economic growth and its growth signifies a healthy economic condition and total transformation of a settlement to an urban area.

Agriculture is the mainstay of the people in the district and the majority of the population depends directly or indirectly on it for livelihood. Gurdaspur is primarily a trade centre for the region's agricultural products; wheat, corn (maize), rice, and other crops are grown in the surrounding area. Handloom weaving is one of the important household industries. Paddy is the major crop of the district and it is produced on commercial scale. The major items of exports from the district are industrial mechanic goods (chiefly machine tools and agricultural implements), paddy and timber. The principal industrial export items from the Gurdaspur district are machine tools, woolen fabrics, lathes and band saw auto-parts, engineering goods and textile goods. This section deals with the Trade and Commerce activities in Gurdaspur town. The aspect is assured in the basis of commercial area existing, nature of commercial areas, grain markets and the overall products exported and imported in the town.

2.3.1 COMMERCIAL AREAS OF TOWN

The main areas in Gurdaspur town, known for their commercial character are Andruni Bazaar Road, Main Bazaar Road, and Sadar Bazaar Road. Thus, Gurdaspur town for its wholesale trading may depend on Amritsar. The types of goods available and spatial distribution of the stretches within the town is shown in table18.

Table 17: Commercial Areas of Gurdaspur Town

S. No.	Location of Commercial Stretch/Area	Area/Stretch Length	Type of Goods Available
1	Andruni Bazaar near to MCl. office	300mt	retail of all kind of market goods
2	Main Bazaar	500mt	all type of retail market goods.
3	Sadar Bazaar	450mt	Printing, repair
4	Fruit & Vegetable Market	75mt	Fruits & Vegetables
5	Tibri Road	400mt	wooden Furniture
6	Warehousing near ITI girls	32 Kanal	Food grains and fertilizers

Source: Primary survey SAI Team August 2009

These commercial areas/stretches are generally 7 to 12 mts in width with encroachments on both sides of the road by the shopkeepers and on street parking of vehicles. The figure below shows the encroachment on both sides of the Main bazaar road up to 3 meters.

Fig no.12: Main Bazaar Commercial Area

2.3.2 INFORMAL SECTOR

The informal sector has mushroomed along with the traditional commercial area. The informal sector of Sadar Bazaar and main Bazaar include market of different goods. The location of informal sectors is shown in table no 19. These informal markets are functioning everyday, which are deteriorating future growth/development of the town. These informal markets deal with fruit and vegetables. All along inner city roads, right of way has been encroached upon by this particular sector creating traffic hazard. Most of the markets are located near traffic nodes like Bus Stand. There is no proper space allocated for these markets in the town.

Table 18: Informal Sector in Gurdaspur

Category	Location	Area (Ha)	Type of Informal Market
Informal markets	Sadar Bazar	3600 sq.mts	Rehris of fruit and vegetable
	Main Bazaar	3000 sq.mts.	Local market goods
	Civil Hospital Road	1000 sqmt.	Veg, fruits and day to day items
	Hanuman Chowk	8000 sq.mts	Veg, fruits and local market goods
	Markets near Bus Stand	1900 sq.mts.	Veg, fruits and local market goods

Source: Primary survey SAI Team August 2009

2.3.3 MARKET COMMITTEE

The market committee standardizes various market practice charges and enforces the use of standard weights, thus, ensuring a fair deal to the cultivators. The Market Committee/Mandi Board also takes care of the work of construction, maintenance and up-gradation of all village link roads. The regulated markets play an important role in helping the sale of commodities at the most fair and reasonable prices.

There are six regulated markets in the district situated at Gurdaspur, Batala, Dinanagar, Pathankot, Dhariwal and Qadian. There is only one market committee in the Gurdaspur M.Cl where main commodities traded are wheat, paddy, barley, maize and gram. The hierarchy of distribution/ collection centre's do exist in Gurdaspur, as everyone principal yard in the town/district is supported by one sub-yard and ten purchase centre's.

Fig no.13: Grain Market, Gurdaspur

Grain Market, Gurdaspur

Grain market exists along NH-15 and in north direction of the town. The total area of grain market is 65.29 acres out of which saleable area is 35%.The Grain market includes grain shops, shops cum flats, semi industries booth, sabzi/ fruit shops, godowns and housing. The

influence area of the grain market extends up to 4-5 kms. Wheat and paddy constitutes the major arrival in Grain market during peak season. On an average 30 -35 trolleys come in the grain market during peak season.

Key Issues

2.4 HERITAGE AND TOURISM

Punjab known as "granary of India" is also a famous tourist hub. Besides one of the world famous site Golden Temple, it also has many historical, religious, cultural, archeological spots, which makes it a greater asset for the tourism promotion. Tourism plays vital role in the city and its up-gradation. The similar perspective is there for the surroundings of the town since it has a positive effect in terms of the attraction of the people, hence, increase of the floating population. While preparing the Master Plan these sites are required to be identified and their potential must be explored to boost the cultural heritage/heritage tourism and the economy of the town. Tourism aspect in the Master Plan is studied with respect to location, their importance, nature, potential, tourism infrastructure (accommodation, transportation etc.) and related issues.

Gurdaspur has potential for the domestic and international tourism because of the wet lands and the ecological resources. Another important component in tourism of Gurdaspur is religious as there exist few temples, Makbaras and Gurudwaras, which has historical importance along with few fairs and festivals organized at these places. Punjab government has identified the tourist circuit wherein Gurdaspur falls a part of it and is explained below.

Tourism Potential in the Town and its Surroundings:

Gurdaspur being a small town with not much of an historical context has comparatively less heritage places. There is Keshopur wetland which is existing within LPA and Shalla Pattan wetland that is existing in the surrounding of the LPA that can attract tourists. In addition, Kalanaur, the site of Akbar's crowning is also one of the key resources for tourism attraction. Hence, the tourists may visit the town for some historical tourism.

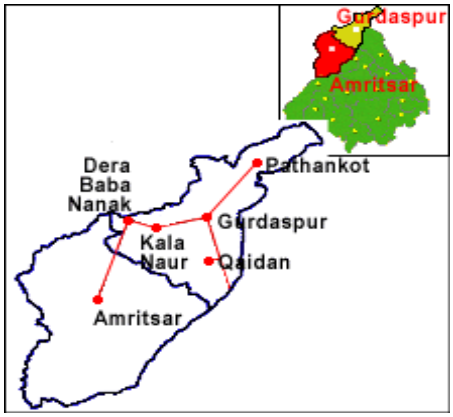


Fig No. 14 Regional Tourist Circuit

Further, a tourist circuit comprising of Amritsar (the seat of Sikh religion "Golden Temple"), Dera Baba Nanak (a place where Guru Nanak Dev Ji spent last days of his life), Kalanaur (where the emperor Akbar was coronated), Qadian (home of the Ahmedyia Sect) and

Pathankot (Gateway to the States of Jammu and Kashmir and Himachal Pradesh) has been identified by the Government of Punjab for promoting tourism. This circuit includes religious, historical and cultural centers of tourist interests.

Some of the important spots that can be explored both within the LPA and its surroundings for attracting tourism are listed below. The study of these spots in terms of analyzing the amenities and facilities provided, the level of development of the spot at present has been done in order to formulate tourism promotion strategies in the Master Plan by evolving new tourist circuits in Gurdaspur LPA and its immediate surroundings.

Table 19: Tourism in Gurdaspur LPA

Within M.Cl	Within LPA	In surrounding of LPA
Jhulna Mahal	Keshopur wetland	Shalla Pattan Wetland, Kalanaur, Pindori Mahanta Temple

Source-Primary survey, SAI Team, August 2009

These spots are assessed with respect to Tourist circuit along with visual surveys. The detail assessment and the analysis is given below:

Kalanaur (Takht-e-Akbari) is situated on the bank of the Kiran nallah at a distance of 16 miles from the District Headquarters Gurdaspur. It is connected by metalled road. There is a masonry platform where Emperor Akbar was first crowned in 1556.The garden laid down by Akbar has become extinct. Hence, the place reflects richness of the inherited values of the historical significance since it is a 500 year old monument. This site is well protected by ASI by means of fencing and the green in the surroundings. There are informative signage's on the site. There are no other facilities and amenities such as public toilets, drinking water, rest rooms etc that are required.

Fig no.15: Takht-e-Akbari

Kalanaur has little tourist inflow as compared to the other tourist destinations. Although, the place has historical significance but still is unable to attract tourists because of its isolated location, lack of development initiatives in terms of provision of amenities/facilities such as public toilets, rest rooms, entry fees cabin etc. Further, the location of the site is in the far away agricultural land that needs to be clearly defined for tourism development and provision of tourist infrastructure. There is no parking facility.

Key Issues To Be Resolved

- Isolated location
- All the facilities need to be provided such as public toilets, parking, tourist information centre, Ticket window etc.

- Need to define the pedestrian path.
- Landscaping of the fenced area
- Need for street furniture and proper signage's

Suggestions for Improvement:

- Connectivity needs to be improvised
- Need of tourist information centre and the precinct development.
- Need for the interpretation centre and the surrounding village renewal to retain the cultural heritage.

Pindori Mahantan –Pindori temple is located on the link road to Pindori village. The place has the religious and historical importance because; Jahangir constructed it with the religious faith. There are several myths attached to the temple since it is one of the oldest temples of the region. The religious melas takes place on Baisakhi, Janmashtami, Gurupurnima; Ramnavmi. Hence, the place reflects the cultural richness and is well developed in terms of the facilities and amenities such as public toilets, rest rooms, drinking water, museum etc.

Fig no.16: Pindori Temple

The temple has moderate tourist inflow during the entire year besides the festival time when, the tourist inflow is enhanced by 10 times and the existing infrastructure is strained to sustain the increased tourist floating population. Further, the temple precinct has no public open space for accommodating the hawkers/informal sector at the time of melas creating chaos for the villagers, which needs to be taken care off. There is a parking facility but needs up-gradation. There should be defined entries from the precinct. There are no tourist information counters for the proper guidance to the tourist.

Key Issues To Be Resolved

- Isolated location
- All the facilities are available but needs renovation and reorganization
- Need to develop the mela footprint
- Need to isolate the temple from the other activities such as religious school etc.
- Need to define the pedestrian paths through the courtyards.
- Landscaping of the court yard
- Need for street furniture and proper signage's.

Suggestions for Improvement:

- Connectivity needs to be improvised.
- Need for the Pindori village renewal in order to sustain the tourism inflow.
- Needs cultural up-gradation of the Pindori village

Keshopur Wetland

Fig no.17: Keshopur Wetland

Keshopur wetland is spread over 850 acres of marshy land near Gurdaspur town. Located on the link road going to Beharampur, the wetland is one of the largest in the district, and hence is a value addition to Gurdaspur town. The wetland, if is developed, can become a major tourist attraction. **Keshopur Wetland** has a little tourist inflow due to lack of development of the precinct. The details of Keshopur Wetland has been discussed in Chapter-3.

There is a need to develop the public transportation in order to increase the tourism inflow.

This is the only community reserve wetland in Punjab, which is spread over 850 acres of marshy land near Gurdaspur. It was also designated as India's first community reserve under the Wildlife Protection Act. Keshopur Wetland is spread across five villages, close to the town of Gurdaspur. Scores of migratory bird species from Central Asia and Siberia have been using this natural wetland as their winter home since centuries. The wetland has been on the verge of extinction due to inadequate emphasis placed on protecting this rare bird habitat and State Heritage. The Wildlife Wing of the Forest Department has been able to convince local panchayats to support the conservation effort of the bird habitat as it is in their own long term benefit. Consequently, five panchayats of this area gave their consent and passed resolution to the effect that no more draining of water from this area or conversion into fishponds will take place in the interest of conservation of bird habitat. This will be good for long term livelihood options for the local stakeholders through ecotourism and possible eco development initiatives of the State.

Keshopur Chhamb Community Reserve has been declared as first such reserve in the country under the Wildlife (Protection) Act, 1972. The wetland is strategically located on the new bye pass being constructed on Pathankot-Amritsar Highway.

Up to 39 migratory and 44 resident species of birds are found here. Best known for hosting around 5,000 common cranes at a time, some of the other birds include Gadwall, Pintail

Common Teal, Wigeon, Mallard, Shoveler, Black-headed gull, Booted Eagle, Marsh Harrier, Little-ringed Plover, White necked Stork, Greater Spotted Eagles and Little Egrets.

Key Issues To Be Resolved

- Isolated location
- All the facilities need to be provided such as toilets, parking, tourist information counter, Ticket window etc.
- Need to define the pedestrian paths boating, view galleries for bird watching etc.
- Landscaping of the entire region
- Need for street furniture and proper signage's

Suggestions for Improvement:

- Connectivity needs to be improvised
- Needs surrounding village renewal
- Needs precinct development and major landscaping moves.

Shalla Patan Wetland falls on Gurdaspur Mukerian road 4 km from the town. The wetland is one of the extensive pieces of land having tremendous potential for development. The site is accessible from the pedestrian road and no vehicle can reach at this point on the wet land. No proper signages are there which needs to be developed.

Fig no 18.: Shalla pattan Wetland

It has a little tourist inflow because of the lack of development of the precinct. The site has potential to attract the major tourist inflow. There is also need to develop the public transportation in order to increase the tourism inflow.

It is part of the cultivated land area of about 1000 ha located on both sides of Gurdaspur 'Mukerian Road' at about 4 km from Gurdaspur town .The area is low-lying and suitable for cultivating only paddy crop. During the winters, the farmers generally leave the fields as such without any cultivation. Two small drains has been constructed in the past to drain out the excessive water. Due to seepage of water, it has not become suitable for cultivation of rabi crop. Farmers have been in constant battle with Mother Nature to drain out water and convert into viable fields but failed. The area receives a host of migratory species from Siberia and some of them are globally threatened. The area receives cranes viz. common crane, demoiselle cranes and most importantly, Sarus cranes that are endangered indigenous cranes, which were thought to be extinct from this part of the country earlier.

The habitat is unique for the cranes. The absence of farming activity in winter and human habitation, and fallen paddy grains at the time of harvesting provides food to the birds. These wetlands can be explored for creating an identity as a tourist and recreational spot.

Key Issues to be Resolved

- Isolated location
- All the facilities need to be provided such as toilets, parking, tourist information counter, Ticket window etc.
- Need to define the pedestrian paths, boating, view galleries for bird watching etc.
- Landscaping of the entire region
- Need for street furniture and proper signage's

Suggestions for Improvement:

- Connectivity needs to be improved.
- Surrounding villages need village renewal in order to sustain the tourist inflow.
- Needs precinct development and the major landscape moves.

The **Gurudwara Jhulna Mahal** is located within the Gurdaspur town. The area is surrounded by high-density mix use development with a narrow road reaching the monument. There is a temple chowk falling in front of the Gurudwara leaving the potential for the promenade development. There is a swinging wall in the Gurudwara, which is a major tourist attraction.

Fig no.19: Gurudwara JhulnaMahal

The access road is a 8 ft wide inner city road which is suited for the pedestrians. There are no utilities and amenities developed in the surrounding. There is a temple in the promenade of the Gurudwara, which is a cause of the generation of the more density in such a narrow space. There is a temple chowk which has potential for development but is fenced as part of the temple precincts. There are no proper sign ages and the street furniture for directing the tourists..

Gurudwara Jhulna Mahal has moderate tourist inflow. There are no facilities such as public toilets, rest rooms, tourist information counter, parking etc. that needs to be developed. In addition, the lack of parking facility and the under developed precinct are the reasons for comparatively less tourist visiting this place.

Key Issues to be Resolved

- Located in the residential area of the core town
- Narrow approach road worth pedestrian paths
- No parking facility
- No other facilities such as Toilets, restroom, circulation space etc.
- There is a temple in the promenade with a chowk, where the chowk can be developed as a common open space in the promenade.
- Need of signage, street furniture, landscaping etc.

Suggestions for Improvement:

- Connectivity to the main road needs to be redeveloped
- Parking lot needs to be provided in the precinct along the main road.
- Development of the common chowk with the temple in the precinct needs attention in terms of the detailing.

Cultural Tourism (fairs, festivals and melas)

There are few festivals such as shivratri mela happening in the town, which needs prime attention as a mirror to the culture of this place. By doing a value addition with provision of the footprint and the amenities, can provide boost to the cultural tourism. There are few melas organised in the Pindori Temple premise, which is outside the LPA, but a major tourist attraction since it is in close proximity to the town.

From the study, it can be concluded that although Gurdaspur does not possess a greater historical/cultural/religious importance but it still houses number of spots that can be explored and developed for attracting tourists. All these sites which at present are not in good shape and also lack in the provision of amenities and facilities needs to be taken care off.

CHAPTER 3
KESHOPUR CHHAMB COMMUNITY RESERVE

3.1 INTRODUCTION

Considering the critical role and importance of wetlands as an integral part of aquatic eco-system providing valuable support and natural environment to living organisms including human beings, their preservation and conservation has assumed great importance. Besides being valuable partner of eco-system, wetlands have been major contributors to human growth and sustenance by providing food, fibre and products of economic value. In addition, wetlands also help in ground water recharge, flood control, water storage, water purification besides providing habitat for flora and fauna, migratory waterfowl and areas of great recreational value. Wetlands are valuable transition zones between permanent wet and generally dry environment providing balance in the eco-system. Over the years, destruction of wetlands due to rapid urbanization has lead to creating numerous adverse conditions and problems for living organisms in the shape of worsening of quality water, extinction of large number of water birds species and creating imbalance in the eco-systems. Major threat to the wetlands have been found to emerge from wetland drainage and conversion of land use including their infilling and reclamation for agriculture and human habitation etc.

3.2 WETLANDS IN THE STATE OF PUNJAB

Wetlands occupy 6% of the land area at the global level and 0.31% in the state of Punjab. Looking at the valuable contribution and their importance in promoting human sustenance and preservation of eco-system, wetlands have attracted global attention for their conservation, preservation and management. Ramsar Convention on wetlands in 1971 defines the agenda and provide framework for international conservation and intelligent use of wetland and their resources. Out of 891 wetland sites identified globally occupying an area 62.8 million hectares, 25 sites are located in India including 3 in the state of Punjab i.e. Harike lake, Kanjli lake and Ropar lake. In addition to Ramsar sites, there are number of wetlands of national and state importance. State of Punjab has identified in all 21 sites of both natural and manmade wetlands including 12 sites of natural wetlands and 9 manmade wetlands as detailed below:

Table 20: Natural Wetlands in the State of Punjab

S.No.	Name of Wetland	District	Area (Kms.)	Category
1	Jastarwal Jheel	Amritsar	0.55	Permanent
2	Aliwal Kotli	Amritsar	0.10	Permanent
3	Bareta	Mansa	0.20	Temporary
4	Kahnuwan Chhamb	Gurdaspur	1.28	Permanent
5	Keshopur Miani Jheel	Gurdaspur	4.08	Permanent
6	Mand Bharthala	Hoshiarpur	0.61	Permanent
7	Narayangarh Terkiana	Hoshiarpur	0.82	Permanent
8	Sital Sagar	Hoshiarpur	-	Permanent
9	Rababsar	Kapurthala	0.41	Temporary
10	Lobana	Patiala	0.11	Temporary
11	Lahail Kalan	Sangrur	0.20	Temporary
12	Gobindgarh Khokhar	Sangrur	0.08	Temporary

Source: Jerath 1995

Table 21: Manmade Wetlands/Lakes in the State of Punjab

S.No.	Name of Wetland	District	Area (Kms.)	Category
1	Harike Lake	Asr/Kapur/Frz	41.0	Ramsar Site
2	Kanjli Lake	Kapurthala	0.44	Ramsar Site
3	Ropar Lake	Ropar	13.65	Ramsar Site
4	Hussainiwala	Ferozpur	6.88	Natural site
5	Ranjit Sagar	Gurdaspur	32.64	Natural site
6	Dholbaha Dam	Hoshiapur	1.32	Permanent
7	Maili Dam	Hoshiapur	0.72	Permanent
8	Mangrowal Dam	Hoshiapur	0.70	Permanent
9	Nangal Lake	Hoshiapur	4.0	Permanent

Source: Jerath 1995

In addition, there are number of wetlands created as fish and shrimp ponds, farm ponds, irrigated agriculture lands, saltpans, reservoirs, gravel pits, sewerage farms, canals etc.

3.3 KESHOPUR WETLAND

Fig no.20 Keshopur Wetland

As detailed above Keshopur Miani is one of 12 natural wetlands identified in the state of Punjab. It is located at Latitude 32° 05'16.3" N and Longitude 75° 24'24.2"E at an altitude of 245m in the district of Gurdaspur, in close proximity to urban centers of Gurdaspur and Dina Nagar. Considering its ecological importance, the wetland was notified as Keshopur Chhamb Community Reserve under Section 36C of Wild Life Protection Act, 1972 vide Government of Punjab notification No. 34/13/2007/Ft-V/6133 dated 25.06.2007 for protecting, preserving, conserving and management of the eco-system and migrating birds visiting the area. Keshopur has the distinction of being the first ever Community Reserve in India to be declared under the Wildlife Protection Act, 1972. Considering, the vitality of Keshopur Community Reserve and need to preserve its environment, it was thought prudent

to make it an integral part of the overall physical planning and development process of the urban centre of Gurdaspur in order to evolve appropriate developmental strategies to promote its rational development and to protect it from adverse impact of urbanization including haphazard/unplanned development/industrialization. Accordingly, Govt. of Punjab, Department of Housing and Urban Development decided to enlarge the Local Planning Area of Gurdaspur, for which the Master Plan of Gurdaspur has to be prepared, by adding 15 villages vide notification no. 12/4/2007-UHGR/2580 dated 5.08.2010. The notification includes all the 5 villages i.e Miani, Keshopur, Matwa, Dalla and Magar Mudian, which have been notified as Keshopur Chhamb Community Reserve under the Wildlife Protection Act, 1972. The wetland having an area of 850 acres, located in Bist Doab area between Beas and Ravi rivers, was once an integral part of wetland historically spread in few thousand acres from Paniar up to River Ravi. The ecological boundary of this eco-system extends much beyond notified boundaries. The area under wetland has considerably shrunk due to construction of Duga Nala (drain) and large-scale conversion of wetland habitat into agriculture lands and fishponds. From a composite area of wetland, it stand now divided into 2 distinct pockets separated by agricultural land. The larger part of wetland comprising of 739 acres falls in four villages namely Miani, Keshopur, Matwa and Dalla. The smaller part of 111 acres falls in the village Magar Mudian. The detail of area of villages and wetland notified as Keshopur Chhamb Community Reserve (K.C.C.R) is as under:

Table 22: Showing the Wetland Area in Different Villages

S. No.	Name of Village	Total Area (Acres)	Wetland Area under Community Reserve (Acres)
1	Miani	610	400
2	Keshopur	394	136
3	Matwa	520	51
4	Dalla	388	152
5	Magarmudian	651	111
Total Area of the Reserve			**850**

Source: Management Plan for Keshopur Chhamb Community Reserve 2009-2015

Accessibility

The wetland as a whole has an integrated pattern of accessibility from Gurdaspur provided by Gurdaspur- Trimmu Road (Dorangla Road) and Gurdaspur-Behrampur Road. The larger portion of wetland located in the village Keshopur, Miani, Matwa & Dalla is accessed through Gurdaspur-Behrampur Road whereas smaller portion of wetland located in the

village Magar Mudian is approached by Gurdaspur-Trimmu Road (Dorangla Road). In addition, there exists a network of village roads connecting different settlements to these roads. The road constructed along the Majithi minor provides connectivity between the roads leading to Behrampur and Trimmu Road (Dorangla road). This road is considerably damaged and requires extensive repair and up-gradation in order to improve accessibility to the wetland. Location plan of notified K.C.C.R and road network providing accessibility is shown in the figure below.

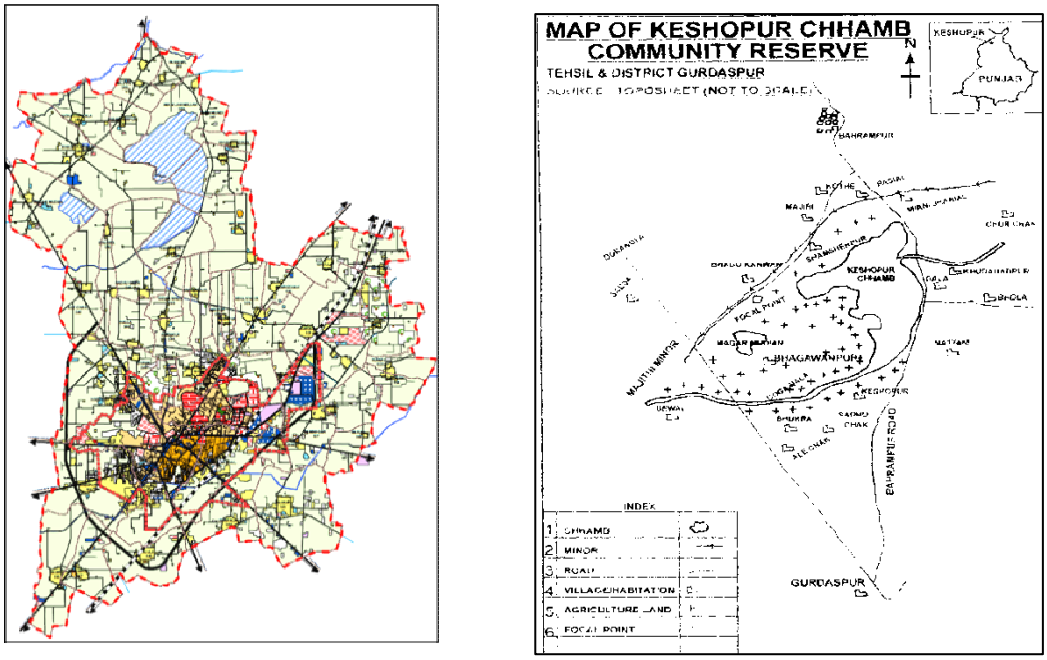


Fig No.22: Map of Gurdaspur LPA and Keshopur Chhamb Community Reserve

General Characteristics

Based on detailed study and analysis of Keshopur wetland made by Wildlife Institute of India, Dehradun and Department of Forest &Wildlife Preservation-Punjab, "Management Plan for Keshopur Chhamb Community Reserve" has been prepared for the period 2009-10 to 2014-15. Study has brought out major features of the area, which are as follows:

- Keshopur wetland was initially a marshland with tall vegetation housing numerous species of fishes, amphibians, reptiles, migrant birds and small mammals. In due course, it got converted into a typical wetland that suited aquaculture.
- Major source of water is rainfall and run off from its catchment areas. Despite wetland being lentic eco-systems, the flow of water has slowed down/stopped due to ongoing aquaculture/agricultural practices.

- 85% of area in the wetland is under intensive resource use through long-term lease agreements. About half of the area of wetland (49.03%) is under fishponds whereas one-third (33.87%) is under commercial crops of lotus/trapa etc. Only 4.8% area is available under wet grassland indicating that the wetland is under greater degree of threat and extinction.
- Keshopur wetland has rich variety of flora with 344 species of plant recorded in the area. Major varieties are Herbs (175), Grasses (54), Trees (48) and climbers (26). Herbs and grasses constitute 2/3rd of total floral species.
- 42 species of fish including 15 endangered and threatened species have been recorded in the wetland. It also includes 6% and 29% of the fish species that are endangered and vulnerable respectively. Presence of 1/3 species which are endangered/vulnerable indicates that area needs immediate conservation.
- 434 bird species including 45 species of migratory birds have been recorded in the wetland. Bird population visiting this area during the month of October to March has been placed at 40,000. Wetland also forms an integral part of a larger wetland network lying along the migratory route of birds wintering in the North-west India and can contribute immensely to waterfowl conservation.
- Wetland provides valuables financial support to the livelihood of the area in terms of agriculture, fisheries and cash crops such as water chestnut (Singhara) and Lotus besides working as breeding ground and refuge for migratory birds.
- Major road block in the preservation/ development of the wetland is in large fluctuation/variation of water levels, rapid conversion of wetland area into agriculture, rapid spread of weeds, massive grazing, fish farming, Singhara cultivation and large scale sub-division/parceling of wetland limiting the free flow of water and absence of any control/check on the sub-division of land besides coming up of number of structures in the area.
- Out of 850 acres of the Keshopur wetland, an area of 224 acres is less disturbed whereas remaining area of 626 acres stands leased out for either fish farms (438.98 acres) or cultivation of Singhara/Lotus till 2011-12, hampering the conservation of the wetland.
- Absence of clear demarcation of wetland boundaries, leading to large-scale encroachment of wetland area have emerged as one of the major issue in its conservation/preservation.

- Insecticides and pesticides used in the crops of adjoining agricultural lands are likely to adversely impact the ecology of wetland including lowering the quality of water and health of birds, flora & fauna.
- Surrounding area of wetland is witnessing large-scale construction activities particularly along the major roads, due to close proximity to the Gurdaspur town.
- Keshopur wetland has enormous potential of being planned and developed as eco-tourism destination and can be major revenue earner for the residents of the area, majority of which fall in the category of Below Poverty Line (BPL)

The Management Plan for Keshopur Wetland Chhamb Community Reserve has been prepared by the Wildlife Institute of India, Dehradun & Department of Forests & Wildlife Preservation, Punjab in order to conserve keshopur wetland. In order to preserve the ecology and maintain bio-diversity of the area, management strategies for Keshopur Wetland have been detailed out in the above stated management plan. The strategies evolved in the Management Plan are based on the philosophy that Chhamb area will have to be managed as the core area with geographical boundaries extending to much larger area. The extended area will require precise definition and development as integral part of the long-term strategy to ensure protection of the core area.

Since, the area of Wetland belongs to the local communities of five village panchayats, all development plans for wetland should be implemented by the local communities through the Management Committee of Community Reserve, which has been established at the local level. Role of the government shall be that of empowering the Management Committee and local community for appropriate decision-making and implementation. Any attempt to impose the decision would be counterproductive. In addition, all strategies shall be based on the premise that it addresses the local concerns and community's basic requirement of sustainable livelihood based on rationalizing the current resource use and providing alternative options of livelihood through eco-development and eco-tourism/education. Based on the above philosophy, the broad strategies involving interventions in both time and space have been described by the Management Plan, which is in terms of:

(i) Demarcation of Boundary

Despite the fact that state government has notified the boundaries of Community Reserve but same has not been transferred physically on the ground. In the absence of physical demarcation, problems of encroachment of Wetland have been observed. Accordingly, it will be critical that notified boundaries should be defined on the

ground through fixing of boundary pillars/marks, which should be subjected to verification by the Management Committee and officers of the Forest Department on regular basis.

(ii) Zoning of Wetland

Considering the small area of the Wetland and its sub-division into two distinct parts, it will be critical to divide the area into different zones requiring different level of interventions within and outside the Wetland. The area under natural patches of wetland grass associated with feeding and breeding of birds has been defined as **Minimum Disturbance Zone**. The area under this zone is of the order of 205.56 Acres, which is 23% of total Wetland area. This zone requires maximum protection in order to ensure the promotion/extension of natural wet grass. The area needs to be made free from resource use. Remaining area of 689.76 Acres (6.77%), which is under intensive resource use in the form of fishponds and cultivation of lotus and *singhara*, should be declared as **Sustainable Use Zone**. Focus of management strategies in this zone will be to explore options to make existing uses more sustainable besides creating alternate activities in and around the Wetland area in order to minimize adverse impact on the core area. Besides these two zones within the wetland, the remaining area comprising of five villages of Keshopur Wetland have been proposed to be zoned as **Eco-Development Zone** involving strengthening livelihood options for the village communities through eco-development programs and creating awareness about the role and importance in sustainability of area and its economy. Since the Keshopur Wetland forms part of the larger landscape, an **Extended Management Zone** has been proposed involving area of Tibri Cantonment and Shalla Pattan in order to ensure the protection of habitat over larger area. All these zones will require different strategies and interventions in terms of preservations, protection, development of eco-tourism, eco-development, research, monitoring, etc.

(iii) Management of Habitat

To overcome the problems of wide seasonal fluctuation of the water level (which is most critical element of Wetland), large scale conversion of Wetland areas into agricultural land, extensive use of water for agriculture and accumulation of silt from surrounding lands, it is proposed to:

(a) Construct a barrier on the outlet of Dunga Nala in order to regulate the flow of the water and to maintain its level within the Wetland.

(b) Educate the farmers to adopt soil conservation measures in the adjoining agricultural land to minimize the flow of silt in Wetland.

(iv) Management of Invasive Species

Invasive species, which discourage the growth of native species, deplete the foraging/basking/breeding of amphibians & reptiles, need to be managed urgently in order to ensure sustainability of Wetland. The unwanted growth of invasive species is proposed to be managed through reduction of nutrient supply in Wetland, which promote growth of invasive species, physical removal, minimizing soil erosion, management of fishponds and reducing discharge from the cattle/domestic waste.

(v) Management of Habitat for Birds/Other Species

In order to minimize human intervention in Wetland and to provide food and cover for the resident/migrant birds at the time of their arrival and during breeding period, it is proposed to manage the Wetland area through;

(a) Effective management of existing land use by minimizing conversion of Wetland area into other uses besides minimizing construction activities/urbanization in the area.

(b) Identifying different zones for different species considering their specific habitat and requirements.

(c) Management of human activities during the 1½ month period (mid October to November) for settling of the migratory birds and during the rainy season when breeding of native birds takes place.

(d) Undertaking a detailed survey of the Wetland to identify the suitable habitats and assessing their potential in supporting birds' population and evolving appropriate management systems.

Keeping in view the above, the strategies for management of Keshopur Wetland should revolve around:

(a) Protection of Wetland by defining its precise area and undertaking intensive patrolling and by creating awareness.

(b) Development of eco-tourism for promoting economy.

(c) Eco-development of area for achieving sustainability over longer period.

(d) Promoting research, effective monitoring and training in the preservation of the Wetland.

(e) Active involvement of the stakeholders and village Panchayats for framing and implementation of various projects/schemes for Wetland Management.

(f) Capacity building of stakeholders and management institutions.

(g) Creating Keshopur Chhamb Community Reserve Trust for promoting research, monitoring, training, conservation and to provide resources for management of Wetland and its future growth and development.

Government of India Initiatives

Considering the criticality, role and importance of Wetlands as providers of life support systems, rechargers of aquifers, supporters of food production, providers of wide range of services essential for human growth and development besides functioning as habitat for indigenous and migrating birds, helping in controlling floods & soil erosion, their preservation, conservation and management has assumed importance. This has become all the more critical in case of India, where large number of human settlements have come up in the river valleys and on the banks of major rivers and wetlands. Despite the fact that these wetlands are vital for human survival, growth and development, these valuable gifts of nature have suffered enormously. Majority of wetlands are threatened and rapidly degrading. In order to save them, it will be important that adequate measures are put in place on time bound basis. Considering the vitality of wetland, Government of India following the "Ramsar Convention" is supporting the wetland through the National Wetland Conservation Programme launched since 1985-86 as integral part of National Environment Policy, 2006. As a part of this programme, already 6,77,131 hectares of wetland spread over 25 sites have been identified as Ramsar Sites with six more to be added to the list shortly.

In order to rationalize the policy framework for the conservation of wetland, Government of India has prepared a draft regulatory Framework for Wetland Conservation based on the recommendation of a multi-disciplinary expert group set up by the Ministry of Environment and Forests in the year 2010.

The Regulatory Framework provides for categorization of wetland, restrictions on activities within the wetland, Constitution of Wetland Regulatory Authorities at Central, State, District levels and Approval Committees along with their constitution and functions. It also defines the process for identification and notification of wetlands under different categories besides mechanism for enforcement and monitoring the regulated activities. Guidelines also include the procedure for conducting public consultation before declaring an area to be wetland and

guidelines for selection of professionals/experts for being members of Regulatory Authorities/Appraisal Committees.

The proposed regulatory framework aims at controlling all activities, which lead to conversion of wetlands to non-wetland uses including their reclamation and practices, which result in degradation of quality of wetland and their habitats including flora and fauna.

Major Issues

Based on the detailed study, major threats to the Keshopur Chhamb Community Reserve wetland and Wildlife identified/quantified by the Wildlife institute of India Dehradun are as under:

i) Commercialization of major part of the Keshopur Wetland area (83%) and its continued growth has lead to depletion of diversity of native species and quality of water.

ii) Intensive use of land for multiple cropping throughout the year creating direct conflict with long-term bio-diversity conservation initiatives. Denudation of native vegetation in catchment areas leading to increased siltation within the wetland.

iii) Increased urbanization and construction activity in and around the wetland.

iv) Excessive use of water for agriculture and human activities is disturbing the ecological regime. Reduction of water level due to construction of number of drains siphoning off water from the wetland.

v) Rapid spread and growth of alien invasive species adversely impacting the biological diversity and fishery activities.

vi) Increased demand for generating income leading to large scale leasing of land and conversion of wetland into agricultural land.

vii) Absence of clear demarcation of wetland boundaries has emerged as one of the major issue in its conservation/preservation leading to large opportunities for encroachment and reduction of Wetland area.

viii) Inadequate manpower and resources with the Wildlife Department for effective management of the wetland area and its resources.

ix) Absence of long term policy and overall planning for ensuring the sustainable development and promoting ecological health of the wetland, besides lack of coordination between different stakeholders leading to emergence of large number of conflicts.

x) Lack of awareness about the role and importance/benefits of the wetland in promoting ecology, biodiversity and in creating wealth among the local residents.

xi) Degradation and commercialization of wetland leading to serious fall in the ground water table adversely affecting agriculture and related economic activities, loss of habitat for resident/migratory waterfowl, decrease in biological diversity, sustainable fish production and fish bio-diversity.

xii) Prevailing large-scale unemployment, lack of alternatives for resources/energy, lack of awareness, lack of new skills and capacity among the local residents, local conflicts and emerging market forces are posing major threat to the wetland.

CHAPTER 4
HOUSINGAND URBAN POOR

4.1 GURDASPUR HOUSING SCENARIO

4.1.1 HOUSING STOCK

On having a look at the existing growth pattern of the occupied residential houses, it has been observed that the number of occupied houses have grown to 78% in the decade from 1981-1991 and highest growth was observed in the decade from 1991-2001, which is of the order of 80%. The high growth rate is attributed to rural migration to Gurdaspur town being districts headquarter and a hub of educational institutions.

Further, the growth in number of households has been analyzed in Gurdaspur LPA reflecting a declining trend in the growth of households in Gurdaspur M.Cl from 42.9% in the decade 1981-1991 to 28.85% in decade from 1991-2001(refer table no.25). On the contrary, Gurdaspur LPA and villages falling in LPA have observed an increasing trend in the growth of households. The rise has been more in case of villages in LPA, which reflects increase in the number of nuclear families. On comparing the growth in the residential houses to the growth in number of households, it has been been observed that they are not keeping pace with each other.

Table 23: Growth in Households Vs Growth in Occupied Residential Houses

	Year	Occupied Residential Houses	% Growth Rate of Residential Houses	No. of Households	% Growth of Households	Household Size
Municipal Council, Gurdaspur	1981	5389	-	6720	-	6
	1991	9598	78.1	9603	42.9	5.7
	2001	17288	80.0	12373	28.85	5.4
Villages in LPA	1981	5369	-	8663	-	-
	1991	6326	15.1	6334	-26.8	-
	2001	7338	16.0	8519	34.5	-
Total	1981	9758	-	14258	-	-
	1991	14583	49.4	14588	02.3	-
	2001	23071	58.2	19081	30.8	-

Source: Census of India-1981, 1991, 2001

During the same period, the household size has also observed a decrease from 6 to 5.4 in the decade 1991-2001. Decrease in the household size reveals increasing trend towards nuclear families in the town of Gurdaspur due to improved economic status and increasing awareness among people.

4.1.2 PATTERN OF HOUSING

Further to this, housing pattern in Gurdaspur has been studied in terms of density pattern, plotted or flatted development and pattern of use of existing housing stock. The pattern of housing within the different parts of the town has been studied based on the visual survey of the city.

Looking at the pattern of housing in Gurdaspur, it has been found that the areas with high, medium and low density exist in the town. The high-density areas are in and around bus stand, commercial market areas such as Main Bazaar, Andruni Bazaar, Sadar Bazaar, Geeta Bhavan mohalla, Circular Road, Police Line area and Hanuman Chowk. The housing condition in these areas is moderate to bad. The medium density areas in the town include area around Dera Baba Nanak Road, Jail Road, Police housing near to bus stand, which has good housing condition with new housing developments in form of the Improvement Trust Schemes being implemented in this area. Low-density areas include area around Pindori Road, Hargobindpur Road and Trimmu Road, which has moderate housing condition. It has also been seen that the most of the housing developments in the town whether under schemes or through private developers is majorly in the form of plotted development.

Further, the pattern of use of existing housing stock has been studied on visual survey basis. The mixed use of houses that is for both residential cum commercial use has been observed in large number of areas of the town like Gita Bhawan, Main Bazar, Sadar Bazar, Secretary Mohalla, and Jail Road.

4.1.3 HOUSING SCHEMES

Improvement Trust Schemes

"The Punjab Town Improvement Act-1922" provided the procedure for undertaking development and expansion, rebuilding and other improvement schemes. Gurdaspur Improvement Trust has been established under the Punjab Improvement Trust Act, 1922. Under the said Act, 8 different kinds of schemes can be formulated related to Housing, Infrastructure, Development and expansion etc. Number of Development schemes has been framed by the Gurdaspur Improvement Trust and considerable amount of work has been done in the area of planned/ infrastructure development in the city. The Trust is headed by a Chairman who is appointed by the State Govt. besides number of Trustees. The table below gives details of the schemes undertaken by the Improvement Trust.

Table 24: Details of Improvement Trust Schemes

Type	No. of Schemes	Area (Acres)
Executed	3	62.15
Under Execution	3	87.42
Abandoned	3	110
Total	**9**	**259.57**

Source: Gurdaspur Improvement Trust

The Gurdaspur Improvement Trust has undertaken nine schemes, out of which three schemes have been implemented successfully, which are namely scheme no. 1, 3 and 5. The scheme no. 1; namely Mahant Guria Dass Colony is located on NH-15 in the south of the town, scheme no.3 located at Hanuman Chowk covering an area of 1.15 acres and scheme no. 5 namely Shaheed Baba Deep Singh Nagar covering an area of 34 acres have been implemented and handed over to Municipal Council by the Trust. The 3 schemes namely scheme no. 7 (New Gurdaspur), 8 (Sonia Complex) and scheme no. 9 are under execution or implementation. The remaining 3 schemes namely scheme no. 2,4 and 6 formulated by Improvement Trust have been abandoned. The total area developed by Gurdaspur Improvement Trust under 6 schemes form 5.5% of the total area of Gurdaspur M. Cl.

PUDA Schemes/ Approved Colonies

The table below gives details of P.U.D.A schemes or colonies that have been undertaken in the Gurdaspur LPA.

Table No. 25 Details of P.U.D.A Schemes/ Colonies

Schemes	No. of Schemes	Area (Acres)	%
Within M.C. Limit	2	09.64	24.92
Outside M.C. Limit	4	29.05	75.08
Total	**6**	**38.68**	**100.00**

Source: PUDA, 2009

Total, six colonies covering an area of 46 acres within Gurdaspur LPA has been approved under PAPRA Act 1995. Out of these, only two colonies covering an area of 9.64 acres are lying within the M.C. Limit while the other four exist outside the MC Limit covering an area of 29.05 acres. It can also be observed that the newly built and upcoming P.U.D.A approved colonies are spanning along the major roads of the town such as Sukhda Enclave along Gurdaspur-Hardochhani Road, Jawahar Enclave along Jail Road, Erina Enclave along APK road bye pass etc.

Rural Development Schemes

These are an initiative to promote rural development to improve overall quality of life of rural people. Several centrally sponsored schemes have been formulated and implemented in rural

areas such as Swaran Jayanti Gram Swarozgar Yojna, Indira Awas yojna, IWDP and NREGA.

As far as the grant received by the villages in Gurdaspur LPA under NREGA Scheme is concerned, 44.8% of the villages falling in Gurdaspur LPA have been approved to receive grant of Rs. 6.62 lacs under NREGA scheme for cleaning of water bodies within rural areas. Out of the total grant of Rs. 6.62lacs, only Rs. 1.12 lacs have been fully utilized and for rest of the grant, the work is under progress. It has also been analyzed that, the work has already been completed in 50% of the villages that have received grant under this scheme and in the remaining 50% of the villages, work is under progress.

Urban Estate

The Urban Estate -Gurdaspur is located at a distance of 2 km from Gurdaspur town between NH-15 and railway line in southern direction of the town. The total area of urban estate is 155.05 acres out of which 45% of land is allocated for residential, about 3%for commercial, 8% for public semipublic and remaining i.e 44% come under non-saleable area, which includes park, roads, S.T.P etc. The Government of Punjab has approved the Urban Estate and its implementation is in pipeline.

Ongoing/Proposed Projects:

- Implementation of Development Scheme no. 7, 8, 9 covering an area 87.42 acre of Improvement trust.
- Schemes under PAPRA Act, 1995 are being prepared and implemented.

4.2 URBAN POOR AND SLUMS

Urban poverty is a multidimensional problem of contemporary India. It has emerged as one of the major challenges faced by policy planners and urban planners in promoting the rational development of urban areas. Poverty refers to not only deprivation of vital goods but also includes services determining the quality of life. In fact, poverty amid plenty is the world's greatest challenge.

4.2.1 DEMOGRAPHIC PROFILE

The table below gives details of the demographic characteristics of the slums in the Gurdaspur town. From the table, it has been analyzed that 14% of the town's population is living in slums in 2001 covering 3.58 sq.kms of the town area.

Table 26: Demographic Characteristics of Slums in Gurdaspur Town

Slum Population to Town Population				
Year	**Town Population**	**Slum Population**	**%age to Town Population**	**Total Area of Slums**
2001	68,441	9,594	14%	3.58 sq.kms.

Demographic Characteristics				
Item	**Urban**	**Slum**	**%age of Slum population to urban population**	**% to total slum population**
Total households	12373	1502	12.14	----------
Total population (including Institutional and houseless population)	68441	9594	14.01	----------
Population in the Age group (0-6)	7316	959	13.12	10
Schedule caste population	13422	2465	18.37	25.69
Literates	52277	7445	14.24	77.6
Total workers	20065	2750	13.71	28.66
Main Workers	19180	2599	13.55	17.08
i) Cultivators	179	25	14.00	0.26
ii) Agricultural laborers	125	41	32.80	0.42
iii) Household Industry workers	310	61	19.68	0.63
iv) Other workers	18566	2472	13.31	25.76
Marginal workers	885	151	17.06	1.57
i)Cultivators	10	5	50.00	0.05
ii)Agricultural Labourers	153	66	43.14	0.68
iii)Household Industry workers	84	12	14.29	0.13
iv)Other workers	638	68	10.66	0.7

Source: Municipal Council, Gurdaspur 2009

The table indicates that 25.69% of the slum population belongs to schedule caste category and 77.6% of the slum population is literate. The total number of workers in slums constitutes 28.66% of the slum population. Out of the total working population within slums, 94.51% are main workers with remaining 5.49% marginal workers, which constitutes 25.76% and 1.31% of the total slum population respectively. It has also been observed that 95% of the main workers living in slums are involved in tertiary sector with remaining 5% involved into agriculture and household industries. The average household size in slums is of the order of 6.4 persons per household, which is high in comparison to Gurdaspur town where it is of the order of 5.4.

4.2.2 SLUM LOCATION AND DISTRIBUTION

At present, there are 8 slums existing in the town that has been declared by the Gurdaspur M.Cl covering a total area of 3.58 sq.kms, constituting approximately 33% of the area of the Gurdaspur town.

On having a look at the spatial distribution of slums, it is observed that slums are scattered across the town, along the major radials such as along Mohalla Gopal Nagar and Ralia Ram Colony along Dinanagar Road, abadi near station area in ward no. 4 along Pandori Road, Mohalla Shankar Nagar along Tibri Cantt. Road etc. The detail of the slums in terms of location, area, population and infrastructure is given in the table 27.

4.2.3 INFRASTRUCTURE STATUS OF SLUM AREAS

Table 27: Infrastructure and Ownership Status in Slum Abadies of Gurdaspur M.Cl

Name of Slum Abadi	Location of Slums (ward no.)	Population	No. of households	Area (Sq. Km)	Ownership	Physical Infrastructure				
						Sewerage	Water Supply	Drainage	Street Pavement	Street Lightening
Moh. Qadri	9	1657	276	0.04	Private	100%	100%	96%	96%	100%
Moh.B/S Govt College	10	538	97	0.02	Private	Nil	70%	83%	83%	83%
Moh.Ghumiahara	14	965	138	0.03	Private	100%	100%	57%	57%	71%
Moh Gopal Nagar	13	1122	173	0.06	Private	100%	100%	100%	100%	100%
Rallia Ram colony	19	1247	262	0.04	Private	100%	100%	87%	87%	87%
Abadi station Area	4	762	85	0.04	Private	100%	100%	77%	77%	100%
Moh Shankar Nagar	21	962	137	0.02	Private	100%	100%	79%	79%	100%
Moh B/S Gita Bhawan	8	2342	334	0.08	Private	10%	90%	100%	100%	100%
Total		9594	1502	3.58		87%	95%	85%	85%	93%

Source: Municipal Council- Gurdaspur, 2009

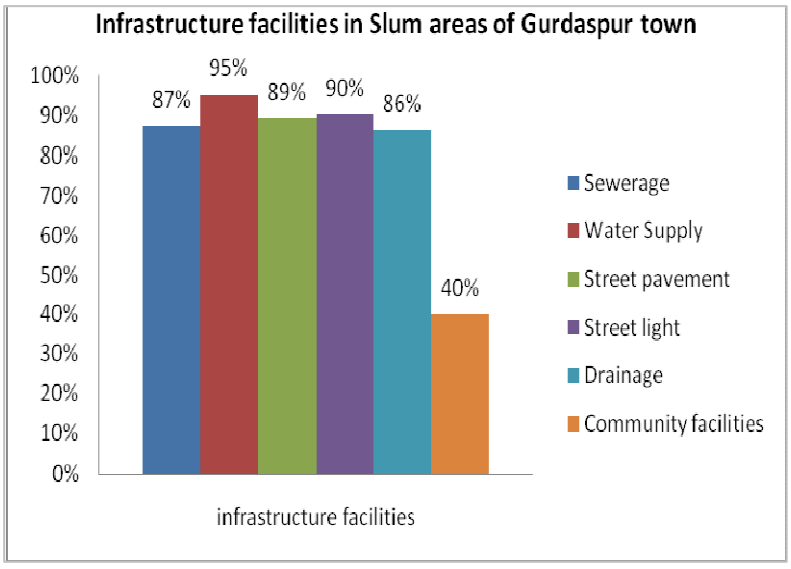


Fig no. 23: Coverage of Infrastructure Facilities in Slum Areas

Fig no.24: Open Drains within slum colonies

Table 27 indicates that all slums in the Gurdaspur M.Cl are existing on private land. These slums, which were initially an encroachment over private land, have developed over a period into low cost housing colonies/societies, which is the interesting and unique situation by itself. Here the slum household gets benefit of the habitation rights and owns the Sale-deed document as an ownership record.

On having studied the status of infrastructure facilities in the slum abadies, it is clear that the slums have been provided with basic facilities and services such as water supply, sewerage, electricity, streetlights etc. About 95% houses in the slums have access to water supply, 87% by sewerage, 85% by drainage and 93% by streetlights (Refer Table 27). Besides, there are few drawbacks where majority of the slums have open drains leading to the poor hygienic condition. Lack of community halls, open spaces and the social infrastructure within slum abadies are the root cause of the non-intellectual development leading to the need of the social up gradation.

KEY ISSUES FOR URBAN POOR

- Scattered location of slums in the town
- Absence of open spaces in slum areas
- Private land encroachment by the slums in the town
- Lack of community halls and social infrastructure like schools, dispensaries etc in slums leading to lower rate of literacy and high degree of health hazards.

CHAPTER 5
EXISTING LAND USE AND TRANSPORTATION NETWORK

5.1 PREPARATION OF BASE MAP

The work of preparation of base map for the Gurdaspur Local Planning Area was assigned to Punjab Remote Sensing Centre, P.A.U. Ludhiana. The base map of whole Gurdaspur Local Planning Area is generated on 1:12,000 scale using Worldview data of 0.5m spatial resolution. The Cadastral maps of the villages falling in Local Planning Area were procured from the State Revenue department by the office of District Town Planner, Gurdaspur and these maps have been scanned in the office of PRSC, Ludhiana and registered with Worldview data to demarcate village and musteel boundaries. The features like roads, rails, drains and settlements etc. have been captured from satellite image by the concerned agency and shown on the draft base map. After editing the map details, the attributes to different features were assigned. The officials of DTP office verified the data captured from satellite images & a non-spatial data was attached to it. The worldview data (satellite imagery) has been received by the PRSC, Ludhiana from National Remote Sensing Agency, Hyderabad.

5.2 ENHANCEMENT THROUGH FIELD SURVEYS-LAND USE AND ROAD NETWORK

The draft base map for the Gurdaspur Local Planning Area and the densely built up areas (i.e. core areas) received from Punjab Remote Sensing Centre, P.A.U., Ludhiana were updated through ground truthing field survey by the office of D.T.P Gurdaspur. The various land uses have been identified at the site and earmarked accordingly. Similarly, the road network, drains, distributaries and other communication zones have been verified and checked at site. After conducting field surveys, the necessary feedback was supplied to P.R.S.C Ludhiana, which was ultimately incorporated and an updated base map was prepared by P.R.S.C, P.A.U Ludhiana. The Office of D.T.P Gurdaspur again conducted second round of field verification (ground truthing) and the updated (corrected) plans were then supplied to P.R.S.C, this exercise was repeated several times and the field staff of D.T.P office personally assisted the concerned staff of PRSC and a final Land Use map thus was prepared.

5.3 EXISTING LANDUSE PLAN

In order to understand, the breakup of the developed urban area of the Gurdaspur town and area under various uses including residential, commercial, industrial, traffic and transportation, recreational, utilities, public and semi-public uses; detailed analysis of the town structure has been made based on the Existing Land Use Plan prepared by the Punjab Remote Sensing Centre, Ludhiana. The Existing Land use Plan- 2010 for Gurdaspur Local Planning Area has been detailed out in the Drawing No. DTP (G) 24/09, Dated: 25-08-09 revised 15/2010 Dated 07-09-2010 of the Department of the Town and Country Planning, Punjab. The detailed analysis is shown in the table given below.

Table 28: Existing Landuse Plan of Gurdaspur LPA 2010*

Landuse	Area of Gurdaspur M.Cl (Hectares)	% to Total Developed Area within Municipal Limits	% to Total Area within Municipal Limits	% to Total LPA
Residential	317	53	29.30	4.16
Commercial	35.95	6	3.32	0.47
Bulk Material Market	24	4	2.22	0.31
Industrial	20.61	3	1.90	0.27
Traffic and Transportation	39.97	7	3.58	0.52
Recreational	6.34	1	0.58	0.08
Utilities/Services	30.9	5	2.85	0.41
Government	64.63	11	5.96	0.85
Public-Semi Public	57.61	10	5.31	0.76
Developed Area	597.91	100	55.02	-
Agriculture, Water Bodies ,Vacant Land	487.09		44.98	6.39
Total Area	**1085**	**-**	**100.00**	**-**
Agriculture water bodies and abadi area of village settlement	6539			85.78
Total LPA Area	**7624**			**100.00**

*As per notification, partial areas of 8 villages have been added into the Gurdaspur M.Cl while as per the E.L.U. prepared by PRSC, whole area of these 8 villages have been added in the M.Cl area. Accordingly, the area provided by PRSC has been taken as final for the preparation of Master Plan.

Gurdaspur M.Cl is the only urban settlement falling in the Gurdaspur LPA having a total area of 1085 hectares in the year 2010. Out of the total area of M.Cl, 55% is developed at present with remaining 45% area under agriculture, water bodies or vacant land. Thus nearly, one half of the area within the M.Cl limits have already been developed for various uses such as residential, commercial, industrial etc. which have been discussed in detail below:

Residential

It is evident from the table that residential area covers the maximum percentage of use among different categories. It comprises of 53% of developed area within municipal council and

29% of area of total council area, including both planned and un-planned developments. The residential area forms 4.19 % of the total Local Planning Area.

The gross density of town is of the order of 63 PPH (Persons per Hectare) as per Census 2001 and it decreases as one move away from core area. The residential development in town is all along roads and colonies have been emerging in between the radial routes. In terms of planned schemes, there exists Improvement trust housing schemes. The Gurdaspur Improvement Trust have total of 6 schemes, out of which only 3 schemes namely i.e. scheme no.1, 3 and 5 have already been implemented while remaining 3 schemes are under implementation. The scheme number 3 is near Hanuman Chowk area, Scheme 5 near Jail road and scheme 1 is located along Dera Baba Nanak Road. However, the inner town area is characterized by narrow streets, irregular street pattern and dilapidated houses. The residential development is less in southeast direction in comparison to residential area developed in northern part. However, the town also has an approved Urban Estate, which is in the process of implementation. Its location is in between NH-15 and railway line towards Amritsar and is at a distance of 2 km from town core. In addition to the Improvement Trust housing schemes or colonies, six colonies have been approved under PAPRA Act 1995, covering a total area of 46 acres within Gurdaspur LPA. Out of these, only two colonies are lying within the M.Cl. Limit while the remaining other four 4 colonies are located outside the M.Cl Limit covering an area of 36.69 acres.

Commercial

The area under commercial use constitutes 6% of the total developed area of Gurdaspur M.Cl and on including the area of Bulk Material Market, the total area under this use comes out to be 10% of the total developed area, which is significant. There is no hierarchy of commercial areas such as CBD/district shopping centre etc present in the town. The town has character of traditional forms of bazaar shopping along the roads to meet the commercial needs of the residents. The main commercial area of the town is along Bus stand, Andruni Bazaar road, Main Bazaar road, and Sadar Bazaar road. These are retail markets catering to the retail commercial need of the residents of the town. These commercial areas along the roads are generally 7 to 12 mts in depth having mixed landuse i.e commercial landuse on the ground floor and residential on the above floors. There is no wholesale market existing in the town as such.

In addition to this, the town is also marked by the presence of informal commercial activities in form of rehris, kiosks located outside Bus Stand, along Civil Hospital Road, Hanuman Chowk, Tibri road stretch, Main Bazar and Andruni Bazar area.

Besides this, the existing grain market in the town is located on NH-15, opposite to Verka Milk Plant. The fruit and vegetable market also exists within the grain market. No other planned site has been marked for timber or iron etc.

Industry

The total area under industrial use forms 3 % of the total developed area and 2 % of the total Municipal Council area of the town. The town houses large number of small-scale industrial units with only one large industrial unit of Verka Milk Plant. The small-scale industrial units existing in the town comprises of readymade garments, Lathe work, soap manufacturing, wooden furniture etc. Although, the city has scattered industrial development along major radials such as Behrampur Road, Hardochhani Road, Kahnuwan Road, Pandori Road, Trimmu Road etc, it also has planned industrial areas such as Industrial Estate-Gurdaspur located adjacent to NH-15 near grain market.

Recreation

The total area under recreational use is 1% of the total developed area and 0.5 % of the total Municipal Council area, which is negligible with respect to standards. There are mainly 3 parks and 2 stadiums existing in the town, namely, the Guru Nanak Park (0.7 Ha) located on Jail Road, Nehru Park (0.7 Ha) on NH-15 and Fish Park (1.5 Ha) located near Saint Methodist Church. The stadium and cricket ground exists within Govt. college located at Trimmu road. Apart from these two, there are small parks/ playgrounds located within the planned residential colonies/areas of the town. The less area under the use indicates lack of green open spaces in the town, which require attention to provide quality life to the residents.

Traffic and Transportation

Approximately 7% of the developed area and 3.58% of total area of the Gurdaspur Municipal Council is under Traffic and Transportation use comprising of roads, railway line, terminals such as bus stand, railway station and parking lots/areas existing in the town. The existing area under this category is less than the prescribed norm for the medium size towns. The area under the use is less than the prescribed norm of 15% leading to several traffic related problems in the town.

The town has 10 radial routes emerging out or leading to the town that are namely Behrampur Road, Dinanagar Road, NH-15 (Towards Pathankot), Pandori Road, Tibri Cantt Road, Trimmu Road, Hardochhani Road, Dera Baba Nanak Road, NH-15 (Towards Batala) and Hargobindpur Road, which can be clearly identified on the Existing Land Use Plan drawing. Apart from these major radials, there are intra city/town roads, which are connecting several important places within the town such as Jail Road and other minor roads existing in the

town. The details of existing road network and other uses relating to traffic and transportation are shown in Existing Land Use Plan- Gurdaspur (Refer Plan 1).

Public and Semi-Public

This use comprises of the area under educational and research institutions, medical and health institutions, social, cultural and religious buildings, cremation and burial grounds, Govt. /Semi Govt. offices, Govt. lands etc. The town at present has 10% of developed and 5.31% of the total council area under Public and Semi-Public use. The higher percentage of area under this use is due to the fact that Gurdaspur being the district's headquarter, houses large number of district level govt. offices such as that of District Courts, District Jail, P.W.D, Agriculture Office etc. The town also has large of regional level technical educational institutions like Beant College of Engineering, Institute of Hotel Management and Catering, PAU Research Centre, GNDU Regional Campus. The Existing Land use Plan, Gurdaspur shows the spatial location of the educational, health, cultural and religious institutions existing in the town.

Utilities and Services

This use covers 5% of the developed area and 2.8 % of the total Municipal council area. The area under utilities and services includes the area under water works, sewage disposal, communication, electric grid/ sub-station, solid waste disposal etc. The spatial location of these is marked on the Existing Land Use Plan for Gurdaspur LPA-2010. For further details, refer chapter Urban Infrastructure and Service Delivery.

Govt. Land

In the Existing Land Use Plan-Gurdaspur 2010, the govt. land has been referred to be the land under defense use. The area under this category is of the order of 11% of the developed and 5.96% of the total municipal council area. This huge chunk of land is located in the north-east of the town that is on BSF Road and along Trimmu Road.

Agriculture

Unlike Gurdaspur LPA wherein 85.78% of the area is under agriculture and water bodies, Gurdaspur M.Cl has 45% area under agricultural use. The area under this category includes area under water bodies, vacant land, plantation, orchards and area under agriculture/cropped land.

The existing land use pattern requires rationalization in order to bring it to the prescribed norms as per UDPFI guidelines. The town requires creation of large number of open spaces along with increased area under traffic and transportation in order to improve the quality of

life. The area under industrial component also needs to be increased in order to improve the economy of the town.

5.4 TRAFFIC AND TRANSPORTATION

Traffic and Transportation is a major area where inhabitants of the towns/cities of India are facing traffic hazards and the difficulties in commuting from one place to other, occupy some of the prime concerns. It is analyzed that the Amritsar – Pathankot Road i.e. NH-15 forms the major lifeline of the town that connects Amritsar, Batala and Pathankot. A network of 10 radial roads is passing through the town, connecting Gurdaspur with adjoining urban and rural settlements including Behrampur, Trimmu, Hardochanni, Dera Baba Nanak, Dinanagar, Pandori, Tibri Cant, Mukerian and Hargobindpur. The National Highway passing through the town bisects it into two parts. Among these radial routes, there are 7 scheduled roads namely Amritsar-Pathankot Road (N.H-15), Dera Baba Nanak Road (M.D.R 68-1), Shri Hargobindpur Road (M.D.R 67-1), Trimmu Road (M.D.R 67-2), Tibri Cant Road (G.O.D.R-23), Hardochhani Road (G.O.D.R-14), Pandori Road (G.O.D.R-16).

5.4.1 VEHICULAR GROWTH

The table below shows the vehicular growth in Gurdaspur from the period 2003-04 to 2007-08. The maximum increase in the number of registered vehicles is observed in the year 2008 where it is of the order of 31.61% followed by 2% increase in year 2004.

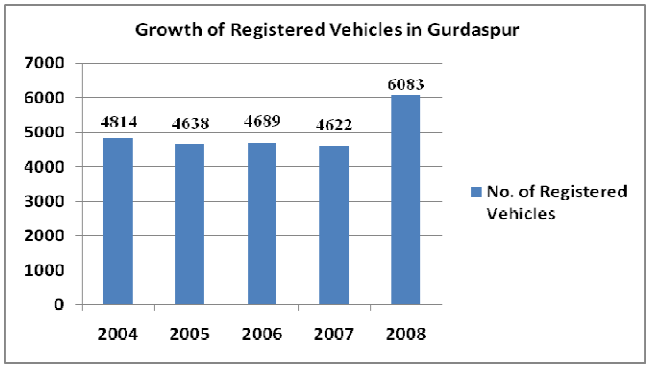


Fig no. 25: Numbers of Registered Vehicles in Gurdaspur Town

It is analyzed from the table that the passenger vehicles occupy greater share in the total number of registered vehicles, which is of the order of 98.6% in the year 2007. The share of passenger vehicles to total registered vehicles seems to have remained more or less constant during last 5 years (98%), except in the year 2003, where the share of passenger vehicles is 87% (refer table 29)

Table 29: Yearly Increase in Registered Vehicles Category Wise

Year	Heavy Vehicles		Light Moving Vehicles (Passenger Vehicles)				Total
	Trucks	Buses	2- Wheelers	3-Wheelers	4- Wheelers	Taxies	
2003	170	437	3208	247	609	42	**4713**
2004	24	49	3171	182	1350	38	**4814**
2005	21	60	3086	213	1221	37	**4638**
2006	23	62	3133	188	1244	39	**4689**
2007	20	61	3074	179	1257	31	**4622**
2008	24	61	4570	24	1370	34	**6083**

Source: District Transport Office, Gurdaspur

The personalized modes of vehicles such as 2-wheelers and 4-wheelers together hold approximately 99% of the total passenger vehicles in the year 2008. The 2-wheelers in the year 2008 constitute 75% of the total vehicles while the 4-wheelers constitute 22.5% of the total vehicles registered in that year. Together they hold 97.65% of the total vehicles registered. The overall shares of personalized modes of transport vehicles have also remained more or less constant in the range from 94-95%.

Despite of huge increase in vehicles the condition of road is not keeping pace with it. Increase in vehicles will ultimately put pressure on transport infrastructure especially in terms of roads, which are not upgraded and are also not in very good condition since long time. Therefore, strategies need to be worked out to witness the further acceleration of vehicles by offering better options for the efficient transportation system and road network in the town.

5.4.2 ROAD ACCIDENTS

To know the safety scenario of town in relation with increasing vehicular growth, road accident statistics needs to be studied.

Table 30: Trend of Road Accidents in Gurdaspur Town

Type of Accident	2005	2006	2007	2008
Fatal	5	7	5	5
Non Fatal	5	8	8	5
Persons killed	5	7	6	5
Persons injured	6	9	20	7
Total	**21**	**31**	**39**	**22**

Source: SSP Office, Gurdaspur

The statistics as recorded by the traffic department shows that there are very less number of accidents occurring in the town. Although, there has been increase in the number of accidents from 2005-2007 but the year 2008 observed decline in the number of accidents. However, the number of fatal accidents remains same in town with decrease in the number of non-fatal accidents. This is might because many of the non-fatal accident cases are not reported /registered with the department. The cause of accidents (other than negligence of driver) is the blind/sharp curves, lack of signals/traffic lights/ road markings, absence of traffic islands

separating the traffic, encroachment reducing effective road width, poor road condition or poor road geometry, that requires improvements.

5.4.3 EXISTING ROAD NETWORK

The road network of Gurdaspur LPA is primarily "Ring Radial" with an intense network of 10 radial roads leading to the town like spokes of a wheel. There is 1 National Highway, 3 M.D.R's and 4 O.D.R's passing through the L.P.A & town, providing stronger regional linkages to settlements like Dera Baba Nanak, Behrampur, Hargobindpur etc. (Refer map 9). The Amritsar-Pathankot Road (N.H-15) passes through the centre of the town acting as the central spine cutting it into two parts. These 10 radials emerging out of the town have acted as important nodes for the development.

Network & Hierarchy

The road network of any town is defined as lifeline of the town. For development, the road network system must be adequate and well maintained. The major road network of the town is as follows.

Table 31: Major Road Network in Gurdaspur LPA

S. No.	Category		Name of Road
1	National Highway	N.H-15	Amritsar –Pathankot Road
2	Major District Roads	M.D.R 68-1	Gurdaspur- Dera Baba Nanak Road
		M.D.R 67-2	Gurdaspur Trimmu Road
		M.D.R 67-1	Gurdaspur Hargobindpur Road
3	Other District Roads	G.O.D.R 23	Gurdaspur –Tibri Road
		G.O.D.R 16	Gurdaspur – Pindori Mahanta Road
		G.O.D.R 18	Approach to Railway station Gurdaspur from NH-15
		G.O.D.R 14	Gurdaspur –Hardochanni Road

Source: PWD, B&R Dept, Gurdaspur

Gurdaspur has ring radial road network with 10 radial routes emerging out of the town in different directions. The Amritsar-Pathankot road passes through the town and bisects it into two parts. A ring road from Trimmu Road to NH-15 (towards Pathankot) via Dera Baba Nanak Road, Tibri Cantt Road, Sri Hargobindpur Road, Pandori Road exists in the town but is incomplete in the northern direction, that is from Trimmu Road to NH-15 (towards Patahnkot) via Behrampur Road and Dinanagar Road. The ring needs to be completed to provide better accessibility and to discourage regional level traffic to enter in the town from these roads.

As far as inner city road network is concerned there is irregular alignment, inadequate widths and frequent intersections that are causing constraints to the capacity of roads. The town has roads ranging from 5 to 20 mt width.

Cross Sections of All Major Roads and Inner City Roads

The laying of new road network in the Gurdaspur town is the responsibility of PWD and Municipal council while provision of village link roads and their up gradation or maintenance is the responsibility of Mandi Board, Gurdaspur and that of the National Highway 15 (Amritsar-Pathankot) passing through the town is under N.H.A.I (National Highway Authority of India). The details of cross sectional elements for these roads are shown in table 32 as supplied by PWD and M.Cl, Gurdaspur. The table indicates that the average road width is 6-7 mts against a larger width of the land (R.O.W) for all roads. It is observed that despite the adequate width of National Highway, Major District Roads and Other District Roads, their right of way varies at certain points due to encroachment.

Road Section Details: Primary Survey

To understand the traffic and transportation network in the town, primary survey of important roads and junctions was conducted in order to assess the critical sections/junctions in the town. The cross sections details of all major roads have been assessed and encroachment along all roads has been identified. The right of way at many places is encroached in case of all major roads by either informal sector or on-street parking of vehicles, which reduces the effective road width.

CROSS SECTIONS OF ALL MAJOR ROADS AND INNER CITY ROADS

Table 32: Cross-Sectional Details of Major Roads in LPA

Sr No.	Name of the Road	Category	Length (Kms)	Metalled Width (Mts)	Formation Width (Mts)	Land Width (Mts)
1	Amritsar -Pathankot Road	National Highway 15	-	-	-	-
2	Gurdaspur- Dera Baba Nanak Road	Major District Road	37.40	7.00/5.50	10	30
3	Gurdaspur Trimmu Road	Major District Road	14.30	5.80/5.18	10	16.29
4	Gurdaspur Hargobindpur Road	Major District Road	40.47	10.0/7.0	10	-
5	Gurdaspur -Tibri Road	Other Roads	1.09	5.50	10.0	30.48
6	Gurdaspur - Pandori Road	Other Roads	9.47	5.50	10	18.29
7	Approach to Raillway station Gurdaspur from NH-15	Other Roads	.44	3.65	10	-
8	Gurdaspur –Hardochanni Road	Other Roads	29.60	5.50	10.0	20.12

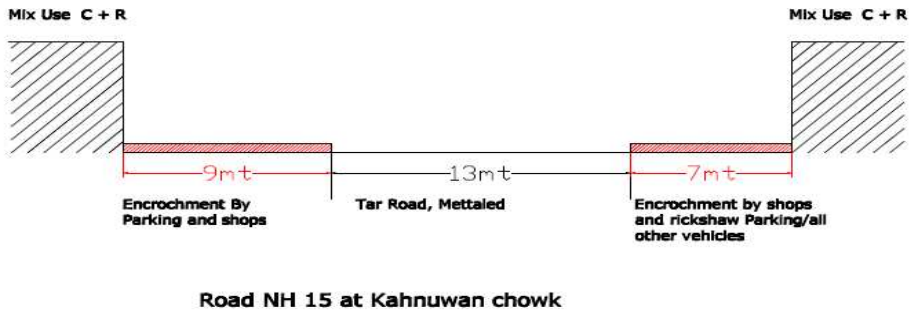
Source: PWD, Gurdaspur

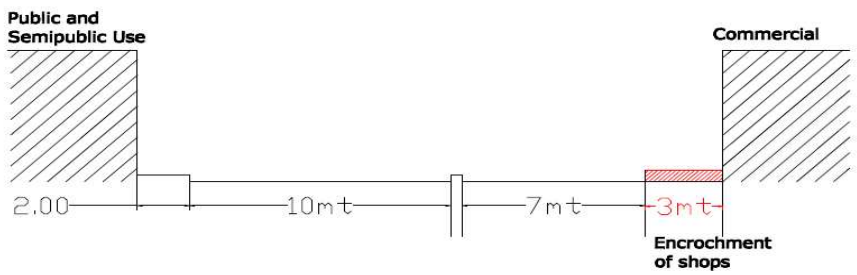
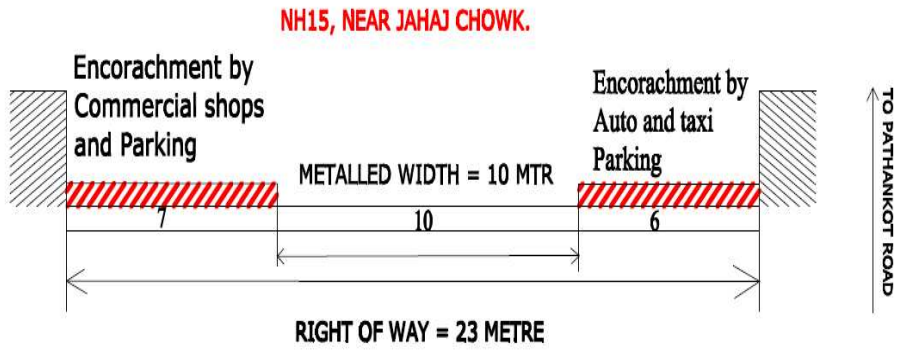
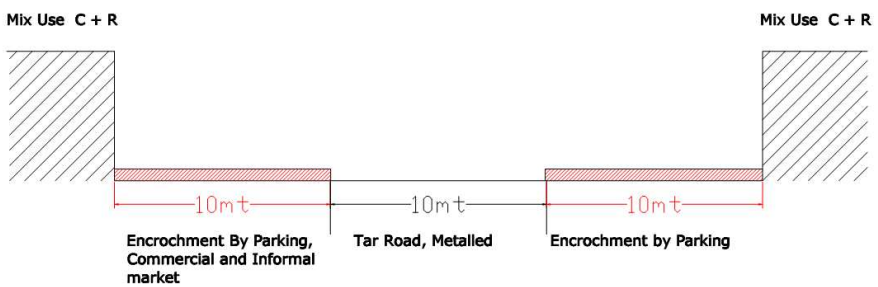
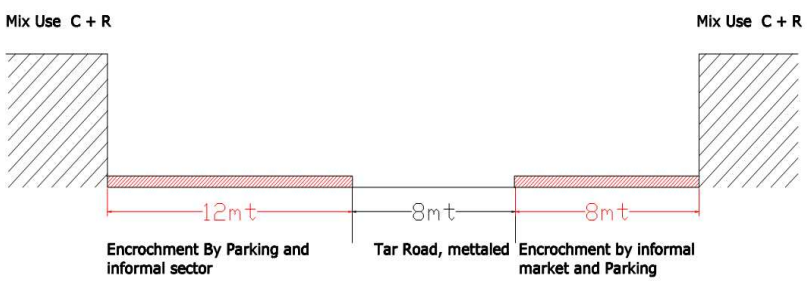
Table 33: Cross-Sectional Details of M.C. Roads

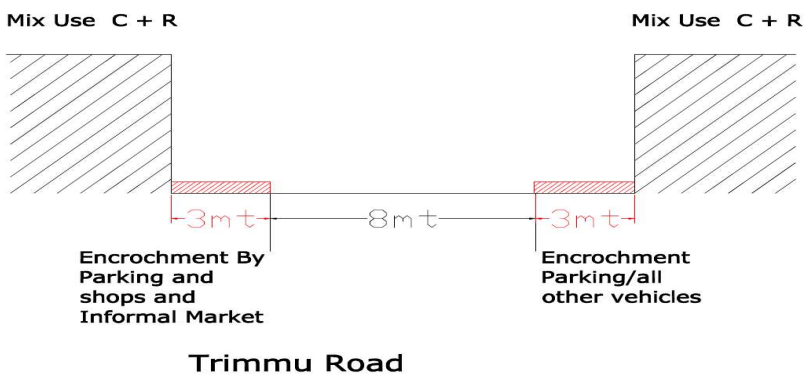
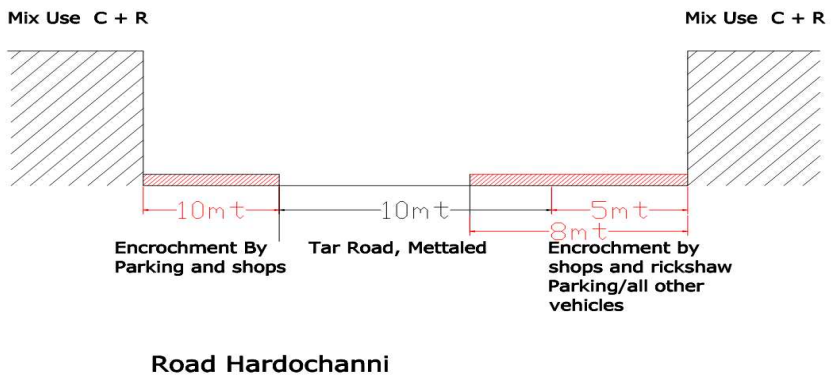
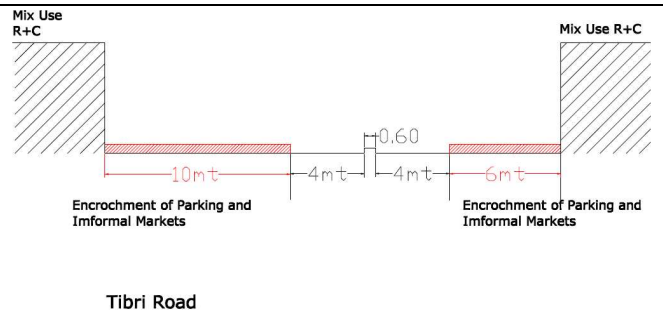
Sr. No.	Name of Road	Length (Feet)	Metalled Width (Feet)	Berm space on both sides (Feet)	Total width of Road (Feet)
1	Hardochanni Road starting from APK Road –Normal school	1335	27	27	54
2	Geeta Bhawan road starting from APK Road to Hanuman chowk Road	2450	28.5	Nil	28.5
3	Sadar Bazar road starting from seed market up to Post office chowk	2000	37	Nil	37
4	Fish Market Road	400	3.5	Nil	3.5
5	Jail Road starting from Post Office Chowk to Jail Gate	2160	35.5	15	50.5
6	Jammu Road starting from APK road to Bikaner Mishthan Bhandar	1700	50	Nil	50
7	Police line road starting from Hanuman Chowk upto Panchayat Bhawan	2950	65	Nil	65
8	Sangalpura road starting from Tibri chowk to APK Road	3300	33	27	60

Source: MCL, Gurdaspur

Table 34: Details of Various Cross Sections

Sr.No	Road Name	Cross section	Photograph	Remarks
1	**Near Kahnuwan Chowk** (NH-15)	 Road NH 15 at Kahnuwan chowk		• Variation of cross section details of NH-15 because of encroachment • Reduction in effective road width due to parking of vehicles and informal sector • Road condition ranges from moderate to bad

2	**Near Post office Chowk** **(NH-15)**	 NH 15 near Post office Chawk		• Variation of cross section details of NH-15 because of encroachment • Reduction in effective road width due to parking of vehicles and informal sector • Road condition ranges from moderate to bad
3	**NearJahaj Chowk** **(NH-15)**			• Variation of cross section details of NH-15 because of encroachment • Reduction in effective road width due to parking of vehicles and informal sector • Road condition ranges from moderate to bad
4	**Dera Baba Nanak Road** **(MDR)**	 Road Dera Baba Nanak		• Encroachment on its both sides by parking of auto-rickshaws, rickshaw, rehris, khokas • Garbage dumping along road side, reducing road width • Bad road condition
5	**Shri Hargobindpur Road** **(MDR)**	 Shri Hargobind pur.		• Encroachment on its both sides by parking of auto-rickshaws, informal sector and shops • Average road condition

6	**Trimmu Road** **(MDR)**			• At the Banda Bahadur Chowk, the road is highly encroached upon by rickshaw and rehris • Truck parking along road sides and steel workshops exists which reduces road width • Government college along this road lead to traffic congestion at peak hours • Road condition ranges from average to bad.
7	**Hardochanni Road** **(ODR)**			• Majority of cycle, scooter repair shops exists along this road which leads to encroachment and reduction in road width • No proper street lights on the road • Average road condition
8	**Tibri Road** **(ODR)**			• High degree of encroachment on this road • Surrounding landuse is residential cum commercial (many banks and private offices exist on this road) • On street parking due to absence of provision of any designated parking place for vehicles.

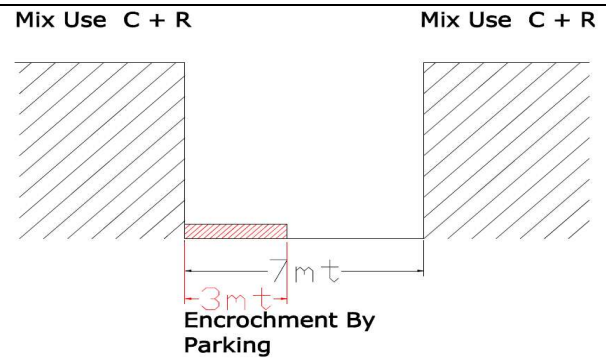
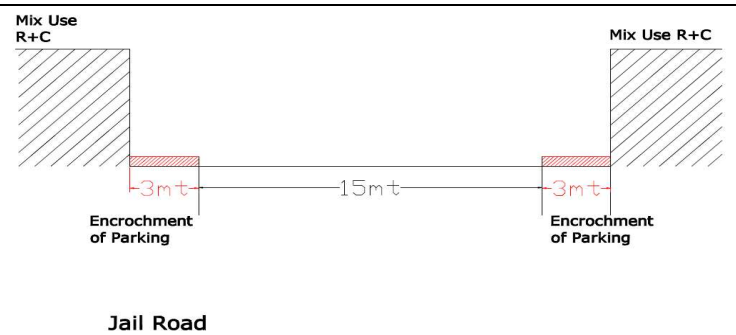
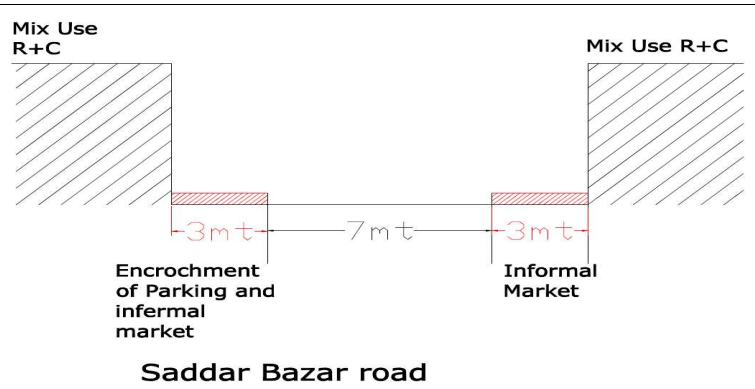
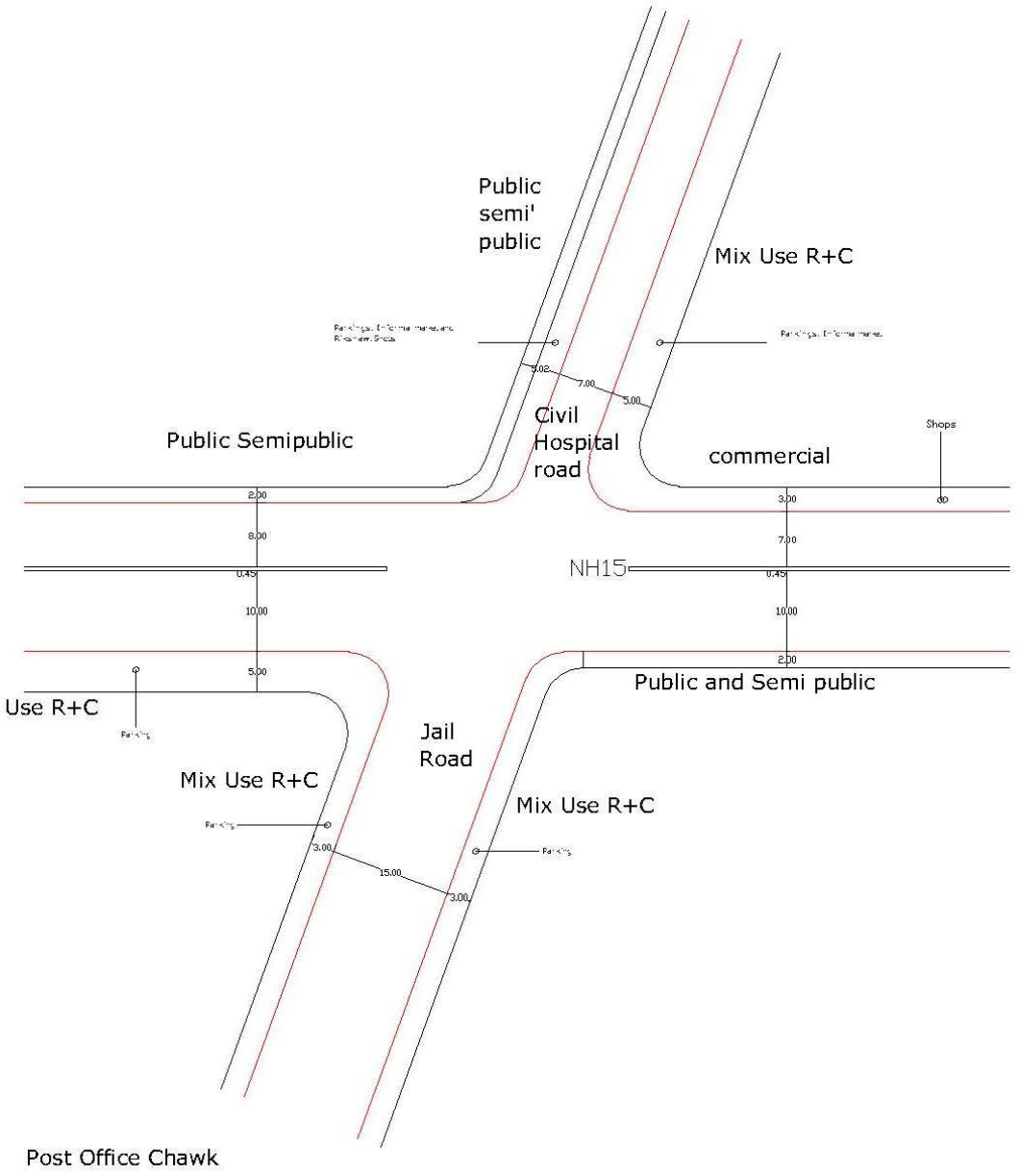
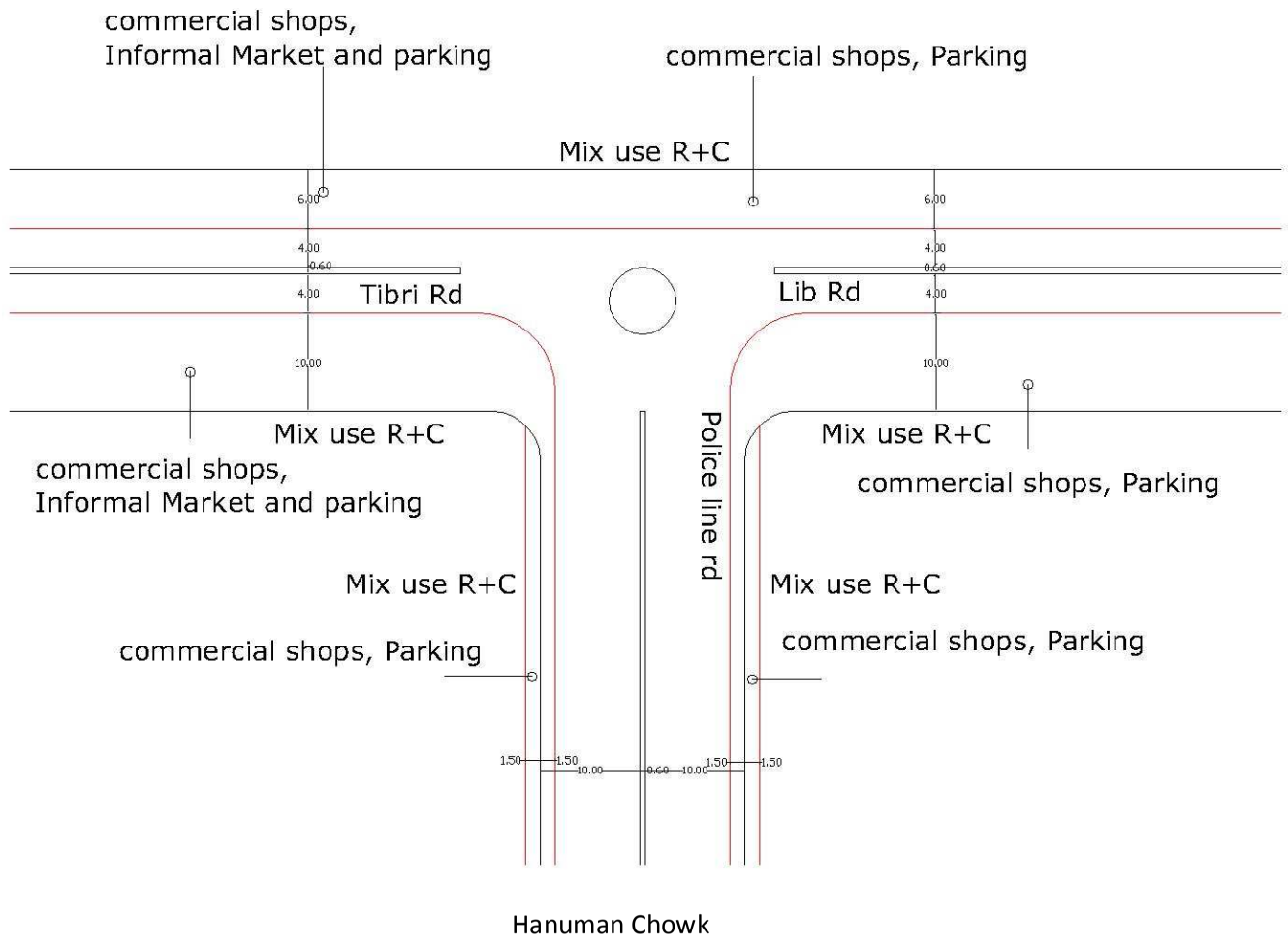
9	**Behrampur Road** **(Internal city Road)**			• Encroachment up to 3mts on a 7mts wide road • Less Encroachment compared to other roads. • This road connects town with keshopur wetland which is having a potential to develop as an eco tourism spot.
10	**Jail Road** **(Internal city Road)**			• Residential cum commercial landuse in the surrounding. • Autos ply on this route
11	**Sadar Bazaar Road** **(Internal city Road)**			• Inner city road having total stretch of 500mt • Commercial character of road leads to traffic jam and congestion • Encroachment on both side by shops and informal sector

Fig no. 26: JUNCTION DETAILS





5.4.4 PARKING

Parking is another major area of concern for almost all towns/cities. With increasing number of vehicles, narrow road networks, absence of parking lots/spaces within majority of built spaces parking becomes critical area for planning and development. Policy adopted by the local government to allow conversion of residential building to commercial use without provision of parking has led to attracting large number of vehicles on the smaller roads. Even the norms for provision of parking areas in the town also needs to be made more realistic as lack of proper norms leads to various parking related issues.

Fig no. 27: Parking Lot Under IT Scheme

The town is highly deficient in provision of parking areas. There is only one parking lot in the town, located in Improvement Trust scheme no. 5 adjacent to Gurdaspur Improvement Trust Office. It covers an area of 0.65 acres and is having accessibility from police line road. The absence of organized parking spaces in the town has resulted into on-street parking of vehicles. The table below gives detail of the major commercial areas/stretches where onstreet parking is observed.

Table 35: Unauthorized Parking/Encroachment

Name of Road	Type of Parking	Type of Vehicles parked	Days of Parking	Reduction in Road Width(both sides)	Length of stretch (used for parking)
Tibri Road	On street	Rickshaw, Truck, 2-wheeler,	All working days	16mt	500 mt
Library Road	On street	Cars, 2- wheelers	All working days	6mt	350mt
Civil Hospital Road	On street	Rickshaws, Cars, 2-wheelers	All working days	10mt	100mt
Sadar Bazar Road	On street	2-wheelers	All working days	6mt	450mt
Main Bazar Road	On street	2-wheelers	All working days	6mt	500mt
Police Line Road	On street	Cycles, Rickshaws, 2- wheelers	All working days	6mt	200mt

Source: Primary survey SAI team August 2009

There are no organized parking spaces within commercial areas so all vehicles are parked along road side. Although mix land use exists along all roads but in majority, it is dominated

Fig no. 28: On-Street Parking, Main Bazaar

Fig no.29: On-Street Parking, Sadar Bazaar

by commercial activity. The Tibri Road stretch upto 500 mts is highly encroached upon by vehicles due to location of number of offices and banks on the stretch. Likewise, on street parking is also observed on Police Line Road. This shows that authorities have not provided parking lots in the town. The main commercial stretches in the town include Sadar Bazaar, Main Bazaar and Andruni Bazaar and all these roads are heavily encroached by shops and parking of vehicles on roads. The non-existence of any parking space adjacent or in vicinity of the commercial area is the cause of on street parking. Although, Government offices like PWD, Municipal Council, District Courts, Civil Hospital etc have parking facility within the premises but is not adequate taking in to consideration the employees and the public, which comes daily to these offices. The stretch on both sides of the Library road is highly encroached upon by vehicles, mainly by cars and two wheelers.

Further, there is no organized parking stand for rickshaws, autos or taxis in the town; as a result, autos are parked on the road mainly near Bus stand and Jahaj Chowk area. The section of Amritsar-Pathankot Road (NH-15) near Jahaj Chowk is encroached on both sides by Autos and Taxi parking. The main areas of traffic congestion in town include Kahnuwan chowk, Post office chowk, Library chowk.

Fig no.30: On-street Parking O/s Private Hospital

Fig no.31: On-street Parking on Library Road

5.4.5 TERMINALS

The study of terminals also becomes important in traffic and transportation as these acts as nodal points in transport network.

Bus Terminal

The Bus terminal in Gurdaspur is located at centre of the town along the N.H.-15. It covers an area of 0.5 hectares. Both local and regional route buses originate from here. Frequent bus service is available on different routes operating in Gurdaspur town. The bus service frequency is about 5-8 minutes. The details of no. of buses and frequency on different routes is given below

Fig no.32: Bus Terminal, Gurdaspur

Table 36: Details of Bus Routes from Gurdaspur to Other Places

Route	No. of Trips	Avg. Time Interval
Gurdaspur, Dhariwal, Batala, Amritsar	391	5min
Amritsar, Gurdaspur, Dinannagar, Pathankot	390	5min
Gurdaspur, kahnuwan, Qadian, Hargobindpur	116	8 min

Source: Bus stand ticket office, Gurdaspur

The above table shows that maximum no. of buses ply on the Gurdaspur-Dhariwal-Batala-Amritsar route and Gurdaspur-Dinanagar-Pathankot route followed by Gurdaspur-Kahnuwan-Qadian-Hargobindpur route. The huge number of buses plying on Amritsar-Gurdaspur-Pathankot route and vice-versa strengthens the fact that NH-15 is acting the central spine running through the town and links it with the other major towns in the region.

The ownership of Bus stand lies with Zila Parishad and Punjab roadways. The private buses operate on the different routes. There is no workshop present in the town for maintenance and repair of Buses. The workshop for the government buses is located at Batala. Presently the operational system is under State transport but is not properly organized. Lack of public transport leads to movement of auto-rickshaws and cycle rickshaws, which creates problem of congestion, parking and pollution in the vicinity areas of Bus-stand as well other areas.

Further, the location of bus stand along NH-15 makes it a critical area from traffic point of view as it allows the regional traffic to enter into town causing numerous traffic problems. As most of the auto rickshaw routes also originate and terminate at Bus stand in the absence of public transport system adds to the traffic problems in the area. Terminal also caters to large number of daily commuters and attracts large number of informal activities. Thus, keeping in view the issue in relation to the existing Bus Stand, there is need to identify an appropriate

location, mainly outside the town area so as to minimize the regional traffic of buses entering the town and the future trend of development for Gurdaspur town.

In addition, the bus connectivity to the villages in Gurdaspur LPA has also been observed and it is found that only 37% of the villages in LPA have bus service. The remaining 63% of villages in LPA do not have access to the bus facility and the people have to a distance of 2 to 3 km to get an access to the bus service.

Table 37: Bus Service in Rural Villages

	BUS SERVICE	
Rural villages in Gurdaspur LPA	**Available**	**Not Available**
	11(37%)	19 (63%)

Source: Economics and Statistical department Gurdaspur

Truck Terminal

There is no truck terminal existing in the Gurdaspur town. The trucks are parked along the major roads in the town in the absence of any truck terminal, hence, there is need to have a well planned Transport nagar in the town.

Fig no.33: Truck Parking Along NH-15

Fig no.34: Trucks Parked along Pindori Road

Table 38: Truck Parking in Gurdaspur Town

S.No.	Roads having majority On street truck parking	Road Width
1	NH-15 section near Pindori road and railway crossing	5mt of road width encroached upon on both sides
2	Pindori Road	
3	Tibri Cant Road	

Source: Primary survey, SAI Team, August 2009

Based upon reconnaissance survey, it is assessed that many parts of NH-15 within LPA as well as the Pindori Road and Tibri Cant road has majority of on-street parking by trucks there by reducing effective road width by 5 mts and further disturbs the clear vision of the drivers on the high speed roads. (refer table 38).

5.4.6 RAIL & AIR NETWORK

Rail Terminal

The Gurdaspur LPA has one railway station namely "Gurdaspur Railway Station" located in the heart of town adjoining NH-15. It is on the Amritsar-Pathankot rail route and managed by the Northern Railways. Gurdaspur being district headquarters has administrative units/offices that attract lot of employees from the surrounding regions. In this process, railway station further attracts large volume of people, material traffic and commercial activities, which occupy valuable road space, reducing their usable capacity and creates lot of traffic bottlenecks in the process.

Fig no.35: Gurdaspur Railway Station

The main train connections include Ravi Express, Ferozpur-Jammu Tawi Express and Muri Express. Traveling south-west, Batala Junction Railway Station is the nearest main station and going north, Pathankot Railway Station is the main station next to Gurdaspur.

Fig no.36: Railway crossing at NH-15 near Pindori Road

BSF base is also located next to Railway station. About 18 passengers trains daily come to the station. In addition, 4-5 goods train per month arrives for town and the major goods include wheat and fertilizers. These railway lines cut the road networks of the city at numerous level crossings, which causes traffic bottlenecks. To provide smooth traffic flow, there is need for different ROB's /underpasses within LPA at these crossings. All railroad crossings in Gurdaspur LPA are manned. Out of all these crossings on NH-15, the railway crossing towards Pathankot creates traffic jam and congestions during peak hours.

Air Terminal

The nearest airport to Gurdaspur town is Rajasansi International Airport at Amritsar, which is at a distance of 71km from the town. This airport is taking care of Air traffic generated from Gurdaspur town.

Key Issues

- Existing Byepass in the town is incomplete in the northern direction, which needs to be completed to provide better accessibility and to discourage regional level traffic entering the town from this direction.
- The existing bus stand located on NH-15 passing through the town creates enormous congestion and hence required to be shifted.
- Intermixing of local and regional traffic passing through the town creates congestion problems during peak hours.
- Increase in number of vehicles but no improvement in road structure/infrastructure.
- Lack of public transport system in the town
- Lack of parking spaces in the town leads to on-street parking of vehicles on all the roads, which reduces the effective width of the road.
- Majority Roads have been encroached in the town by the Informal sectors and shops.
- Encroachment of footpath and road by informal sector resulting into mixing of pedestrian and fast moving traffic along with reduction in effective road width.
- Faulty junction designs
- Absence of traffic lights at important junctions and roads
- Lack of awareness in public regarding traffic rules.
- Absence of truck terminal in the town leads to unauthorized parking of truck at NH-15 and Pindori Road.
- Railway line crossing the town mainly at NH-15 creates traffic congestion and jams during peak hours.
- The width of most of the roads may not be sufficient for the traffic of 20-30 years, keeping in view the existing trend of encroachment.

CHAPTER 6

INFRASTRUCTURE AND SERVICE DELIVERY

The sustainability and quality of life in urban centres is closely linked to the quality and efficiency of physical infrastructures. Accordingly, providing better physical infrastructure assume critical importance.

6.1 PHYSICAL INFRASTRUCTURE

6.1.1 WATER SUPPLY

Sources of water supply

All the urban and rural settlements falling in the LPA are dependent on the ground water as the source for meeting their daily needs of water supply. The system of water supply in Gurdaspur M.Cl and settlements falling in the LPA is entirely based on ground water extracted through tube wells and supplied to the residents through a system of OHRs. At present, there are 12 tube wells existing in the town that are used for extraction of ground water.

In addition to piped water supply, the hand pumps, stand posts and wells are also used for extracting the ground water essentially in the areas not covered by the water supply network, especially the villages in LPA.

In order to improve the status of ground water, the option of rainwater harvesting, recycling of the wastewater, minimizing the wastage in the water supply system and creating awareness among community for water conservation needs to be explored to minimize the pressure on ground water and recharge the ground water. At present, rainwater harvesting is practiced neither at town level nor at individual house level as there are no guidelines for making this as mandatory provision. So a minimum size of plot should be fixed for water harvesting and it should be included in the building byelaws too.

6.1.1.1 Area and Population Coverage

Looking at the existing status of water supply within the council area, it has been observed that only 59% of the area is presently covered by water supply with remaining 41% of the area still devoid of it. In terms of population coverage, the network is serving 78% of total town population (refer table 39).

The population served by piped water supply includes service through the house connections, stand posts and independent institutional set ups. Despite the fact, water

production/extraction is higher (8.18 MLD) than the actual consumption (5.22 MLD), but the water available to the residents is of much lower order due to high wastage (about 36%) of the water supply. Major reason for wastage of water is leakage in the network, which is old, poor maintenance and lack of awareness on the part of the community.

Further, Gurdaspur provides Municipal Council provide water supply within its territorial jurisdiction on average 10 hours a day.

Table 39: Areal Coverage of Water Supply

Item	Area (Ha)	Area (%)
Covered Area	636	59%
Uncovered area	449	41%
Total Municipal Area	**1085**	**100%**

Source: Punjab Water Supply and Sewerage Board, Gurdaspur

Looking at the unaccounted water, it has been observed that the losses in the network had been placed at 36%. This problem exists because of the old system and leakages in water pipe line. The old system of drains and leakages are mostly in old area comprising of Jhulna Mahal, Geeta Bhawan Mohalla, Islamabad, Shankar Nagar, Main Bazaar and Andruni Bazaar area. In order to improve the efficiency, it will be critical to reduce transmission losses besides creating additional capacity to meet the existing shortfall in the service.

Table 40:Water Supply within Gurdaspur Town (2008)

Items	Percentage/ Nos.	Remarks
Population served through Piped Water Supply (MCl)	78%	22% is un-served and is dependent on submersible, hand pumps, standpost etc.
Water Demand per capita per day	135 LPCD*	As per UDPFI Guidelines
Water Supply per capita per day	120 LPCD	
Total No. of Tube Wells in town	12	
Total No. of OHSR	1	0.91Capacity.
Average running hours of water supply	10 Hours	
Average daily water production	8.18 MLD	Through tube wells
Average daily water consumption	5.22MLD	
Water unaccounted	36 %	

Source: Punjab Water Supply and Sewerage Board, Gurdaspur
*LPCD - Litres Per Capita Per Day

Water Supply in Rural Villages of Gurdaspur LPA

Piped water supply is not restricted to urban sector only. Majority of rural settlements in Gurdaspur LPA also enjoys the facility of piped water supply. The water is supplied by direct system of pumping through tube wells. Among villages, there are total of 9 tube wells serving 46 villages. Therefore, on an average one tube well serves up to maximum of 4-5 villages in LPA. In most villages, supply of water is through direct pumping. There is need to provide

storage of water at last for 4-5 days need. In villages, the level of water is 40 feet for drinking purpose and with regard to irrigation the level of water is 80 feet.

As per the data available, out of 310 villages falling in Amritsar LPA, 259 villages are served by tapped water supply under the rural water supply scheme. On the other hand, the rest 51 villages (16.4%) are meeting their water requirements through hand pumps, individual boreholes and tube wells. This means that every sixth village is yet to be provided with organized system of water supply.

6.1.1.2 Water Treatment and Distribution

No formal system of water treatment is in operation in all the settlements due to the absence of water treatment plant. Water is treated through a system of chlorination or bleaching powder, which is added at the level of water extraction. No scientific system is available in all the settlements to check the quality of water supplied. The practice of water sampling to determine the quality of water is not practiced in any of the settlement.

For the purpose of distribution, water is supplied to the resident population through 12 tube wells. The average daily water production in the town is 8.18 MLD in comparison to water discharge capacity of tube wells, which is 19.64 MLD. Out of the total water produced, 64% is supplied to the end consumer by means of house connections. Nearly 17% of water is supplied through a indirect system of OHSR with remaining 83% supplied through tube wells (direct system). There is one OHSR existing in the town with the capacity of 0.91 MLD located at Hanuman Chowk. The total length of water supply network in Gurdaspur M.Cl is of the order of 113.48 Kms including both main and sub main pipes.

6.1.1.3 Water Connections

The water supply to individual households, commercial establishments and industrial units in the town is made through water connections. There are 5620 house connections in the town as per the Punjab Water Supply and Sewerage Board, Gurdaspur in the year 2008. All of the house connections in the town are un-metered. The table below shows the number of water connections in the Gurdaspur M.Cl

Table 41: Water Connections in Gurdaspur Municipal Council

Year	Water Connections
2006-07	4650
2007-08	5620

Source: Punjab Water Supply & Sewerage Board, Gurdaspur

Due to rapid increase in population, there has been a simultaneous increase in water connections for domestic use. Approximately 21% increase in number of house connections in the town has been observed in the year 2007-08 from the year 2006-07.

6.1.1.4 Projects-Ongoing/Proposal

- The Gurdaspur M.Cl. has a proposal of providing a water treatment plant.
- The Water Supply and Sewerage Board is having a proposal of covering the uncovered area by water supply network.

6.1.1.5 Key Issues

- 22% of the total population is not covered by water supply network.
- 41% of the area not covered by Water supply network
- Heavy transmission losses of the order of 36%, due to old system of distribution, unmetered water supply, leakages, lack of maintenance/repair etc
- Absence of check on quality of water.
- Absence of water treatment plant degrades the water quality.
- Excessive exploitation of ground water and absence of system of recharging of ground water have made water table level lower, which requires immediate attention.
- Limited water treatment based on chlorination.
- Lack of use of rainwater harvesting techniques.
- Wastage of water due to unmetered water supply
- Low overhead storage capacity.

6.1.2 SEWERAGE

The sewage disposal is considered as one of the critical component of urban infrastructure determining the quality of life in urban sector. Accordingly, the provision of sewerage facility in the town as well as in LPA is another important area of concern. It is one of the mandatory functions of the local bodies. In this context, this section deals with the assessment of the status and issues related to the sewage system, sewage disposal with in Gurdaspur M. Cl and LPA

Fig no. 37: Blocked Sewerage at P.O. Chowk

6.1.2.1 Area and Population Coverage

Nearly, 40% of the area of Gurdaspur M.CL is covered by sewerage network serving 60% of the town population. The remaining 60% of area and 40% of the population is still devoid of the provision of formal network (refer table 43). The peripheral areas of town especially the area along railway line towards Grain market, milk plant and all along Bye pass is devoid of the sewerage network. They are dependent on septic tanks/soak pits and independent institutional setup for disposal of sullage. In the old core area of the town, sewerage pipes have been broken at many places leading to blockage. Moreover, the people living in slums and population below poverty line, who have no access to these facilities, either use the community toilets created by local bodies or defecate in open fields.

Table 42: Area under Sewerage Network Coverage

Item	Area (Ha)	Area (%)
Covered Area	427	40%
Uncovered area	658	60%
Total Municipal Area	**1085**	**100%**

Source: Punjab Water Supply and Sewerage Board, Gurdaspur

Out of the 60% of the total town population having access to the sewerage facility, 81% of the population is served through sewer connections while remaining 18.78% is served through independent institutional set up (refer table 44). The total average daily sewage generated is of the order of 4.43 MLD, which is directly disposed off into the Nabipur Cut Drain in the absence of Sewerage Treatment Plant. The total length of sewerage network in the town is 81.4 kms with 6500 sewer connections as per the Punjab Water Supply and Sewerage Board, Gurdaspur in the year 2008.

Table 43: Sewerage Facility

Items	Percentage/No	Remarks
Population access to Sewerage	60%	-
Population served through soakage pits/septic tanks	40%	-
Population served through sewer connections	81.22%	% calculated with respect to population having access to sewerage facility
Population served through independent institutional setup	18.78%	
Total waste water generation in MLD	4.43	-
No. of Sewer Conections	6500	Up to 31-03-08
Total Length of Sewer (Kms)	81.40	-
Length of Lateral/Branch sewer (Kms)	67.50	-
Length of intercepting sewer (Kms)	12.10	-
Length of Out Fall Sewer (Kms)	1.80	-

Source: Punjab Water Supply and Sewerage Board, Gurdaspur

To have a good living environment, total area of the town and its population must have access to proper sewerage system, which is not so in case of Gurdaspur. Lack of access to

sewerage facility leads to unhygienic conditions in the town leading to degradation of the environment and spreads various diseases, hence, effecting quality of life.

VILAGES OF LPA

Apart from the Gurdaspur M.Cl, the villages falling in LPA also do not have sewerage network. They are dependent on the alternative system of septic tanks/soakage pits. From the available data, it can be observed that despite the role and importance of sewerage, provision of these services has been highly deficient calling for major action by the local bodies in order to improve the status of sullage disposal.

6.1.2.3 Sewerage Treatment/Disposal System

There is no sewerage treatment plant in the town. The total average daily sewage flow in the town is 4.43 MLD, which is directly disposed off into the Nabipur Cut Drain and thereby becomes an issue of environmental and health degradation. The sullage generated in the town is disposed off without any treatment due to absence of Sewerage Treatment Plant. This direct disposal without treatment is degrading the quality of life and environmental conditions. The town requires installation of Sewerage treatment plant, so that the sullage can be treated before being discharged in drains.

6.1.2.4 Key Issues

- The sewerage network covers 60% of population and 40% of the town area.
- Absence of sewerage treatment plant
- Disposal of untreated sullage in the drains/water bodies existing in the town.
- Absence of recycling and reuse of waste water techniques.
- Low efficiency of network in congested areas.

6.1.3 STORM WATER DRAINAGE

With the creation of large area of hard surface by bringing agricultural land into urbanization, large volume of storm water is generated in urban areas. Draining the rainwater assumes importance because of the numerous problems created due to inefficient disposal of storm water. Due to inefficient or non-existence of storm water drainage network, most of the town area now face a problem of water logging and flooding causing heavy loss to property and human lives.

Fig no. 38: Open Drain in Town

The Gurdaspur town lacks in the provision of storm water network. The problem of acute water logging during heavy rains is experienced in the whole town. During rainy days, town faces flood like situation. At present, length of storm water network in town is of the order of 500mts along Kahnuwan road. The network is highly in adequate. Apart from this, open drains exists in the core area of the town while in the others, the disposal of storm water is combined with sewerage network leading to choking of the pipes, overflow of the sullage and backflow of the sewerage water.

In terms of drainage, the storm water is drained off in the Nabipur Cut drain flowing from the southeast to southwest part of the town. It not only carries storm water but also the untreated sullage and domestic refuse. The drain has not been de-silted over a period and deposition of silt has resulted into reduced watercourse leading to flood like situation in the town during heavy rains.

In view of the existing scenario, it becomes critical that practice of discharging untreated sullage into the drain/nallah should be immediately stopped and the drain be cleaned. The precious storm water should be harvested to be used as alternative source of water supply reducing pressure on the vital ground water resources. The institutions having large area like Verka Milk Plant, Grain Market, colleges etc having large open land should be involved in the system of rain water harvesting. In addition, building byelaws of the Municipal Council, and Improvement Trust should include rainwater harvesting as integral part of development of buildings and it should be enforced strictly. Further individual households, industries and Development Authorities should be actively involved in the rainwater harvesting so as to reduce/minimize the amount of rain water generated, which require disposal and which can be used for different activities reducing the quantum of water supply required to serve the town. The percolation wells for rainwater harvesting could be considered along with the option of open trenches for improving rainwater harvesting.

6.1.3.1 Key Issues

- Lack of storm water network in the town.
- Acute water logging problems during heavy rainfall observed in the town resulting to pot holes on many of the town roads and ultimately reducing their life.
- Lack of any proposal for creation of storm water drainage network in the town.
- Lack of new techniques such as rainwater harvesting that can help in conserving the rainwater. Hence, the outflow of storm water reduces.

- Use of storm water drain/nallah for disposal of sewerage
- Lack of de-siltation at proper interval of time

6.1.4 SOLID WASTE MANAGEMENT

The solid waste management system in the town of Gurdaspur is the responsibility of Gurdaspur Municipal Council. Sanitary inspector of the Council has been vested with the overall responsibility for management of the solid waste. There are 2 sanitary inspectors in the Council who organizes the collection and transportation of the solid waste. Municipal council sanitary branch workers are doing the day-to-day solid waste collection. There are 60 Mohalla committees constituted at Mohalla level, which support the system through household contributions. Open dumping method for solid wastes disposal results in environmental pollution of surrounding area causing land degradation, nuisance and attracts insects, rodents etc., thus leading to the spread of diseases.

6.1.4.1 Generation

Taking an average of 250 grams per capita per day of solid waste generation (UDPFI standard), the quantity works out to be 17 tons per day. It indicates mismatch between the collection and generation.

6.1.4.2 Composition

Solid waste comprises of waste generated from different sources. Major sources of generation are individuals, households, industries, trade and commerce, hotels and restaurants, health care institutions including dispensaries, hospital, animals and floating populations in terms of tourists, hawkers etc. Solid waste generated can be broadly classified into four categories i.e.

Fig no. 39: Poor System of Garbage Dumping

Organic Waste which includes kitchen waste (food items, leaves etc), Recyclable waste which includes paper, plastic, glass, metal, rags, packing materials, twigs, bark etc. Inert waste including bricks, cement, building debris, furniture waste etc, industrial waste, hazardous waste. In addition, number of hospitals, Dispensaries and other Health Care Institutions, which are operational in the town also generates large amount of waste.

6.1.4.3 Collection and Segregation

Collection and Transportation

The daily collection of Garbage in the town is 6 tons against the generation level of 17 tons, which is 35% of the total waste generation in the town. Old method of waste collection is in use in the town. At the household level, Door-to-Door collection of waste is practiced by a local NGO under Mohalla sanitation scheme. Since household waste has high contents of organic waste, no system of segregation is used at the generation level. In the process, the quality of recyclable material gets distorted due to mixing of the dry and wet waste. For the Door-to-Door collection of waste, 150 Wheel Barrows, 23 rickshaw rehris having backspace as storage bins are operational in Gurdaspur. They carry the waste from households to the collection centers/community bins. The areas where house to house collection system is not provided community bins are strategically provided by the council for their direct use by the residents. For this purpose, there are 14 collection points/ community dustbins placed at different areas within council limits. Besides this, solid waste is also dumped in the available open land and along roadside.

Fig No.40: Garbage Dumping Along Roads

For the transportation of solid waste from the collection centers to the disposal site, Gurdaspur M.Cl has deployed 3 tractor trolleys and 2 Dumper Placers for collection of waste from community bins to the disposal site. Each of these vehicles on an average make 3-4 trips per day. A total of 110 sweepers are involved in the collection and disposal of solid waste

Segregation of Waste

Most of the inhabitants of town are habituated to salvage re-saleable material from waste such as newspaper, glass bottles, empty tins, plastic bags, old cloths etc. There is no segregation process carried at the source as such.

As town is having hospitals and nursing homes, biomedical waste is also generated in the town. The waste generated by these hospitals and nursing homes falls in the category of Hazardous wastes. In case of civil hospital, collection and segregation of the bio-medical waste is carried in three separate bins at the source. The whole operation of biomedical waste management is being done by private agency.

6.1.4.4 Disposal

Open dumping of waste without any pre treatment is practiced in the Gurdaspur. At present, the landfill site in operation is located in village Chopra situated at a distance of 15kms from the town. The waste is dumped in open at the landfill site. The absence of any scientific method of waste disposal has lead to un-hygienic environment in the area.

Fig no.41: Solid Waste Dumped Along Byepass

In addition to the landfill site, dumping of waste has also been witnessed along city roads, along byepass etc. The Municipal Council Gurdaspur takes 15 days to collect and dispose waste from yellow bins. This indicates that a huge amount of garbage-generated remains untreated for days and as such causes unhygienic conditions within town area, which ultimately lead to destruction of Environment.

Urban authorities must promote recycling or reuse of segregated material and ensure community participation in waste segregation

6.1.4.5 Ongoing Projects/Proposal

- Gurdaspur Municipal Council has proposed a solid waste management plant, which is still in pipeline.

6.1.4.6 Key Issues for Solid Waste Management

- Lower level of collection of solid waste generated on daily basis
- Open dumping of waste along roadside/underutilization of already existing bins has become another issue.
- Absence of scientific collection and disposal
- Absence of solid waste treatment plant in the city
- No segregation of waste at primary level.
- There is no proper waste management plan.
- Lack of MSW management compliances as per the MSW Rules 2000.

6.1.5 POWER AND ELECTRICITY

The whole of town area is covered by Electricity network. Gurdaspur town has recorded considerable increase in the demand of electricity and in no. of electric connections.

6.1.5.1 Distribution Network

The electric supply to the Gurdaspur town is made by 132 KV power grid station situated on Hardochanni Road. Further, electric supply to different parts of the town is made through one 66 KV substation located at Ranjit Bagh. The electric supply to villages in LPA is made through 66 KV grid station and in addition to these, there is Grid station located at Babehali, which is also serving villages inside LPA. The table below gives details of the electric substation along with their capacity and location both in the Gurdaspur M.Cl and Gurdaspur LPA.

Table 44: Electric Supply in Gurdaspur M.Cl and Gurdaspur LPA

Category	Capacity	Number	Location
Gurdaspur M.Cl.			
Power House/ Sub Station	132 KV	1	Hardochanni Road
	66 KV	1	Ranjit Bagh
Gurdaspur Local Planning Area			
Power House/ Sub Station	66 KV	1	Babehali (o/s LPA) serving the villages of Aujla, Ghurala, Pahra located inside LPA
High Tension Line			
H.T. Line	132 KV	1	Parallel to NH-15 along Dinanagar Road
	66 KV	1	From Hardochanni Road up to Shri Hargobindpur Road

Source: Punjab State Electricity Board, Gurdaspur

The table below gives detail of number of electric connections in Gurdaspur M.Cl. It has been observed that domestic/residential use has highest share in number of electric connections, which is of the order of 57.70% followed by commercial (25.25%).

Table 45: Electric Connections in Gurdaspur

S. No	Use	Number of connections	%
1	Domestic	10603	57.70
2	Commercial	4639	25.25
3	Industrial	26	00.14
4	Roads	3039	16.54
5	Others	68	00.37
	Total	**18375**	**100.00**

Source: Census of India, 2001

6.1.5.2 Street Lights

The provision of streetlights in the town area falls under the domain of Gurdaspur MCl. The Municipal council takes in to account the budget expenditures on streetlight in a particular year. As per the data provided by Municipal Council, Gurdaspur has total of 4128 street light

points which are distributed among ordinary bulb, tube lights and sodium lamp categories. But the maintenance is very poor. The table below gives detail of number of streetlights points of different category (refer table 49).

Table 46: Streetlights in Gurdaspur M.Cl

S. No.	Street lights	Numbers
1	Ordinary Bulb	1044
2	Tube 2 feet	434
3	Tube 4 feet	1717
4	Energy saver	171
5	Sodium lamp	745
6	C.F.L 23 watt	11
	Total points	**4128**

Source: Municipal Council, Gurdaspur

From the table it has been observed that the tube lights occupy the maximum share among total number of street light points, which is of the order of 52% approx. In case of villages in LPA, it has been observed that although all the villages have been electrified but the street light facility exists in few of the villages only

6.1.5.3 Key Issues

- Illegal Connections of electricity in the town
- Street lights occupying the vital road space within the congested area
- Poor maintenance of street lights.
- Time duration of power supply for irrigation and industrial purposes is very short
- Limited use of renewable sources of energy, like Solar Power, for power generation
- Time duration for electricity supply is less, especially in rural areas of LPA.
- Most of the rural settlements lack street lights.

6.2 SOCIAL INFRASTRUCTURE

Social infrastructure refers to facilities and the process involved, which ensure education, better health facilities and community development in any town. The different components of social infrastructure will help to know how well a city or town is equipped with facilities. Each town is different in its social infrastructure in terms of education and health of the residents. As the town expands and population increases, there is gap between demand and supply of these essential services, which deteriorates quality of life in urban areas.

Social infrastructure falls under the Public semi public land use classification. The Education, Health, Recreational areas, socio cultural, post office, cremation and burial grounds, and religious land use category falls under Public Semi public.

6.2.1 EDUCATIONAL FACILITIES

Educational facilities are critical for any settlement to grow in terms of literacy, skill up-gradation and in improving quality of human lives. Higher level of education facilities have been considered vital for economic growth and development of any community or nation, besides improving the quality of human beings. Education has been found to be major determinant and promoter of growth and development of any settlement and nation. Accordingly, providing appropriate level of education facilities is extremely important.

Fig no.43: Beant College of Engineering and Technology

Institutional Network:

The town has 1-degree college, 1 Engineering college, 2 I.T.I institutes, 1specialized institute of Hotel Management and Catering and Regional Campus of GNDU as well as research centre of PAU. According to educational standards, there is no shortage of high-level institutes in this town.

In villages of LPA there are 26 primary schools, 5 middle schools but they are not distributed evenly. Even the important village settlements do not have higher level of social infrastructure to support smaller settlements (refer table 50). There is enough potential of the growth of the primary school in the LPA, since 26 school already exist in the LPA villages. There is a deficit of primary and secondary schools and 3 handicap schools for the projected Population of 2031.

Table 47: Level of Education Facilities in Gurdaspur LPA

Level	PAU Research centre ,GNDU regional campus	Degree College		Hotel mgt	Engg.	I.T.I	Senior Sec. school		Secondary		Middle	Primary
		Govt. college	Private colleges				Govt.	Pvt.	Govt.	Pvt.		
Gurdaspur town	2	1	5	-	-	2	2	8	2	19	18	20
LPA villages	-	-	-	1	1	-	1	-	2	-	5	26

Source: District Education office Gurdaspur

Spatial Distribution:

The facilities in terms of Education are unevenly distributed. The schools are located on narrow streets surrounded by mixed land uses. At peak hours the location of the institutes especially schools are the root cause of traffic congestion on roads because of non-availability of required parking spaces. These schools do not have proper playgrounds and other infrastructure. There is lack of Libraries, reading rooms drama and arts and craft studios etc. Even the conditions of the building/rooms are not good. As per primary survey of one Govt. and one Pvt. College, it is analysed that govt. college is having adequate space and follow the building norms where as such thing is absent in case of Pvt. colleges.

Key Issues for Education:

- Uneven distribution of facilities.
- Traffic congestion and parking problem caused by education institutions.
- Lack of adequate playgrounds in the institutions located in the congested areas.
- Lack of the secondary and the middle schools in the rural areas within LPA boundary
- Lack of degree colleges in the rural area creating floating population in town.
- Poor mass transport systems.
- Institutional structure needs to be socially accepted in the rural settlements.

6.2.2 HEALTH

There is critical need of improving the health of poor as there is a lack of hygienic living conditions in the slum colonies because of the open drain system, no proper solid waste disposal system. Besides, there is a need to improve the basic human conditions in the entire LPA, where there is a need of the health organizations for improving the existing conditions along with the hospitals and dispensaries.

Organizational Network:

Table 48: Medical Infrastructure at Different Levels

Level	Medical facility					Ayurvedic	Homeopathic	
	Allopathic		PHCs	Disp	Nursing home			
	Government	Private					Govt	Private
Gurdaspur	1(100 beds)	4	1	2	20	-	1	3
villages	-	-	2	4	-	2	-	-

Source: Civil Hospital Gurdaspur and Municipal Council Gurdaspur

The health scenario of the Gurdaspur town depicts that the town is having 1 civil hospital and 4 pvt. Hospitals. The Civil Hospital Gurdaspur is the main health institute catering to the needs of the residents. There is one Primary Health centre and 2 dispensaries. As per

Fig no.44: Civil Hospital

Municipal Council there are 20 Nursing homes to cater to the requirements of local residents. In villages of Gurdaspur LPA there is no hospital and have to depend on the town hospital. There are 2 Primary Health centre and 4 dispensaries in town. For specialized facilities, Gurdaspur is depending on Amritsar, Jalandhar and Chandigarh.

Civil hospital is centrally located in Gurdaspur near post office chowk with accessibility from NH-15 and the civil line road. The capacity of the hospital is 100 beds catering to the approximately 92 patients per day. As per data received, there are 3 big ambulances and 2 small ambulances available with the hospital. There is existing parking facility but it is insufficient.

The segregated waste of hospital is disposed off by the private agency every day. The hospital at this time serves the district level but is not sufficient. There is a need of increasing the capacity or providing the new hospital for the town since it is serving 29 villages of the total LPA. There are 2 ayurvedic dispensaries within the definition of the LPA. The villages not having the facility of the similar nature have to travel a distance of 3kms on an average. Besides this there are 3 veterinary hospitals serving 9157 livestock within the villages of LPA.

Spatial Distribution:

There is uneven distribution of health related facilities. Here majority of them are occupying the central parts of the town. In addition, private sector should encourage providing Super Specialty Services in order to facilitate the provisions of such services at local level. Existing health services in the government sector requires considerable up gradation for improving their capacity to provide desired level of services to the people.

Key Issues for Health

- The facilities are not adequate as well as unevenly distributed.
- Uneven distribution of hospitals in the LPA
- Stagnation of health related infrastructure.
- Shortage of beds in the govt. hospitals
- Poor infrastructure within the existing heath related institutions, including ICU unit.
- Lack of specialized health facilities

6.2.3 PUBLIC SPACES/ RECREATIONAL SPACES

Public and recreational spaces within the town add to the town picturesque and healthy environment. With rapid rate of urbanization, land area under green spaces in the towns is decreasing and more space is used for construction purposes. An optimum share of open/recreational spaces in the town is required for providing the quality life to its citizens.

There are only 3 major parks and 2 stadiums existing in the Gurdaspur town. As per the primary survey done for these major parks, the existing situation is as follows-

- **Guru Nanak Park** measuring approx 0.7 hectares is located on the Jail road. It is tentatively residential neighborhood. The park has no parking facility, so roads are used for parking causing traffic congestion. There are toilets and drinking water facilities available in the park itself.

- **Nehru Park** which is approximately 0.7 ha is located on the NH-15. The majority area of the park is a low-lying area leading to water accumulation in the monsoon season. The park at present is underutilized and needs up gradation. There are no toilets, drinking water and parking facility available in the park.

Fig no.46: Nehru Park

- **Fish Park** located near all Saint Methodist Church is having an area of approx 1.5 hectares. The public utilities/facilities such as toilets, drinking water area etc. are available in the park. The park is located on civil line road and is observed to have on-street parking. The neighborhood is partially mix use development.

Apart from these 3 parks, town also has 2 stadiums that are located in the Government college on Trimmu Road. Both the stadiums are well maintained and have provision of all the basic facilities such as parking, public toilets and drinking water. District level sports events are held in these stadiums.

There is a need of parks in different neighborhoods to be provided in terms of specific reservations. There is need for children's playgrounds and few more stadiums for

encouraging the sports in the town. The open spaces in the form of buffers need to be provided in the specific locations along the roads, railway lines, water bodies etc.

Spatial Distribution

As far as spatial distribution of the open spaces in the town is concerned, it has been observed that all the 3 major parks/open spaces are located in the centre of the town.

There are no such prominent green spaces ie town/city level parks existing within the Gurdaspur M.Cl except 3 major parks, which are Fish Park near civil line area ,Guru Nanak park and Nehru park. The open space has not been evenly distributed to serve the community needs. Hence there is critical need to propose the community level open spaces within town as well as LPA.

Ongoing Projects /Proposal:

Municipal Council Gurdaspur is engaged in operation & maintenance of existing parks and open spaces but presently there is no specific proposal for additional open space in the town.

Key Issues

- Most of the open spaces locked in the individual/institutional holdings.
- Unbalanced distribution of open spaces leading to improper utilization of open areas.
- Lack of parking, Toilets, drinking water supply facilities in parks.

6.2.4 SOCIO- CULTURAL FACILITIES

Places of recreation, specialized institutions and clubs provide avenues to the residents to spend leisure time for productive purposes enhancing their capabilities.

Table 49: Socio Cultural Facilities in the Gurdaspur LPA

S.No.	Type of Facilities	Number
1	Community Halls	-
2	Swimming pool	-
3	Sports stadium	3
4	Gymnasium hall	-
5	Public library	1
6	Art Galleries	1
7	Museum	-
8	Cinema hall	1
9	Stadium	1

Source: Municipal council Year Book 2006, Municipal Council, Gurdaspur

In terms of Socio cultural facilities, the town is having only one Cinema theatre and one public library. The town is having 2 stadiums which are used for government level functions on special occasions. Besides this there is 1 sports stadium in the Hardobathwala village to cater the need of the rural areas. There is no museum, auditorium or art gallery facility with in town for the local population (refer table 52).

There is a government Library located near the Fish Park. The access is from the road behind the Fish Park. The Library building covers approximate 6 Kanal of the area. As per primary survey the facilities such as parking, toilets and drinking water are available in the Library building. There are 25-50 visitors visiting the place every day, out of which majority comprises of the senior citizens.

Spatial Distribution

The socio cultural facilities are distributed unevenly in the town leading to the socio cultural deprivation in the town. Here there is a need of community rooms, community halls, library, recreational club, drama –dance- musical centre, meditation hall and the spiritual centers as per the UDPFI guidelines. The Library is located near Fish Park.

Projects Ongoing /Proposed

Municipal Council Gurdaspur is engaged in operation & maintenance of Socio cultural facilitiesexisting but presently there are no proposals available in this category

Key Issues

- Inadequate distribution of socio cultural activity.
- Children are lacking in intellectual growth because of the socio-cultural deprivation.

6.2.5 FACILITIES AND SERVICES

The other amenities of the city include Post offices, fire stations cremation ground etc. Each urban area must have these amenities to serve its growing population .The Civic amenities of Gurdaspur town are described below.

Fig no.50: Fire Station Gurdaspur

The fire station is located at Sucka Talab near Gurdaspur Municipal council office, which is having an access from Sadar Bazaar road. The access being from the commercial stretch, which is centrally located, has far away consequence with the needs at the time of disaster management. The Fire station contains 2 tenders and 12 staff members. The vehicles at the time of disaster are available at this Fire station. The condition of the fire station is moderate, which needs up gradation. Since the fire station is centrally located there is a fast access at the time of disaster. Besides

that there is a need of 1 fire station catering to the need of the 2031. There is no provision of imparting disaster management training to fire officers. There is 1 police station in the M.Cl catering to the need of the core town area and 1 at Hardochanni road, catering to the need of rural areas.

Key Issues

- Shortage of civic amenities in the town.
- Irrational distribution.
- Absence of any new proposal.
- Fire department lacks disaster management equipments. The existing vehicles are not able to serve the population in case of any disaster. No such vehicles exist to enter narrow streets of core city area in case of fire in buildings.

6.2.6 MISCELLANEOUS FACILITIES:

Postal and Communication Facilities:

Table 50: Postal Services in Gurdaspur, 2006-07

Postal Facilities						Telephone Facilities	
Post office				Telegraph office	Letter Boxes	No. of Landline connections	
Head post office		sub post office				Gurdaspur town	Gurdaspur district
Location	No	Location	No.				
Post office chowk	1	Gol Mandir, Sangalpura road	3	1	36	6800	158000
		Near SDM court					
		Near ITI GT road					

Source: Head Post office, Gurdaspur, BSNL main office near PAU research centre Gurdaspur

Postal Facilities:

- There are total of 4 post offices in the town, the General post office is located near NH15 and 3 other sub post offices cater to town requirement.(refer table 53)
- In villages of LPA 1 sub post office present in village khojepur.36 Letter boxes in the town catering to the need of the population.
- There is 1 telegraph office in the town.

Telephone Facilities:

- The town constitutes 4.3% share of the total landline connections in the Gurdaspur district and 50% of the households in the town are having these connections.

Cremation and Burial grounds:

Table 51: Cremation and Burial Grounds in Gurdaspur

Facility	No.
Cremation Ground	3
Burial ground	3

Source: MCl of Gurdaspur

The cremation grounds are located opposite the Improvement trust scheme, on Sangal pura road and on Mehar Chand road and near BSNL office, the burial grounds are located near Railway crossing and at Behrampur. These grounds serve the entire town as well as local planning area Gurdaspur.

Table 52: Religious Facilities in Gurdaspur LPA

Temples		Makbaras		Churches		Gurudwaras	
Nos	Location	Nos	Locations	Nos	Location	Nos	Locations
10	LPA	-	LPA	2	MCL	5	LPA

Source: MCL of Gurdaspur

There is an attempt to retain all the religious structures in the town since they are attached with the sentiments of the local people.Besides this town has Pindori Temple in close proximity to the town but it is outside the LPA area. The temple is a host of many religious melas, hence there is an indirect effect of the temples existence on the town. Here there is no need for any attempt to reorganize the temple premise but need to mark the importance of the Temple itself which has religious faith on state level.

CHAPTER 7
ENVIRONMENTAL STATUS

ENVIRONMENT

Environmental problems faced by the inhabitants of Punjab, its causes and pressures can easily be traced back directly or indirectly, to the pattern of development of the urban areas. The forces and processes that constitute urban activity have far-reaching and long-term effects not only on its immediate boundaries, but also on the entire region in which they are positioned.

In a very broad sense, the urban environment consists of resources, human and other processes in the town, that convert these resources into various other useable products and services and effects of these processes, which may be negative or positive. With the inevitable danger of overlap and generalization, following three dimensions have been identified in urban environments i.e., Natural Environment, Built Environment, and Socio-economic Environment.

7.1 POLLUTION: GENERATION AND CONSEQUENCES

7.1.1 AIR POLLUTION

One of the major areas of environmental concern within Gurdaspur town is air pollution which is caused by various anthropogenic activities. Narrow streets, huge volume of traffic, frequent jams and large number of vehicles on road due to absence of public transport, use of kerosene as the fuel etc leads to air pollution in the atmosphere along the roads / chowks such as Post Office Chowk, Committee Ghar Chowk, area surrounding Bus Stand, Hanuman Chowk, Sadar Bazaar and Main Bazaar area etc.

As far as wind direction is concerned various industrial units like rice husk industries, milk plant, industrial estate etc releases its intensive air pollutants into the atmosphere which affects the environment of the surrounding residential areas. From planning point of view neither any sufficient buffer zone nor any landscape elements are provided there to reduce the impact of air pollutants.

7.1.2 SURFACE WATER RESOURCES & WATER POLLUTION

In terms of surface water resources, two rivers i.e., river Beas and Ravi are considered in its catchment area covering up to the Gurdaspur LPA and within Gurdaspur LPA it includes one distributory i.e. Nano Nangal distributory and many ponds. Besides, one drain i.e. Nabipur

cut drain is flowing within the LPA carrying untreated sewage effluents generated within the towns.

River:

There are two rivers i.e., river Beas and Ravi are flowing in its catchment area covering up to the Gurdaspur LPA. The upstream qualities of the river water have been studied by PPCB in Dec 2000 under the Govt. of India scheme MINAR (Monitoring of India National Aquatic Resources) (refer table 56). All parameters of surface water quality are within the permissible limits prescribed byBIS (ISI) except BOD and total coliforms. BOD and total coliform level for river Beas is higher than the standards prescribed by BIS for tolerant limit of class A category (surface water).

Table 53: Status of River Quality of Beas and Ravi

S.No.	Parameter	Beas	Ravi
1	Temperature ^0C	16	14
2	pH	7.8	7.8
3	Conductivity (μmho)	342	202
4	Nitrogen (No_2 + No_3)	1.4	.04
5	DO (mg/l)	7.8	9.0
6	BOD (mg/l)	4.2	0.4
7	COD (mg/l)	14.4	1.6
8	Cl^- (mg/l)	23.0	10
9	So_4	16	8.0
10	Na	14.6	1.8
11	Fecal Coliform	500	0.0
12	Turbidity (NTU)	24	7.0
13	Total Coliform	5000	7.0
14	TDS	302	194

Source: PPCB, Dec 2000

Nano Nangal Distributory

In Gurdaspur LPA there is a single distributary namely Nanonangal distributary which is flowing for fulfillment of the irrigational requirements of the farmers. It enters into the LPA boundary of Gurdaspur from two ends (refer map). Along its course it covers many villages within the LPA such as Khojepur, Bariar, Bhoon, Ram Nagar, Pahra, Kotli Nangal, Babowal, Chahia, Hardo Bathwala etc.

Fig No. 51 Nano Nangal Distributoryat Behrampur during rainy season

Fig No. 52:- Distributory is full of weeds, shrubs and domestic refuges instead of water supply near ITI Institute

Fig No. 53:- Distributory is full of weeds, shrubs & domestic refuses instead of water supply at Trimu Road

Fig No. 54:- Distributory is full of weeds, shrubsand domestic refuges instead of water supply at Jail Road

The present status of the distributary is worst. During rainy season, the channel of distriburoty at every cross section is dead within the LPA of Gurdaspur. Instead of water flow, channel is full of weeds, shrubs and domestic refuses. It is not desilted from long period of time, so water course is reduced.

Nabipur Cut Drain

Nabipur cut drain in the town and its LPA, being the major recipient of town's untreated sewage and industrial effluents, hazardous waste, biomedical waste and other domestic solid waste etc cause contamination of underground water, unhygienic, foul smell and dampness. Besides, it also carries storm water during the rainy season.

Along the drain many small scale industrial units exist and functioning and drain became the ultimate recipient of their untreated effluents. Foul smell and odour of the industrial effluents is very strong causing high level of pollution.

Fig No. 55:- Untreated sewage effluent carried by Nabipur cut drain at crossing section of NH-15 Amritsar

Fig No.56:Drain becomes the dumping sites of domestic refuges and biomedical waste at Hargobindpur Mohalla.

Fig No.57:- Upstream (near Pindori, Leo Resort)of drain has relatively lower pollution level than downstream.

Fig No.58:- Upstream (at Tibri Road, near bridge) of drain has relatively lower pollution level than downstream

Within colonies of urban areas of Gurdaspur LPA, just 200 meters away from the drain, the ground water quality of private hand pump is totally deteriorated. The colour, odour, taste and presence of fine suspended particles are the cause of objection for their potable use. The colour of water is deep yellow, odour is strong and suspended particles can be visualized by naked eyes.

Fig. No. 59:- Sample of Groundwater along drain containing objectionable colour, odour, taste & suspended solids.

Affected Zone

On the basis of broad primary survey / observative method, various affected zones such as health affected zone, odour zone and mosquito zone have been calculated. This further is supported by the focus group discussion (FGD) with the affected villages. Various affected zones in terms of their % age of area and population affected within the LPA are summarized in the table no. 55.

As a result there is requirement of sewage treatment plants and further policy decisions to relocate the industrial zones on the right path. Further buffer zones, green areas are required to be provided all along the drains.

Table 54: Nabipur cut drain showing health affected zone, odour zone & mosquito zone

Health Affected Zones			
Health Affected Zones	**Distance from the Source**	**% of area affected**	**% of population affected**
High effected zone	Upto 1000 meters	35.20	34.87
Odour Zones			
Odour Zones	**Distance from the Source**	**% of area affected**	**% of population**
High odour	50 meter	0.82	0.81
Moderate odour	51 to 260 meter	3.44	3.41
Low odour	261 to 325 meter	1.04	1.03
Mosquito Zones			
Mosquito Zones	**Distance from the Source**	**% of area affected**	**% of population affected**
High affected	upto 150 meters	5.26	5.21
Moderate affected	151-450 meters	10.49	10.40
Low affected	after 451-1000 meters	19.30	19.12

Note: Percentage of area and population is based on the total area and population of the LPA.
Odour zone is calculated only for those areas which are affected by drain (downstream from Tibri road to end of LPA).

Ground Water Characteristics:

The study of ground water characteristics has been done by Trade Waste & Effluents Research Unit P.W.D. Public Health Branch, Patiala at four different sampling stations of the Gurdaspur rural area within the LPA. The characteristics of ground water of all four different sampling stations were within permissible limit prescribed by IS 10500, 1991 (clause 3.1) except the colour of water for village Aujla which should not be colourless with minute particles.

Table 55: Analysis report for physic-chemical examination of ground water sample

Test	Acceptable	Causes of Rejection	Pahra	Abul Kher	Jiwanwal	Aujla
			19.07.2008	**18.07.2008**	**18.07.2008**	**01.03.2008**
			Source:- S/Well	**Source:- S/Well**	**Source:- S/Well**	**Source:- T/Well**
Turbidity (NTU)	2.5	10	Nil	Nil	Nil	-
Colour (Units on Pt-Co scale)			Colourless	Colourless	Colourless	Colourless with minute particles
Taste and Odour (Qualitative)			Ordinary	Ordinary	Ordinary	Ordinary
pH	7 to 8.5	5.5 to 9.2	7.2	7.3	7.2	7.55
Conductivity			-	-	-	-
Total Solids mg/l	500	1500	380	220	290	160
Total Alkalinity (as $CaCO_3$) mg/l			272	152	200	108
Total Hardness (as $CaCO_3$) mg/l	200	600	256	144	200	108
Calcium (as Ca) mg/l	75	200	67	32	59	26
Magnesium (as Mg) mg/l	30	150	46	27	35	11
Chloride (as Cl) mg/l	200	1000	12	14	12	16
Sulphate (as SO_4^{-2}) mg/l	200	400	-	-	-	-
Fluoride (as F^{-1}) mg/l	1.0	1.5	0.10	0.10	0.05	0.15
Nitrate (NO_3^{-1}) mg/l	45	45	-	-	-	-
Iron (as Fe) mg/l	0.1	1.0	0.3	0.1	0.1	-
Residual Chlorine (as Cl) mg/l			-	-	-	-
Specific Conductance micromphos/cm			-	-	-	-

Source: Trade Waste & Effluents Research Unit P.W.D. Public Health Branch, Patiala

Key Issues

- The characteristics of the ground water of all four different sampling stations were within permissible limit prescribed by IS 10500, 1991 (clause 3.1) except the colour of water for village Aujla which should not be colourless with minute particles.

Ground water pollution

The degradation of the quality of ground water especially in the areas along the drain is caused due to pollution of Nabipur cut drain. The seepage of polluted water from the drain and the industrial waste has led to the pollution of the ground water sources.

Accordingly, the ground water quality in the town is also not good. Ground water in most of the industrial estate and in few residential areas have become unfit for drinking. In comparison to deep water aquifer, shallow water is seriously affected. The town accordingly faces a severe water pollution problem. In the process, majority of the residents of Gurdaspur especially along the drain and that of other adjoining villages are forced to consume contaminated vegetables and drink unsafe water, thus exposing themselves to the risk of water-borne diseases. Major issues emerging from the ground water pollution have been listed below:-

i) Excessive pumping has lead to depletion of ground water. Persons residing in Abadies in close proximity to Nabipur cut drain and other adjoining villages have been found to be exposed to water borne diseases due to polluted ground water.
ii) Considerable level of ground water pollution have been found to exist upto a depth of 100 ft. along the 1000 meter belt on either side of Nabipur cut drain especially in the urban areas and outside of the town areas (downstream). The quality of water has been found to be unsuitable for supporting aquatic life.
iii) Hand pumps and shallow tube wells drawing water from aquifer are found susceptible to ground water pollution in areas along the drain and areas close to industrial units.
iv) The pollution of the soil and ground water has also been caused by the dumping of the industrial wastes (effluents and solid waste) into the open ground leading to stagnation and the generation of the leachate.
v) The use of polluted ground water for agricultural purposes has also led to the degradation of the soil and presence of heavy metals into soil and vegetable crops grown in the area.

7.1.3 NOISE POLLUTION

Urbanization, industrialization overcrowding, large volume of slow moving mix traffic comprising pedestrians, market goers, concentration of two wheelers, three wheelers, cars, buses, trucks etc. in Gurdaspur town has resulted in increased noise levels in the environment leading to noise pollution. Construction works also plays an important role in causing noise pollution. Street venders, shopkeepers doing business along both sides of road have been found to be most vulnerable to this hazard besides, educational institute, hospitals etc are parts of silence zone are also highly affected. The noise pollution is not limited to the traffic only but use of loud speakers by the religious institutions and during the marriage/festivals

has also added to the quantum of pollution. The use of generators by the residential, commercial and industrial establishments has also added to the pollution level in the town.

Key Issues

- Due to high level of noise, street venders, shopkeepers doing business along both sides of road have been found to be most vulnerable to this hazard.
- Noise pollution is not limited to traffic but use of loud speakers by the religious institutions and the marriage / festivals, has also added to the quantum of pollution.
- The use of generators by the residential, commercial and industrial establishments has also added to the pollution level in the town.
- Thus, it can be observed that town does suffer from the menace of noise pollution. It is, therefore, considered prudent and worthwhile to conduct noise level monitoring at several sites including different areas at different times during day and night so as to assess realistically the problem of noise pollution and plan for appropriate intervention to overcome the problem.

Key Issues for Pollution Management

Following are the main issues for pollution control.

- Insufficiencies in periodic monitoring and assessment of ambient air quality, ambient noise level, surface and ground water quality at various points of industrial, residential and sensitive areas.
- Inadequacy in periodic monitoring, assessment and treatment of waste water effluents and industrial effluents.
- Excessive exhaust from fuel-fired construction equipments and DG sets.
- Excessive vehicular exhausts from traffic and transportation.
- Fugitive dust generated due to shifting of construction materials (cement, sand, bricks and gravel) and from concrete preparation unit while material charging.
- Long term excess withdrawal of ground water cause depletion of ground water table and local hydro geological impacts.
- Higher mineralization due to long term withdrawal of ground water.
- Minor importance on maintenance of traffic units, industrial units and construction equipments causing noise level above the permissible limits.

7.2 FLORA FAUNA & VEGETATION COVER

Trees and Shrubs: The floral species in the Gurdaspur LPA is of varied character and is typical of a tract well suited for the growth of vegetation. Details of more common naturally occurring trees and shrubs in this area are:- Acacia nilotica (kikar), A. modesta (phulai), Bauhinia spp. (kachnaar), Ficus bengalensis (borth), F. racemosa (gular), F. religiosa (papal), Mangifera (mango), Morus (mulberry), Melia azedarach (bakain), Pongamia pinnata (charr) and Toona ciliata (toon) etc.

Cultivated and Propagated Trees: At present, Gurdaspur town has deteriorated conditions for intensive cultivation of various kinds of plants and trees. Many such trees are found in fields, road side and even backyards of houses. In the plains, large scale afforestation programme has been undertaken by the Forest Department. Canal banks, P.W.D. roadsides, strips along the railway lines and station yards are also included by the Forest Department in their afforestation programme. Where water facilities exist, shisham, mulberry and eucalyptus are being planted. Willow (Salix sp.) and jaman are planted in water-logged areas. In the kaller area, Kikar (Acacia nilotica), Prosopis and eucalyptus have been planted.

Besides mango and mulberry, other fruit trees cultivated in the area include various members of the citrus group, viz. sangtra (Citrus aurantium), mitha (Citrus limetta), khatta (Citrus medica), nimbu (Citrus acida), chakotra (Citrus decumana),etc. and loquat (Eriobotruya japonica), kela (Musa paradisiacal), amrund (Psidium guava), anar (Punica grantum) and nashpati (Pyrus communis). In some of the chhambs (swamps) area of LPA, the growth of singhara is luxuriant, and both fruit and root of the plant are eaten.

List of Trees Recommended by the Chief Town Planner vide letter no. 4473-91 CTP(PB)/SP-479 dated 5/6/2009

It was recommended to plant various types of trees along the major roads, railway lines, canals, distributories and other vacant government lands etc. The list is given in annexures.

Grasses: Among the grasses most prevalent in the LPA of Gurdaspur are Saccharum bengalense (S.munja) (kans), Saccharum spontaneum (dab), and Cynodon dactylpn (khabbal)

Weeds: Among the weeds of crop plants and waste-land plants, Calotropis (ak) and Asphodelus (bukhat, wild leek) are distributed widely in the LPA of Gurdaspur. Ipomea fisrtula, in recent years, has been extensively used for hedges.

Fauna: The native animal species and other fauna species diversity are studied in LPA of Gurdaspur. It includes avian fauna, mammals, reptiles, fisheries and domestic animals.

Avian Fauna: Of the game birds described in Hume and Marshall's "Game Birds of India",

Reptiles: Reptiles commonly observed included cobra, the karait, the Russell's viper, and the small keel-scaled, viper *(Echis carinata),* echis. The canal contains many fresh-water snakes but they are all harmless.

Fishes: The different varieties of fish are: *Goonch (Bagarius begarius), Bachwa (Clupisoma garua), Bachwa (Eutropiicyhthys vacha), Mullee (Wallago attu), Singhi (Heteropneustes fossilis), Shinghari (Mystus aor or Mustus seenghala), Keenger (Mystus cavasius or Mystus vittatus), Khaga (Rita rita), Kalehan (Labeo calbasu), Rohu or Dhambra (Labeo rohita), Siriha (Labeo gonius), Gid (Labeo dero), Butal (Labeo dyocheilus), Mahanseer (Tot tor to Tor Putitora), Bhangan (Labeo microphathalmus), Mrigal (Cirrhina mrigala), Sunni (Cirrhina reba), Thail or Thaila (Catla catla), Makni (Amblypharyngondon mola), Moh or Butt (Notopterus), Pari (Notopterus chitala), Sai; pr Sol (Channa marulius), Daulla (Channa punctatus, Dauli (Channa gachua), Karrar or Saul (Channa strioatus).*

Domestic Animals: Domestic animals like cow, buffaloes, goat, donkey, dogs, camels and mules are found.

Key Issues for Flora, Fauna and Vegetation Cover:

- The town area is covered with crops, grass, trees, industries, tourist places, structures and various objects. During construction, the grasses and the shrubs became cleared for accommodating the different facilities. Therefore cause negative impact within the town.
- Industrial area is moderate in floral species, including agricultural crops and commercial plantations.
- Dust generation cause negative impact on these species in immediate vicinity, which also cause secondary impacts on terrestrial and avi-fauna.
- The diversity and density of faunal species within the town area is very low. There are no wildlife sanctuaries or fragile ecosystems near around the town area.

As per the guidelines of MoEF, 33 % of total area must have vegetative cover. But the Gurdaspur town does not fulfill the desired percentage of vegetative cover

7.3 RAIN WATER HARVESTING

Ground water exploitation is inevitable in Gurdaspur and its LPA. However, the groundwater potential is getting reduced due to urbanization, industrialization and intensive agricultural practices. All these activities affects groundwater hydrology due to **i**ncrease in water demand,

more dependence on ground water use, over exploitation of ground water, increase in run-off, decline in well yields and fall in water levels, reduction in open soil surface area, reduction in infiltration and deterioration in water quality.

In Punjab the Department of Soil &Water Conservation started the work of rainwater harvesting in the year 1986-87 on the pattern of famous SukhomajriProject. The First Earthen Rainwater Harvesting structure was constructed in village Perch in Ropar district having a catchment area of only 8 hectares. Over the time more than 250 waterharvesting structures of different kind have been constructed in Ropar and Nawanshahar. Lot of water bodies are there within LPA which requires to be conserved and preserved. Also there is a trend that ponds of villages are being filled and encroached and further scope of collection/accumulation of water get reduced so there is an urgent need to think about all water bodies/ponds which could be part of rain water harvesting process.

Existing status

In Gurdaspur town and its LPA concept of Rain Water Harvesting System has not been adopted satisfactorily due to the lack of vision, negligence and unawareness among the Governmental system and people. Secondly the concept of Groundwater Recharge Technology has also not been adopted in the new private building constructions to raise the level of declined water table. As per official discussion with concerned authorities of Improvement Trust, they quoted that a few Government Buildings in the town have adopted the Groundwater Recharge Technology but still this practice is not adopted frequently in the new building codes till date. It should be made mandatory in large buildings to adopt this technology. It should be made a part of Building Bye Laws and Development Control Regulations.

Key Issues

Following are the key issues for water body conservation in Gurdaspur town.

- Discharge of untreated industrial effluents into drain, ponds and low laying area.
- Discharge of untreated domestic effluents into drain, ponds and low laying area
- Leaching from dumps of municipal solid waste and contaminate the ground water table
- Unplanned and mismanaged installation of industrial units for the water supply.
- Insufficient rain water harvesting system in town and recharge pits and check dams
- Unawareness among the residents regarding water conservation
- Lack of watershed structures for ground water recharge

- Falling/encroachment of village ponds.
- Lack of rain water harvesting and recharge technology

7.4 DISASTER MITIGATION AND MANAGEMENT ISSUES

The whole of Gurdaspur district falls in seismic zone IV. Gurdaspur district is situated in a region which falls under high seismic risk zone. The Great Himalayan Boundary fault zone, which runs from Assam to Kashmir and has been the scene of some of the great Indian earthquakes, runs to the north of this district. It has also experienced occasionally the fringe effect of the earthquakes originating in the Karakoram and Hindukush region.

Disasters have always co-existed with civilization. With technological advancement, development initiatives resulted in the creation of lot of infrastructure and permanent assets. Gradually material development detached man from nature on one hand, and increased vulnerability of the human population, on the other. The progressive increase in loss of life, property and deleterious effect on environment due to disaster moved the international community to look at disaster management in a new perspective, which transcends international barriers, anticipates possible threats and enables tacking of disaster from the pre-stage. Disaster can be classified as natural, industrial and manmade disasters. Natural disaster includes earthquake, flood, cyclone, landslide, tsunami, and drought. Industrial disaster includes fire, chemical hazard. Manmade disaster includes accidents.

Key Issues

Earthquake: Gurdaspur region falls in seismic zone IV as per seismic zone map of Indian Standard IS: 1893. Therefore, at the time of designing and construction of buildings, the design parameters shall be considered in compliance with IS 1893 with taking due consideration of prevailing housing constructions and development guidelines and National Building Code.

Flood: Nocare has been taken in designing storm water drains so as to prevent flooding at the time of heavy rain. Rainwater harvesting should be done throughout the town, which would further to reduce the risk of local flooding.

High Winds: As far as the wind hazard is concerned, design wind in the entire region is 47 m/s (169 km/h) as per IS 875 (part 3), which attains this value occasionally. Building in this region should be designed keeping in mind the above wind speed.

Fire Hazard: Urban areas are threatened by fire hazards, due to the following main reasons.

- Non- implementation of fire safety norms as part of building byelaws
- Illegal and loose electric connections

- Sub-standard wiring and over loading of electricity system
- Illegal storage and hazardous commercial activities
- Inadequate availability of special fire fighting equipments

CHAPTER 8

FINANCIAL STATUS

8.1 MUNICIPAL COUNCIL

Municipal finances of the Municipal Council Gurdaspur have been reviewed for the last five years, from 2003-04 to 2007-08. The items of both receipts and expenditure are classified under revenue and capital accounts as per their sources and uses.

The revenue income of Municipal Council has grown to a level of Rs. 724 lakhs in FY 2007-08 from Rs 369.78 lakhs during FY 2003-04, registering a CAGR of 18 percent, while revenue expenditure increased at a CAGR of 22 percent. It shows a moderate financial condition of Municipal Council. Municipal Council has consistently maintained a revenue surplus of an average 41 percent of its revenue income. However, the pressure of capital expenses on the revenue account is increasing year after year. This situation demands expense control measures and planned capital investments on the part of Municipal Council.

Table 56: M.Cl Financial Status at a Glance

Item	2003-04	2004-05	2005-06	2006-07	2007-08	CAGR
Revenue Account	**Rs in Lakhs**					
Opening balance	136.11	126.54	197.03	145.64	746.19	
Income	369.78	418.56	625.17	516.10	724	18
Expenditure	296.86	242.91	499.03	509.98	650	22
Surplus	209.03	302.19	323.17	151.76	820.19	41
% of Revenue Income	57	72	52	29	113	65
Capital Account						
Income	296.91	0.00	66.23	247.52	96.61	(24.47)
Expenditure	10.83	30.08	32.92	22.52	90.00	69.78
Surplus/Deficit	286.08	(30.08)	33.31	225	6.61	(61.01)

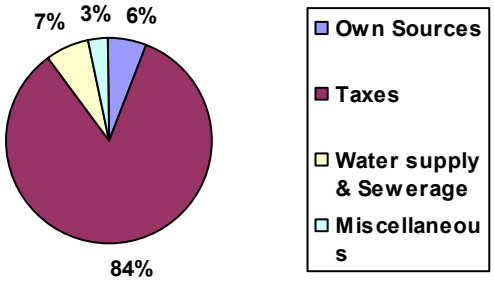
Source: M.Cl. Budget 2003-04 to 2007-08

The capital income of Municipal Council comprises loans, Grants and internal transfers from revenue to capital account for utilization towards asset creation. It is observed that external sources in form grants contributing in the capital income during the review period.

The following sections provide an in-depth review of the revenue account, in order to assess the Municipal fiscal status and to provide a base for determining the potential of each of the sources and the ability of Municipal Council to sustain the extent of planned investments identified under the Master Plan.

REVENUE ACCOUNT

Fig no. 60:Revenue Income MCl



The revenue account comprises two components - revenue income and revenue expenditure. Revenue income comprises internal resources in the form of tax and non-tax items. External resources constitute of shared taxes/transfers and revenue grants from the State and Central Government. Revenue expenditure comprises expenditure incurred on salaries; operation & maintenance cost; contributions and donations; and debt servicing.

REVENUE INCOME

The revenue sources of Municipal council can be broadly categorized into Own sources, Taxes, Water & Sewerage Service charges etc. The source wise income generated during the review period is shown in Table 58.

Table 57: Source-wise Revenue income of MCl

Financial year	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	CAGR	%Share
Own sources	23.67	21.01	28.03	22.34	39.2	13.4	6
Taxes	313.6	360.74	510.52	461.38	592.5	17.2	84
Water supply & sewerage	24.98	36.81	45.08	35.06	60.00	24.4	7
Miscellaneous &Unclassified	7.53	0.00	41.53	7.32	32.30	44	3
Total	369.78	418.56	625.17	516.10	724	**18.2**	

Source: MCI Budget 2003-04 to 2007-08

Own sources

Own sources income includes income from Revenue fees (slaughter house fees, copying fees, building application fees etc), Revenue. Service account, income from Tehbazari etc. Income from own sources is 6% of the revenue income which shows that sources are not sufficient to cover the expenses of council so it depends highly on external resources for its operations.

Taxes

Themajor source of income for MCl is taxes. It is increasing at a rate of 17.2% and contributing about 84% of total revenue income.

Table 58: MCl Income from Taxes

Financial year	2003-04	2004-05	2005-06	2006-07	2007-08	% Share	CAGR
Octroi	261.48	318.62	342.23	297.23	372.00	71	9.21
House Tax	38.48	31.62	34.48	35.52	70.00	9.3	16.13
Show Tax	0.15	0.15	0.15	0.13	0.20	0.03	7.45
Entertainment Tax	0.04	0.05	0.04	0.05	0.10	0.01	25.74
Advertisement Tax	0.15	0.17	0.12	0.14	0.20	0.03	7.45
Additional Excise duty	13.30	10.13	133.50	128.31	150.00	19.4	83.25
Total	313.6	360.74	510.52	461.38	592.5		17.2

Source: MCI Budget 2003-04 to 2007-08

House Tax

The revenue income from House tax has grown to a level of Rs. 70 lakhs in FY 2007-08 from Rs 38.48 lakhs during FY 2003-04, registering a CAGR of 16.13 percent,

Octroi

Another source of income for Municipal Council is octroi registering a CAGR of 9.21 percent.

Water Supply and Sewerage services

It is observed that taxes from water supply and sewerage services, contributing 7 percent of total revenue income during review period.

Non Tax Revenue (Miscellaneous & Unclassified)

Non-tax sources include all non-tax revenues such as fees and charges levied. These sources include income from building license fee, development charges, trade license fee, births and death certificate, income from municipal properties and other fees and fines. The non-tax income of Municipal Council accounts for about 3 percent of its revenue income and has registered a CAGR of 44 percent.

REVENUE EXPENDITURE

The revenue expenditure of Municipal Council has been analyzed, based on expenditure heads. These have been broadly classified into two categories. First is Establishment expenditure and second is Contingency.

The application of funds by account head is presented in Table 4, which indicates that the overall revenue expenditure registered a CAGR of 26 percent against the CAGR of 18 percent of revenue income.

Fig no. 61 Revenue expenditure M.Cl

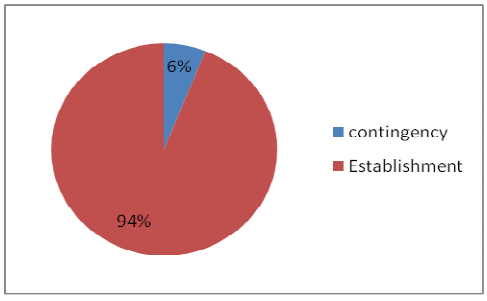


Table 59: Application of Funds by Head of Account of M.Cl

Financial Year	2003-04	2004-05	2005-06	2006-07	2007-08	% share	CAGR
	Rupees In Lakhs						
a) Establishment	137.60	290	267.32	267.83	355	94	27
b) Contingency	10.83	24	15.91	16.01	18.50	6	14.3
Total	**148.43**	**314**	**283.23**	**283.84**	**373.5**		26

Source: MCI Budget 2003-04 to 2007-08

CAPITAL ACCOUNT

In general, the capital income of Municipal council comprises of loans, grants and contributions and transfers from revenue surplus. Capital grants contribute the major part in Capital income with 94 percent of total capital receipts during the review period, and Loans for the rest.

Fig no. 62: Capital Account MCl

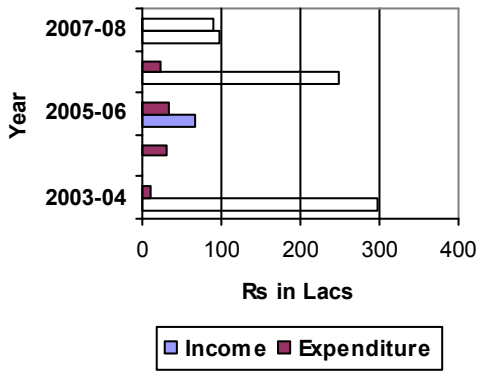


Table 60: Details of Capital Account

	2003-04	2004-05	2005-06	2006-07	2007-08	% Share	CAGR
Capital Income	**Rs in Lakhs**					**Cap.Inc.**	
Capital Grants	296.91	0.00	66.23	227.52	76.61	94	(28.7)
Loans	0.00	0.00	0.00	20.00	20.00	6	0
Total	296.91	0.00	66.23	247.52	96.61		(24.47)
Capital Expenditure							
New Drains	0.00	2.86	3.66	1.93	3.00	6.1	0
Development of roads	0.00	1.19	3.64	0.00	2.00	4	0
New Sewerage	0.00	1.92	2.16	0.86	0.00	3	0
Construction of streets	4.00	5.65	7.07	2.13	0.00	10.0	(100)
Sanitation	0.00	0.00	2.76	12.74	0.00	8.3	0
Others	6.83	18.46	13.63	2.73	85	69	88
Total	10.83	30.08	32.92	22.52	90.00		70

Source: M.Cl, Gurdaspur

The figures presented in Table 61 indicates that about 26 percent of Municipal Council's capital expenditure during the review period is met from its capital receipts. The rest is contributed by the revenue/municipal surpluses.

In the overall municipal finance system, it is observed that Municipal Council has generated 84% of revenue through income through Taxes (Octroi, Excise duty etc) and 94% of total capital income comes from Capital Grants during last five years and maximum expenditure is incurred on general administration i.e. 94% of total revenue expenditure and just 69% of total capital expenditure is incurred on development works.

8.2 IMPROVEMENT TRUST

The finances of the Improvement Trust have been reviewed for the last five years, commencing from the financial year 2003-04 to 2007-08. The items of both receipts and expenditure are classified under revenue and capital accounts as per their sources and uses.

The revenue income of Improvement Trust has grown to a level of Rs. 128. lakhs in FY 2007-08 from Rs 87.08 lakhs during FY 2003-04, registering a CAGR of 10.1 percent, while

revenue expenditure increased at a CAGR of 8.00 percent. It projects a moderate financial condition of Improvement trust. Revenue account registers revenue surplus during review period at a reducing CAGR of (2.19.). However, the pressure from capital expenses on revenue account is increasing year after year. It demands to control the capital expenditure and to implement some control measures for planned capital investments on the part of Improvement Trust.

Table 61: Improvement trust Financial Status at a Glance

Item	2003-04	2004-05	2005-06	2006-07	2007-08	CAGR
Revenue Account	**Rs in Lakhs**					
Opening balance	145.55	135.55	126.19	209.77	99.37	
Income	87.08	53.57	90.17	90.17	128.00	10.1
Expenditure	32.46	35.54	36.88	36.88	44	8.00
Surplus	200	154	179	179	183	(2.19)
% of Revenue Income	230	287	199	199	143	(11.20)
Capital Account						
Income	216.43	293.77	174.12	1774.12	321.00	10.35
Expenditure	217.89	278.15	140.31	140.31	354.00	12.89
Surplus/ Deficit	(1.46)	15.62	33.81	33.81	(33)	118

Source: Improvement Trust Budget 2003-04 to 2007-08

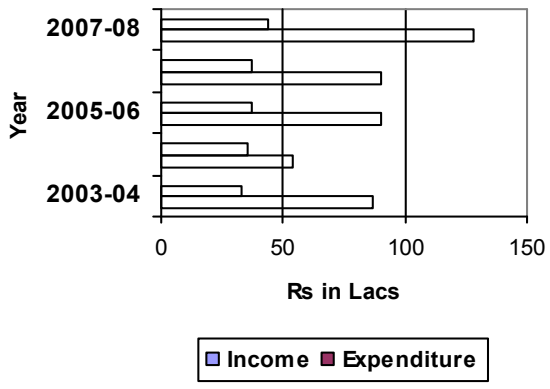
The capital income of Improvement Trust comprises loans, Grants and internal transfers from revenue to capital account for utilization towards asset creation. It is observed that external sources in form grants contributing in the capital income during the review period.

The following sections provide an in-depth review of the revenue account, in order to assess the fiscal status and to provide a base for determining the potential of each of the sources and the ability of Improvement Trust to sustain the extent of planned investments identified under the Master Plan.

REVENUE ACCOUNT

The revenue account comprises two components - revenue income and revenue expenditure. Revenue income comprises internal resources in the form of tax and non-tax items. External resources constitute of shared taxes/transfers and revenue grants from the State and Central Government. Revenue expenditure comprises expenditure incurred on salaries; operation & maintenance cost; contributions and donations; and debt servicing.

Fig no. 63: Revenue Account IT



REVENUE INCOME

Fig no. 64: Revenue Income IT

The revenue sources of Improvement Trust can be broadly categorized into own sources, securities etc. The source wise income generated during the review period is shown in Table 63.

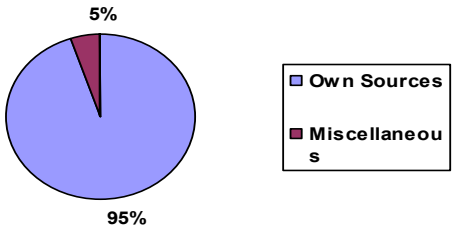


Table 62: Source-wise Revenue income of IT

Financial year	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	CAGR	%Share
Own sources	81.3	46.74	85.67	88.29	124	11.13	95
Securities	0.00	0.00	0.00	0.00	0.00	0	0
Miscellaneous &Unclassified	5.78	6.83	4.50	1.88	4.00	(8.79)	5
Total	87.08	53.57	90.17	90.17	128.00	**10.10**	

Source: Improvement Trust Budget 2003-04 to 2007-08

Own sources

Own sources income includes income from fines & penalties, fees, interest on deposits, income from earnest money, and income from cess charges etc.. Income from own sources is 95% of the revenue income.

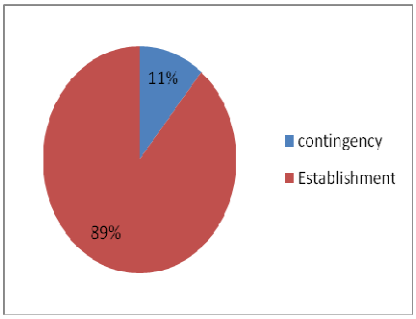
Non Tax Revenue (Miscellaneous & Unclassified)

Non-tax sources include all non-tax revenues such as fees and charges levied. These sources include income from recovery of advances, suspense account etc. The non-tax income of Improvement Trust accounts for about 5 percent of its revenue income and but it goes on reducing at a CAGR of 8.79 percent.

REVENUE EXPENDITURE

Fig no. 65: Revenue Expenditure IT

The revenue expenditure of Improvement Trust has been analyzed based on expenditure heads. These have been broadly classified into in Establishment expenditure and contingency.



The application of funds by account head is presented in Table 64, which indicates that the overall revenue expenditure registered a CAGR of 8.00 percent against a CAGR of 10.1percent of revenue income.

Table 63: Application of Funds by Head of Account of Improvement Trust

Financial Year	2003-04	2004-05	2005-06	2006-07	2007-08	% share	CAGR
	Rupees In Lakhs						
Establishment	29.72	32.11	32.69	32.69	39	89	7.02
Contingency	2.74	3.43	4.19	4.19	5	11	16.22
Total	32.46	35.54	36.88	36.88	44		8.00

Source: Improvement Trust Budget 2003-04 to 2007-08

CAPITAL ACCOUNT

In general, the capital income of Improvement Trust comprises of loans, grants and contributions and transfers from revenue surplus. Capital loans contribute the major part in Capital income with 58 percent of total capital receipts during the review period and sale proceeds for the rest.

Fig no. 66:Capital Account IT

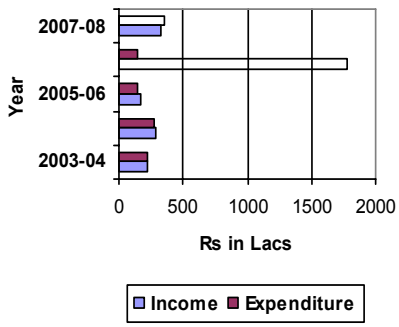


Table 64: Details of Capital Account of Improvement Trust

	2003-04	2004-05	2005-06	2006-07	2007-08	% Share	CAGR
Capital Income	**Rs in Lakhs**					**Cap.Inc.**	
Capital Grants	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Loans	0.00	0.00	0.00	1600	0.00	58	0.00
Sale Proceeds	216.43	293.77	174.12	174.12	321.00	42.4	10.35
Total	216.43	293.77	174.12	1774.12	321.00		10.35
Capital Expenditure							
Development works	183.44	234.57	107.28	107.28	200.00	74	2.18
Refund of Earnest Money	24.24	4.91	30.09	30.09	79.00	15	34.36
Purchase of land	0.30	0.37	0.00	0	0.00	0.05	(100)
Legal Expenses	0.00	0.00	0.10	0.10	4.00	0.37	0
Repayment of Loan	5.87	34.35	0.00	0.00	67.00	9.48	83.80
Street light	4.04	3.95	2.84	2.84	4.00	2	(0.24)
Total	217.89	278.15	140.31	140.31	354.00		12.89

Source: Improvement Trust Budget 2003-04 to 2007-08

The figure presented in Table 65 indicates that about 41 percent of capital expenditure during the review period is met from its capital receipts

On an average, over the past five years, the majority of capital expenditure has been directed towards Development works which accounted for 74 percent of the total investment. The development works include sectors like housing and commercial areas.

In the overall municipal finance system, it is observed that Improvement Trust has generated 95% of revenue income from its Own sources (Fees and fines, interest on deposits etc) and 58% of total income comes from loans during the review period which means pressure of capital expenses on revenue account is increasing year after year. And maximum expenditure is incurred on general administration i.e. 89% of total revenue expenditure which shows a quiet high amount of revenue income is spent over establishment and 74% of total capital expenditure is incurred on development works.

CHAPTER 9
VISUALIZING THE FUTURE

As study part of Gurdaspur Local planning is done based upon which SWOT has been worked out in terms of strengths, weakness, opportunities and threats. Further, all the issues related to different sectors have been worked out.

Now it becomes important to project the future population that would be the basic for working out the land use and infrastructure requirements. The population is the prime factor of the judgment for the development plan, since it defines the quantum of the existing extents for the development and future requirement by the needed projections. The past population trends and the future growth pattern of the population defines the needs and the extents of the Infrastructure development and development of the habitat.

9.1 POPULATION PROJECTION

For projecting the future population of the Gurdaspur Local Planning Area, previous decadal trend has been taken in to account. The population projections for LPA has been done by 5 methods both for M.Cl and LPA villages separately .The methods used for projecting population are:

1. Arithmetic Progression Method
2. Geometric Progression Method
3. Incremental Increase Method
4. Graphical Projection Method
5. Exponential Method

The population projections done based upon the existing population available in Census of India 2001.Further it is also projected to the existing year i.e (2010) and further the projections are done for 2011, 2021 and 2031 respectively. Based upon all the method, C.A.G.R is worked out. For example, in Arithmetic Progression method CAGR comes out to be 1.31 and in Geometric Progression method CAGR is worked out to be 2.21.

The population projection for Gurdaspur M. Cl. is as follows:

Table 65: Population Projection for Gurdaspur M. Cl. (2001-2031)

S.No.	Method	2001	2010	2011	2021	2031	CAGR
1	Arithmetic Progression Method	68441	76596	78635	88829	99023	1.31
2	**Geometric Progression Method**	68441	81522	85166	105978	131876	2.21
3	Incremental Increase Method	68441	78830	81738	98138	117641	1.98
4	Graphical Projection Method	68441	85000	87500	115000	150000	2.99
5	Exponential Method	68441	86264	91402	122067	163019	3.36

The above population projections have been based on the following assumptions:

- Five methods have been taken in order to get the accurate projections based on that for future years.
- For Gurdaspur Municipal Council, the averages of Compounded Annual Growth Rate (CAGR) of Graphical, Exponential and Geometric Progression Method come close to the average of CAGR of the population trend during the past decades (1971-2001), i.e. 2.6. But the Graphical Projection Method gives a very rough idea of population increase, whereas Exponential Method is showing a higher projection than that of Graphical. So Geometric Progression Method seems to be appropriate for projecting population for the town. Accordingly, the projections came up according to this method have been considered for use. The same can be said for villages of LPA as they have a moderate increase in population.

Thus, Geometric Progression Method has been selected for the population projection of Gurdaspur Municipal Council. Similarly, population projection for LPA villages has been calculated according to the Geometric Progression Method. Thus, the total projected population of Gurdaspur LPA for 2031 comes out to be 203939.

Table 66: Population Projection for Gurdaspur LPA

Level of settlements	2009	2011	2021	2031
Gurdaspur (MCl)	81522	85166	105978	131876
Villages (LPA)	54394	55803	63414	72063
Projected population for LPA	135916	140969	169392	203939

Further, it is assumed that villages will grow at their own end to some extent in their respective surroundings. Therefore, the projected population of M.Cl Gurdaspur is taken up for working out the land requirement as well as infrastructure requirements. The requirements of various sectors are discussed below

9.2 PHYSICAL INFRASTRUCTURE REQUIREMENTS

9.2.1 WATER SUPPLY

Regarding water supply, the existing figures have been taken, along with the standards assigned for them. Accordingly, the future demand and requirements have been calculated. The per capita water supply of 2010, i.e. 100 litres has been taken into consideration. The present supply thus comes out to be 8.18 MLD. Accordingly, the demand comes to 11.5 MLD for 2011 and 17.8 MLD for 2031, having a requirement of 3.3 and 3.5 MLD respectively.

Table 67: Water Supply requirements for Gurdaspur M.Cl (2031)

Service head		Existing/ desired level			Service Levels, Demand and Gaps							
							By Year 2011		By Year 2021		By Year 2031	
		Indicator	Current level	Desired level	Unit	Existing (2009)	Demand	Additional requirements	Demand	Additional requirements	Demand	Additional requirements
1	Daily Supply	Per-capita supply (lpcd)	100	135	MLD	8.18	11.5	3.3	14.3	2.8	17.8	3.5
2	Treatment	Treatment capacity against supply (%)	0.00	100	MLD	0.0	11.5	11.5	14.3	2.8	17.8	3.5
3	Distribution Network	Distribution Network length against road length (%)	115.63	85	KM	56.0	69.5	13.5	86.5	17.0	107.6	21.1
4	Elevated Storage capacity	Elevated Storage capacity w.r.t Supply (%)	11.12	33	ML	0.9	3.8	2.9	4.7	0.9	5.9	1.2
5	Refurbishment of old distribution network				KM							
6	Metering System/ Installation of water meters				Nos	5620	15485	9865	19269	3784	23977	4709

There is no Water Treatment Plant existing in the town. So the total amount of water supplied has to be treated and thus the figures here are almost the same as that of the water supply. While comparing the length of water supply with that of the road length, the network boasts of a healthy state, i.e. 115.63% in comparison to the standard of 85%. By 2031, 107.6 KM of water supply system will be required. The demand in case of Overhead Supply Reservoir (OHSR) is of 5.9 MLD for 2031, where as current level is 0.9 MLD. Lastly, in case of Water Meters, 5620 meters are installed till 2010 while 23977 meters in total will be required for the population of 131876, thus showing a total requirement of 18357.Further it is assumed that the overall strategies of Master Plan could be such that the additional requirement for water supply sector in terms of supply, storage, network shall be fulfilled in all respect by year 2031.

9.2.2 SEWERAGE

With respect to the increase in population of the town, the requirement in sewerage sector has been calculated in different sectors of sewerage system as shown in table-

Table 68: Projections and Requirements of different aspects of Sewerage System

Service head		Existing/ desired level			Service Levels, Demand and Gaps							
							By Year 2011		By Year 2021		By Year 2031	
		Indicator	Current level	Desired level	Unit	Existing (2009)	Demand	Additional requirements	Demand	Additional requirements	Demand	Additional requirements
1	System Coverage/ Collection System	Collection Length against Road Length (%)	117.7	100	KM	57	81.76	24.76	101.74	19.98	126.6	24.86
2	Treatment	Treatment capacity against supply (%)	0.00	100	MLD	0	9.20	9.20	11.45	2.25	14.24	2.80
3	Intermediate pumping stations, Pumping machinery & Transmission mains		---	---	MLD	1.84	8.18	6.34	10.17	2.00	12.66	2.49

In coverage aspect, the existing length of sewerage system is 57 KM, thus making a figure of 117.70% with respect to the road length in the town in comparison to the desired level of 100%. This shows a better condition. By 2031, 126.60 KM length of sewerage system will be required thus showing a need of 69.6 KM of additional line to be laid down by then. Since there is no Sewerage Treatment Plant (STP) in the town, there is no treatment of the sewerage generated. By 2031, 14.24 MLD of sewerage water has to be treated which is calculated as 80% of the water supply. Thus, any STP to be installed has to be of higher than 14.24 MLD. Though there does not exist any STP, some of the sewage water is pumped out through pumping stations. The length of sewage transmission lines is 1.84 KM. By 2031, almost 10% of 126.60 KM length of the sewerage system, i.e. 12.66 KM will be required. Further, it is assumed that the overall strategies of Master plan could be such that the additional requirement for sewerage sector in terms of network coverage shall be fulfilled in all respect by year 2031.

9.2.3 SOLID WASTE MANAGEMENT

Regarding solid waste management, all aspects have been taken in to consideration, like the total amount of waste generated, system of waste collection and number of vehicles used for that purpose.

Table 69: Projections and Requirements of Solid Waste Management System

Service head	Existing/ desired level			Service Levels, Demand and Gaps							
				Unit	Existing (2010)	By Year 2011		By Year 2021		By Year 2031	
	Indicator	Current level	Desired level			Demand	Additional requirements	Demand	Additional requirements	Demand	Additional requirements
Waste generation	Per-capita waste generation (gpcd)	385	500.00	MT	31.40	42.58	11.18	52.99	10.41	65.94	12.95
Waste Collection	Collection performance (%)	100	100.00	MT	31.40	42.58	11.18	52.99	10.41	65.94	12.95
Vehicle Utilisation	Trips per Vehicle per day	3.00	2.50		3.00						
Primary collection	Nos. of Hand carts/Wheel Bor.ows (including rickshaw rehris)			Nos	173	100	0	125	0	155	0
Secondary collection	Container Bins			Nos	14	71	57	88	17	110	22
	Dual loaded dumper placers			Nos	2	9	7	11	2	14	3
Waste transportation	No of Transport Vehicle (including tractor/trolley)			Nos	2	6	4	7	1	9.00	2
Disposal	Composting yard			Acre	15.00	20.34	5.34	25.31	4.97	31.50	6.19
Slums/ Sanitation/ Public conveniences	Slum popl. per seat of Public convenience		90.00	Seat	0	133	133	165	32	205	40

The waste generation in future in 2031 will be 65.94 metric tonnes taking a standard of 500 gram per capital daily of solid waste generation. The present situation is 385 g.p.c.d for the town. In terms of vehicles used for primary waste collection, there is no gap existing and the present vehicles are adequate to cater the purpose till the planning stage of 2031.

However, the deficit exists in secondary collection in terms of containers, where at present the containers are only 14 and in comparison to that the demand of such facility will be 110 in 2031, with an increase in demand by 96 bins. 14 Dual Loaded Dumper Placers will be needed by 2031 in comparison to present 2.

The existing landfill site is having an area of 15 acres which is sufficient for present, but in 2011, additional area of 5 acres will be needed. It is assumed that the overall strategies of Master plan could be such that the additional requirement for solid waste management in terms of waste collection, vehicles for waste collection shall be fulfilled by year 2031.

9.2.4 STORM WATER DRAINAGE NETWORK

The town is having no system for storm water drainage network. So the demand for such network is there, and has been calculated till 2031. The total length of drain required by 2031 comes out to be 126.60 KM. The total length of the drain to be come up is proposed as closed pucca drains. The details have been shown in the following table:

Table 70: Projections and Requirements of different aspects of Drainage System

Service head		Existing/ desired level			Service Levels, Demand and Gaps							
							By Year 2011		By Year 2021		By Year 2031	
		Indicator	Current level	Desired level	Unit	Existing (2010)	Demand	Additional requirements	Demand	Additional requirements	Demand	Additional requirements
1	Network reach	Road length covered with drains (%)	0	100	KM	0	81.76	81.76	101.74	19.98	126.6	24.86
2	Network – type	Kutcha open (%)	0	0								
		Pucca open	0	0								
		Pucca closed	0	100	KM	0	81.76	81.76	101.74	19.98	126.6	24.86
		Total network length			KM	0	81.76	81.76	101.74	19.98	126.6	24.86
3	New	New Pucca closed drains			KM			81.76		19.98		24.86

9.2.5 TRAFFIC AND TRANSPORTATION AND STREET LIGHTS

The traffic and transportation provides the connectivity between the different landuses/parts of an area, and thus are vital to know for the future scenario of that area. The total municipal road length comes out to be 48 km, with per capita availability of 0.59 m against the standard of 0.96 m. The demand of road length according to the standards is projected as 127 km. The average road width is 7 m with respect to all types of roads available within the town, which is fine. These roads are divided into 3 types, with concrete forming the major share, i.e. 37 km out of 48.43 km. The other two are Bituminous (9.03) and Brick Paved (2.40) Roads. The projections are made taking into view that only two types of roads should be built with more share to bituminous roads (85% of total roads), and the rest 15% to concrete roads. Accordingly, 107.61 km of roads is to be built under bituminous roads and 18.99 km under concrete. As the concrete roads existing are already more than the projected, so the need of constructing new roads is only for bituminous roads. In total, 98.58 km of bituminous roads have to be constructed by 2031.

With regard to the street lights, the average spacing between two lamp poles comes to 14m, which is calculated by dividing the total length of roads by the total no. of street lights. By 2031, 4220 street lights will be required in comparison to 3559 presently. Also, the share

under different types of lights will be changed with only high power lamps and tubelights sharing the total lights. By 2031, only high power lamps are proposed on city roads, with the replacement of tubelights with high power lamps by 2011. There is also some increase in case of high mast lamps. Thus, the new installations to be come up till 2031 will be only related to high power lamps and high mast lamps.

Table 71: Projections and Requirements of different aspects of Traffic and Transportation

Service head		Existing/ Desired Level			Service Levels, Demand and Gaps							
							By 2011		By 2021		By 2031	
		Indicator	Current level	Desired level	Unit	Existing (2009)	Demand	Additional requirements	Demand	Additional requirements	Demand	Additional requirements
1	Degree of Connecti-vity	Per-capita road length (mt)	0.5	0.9	KM	48	82	33	102	20	127	25
3	Road surface	Concrete (%)	76.4	15	KM	37.0	12.2	0	15.2	0	18.9	0
		Bituminous (%)	18.6	85	KM	9.0	69.5	60.4	86.4	16.9	107.6	21.1
		WBM (%)	0	---		0	---	---	---	---	---	---
		Earthen (%)	0	---		0	---	---	---	---	---	---
		Brick Paved (%)	4.9	---	KM	2.4	---	---	---	---	---	---
4	Total municipal road length				KM	48.4						
	Up-gradation	WBM to CC			KM	0		0		0		0
		WBM to BT			KM	0		0		0		0
		Earthen to BT			KM	0		0		0		0
	New formation	CC			KM	0		0		0		0
		BT			KM	0		60.4		16.9		21.1
5	Improvements to identified major roads	Widening & Strengthening, utility shifting, beautification										
		ROBs/ Flyovers	0		LS							
6	Street lighting	Spacing between lamp poles (mt)	14	30	Nos	3377	2725	-	3391	14	4220	829
		Tube lights (%)	63.7	30	Nos	2151	818	-	1017	-	1266	-
		High power lamps (%)	5.1	70	Nos	182	1908	1726	2374	466	2954	580
		energy saver				171						
		Sodium lamp and C.Fl 23 watt(%)				11						
		ordinay Bulb(%)				1044						
		High mast lamps (%)			Nos	0	3	3	3	1	4	1
	Replacements	Tube lights with high power lamps			Nos	0		1333				
	New installations	Tube lights			Nos	0		-		-	-	-
		High Power Lamps			Nos	0	-	392	-	859	-	580
		High mast lamps			Nos	0		3	-	1	-	1
7	Traffic Mgmt	Junction improvements										

9.3 SOCIAL INFRASTRUCTURE REQUIREMENTS

9.3.1 EDUCATION

The Demand supply gap analysis describes the existing education facility in town. The existing senior secondary school in town are 10 and there is no deficit, the demand of these schools till 2031 will be 18 and in case of villages will be 7.The total requirement for LPA till 2031 will be of 14 senior secondary schools This shall be well distributed in the LPA of the Gurdaspur town in the process of planning the zonal plan.

The demand supply gap analysis shows ,that there are 6 colleges in Gurdaspur town the demand as per the UDPFI standards is 1 as per the projection of the population of 2031.So there is no deficit in terms of college. In terms of technical education the town is already having 2ITI's and no deficit therefore exists in terms of technical education and therefore in future also demand is not there to have more such technical institute .This shall be reflected in the process of planning the zonal plan of Gurdaspur town.

9.3.2 HEALTH CARE FACILITIES

The demand supply gap analysis in health infrastructure indicates that there is one intermediate hospital existing in town which is civil Hospital having capacity of 100 beds, and based upon projected population the demand is of 1.Thus at present there is no deficit existing in town in terms of hospital. However there is need to increase bed capacity of existing Civil hospital.The existing dispensaries in town is only 2 and the demand till 2031 is of 9 dispensaries. In case of LPA villages, the Dispensaries are 4 and are sufficient to serve the population.

9.3.3 SOCIO-CULTURAL FACILITIES:

The Demand supply gap analysis describes different facilities distributed in LPA and the future requirement and current status of these facilitates, for example there is no community room in Gurdaspur town the demand as per the UDPFI standards are 26 as per the projection of the population of 2031. Therefore, there is a deficit of 26 community rooms in the town. Whole of Gurdaspur LPA requires 37 community rooms till 2031.This shall be reflected in the process of planning the zonal plan of Gurdaspur town.

9.3.4 UTILITIES SERVICES:

Police Station:

The Demand supply gap analysis, which describes, for example there are 2 police stations in Gurdaspur town the demand as per the UDPFI standards is 1 as per the projection of the population of 2031. Therefore, there is no deficit of police station in the town. This shall be reflected in the process of planning the zonal plan of Gurdaspur town.

Fire Station:

At present, there is one fire station in the town that is sufficient to meet the existing as well as future requirements up to the year 2031 as per the standards prescribed in the UDPFI guidelines.

9.4 PARTICIPATORY APPROACH/THINKTANK MEETINGS

9.4.1 CONSULTATIVE MEETINGS

Though the various data has been collected from different departments but to understand the town planning and development of Gurdaspur at ground level meetings with different experts/ stakeholders has been conducted. In case of Gurdaspur, think tank already established under the Chairmanship of Deputy commissioner having representatives from different departments also became an important part for understanding the problems and potentials of the Gurdaspur town

Meeting held on January 15, 2009 at Gurdaspur of Think Tank constituted for preparation of Gurdaspur Master Plan under the Chairmanship of D.C

During the course of deliberations, following major issues/ suggestions emerged:

- Discussion of Master Plan methodology for 3 towns namely Pathankot, Batala and Gurdaspur
- Defence authorities must be part of think tank for Gurdaspur and Pathankot
- Public participation must be taken as keen interest
- Heritage aspect is never thought of till now which must be a part of Master plan. For instance JHULNA MAHAL is quoted for Gurdaspur as a tourist spot
- Master plan Gurdaspur should cover the things in broad manner highlighting the issues and providing long term solutions.
- Traffic situation in Gurdaspur is critical and accordingly transportation plan must take care of the congested area, encroachments etc.

- Strategies for proper development of social infrastructure as medical, recreational facilities must be framed out while preparation of Master Plan.

Think Tank Meeting held on July 9, 2009 at Gurdaspur under the D.C

The Think Tank meeting were held at Institute of Hotel Management and catering Gurdaspur, under the chairmanship of the deputy commissioner Gurdaspur. In the meeting all stakeholders from different department were invited, and provided their valuable suggestions to be incorporated in the Master plan of town.

Fig No.67: Think Tank meeting at Gurdaspur under Chairmanship of D.C

Meeting held on July 29, 2009 with DTP Gurdaspur

The meeting was held with DTP Gurdaspur on the concept plan of Gurdaspur LPA. The suggestions incorporated in the revised concept plan were discussed at the meeting with DTP and accordingly all suggestion were incorporated in concept plan .

Fig No.68: Meeting regarding concept plan at DTP office Gurdaspur

9.5 SWOT ANALYSIS

Historically settlements positioned on hostile international boundaries invariably suffer from perpetual neglect and lower level of investment and development. With redrawing the boundaries in 1947, the geographical mosaic of India in general and state of Punjab in particular underwent major transformation. From a central location in North West India, Punjab became a border state. Partition of the country caused enormous damage to the town.
Based on analytical study of the journey made in the realm of growth and development during last four centuries of its existence, a SWOT analysis has been carried out for the town of Gurdaspur illustrating its inherent strength and weakness, opportunities offered and threats faced by the city both from within and outside which has been used as a framework for redefining the agenda for future growth and development of the town.

STRENGTH

- The Gurdaspur town holds the status of District administrative headquarters which will remain an important function in future development.

- The road network and connectivity of the town is good, The NH 15 passing through it defines its development pattern. Most of the development is attracted by this highway rather than Railway link but this has lead to scattered and linear development.
- The small scale industry exists within the town in terms of sugar mill and milk plant which could be further explored and can be strong economic base for Gurdaspur in future.
- The town is becoming an important regional centre for education and institutional development. In addition to theregular schools, the town is having four degree colleges ,one engineering college which is considered as one of the best in Punjab, two I.T.I institutes ,one specialized institute of Hotel management and also regional campus of GNDU as well as research centre of PAU.
- The town consists of many places of religious and historic importance which could attract the domestic tourist within LPA and district.
- The keshopur and Shalla Pattan wetlands existing in proximity to the local planning area can be developed as a part of ecotourism. Also due consideration must be given for connecting these wetlands with all other wetlands at the regional level.

WEAKNESS

- Town's growth is largely marked by haphazard, unplanned and unauthorized growth leading to uneconomical use of land with remarkable loss of fertile land.
- Poor road geometry and inadequate capacity of existing road network, Extreme vehicular congestion and absence of parking spaces with in the town area
- Gaps in provision of Physical infrastructure like water supply & sewerage facility (40% of the population devoid of sewerage facility),(22% of the population is not having access to water supply)
- Absence of Sewerage treatment plant, water treatment plant and storm water drainage system in the town.
- Solid waste Disposal system is unscientific and no proper landfill site is allocated for disposal of waste, majority of drains with in town area remain blocked creating unhygienic conditions.
- Absence of major industrial activities within town area.
- Scattered govt. and semi govt. offices also disturb the existing movement pattern and disturb the smooth traffic flow within the town.

- Acute shortage of housing both qualitatively and quantitatively is leading to mushrooming of unplanned and unauthorized colonies and large number of slums mostly along all roads.
- Absence of any tourist related infrastructure and lack of appreciation on conserving and preserving the valuable heritage for their maintenance and implementation can also be considered as weakness till date but if in a systematic way these spots are explored then could be useful in determining the economy of the town.

OPPORTUNITIES

- The town can be developed as institutional town having good regional linkages by Strengthening and upgrading of major roads of LPA
- The old historical places within town and adjacent areas can be developed as a part of overall tourist strategy
- Gurdaspur LPA also has potential of agricultural basis due to which already milk plant; large grain market is existing along Amritsar-Pathankot road. Such kind of agriculture/allied activities infrastructure can be developed as its strength.
- Promotion of high-tech manufacturing, targeted industry clusters and enhancing agro based activities
- Availing Center Govt. schemes like UIDSSMT for up gradation of infrastructure in town
- Disaster management center can be established with the aid of army.

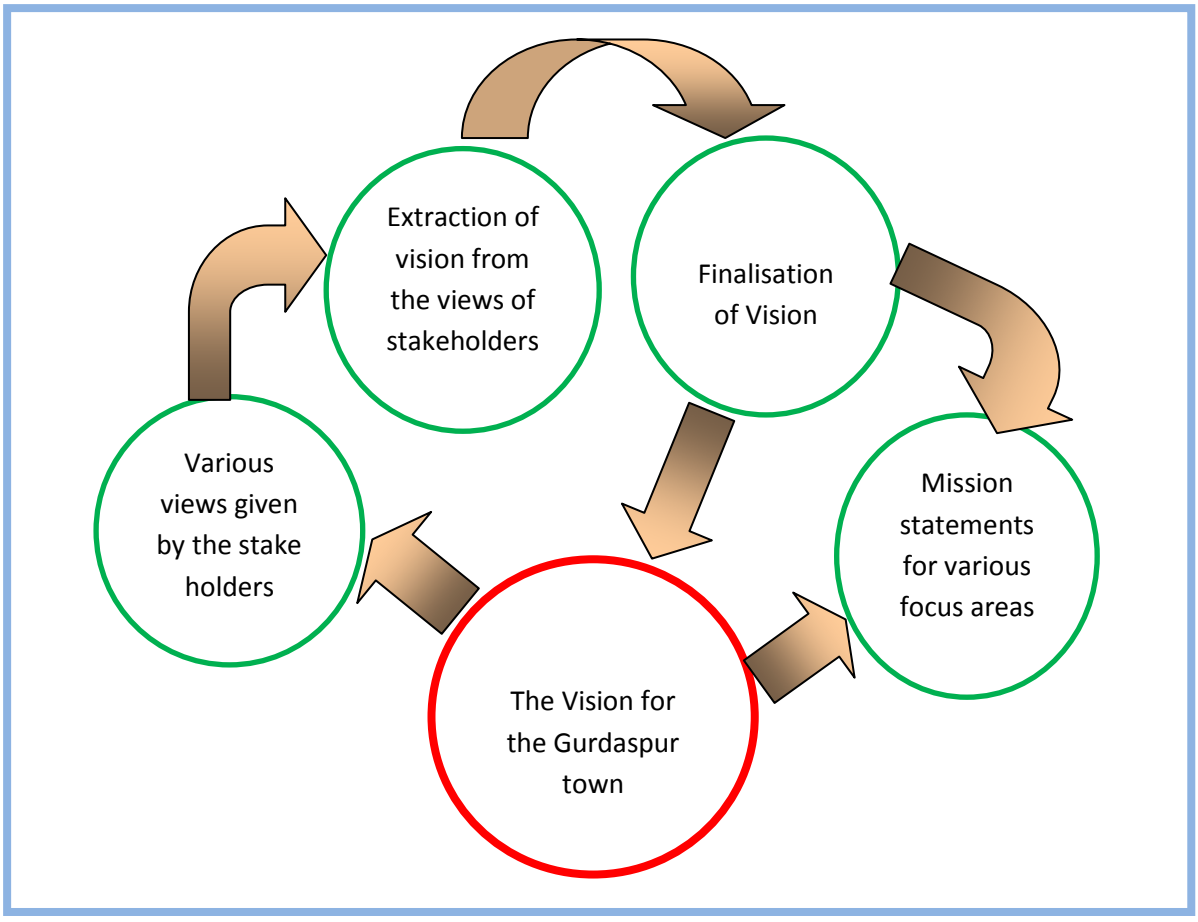
THREATS

- Change in the existing Geo-political goodwill scenario leading to emergence of a hostile threat perception from the neighboring countries.
- Absence of enabling environment for leveraging the involvement of private sector.
- Low level of investment by State and parastatal agencies in basic infrastructure.
- Delay in evolving a comprehensive Master Plan and Regional Plan for promoting orderly growth and development of town and region.
- Delay in putting in place an effective and efficient mechanism of urban governance and eliminating multiplicity of agencies to check unauthorized, unplanned and haphazard development within and outside the town.
- Delay in placing appropriate framework for proper, preservation and conservation of valuable built heritage.

- Non-rationalization of inter and intra-town traffic and improving/upgrading transportation network.
- Delay in creating appropriate infrastructures related to tourism, trade & commerce.
- Delay in bridging the existing gaps in basic infrastructures and services in and around the town.
- Negligence in addressing issues on priority related to slums, environment and urban poverty.

9.6 VISION

Fig No. 69: Vision and Mission



Based on the outcome of discussions held with various stakeholders, intellectuals, non-government organizations, community based organizations, professionals, elected members and officials of the urban local body, professionals from the town and country planning department,detailed study and analysis made of the existing and historical growth and development mechanism, it has been observed that Gurdaspur as an administrative town has enormous potential for rapid economic and physical growth .Considering basic creativity of Punjabi Entrepreneurship coupled with availability of high order of technical and

professional manpower in and around the city, Gurdaspur has high degree of potential to emerge as knowledge centre provided required level of support systems, quality infrastructure, user friendly policy options, State of art developmental and institutional mechanisms are put in place. In order to make Gurdaspur grow and emerge as humane , productive, sustainable, eco-friendly pollution free and vibrant urban centre ,the future of the town is envisioned as:

VISION:

- Gurdaspur to be developed as a knowledge hub and model administrative centre providing assured employment and quality living to all its existing and future residents, irrespective of the caste, creed, gender, economical and social status including poorest of poor.
- The quality living in the town to be achieved through
    - Ensured higher order of better urban governance
    - High degree of operational efficiency
    - Higher order of economic productivity
    - Ensured environmental sustainability
    - Reduced vehicular and industrial pollution
    - Rationalized land use pattern
    - Decongested core areas
    - Assured quality of higher order of infrastructure and services
    - Improving traffic and transportation
    - Assured safety of residents and communities
- Gurdaspur to be culturally, socially and economically vibrant where
    - Every individual has gainful employment
    - Where each family has access to all basic amenities of life and
    - Where each community is self-contained and self-sustained

MISSION STATEMENT FOR FOCUSED AREAS*:*

In order to achieve the objectives and goals enshrined in the vision statement, mission statements for various focused areas has been detailed below:

a) Growth Management

- Promoting planned development through effective city planning.
- Rationalizing land use pattern for effective traffic management and provision of basic services and amenities.

- To rationalize the Peri-urban development
- To minimize haphazard, unplanned and sub standard growth
- Making effective plan implementation and enforcement as integral part of city planning and development process.
- Conserving the cultural fabric.
- Making growth management process more participatory.
- Review of development plan on regular basis.
- Improving system of building plan approvals through use of IT and GIS.
- Making urban development self sustaining.
- Leveraging growth management process for resource generation.

b) Urban Environment

- Urban environment to be made integral and essential part of city development process.
- Environment to be made integral part of planning and decision making process.
- Effective treatment of all sewage generated within the city.
- Improving solid waste management.
- Creating / developing new and improving existing gardens, parks and open spaces.
- Promoting better water management.
- Making city free from air, water, land and noise pollution.
- Promoting optimum use of natural resources.
- Minimizing growth of slums / shanty towns and improving existing slums.

c) Urban Services

i) Water Supply

- To ensure safe, equitable, reliable, adequate and quality water supply
- To ensure 100% coverage of the town
- To improve operational efficiency of water supply system by minimizing wastage and leakage.
- Remove illegal water connection and public stand posts (PSP)
- To minimize the ground water consumption by promoting water conservation.
- To promote rain water harvesting and recycling of water.

ii) Sewerage and Drainage

- Total coverage of the town with sewerage and drainage system including slums.
- To promote eco-friendly decentralized treatment system.
- To minimize sewerage generation through water saving appliances

- To promote recycling of sewage
- To promote protection of natural water bodies
- To promote optimum use of storm water as an alternate source of water supply.

iii) Solid Waste Management

- To improve the solid waste management in the town using best practices.
- To use PPP model for Solid waste management.
- To promote "Recycling" of SWM.
- To make solid waste management people centric
- To integrate solid waste disposal and rag pickers for efficient solid waste management and resource/employment generation for poor.
- To create awareness for minimizing solid waste generation.

iv) Storm Water Disposal

- Revive the storm water disposal system of the town
- To improve the capacity of the existing water bodies .
- To make optimum use of storm water for reducing the demand of fresh water
- To improve the natural water drainage channels by de silting and stopping the sewage water from entering the channels.
- Construction of Storm water disposal channels and integrating each and every house into the system
- Integrating the storm water channels into development using land suitability analysis

v) Traffic and Transportation

- To improve safety, mobility and efficiency of inter and intra city traffic .
- To segregate and rationalize the inter and intra city traffic
- To improve road geometry and road capacity of existing network
- To use planning as a mechanism for rationalizing and minimizing traffic
- To minimize pollution caused by traffic and transportation and improve environment.
- To create new road network and to improve the existing network to promote operational efficiency of traffic.
- To review the existing activity pattern to rationalize the traffic.
- To provide adequate parking spaces to remove traffic bottlenecks.

vi) Urban Poor

- Making urban poor integral part of the planning, growth and development process.
- Improving accessibility to basic services
- Providing better living environment and option.
- Creating enough employment opportunities for improving financial status .
- Providing adequate opportunities for creating affordable shelter duly supported by basic services.
- Empowering poor to be integral part of development process.
- Poverty alleviation programme to be made more focused and poor centric.

vii) Social Infrastructure

- To provide adequate sites based on norms, for various social infrastructures.
- To involve private and corporate sectors for providing / developing and maintenance of social infrastructure.
- To make optimum use of mechanism of planned development for developing adequate and quality infrastructure.
- To promote community participation in maintenance and upkeep of social infrastructure.

viii) Urban Governance

- To make urban local body a role model for good governance.
- To create appropriate and effective mechanism for grievance redressal
- To improve and strengthen the urban local body in terms of structure and quality manpower and resources.
- To create appropriate mechanism for promoting higher interface between ULB and communities on regular basis at ward and ULB levels.
- Making urban governance citizen centric.
- Adopting best practices and systems for improving, transparency, grievance redressal and accountability.
- To improve service delivery at minimum cost.
- To effectively involve NGOs /CBOs.

CHAPTER 10
THE MASTER PLAN

10.1 COMPONENTS OF THE MASTER PLAN

The Master Plan defines the broad proposals of city growth and development besides allocation of land for various urban uses including residential, industrial, commercial, recreational, public and semi-public etc. It also defines existing and proposed road network, street pattern and traffic circulation system for the area included in the Master Plan; areas to be preserved and conserved; development of areas of natural beauty and landscape together with preservation of features, structures or places of historical, architectural interest and environmental value. Master Plan also includes different zones into which city can be subdivided besides defining Zonal Plan and zoning regulations for regulating development within each zone. Accordingly, the Master Plan is an important instrument for guiding and regulating comprehensive development of a city over a period of time and contributing to its rational and planned development, both conceptually and operationally. In this context, Master Plan of Gurdaspur LPA comprises five main components as follows:

- Existing Land use Plan.
- Proposed Land use Plan
- Proposed Traffic and Transportation Plan
- Report containing detailed study and analysis of existing status and future development strategies for the city and Local Planning Area
- Development Control Regulations

10.2 MASTER PLANNING OBJECTIVES

The long-term vision and the mission statements would require spatial land use planning, infrastructure planning, financing and implementation, effective management and operation of infrastructure services, and regulating and enforcing plan proposals. The objective of the Master Plan is to create enabling spatial and Land Use Planning framework to achieve the Vision of Gurdaspur LPA. More specifically following are the objectives.

- To make Gurdaspur town as the most vibrant economic centre to promote the balanced regional growth.
- To make land allocation in an environmentally sustainable manner

- To minimize haphazard, unplanned and sub-standard growth and to promote planned development and quality environment
- To effectively manage the inter and intra city traffic and transportation through the mechanism of rationalizing the landuse.
- To make adequate developed land available for public purposes.
- To minimize travel within the city by creating self -contained and self sufficient communities
- To create adequate parking spaces as an integral part of commercial, industrial and institutional planning and development.
- To rationalize the distribution of physical and social infrastructure in order to ensure appropriate quality of life to all the residents of the town.
- To identify man-made and natural heritage and to make heritage conservation as integral part of the city planning and development process.
- Conserving, preserving, improving and maintaining wetland eco-system for promoting bio-diversity, eco-tourism and developing it as migratory corridor for endangered species of birds/water fowl species.

10.3 BASIC CONSIDERATIONSFOR PROPOSALS

While preparing the Proposed Landuse Plan, a detailed study and critical analysis has been made of the notified Gurdaspur Local Planning Area in terms of the demographic profile, economic status, social stratification, physical growth and available physical & social infrastructures in the planning area. Analysis has also been made of the Existing Land use plan besides the study of the existing problems and future growth potential of the town. Accordingly, basic considerations for formulating the Master Plan revolve around:

- Rationalizing the existing land use pattern through a well defined system of land uses, zoning regulations and development controls.
- Minimizing haphazard and unplanned growth through a well defined land use pattern.
- Promoting future growth of the town based on the principle of allocation of land uses and principle of clustering.
- Adopting a strategy of compact development based on phasing in order to optimize the available land resource and minimizing the cost of infrastructure.
- Leveraging the potential of available regional road and rail linkages/ networks with Amritsar, Batala, Pathankot, Jalandhar, Jammu and Himachal Pradesh.

- Leveraging on the Administrative status of town as District Head quarter.
- Rationalizing the growth and development along NH15 and roads leading to Tibri, Hargobindpur, Dera Baba Nanak.
- Leveraging on the existing strength of available Institutional network in the North East direction.
- Development of Keshopur Chhamb community Reserve and adjoining landscape as an area which is paradise for migratory and local birds population, a unique destination for national and international eco-tourists, a centre of nature conservation education and an ideal Protected Area where nature and local people supplement each other
- Minimizing the impact of its close proximity to international borders.
- Leveraging the existing small-scale industry in the north eastern direction along the NH15.
- Rationalizing the traffic and transportation network within the planning area in order to minimize the conflict between inter and intra city traffic.
- Minimizing concentration of public amenities and services and promoting equitable distribution in the planning area through well-defined norms.
- Integrating the development of urban and rural settlements in order to minimize migration and to promote the economic and physical development of the rural settlements.
- Decongesting the Core area of the town by dispersal of activities.
- Rationalizing the landuse pattern in order to promote better relationship between living, working and circulation.
- Promoting self contained communities based on prescribed infrastructure norm for better social interaction and minimizing traffic
- Preserving valuable agricultural land by promoting compact development.
- Creating a well defined hierarchy of Traffic and transportation network besides rationalizing the inter and intra-city traffic.
- Providing adequate land for different urban uses including residential, commercial, industrial, public/semi public etc for projected population to be housed.
- Providing state-of- art socio economic infrastructure on well defined norms for promoting quality of life.

- Leveraging tourism and administrative status for making Gurdaspur as the regional hub.
- Creating adequate open spaces, parks and places for leisure.

10.4 PROPOSALS

10.4.1 PROPOSED LAND USE PLAN (2010-2031)

The Draft Master Plan of Gurdaspur LPA bearing drawing no. DTP (G) 29/2010 dated 20/12/2010 was published on 12/04/2011 for inviting public objections/suggestions. The objections/suggestions received were considered in detail by the Punjab Regional and Town Planning and Development Board in its 23rd meeting held on 23rd September, 2011. Based on the decision of the Board, the Master Plan of Gurdaspur LPA was approved with modifications related to mixed landuse, logistic hub etc.

The broad landuses in the Proposed Landuse Plan of Gurdaspur LPA, based on the decision of the Board (Drawing No. DTP (G) 15/11 Dated 14.10.2011), are as under:

Table 72: Proposed Landuse Distribution of Gurdaspur LPA, 2031

Sr. No.	Landuse	Proposed Area (Ha)	%age of Urbanisable Area	%age of LPA
1	Residential	2141.60	50.08	28.09
2	Commercial	41.17	0.96	0.54
3	Mixed Landuse	1331.79	31.14	17.47
4	Industrial	118.50	2.77	1.55
5	Public & Semi Public	139.15	3.25	1.83
6	Government	72.54	1.70	0.95
7	Recreational	0.00	0.00	0.00
8	Traffic & Transportation	428.30	10.02	5.62
9	Utilities and Services	3.46	0.08	0.05
Total Urbanisable Area		**4276.51**	**100.00**	**56.09**
9	Agriculture and Water Bodies	1855.79		24.34
10	Keshopur Wet Land	344.88		4.52
11	Eco Promotion Zone	1147.00		15.04
Total		**7624.18**		**100.00**

56.09% of the Gurdaspur Local Planning Area has been proposed for urbanization with remaining area under Agriculture and Water Bodies, Keshopur wetland and proposed Eco Promotion Zone. The residential component constitutes almost 1/4th of LPA, followed by

Mixed landuse (17.47%), and Traffic and Transportation (5.62%). The area enclosed by the wetland and the proposed Eco Promotion Zone is of the order of 19.56%.

Looking at the urbanisable area provided in the Proposed Landuse Plan, majority of landuse within it is under Residential (50.08%), followed by Mixed Land use (31.14%), Traffic and Transportation (10.02%), Public and Semi Public (3.25%) and Industrial (2.77%). However, these areas are likely to undergo numerical changes, when the detailed planning of the different areas shall be taken up while framing schemes for implementing the Master Plan. The area under Residential/Industrial/Mixed use shall be considerably reduced with area under Commercial, Traffic and Transportation, Recreational, Public and Semi Public, and Utilities and Services increasing proportionately. The planning of the Residential, Industrial and Mixed landuse areas shall be based on the planning norms and standards, and the landuse pattern defined for such uses in the Development Control Regulations and the provisions of legal framework governing the planning of these uses. Accordingly, the exact percentages under different landuses shall be available after the entire planning of the pockets of the urbanisable area is carried out.

However, the land area that comes under the Optimum Utilization of Vacant Govt. Lands (O.U.V.G.L) Scheme of the state govt., the use of such land/sites shall be determined by the Govt. later on at any appropriate time, irrespective of their existing / proposed land use. Similarly, in case of the land owned by the Amritsar Development Authority (A.D.A), its use shall be as determmined by the A.D.A/State Government, notwithstanding the provisions of these regulations/proposals shown in the Proposed Landuse Plan. The sites on which various projects have been approved or whose change of land use has already been permitted by competent authority/govt., such sites shall be deemed to be adjusted as sanctioned/permitted in the plan.

GURDASPUR URBANISABLE AREA: 2010-2031

The Gurdaspur Local Planning Area extends to 7624.18 hectares, out of which Municipal Council area is 1085 hectare. The urbanisable area for the target year 2031 has been enlarged to 2198 hectares to accommodate the projected population of 1, 86,566 and the physical growth, which is likely to take place due to the potential generated by the new road network and economic opportunities generated by the town.

The urbanisable area has been extended taking into consideration the pattern and direction of development along major transport corridors while proposing the land use. The proposed urbanisable area extends beyond the municipal council limits in order to accommodate the future development. While preparing the proposed land use plan for the Local Planning Area, care has been taken to redefine the land uses in terms of residential, commercial, and institutional.

RESIDENTIAL ZONE

The residential zone proposed in the Proposed Landuse Plan includes the existing residential areas available in the town as well as new area for accommodating the future projected population of 2,03,939 persons. In order to accommodate the additional population residential area proposed is of the order of 989 hectares. Additional residential area to the tune of 672 hectares would be required to accommodate the total population in addition to the existing area of 317 hectares. However, in the draft Master Plan, land use under residential category has been kept on higher side considering the pattern of growth, need for decongesting the core area, compatibility of land uses and compactness of development besides meeting the demand of unforeseen development

Residential Densities

In the Proposed Landuse Plan, care has been taken to accommodate already existing residential area within the Gurdaspur LPA. However, residential area has been rationalized keeping in view the existing distribution of population in the city and the density pattern to be achieved in the Master Plan. The entire residential component in the LPA, is proposed to be developed on two distinct density patterns i.e. residential area within the existing municipal limits, and residential area between existing municipal limits and urbanisable limits. The residential area within the urbanisable limit shall be confined to residential zone defined in the Proposed Landuse Plan. The maximum permissible residential density in the residential zone within the existing Municipal Council limit shall not be exceeding 300 persons per acre, whereas that between existing municipal limits and urbanisable limit, residential density shall not be exceeding 200 persons per acre. Residential component outside the LPA shall be restricted to the area around the existing rural settlements and up to a distance of 100 meters around the village phirnis in order to accommodate the natural growth of population in the rural settlements, depending upon the size and population of rural settlements. It is also proposed that all the villages falling outside the proposed urbanisable limit and within LPA boundary shall also be developed in a planned manner. It includes rural settlements like

Ghulla, Gadrian, Bhoon, Babri, etc. which fall in agricultural zone. The table below shows the residential density to be adopted for residential zone.

Table 73: Density in Residential Zones

Sr. No.	Zone	Density
1	Residential area falling within existing municipal limits	Not exceeding 300 Persons Per Acre
2	Residential area falling between existing municipal limits and urbanisable limits within the LPA	Not exceeding 200 Persons Per Acre

In addition to working out the densities, housing needs for all income groups are required to be assessed for achieving the target of housing for all. The existing structure of the city and its housing profile also needs detailed consideration. The existing pattern of housing needs to be changed from plotted development to a mix of plotted and flatted development in order to conserve the valuable agricultural land. To encourage flatted residential development and to preserve the valuable agricultural land, residential density @ 60 dwelling units per acre shall be permissible for stand-alone group housing projects.

While achieving the target of housing for all, the housing needs for all income groups is to be assessed. Further, the existing structure of the town and its housing profile also needs consideration. Since the town will be growing horizontally, so majority of residential development will be in the category of plotted development. The housing strategy will have to be such, which ensures active participation of public, private and cooperative sectors. While providing affordable shelter to all, optimum utilization of land would form part of development strategy. Development of new residential areas shall be based on defined norms in order to provide housing for all sectors of society.

However, in order to minimize the mushrooming of unauthorized colonies in the LPA, strategies shall be adopted to provide sufficient land at affordable cost to all categories of residents. The existing unauthorized colonies would require review, based upon a well-defined policy that causes minimum hardship to the residents of the area without compromising with the quality of life and basic essential of human living. The policy should aim at making the existing development integral part of Master Plan proposals following the prescribed norms.

Housing for Economically Weaker section

While proposing new residential area, housing for the economical weaker section has been included as an essential ingredient of the Master Plan considering that more than 90% of the housing shortage falls in the category of LIG and EWS housing, so it will be critical to provide adequate land for them at the most affordable price. In addition to providing majority of plots in this category, it will also be essential that certain percentage of land/plots/flats are

provided for LIG/EWS housing in all housing projects sanctioned by the State Government. In addition, existing slums would also require detailed study and analysis before taking decision with regard to their upgradation, relocation or redevelopment. The strategies for ensuring adequate supply of land have been detailed out separately in the Master Plan.

COMMERCIAL ZONE

Gurdaspur is a class II town and does not have major commercial activity. Existing needs of the population are being met by the commercial activities located as part of the residential areas. Accordingly, large-scale commercial activity has not been proposed in the Master Plan keeping in view the low potential of the town. Since most of the commercial activity at present is concentrated in the core area of the town and along the major road network passing through the city, accordingly in the proposed land use plan existing pattern of development of the town in the shape of mixed land use is proposed to be retained and further developed. This pattern of mixed land use would help in not only dispersal of the economic activities in the various parts of the town leading to better living and working relationship but also help in rational development of commercial area. The commercial area is proposed to be developed through a well-defined system of zoning regulations and development control regulations provided in the Master Plan, which takes care of the needs of commercial area development including parking etc.

PUBLIC/SEMI-PUBLIC ZONE

The use is primarily meant for accommodating education & health related institutions and Government offices. The use will also permit establishment of government offices. Since the town is district headquarter, maximum number of district level offices are present in the town. Within residential area especially in the North East direction along the Jail road where most of the offices are located and site for district administrative complex exists as per Government proposal, it is proposed to provide a well-defined hierarchy of such facilities as per the norms provided in the Master Plan.

Gurdaspur town is having a number of institutions which have regional/Sate level significance like Beant College of Engineering and Technology, Institute of Hotel Management and Catering, GNDU Regional Campus, PAU research centre etc., which have been retained as integral part of the Master Plan proposals.

TRAFFIC AND TRANSPORTATION

Traffic/Transportation becomes an essential part for the smooth/efficient functioning of any town. As per Existing landuse of Gurdaspur 2010, 7% of the total developed area falls under this category. Further, for the year 2010-2031, 16% of the proposed urbanisable area has been

put under this landuse. This shall cover up gradation/strengthening of existing road networks, proposing new roads for better connectivity, filling up the missing road links, provision of road infrastructure facilities, etc. This shall help in ensuring smooth and uninterrupted flow of inter and intra city traffic. The detailed aspect of Traffic and transportation with phasing of ROBs has been discussed in Proposed Traffic and Transportation Plan.

INDUSTRIAL ZONE

Gurdaspur, as a town, has limited number of small-scale industries that is reflected in percentage share of industrial use in the Existing Land use. The industrial use constitutes only 3% of total developed area. Therefore, in order to provide more economic opportunities to the existing and future population of the town, more area is proposed to be added under industrial landuse. Accordingly, Industrial zone in the Master Plan has been proposed as per wind direction adjacent to Pindori Road. This zone will promote the establishment of new small-scale industrial units by providing developed plots supported by required infrastructure. This would also help in promoting planned development of the industries.

The existing industrial area in the shape of 2 pockets on NH-15 has been retained as part of the industrial use in the Proposed Landuse Plan. The growth and development of existing industries shall be governed by the regulations as detailed out in Development Control Regulations.

MIXED LANDUSE

Looking at the existing pattern of growth and development, it has been observed that the major road network existing in the Gurdaspur Local Planning Area has attracted lot of haphazard, unplanned and un-regulated growth in the shape of ribbon development. This pattern of development has been observed both within the M. Cl area and particularly in the area outside the municipal limits. Despite the availability of legal framework prohibiting/restricting the growth and development along the major road network, such developments have become an integral part of Indian urban growth and development scenario. This pattern of development has promoted numerous problems in terms of infrastructure, quality of development and for the smooth movement of the traffic and transportation. In order to rationalize the growth and to ensure provision of adequate parking and other supportive infrastructure, it is proposed to permit mixed landuse development along the major road network applicable within as well as outside the municipal limits as shown on the Proposed Land Use Plan and detailed below:

1. NH-15, Ring Road (R1): A 300 mts deep mixed landuse zone has been proposed on either side of NH-15 and on the outer side of the existing and proposed Ring Road falling within the Gurdaspur LPA.
2. 200 meters deep mixed landuse zone has been proposed on the either side of the entire length of the following roads falling within the Gurdaspur LPA, outside the municipal limits.

(i) Gurdaspur- Sri Hargobindpur Road
(ii) Gurdaspur- Tibri Cantonment
(iii) Gurdaspur- Pandori Road
(iv) Gurdaspur- Dinanagar Road
(v) Gurdaspur- Behrampur Road
(vi) Gurdaspur- Trimmu Road
(vii) Gurdaspur-Hardo Channi Road
(viii) Gurdaspur- Dera Baba Nanak Road

The position of mixed landuse zones defined above has been indicated on the Proposed Landuse Plan of Gurdaspur LPA bearing Drawing No. DTP (G) 15/11 Dated 14.10.2011. The development along these roads shall be governed by the Development Control Regulations/ Detailed Schemes prepared for the zone.

However, in order to maintain the character and continuity of the belt, mixed landuse shall continue to be permitted along these roads in the portion falling within the Municipal Council limits. In the area zoned for mixed landuse, all kinds of landuses, which are compatible, shall be permitted. However, the uses, which are not compatible, shall not be permitted in this area. The Orange and Red category industries will not be permitted in this zone. The proposed mixed landuse will not only ensure dispersal of the economic activities in the various parts of the areas but would also help in rational development of area along the major roads/corridors. In addition, it will also promote better living-working relationship minimizing travel demand in the city making it more energy efficient and environmental friendly. The area will be developed through a well-defined system of zoning regulations and development control regulations provided in the Master Plan, which would take care of the critical needs of infrastructure/services including parking etc.

RECREATIONAL

Gurdaspur suffers from lack of open spaces and recreational areas. In order to bridge this gap, 10% area has been reserved in the proposed landuse plan that will be developed through well-planned hierarchy of open spaces/recreational areas within the LPA. The norms and standards for such facilities have been defined in the Master Plan. These facilities at the local level shall be developed as integral part of the planning of residential, commercial and industrial land uses.

Considering the large-scale deficiency of open spaces in Gurdaspur, leisure valley is proposed to be developed along Nabipur cut drain by cleaning the drain of all its pollutants. A green belt of 30 mts on either side of the drain is proposed to be developed as the **Leisure Valley**. Further, 10 m belt/buffer is also proposed along all the remaining canals, distributaries and drains for the portion falling outside municipal limits, while it will be 5 m for the portion falling within the municipal limits. The belt will include well-defined system of landscaping, footpaths and other recreational activities. No commercial activities shall be permitted in this zone.

KESHOPUR CHHAMB COMMUNITY RESERVE - ECO PROMOTION ZONE

Considering the importance and sensitivity of the keshopur-wet land,the area is proposed to be preserved in its natural way. Based on the intent and contents of the Management Plan of Community Reserve prepared jointly by the Wildlife Institute of India , Dehradun and Department of Forests & Wildlife Preservation Punjab, it is proposed to zone an area enclosed by 500 metre belt around the two pockets notified as Keshopur Chhamb Community Reserve to be **Eco Promotion Zone.** In addition, a belt of 100 metre on either side of the Dunga Nallah up to the LPA limits is also proposed to be made integral part of the Eco Promotion Zone.

The total area proposed to be designated as Eco Promotion Zone is of the order of 2023 acres, including 850 acres of the wetland, spanning over land of 14 villages of planning area and the area already declared as Keshopur Chhamb Community Reserve.

The Eco Promotion Zone will comprise of partial area of the following 14 villages as detailed below:

Table 74: List of Villages Falling in the Restricted Zone

S. No.	Name of Village	Had Bast No.
1	Magar Mudian	191
2	Bhago Kanwan	263
3	Ucha Dhakala	262
4	Shamsher Pur	261
5	Majithi	260
6	Miani Jhamelian	258
7	Theh Mundi	257
8	Khuda Dadpur	253
9	Dala	252
10	Matwan	250
11	Keshopur	249
12	Sadhu Chak	244
13	Bhukra	243
14	Ale Chak	242

Considering the fragility of the area and conversion of large area of wetland into agricultural use, it is proposed to regulate the pattern of activities to be permitted therein. Further, in order

to restrict and control the urbanization in the area, it is proposed to put in place a regulatory framework which will not only preserve the existing status of the area but would also help in enhancing and restoring its old glory. Large area has been proposed as the Eco Promotion Zone considering the fact that wetland existed over much wider area and has been reduced considerably in area and dimensions over a period of time. It is also felt that the notified wetland, which now stands divided into two parts, were once integral part of the single wetland. Accordingly, it is proposed that same pattern of the wetland should be re-generated. The area constituting the Eco Promotion Zone is proposed to be made hub of eco-tourism with activities related to preservation and conservation of wetland permitted in the area. All activities which pollute the water or reduce its quality would not be permitted. In order to preserve its basic character, it is proposed that no urbanization shall be permitted in the Eco Promotion Zone. The Zone shall be developed on a well-defined pattern, which promotes, enhances and protects the basic character of the area and makes value addition to the wetland. All projects pertaining to Eco tourism approved by the Govt. shall be permitted in the zone in order to preserve the basic character of the area and to promote the economy and employment of the local planning area.

Considering the importance of Wetland and its role in promoting quality of life for human beings, flora & fauna and for attracting the large number of birds in the area, it is proposed that following activities which adversely impact the quality of the wetland shall not be permitted in this Zone:

(i) Activities which lead to conversion of wetland to non-wetland use shall not be permitted.

(ii) Activities which lead to reclamation of area of Wetlands shall not be permitted.

(iii) No new industry shall be permitted in the area. All existing industries shall be shifted from the Eco Promotion Zone to the industrial zone defined in the Master plan within the time frame provided by the Punjab Regional and Town Planning Act, 1995. In addition, no expansion of existing industry falling within the Eco Promotion Zone shall be allowed during that time frame.

(iv) No manufacturing, handling, storage and disposal of hazardous substances as specified by the notifications of Government of India in the Ministry of Environment and Forest bearing no S.O. 594 (E) dt. 28 July, 1989, S.O. 966 (E) dated November 27,1989 and GSR 1037 (E) dated December 5, 1989 shall be permitted.

(v) No solid waste dumping shall be permitted in the area. All existing practices or places used for dumping shall be phased within a specified period.

(vi) No discharge of untreated waste and industrial effluents from the industries and human settlements shall be permitted within the wetland. All such inlets shall be closed and phased out within a reasonable time not exceeding three year.

(vii) No permission for change of land use shall be granted in the Eco Promotion Zone subject to the conditions defined above.

(viii) Agricultural practices within the Eco Promotion Zone shall be rationalized in order to minimize the flow of pesticides/insecticides into the wetland area. Growth of organic food shall be promoted by educating the farmers.

(ix) Metalled road network shall be minimized in the Eco Promotion zone in order to reduce disturbance of birds, flora & fauna and damaged to eco-fragility of the zone.

(x) Sub-division of the land into smaller parcels and conversion of use of land for agricultural purposes within the Eco Promotion Zone shall be minimized.

However, following activities within the Eco Promotion Zone shall be permitted with the prior approval of the competent authority:

(i) New construction, which promotes eco-tourism and maintains eco-fragility of the area shall be permitted.

(ii) All projects undertaken by the State Government and its various departments/development authorities/public agencies related to promoting of eco-tourism, environment and ecology shall be permitted.

(iii) Construction within 50 m outside lal lakir of villages falling within the Eco Promotion Zone shall be permitted subject to the prior approval of the competetant authority. Such construction shall be for meeting the basic needs of the villagers including housing. Construction of commercial/industrial etc. nature and are detrimental to the preservation of the eco fragility of the area shall not be permitted.

(iv) Selective afforestation shall be permitted in the area to provide safe habitat for the visiting/migrating birds and to provide area for their effective breeding.

10.4.2 PROPOSED TRAFFIC AND TRANSPORTATION PLAN (2010-2031)

Effective integration of various land uses through a well-planned road network with an efficient transport network is the basic need of a realistic Master Plan. The traffic and transportation proposals need to be framed in a manner that it leads to rational growth and development of town. Various proposals of traffic and transportation described in the chapter, aims at rationalizing the existing road network, creating a well defined hierarchy of roads, redesigning critical areas including road junctions, creating over-bridges, rationalizing the inter and intra city traffic, creating adequate parking spaces, developing well defined interface between different landuses, minimizing delays etc. This would lead to overall improvement of operational efficiency minimizing vehicular pollution. The various proposals related to traffic and transportation are shown in the Proposed Traffic and Transportation Plan having Drawing No. DTP (G) 16/11 Dated 14.10.2011.

It is important to plan and rationalize traffic and transportation system within any town to minimize the number of vehicles coming on the roads through well-defined short and long-term policies. The policy option shall primarily include development of an effective public transport system.

The draft master plan proposes a network of ring and other roads to serve every part of Gurdaspur LPA in order to achieve high degree of connectivity. The draft master plan proposes widening of existing roads besides creating new linkages for efficient transportation in the area.

The vehicular growth in the town is increasing at a faster pace leading to high degree of traffic congestion on the road. The number of two wheelers have registered an increase of 44% during the last four years. At the same time the existing road conditions remain the same which has lead to creation of traffic problems in the town.

Thus, the traffic and transportation proposals need to be framed in a manner that it leads to rational growth and development of the town. An integrated approach to development of traffic and transportation would include, providing over bridges, relocating bus terminal, creating truck terminal and widening of existing roads besides creating new links to improve the transportation in the town and LPA.

Road Hierarchy

The Traffic and Transportation proposals for Gurdaspur LPA revolve around defining a hierarchy ranging from R1 to R8 of road pattern catering to various needs and land uses of the Master Plan. The existing pattern of road development has been found to be radial. The future pattern proposed is based on the strengthening of the existing radial pattern by up

gradation of the existing roads. This pattern is further supplemented with a pattern of rings in order to rationalize the traffic movement on the radial roads. All roads mentioned in the proposed road hierarchy will be upgraded (Refer Plan no.3). The proposed hierarchy of roads includes

Table 75: Proposed Road Hierarchy of Gurdaspur LPA

Category of Road	Description	Right of Way (meters)	Remarks
R1	• Existing Ring Road • Proposed Ring Road from Trimmu Road to NH-15 towards Pathankot • NH-15 (Amritsar-Pathankot)	60	• High speed and high capacity road. • Dual Carriage Way • Catering to intercity/regional Traffic • Minimum Openings • Controlled access. • Service Lane & Cycle tracks • No Building Zone of 5 mt to be provided on either side of the road reservation
R2	• Gurdaspur-Sri Hargobindpur Road • Gurdaspur-Dera Baba Nanak Road • Gurdaspur -Tibri cantt. Road	45	• High speed and high capacity road. • Dual Carriage Way • Inter and intra City Traffic • Highly controlled accesses by providing service road • Minimum Openings • Well defined Road Junctions • Service Lanes & Cycle Tracks • No Building Zone of 5 mt to be provided on either side of the road reservation
R3	• Inner Ring Road along NanoNangal Distributary • Gurdaspur- DinaNagar road, • Gurdaspur -Trimmu Road • Gurdaspur-Hardo Channi Road • Gurdaspur-Pandori Road	30	• High speed and high capacity road. • Road will carry both inter and intra city traffic • Dual Carriage Way • Well defined Road Junctions • Cycle Tracks • No Building Zone of 5 mt to be provided on either side of the road reservation
R4	Other intercity roads leading from Gurdaspur to • Behrampur Road • Existing road along railway line	25	• Road will carry both inter and intra city traffic • Cycle Lanes and Footpaths • Provision of adequate parking where road frontage used for urbanization
R5	Roads other than R4 carrying city traffic within the residential areas	18	Distributor roads carrying intra city traffic provided with footpaths
R6	Roads providing access to individual houses	12	Providing accessibility at the local level
R7	Cycle Tracks	2-5	Specially catering to cyclists
R8	Pavement/ Footpath for Pedestrian Movement	1.5-4.5	Exclusive for pedestrian movement

*Subject to the provisions of road width specified above and the provisions made in the DCR, no road in the LPA will have a width less than 12 mts.

** No-building zone along the scheduled roads, as defined above shall be subjected to the notification issued by the state govt. under the PRTPDA,1995 from time to time.

*** Portion of the existing roads falling within the municipal limits shall continue to be taken as per the existing ROW. The proposed ROW shall be applicable in the portion of the road outside the municipal limits.

Footpath

The width of footpath is listed as below:

Minimum width	1.5 m
Adjoining shopping frontage	At least 3.5 m
Longer shopping Frontage	Minimum 4.5 m

Width should be increased by 1m in business/ shopping areas

Cycle Track

The minimum width of cycle tracks should be 2m. Each additional lane, where required, should be one meter. The capacity of cycle tracks recommended is as below:

Table 76: Norms and Standards for Cycle Tracks

Width of Cycle Tracks	Width in Meters	Capacity (Cycle /hr)	
		One way	Two way
Two lanes	3	250-600	50-250
Three lanes	4	>600	250-600
Four lanes	5		>600

Proposed Ring Road/ Inner Ring Road

The Existing Ring Road in the town covers the area from North East direction towards South West direction up till Trimmu road. The existing length of the ring road is 13.5 km. However, there is a missing link between the Trimmu road and NH-15 towards Pathankot. Due to this missing link most of the inter city traffic passes through the town. In order to utilize the full potential of the existing ring road and to rationalize the movement of heavy intercity/ goods traffic between Amritsar and Pathankot, it is proposed to provide additional ring road between Trimmu Road and NH15. The length of the additional ring road will be 6 km.

In addition, an inner ring road along Nano Nangal Distributary has been proposed in order to inter link various part of the town, distribution of traffic and providing connectivity between the radial roads.

Up-gradation of N.H-15

The entire Traffic and Transportation of Gurdaspur revolves around NH-15 (Amritsar-Pathankot road) which passes through the center of the town and bisects it into two parts. It is the major road, which connects the town to adjoining urban areas. As per the survey carried out at the local level, it has been observed that right of way of NH-15 has been largely encroached upon on both sides of the entire length of the road passing through the city. The road conditions of NH-15 ranges from moderate to bad. In order to improve its capacity and efficiency, it is proposed to upgrade the road through the whole LPA. The proposed up-gradation of NH-15 includes removing encroachment, widening, improving the existing road condition by metalling, providing signage's and street furniture and provision of streetlights.

It also provides for creating a service lane on either side of the road in order to rationalize the traffic movement on the NH-15. Further, the proposed NH-15 (as per discussion with NHAI officials) shall have R.O.W of 60 mts through out. However, portion of the existing roads falling within the municipal limits shall continue to be taken as per the existing ROW. The proposed ROW shall be applicable in the portion of the road outside the municipal limits.

Widening of Existing Roads in LPA

In order to achieve better road linkages with in LPA, widening has been proposed of the major existing road network. The roads proposed for widening has been indicated in the hierarchy of road defined above. For up-gradation, roads have been divided into different categories. The existing NH-15 in the portion passing through the LPA area has also been proposed to be upgraded to 60 mts considering the importance of the road as the major artery carrying the maximum volume of both inter and intra city traffic. Further, all roads linking Gurdaspur with other important settlements of the state have been proposed to be upgraded in terms of width and strengthening for ensuring smooth flow of traffic. These roads will also be acting as major distributors of traffic within the city and the LPA.

Proposed Rail Over-Bridges (R.O.B's)

The railway line passing through the town has emerged as a major bottleneck in the movement of the traffic both within and outside the urban areas. In Gurdaspur, the railway line between Amritsar and Pathankot runs through the LPA in a manner that it divides the old and new development. With NH-15, which carries large volume of traffic and roads leading to Sri Hargobindpur, Tibri and existing ring road being intersected by the Amritsar-Pathankot railway line, large traffic blockages have been observed on these roads. In order to ensure the smooth and uninterrupted flow of inter and intra city traffic, six Railway Over Bridges have been proposed over the Amritsar-Pathankot railway line.

Priority of Proposed Railway Over Bridges (R.O.B's)

Since construction of railway over bridges involves a lot of capital expenditure, accordingly, construction of 6 R.O.B's have been prioritized keeping in view the importance of the road and volume of the traffic besides removing traffic congestion in LPA. From the list of R.O.B's given below, the R.O.B at the junction of NH-15, Pindori Road and Asr-Pathankot railway line needs to be constructed on priority basis. The construction of remaining R.O.B's is indicated in the table below.

Table 77: Phasing of R.O.B's in Gurdaspur LPA

S. No	Proposed R.O.B	Phase
1	At junction of NH-15, Pindori Road and Asr-Pkt railway line	I
2	At junction of existing ring road and railway line near village Aujla	II

3	At junction of railway line and Hargobindpur Road	III
4	At junction of railway line and Tibri Cant Road	III
5	At junction of railway line and proposed inner ring road near PAU	IV
6	At junction of railway line and proposed Ring Road	IV

The location of all the above-mentioned R.O.B's is shown on the Proposed Traffic and Transportation Plan: 2010- 2031 bearing Drawing No. DTP (G) 16/11 Dated 14.10.2011.

Junction Improvement

In addition to inadequacy of road network in the Gurdaspur town, it has also been observed that majority of road junctions have not been properly planned, designed and constructed. This has led to creation of traffic bottlenecks at major junctions of the town besides causing delays and inconvenience to the road users. Delay in movement leads to creation of considerable pollution due to emission of smoke by the vehicles adversely impacting the quality of life in the town. The congestion at few junctions has also led to large number of accidents. In order to rationalize the flow of traffic and minimize conflicts at the junctions carrying large volume of traffic, it is proposed to improve the road geometry at four junctions, which have recorded high rate of accidents. These junctions are located on the existing bye pass on the southern and eastern part of the town. The junctions proposed for immediate improvement include

1. Junction between existing Ring Road and Sri Hargobindpur Road
2. Junction between existing Ring Road and Tibri Road
3. Junction between existing Ring Road and Pandori Road
4. Junction between existing Ring Road and NH-15 on Pathankot side.
5. Junction between existing Ring Road and NH 15 on Amritsar side.
6. Junction between existing Ring Road and Dera Baba Nanak Road
7. Junction between existing Ring Road and Hardo Channi Road
8. Junction between Ring Road and Trimmu Road
9. Junction between NH-15 and Dina Nagar road near civil hospital within city
10. Junction between Dera Baba Nanak Road, Sri Hargobindpur Road and NH 15.
11. Junction between NH15 and Trimmu road near Government school.

In addition to above road junctions on the NH15, some of the inner junctions will also require redesigning. The same are proposed as integral part of the Traffic and Transportation Plan: 2010- 2031.

TERMINALS

Proposed Bus Terminal

As per study made and analysis carried out of the existing location of Bus Stand in Gurdaspur on NH-15, it has been observed that location of Bus stand in core of the town is largely responsible for creating traffic congestion in the central area. Thus, considering the future growth of the town and increase in the volume of the traffic on NH-15, it has been proposed to shift the existing bus stand outside the municipal council limit on the stretch from NH-15 (towards Amritsar) and existing ring road till railway line, near approved Urban Estate in the southern direction. The site for the new bus stand shall be based on the decision of the site selection committee constituted by the state govt. in consultation with the Department of Transport.

The relocation of the bus stand to new site will help in minimizing traffic congestion in the core area since regional/intercity buses will cross the town without entering the town.The exact location of the bus stand shall be decided in consultation with the Transport Department based on the recommendations of the Site Selection Committee constituted by the Govt./Transport Department. The area of the present site can be then used as per the provision of the Master Plan for raising resources for the construction of new Bus Stand.

Truck Terminal

At present, there is no designated truck terminal, in the absence of which the trucks are parked mainly on the Pandori road and NH-15. To overcome this problem, the provision of logistic hub has been given, which will come up as and when decided by site selection committee at the site proposed by them. Unregulated parking along NH-15 of trucks leads to reduction in the effective road width besides causing numerous accidents on the road. Accordingly, the truck stand has been proposed within Logistic Hub in order to have better interface in the movement of the goods traffic. The proposed truck stand will also take care of the movement of the goods traffic generated by the logistic hub.

Proposed Parking Lot

With ever increasing urban population and increasing trends of vehicle ownership due to improving economic status, the vehicular population in the Gurdaspur has been found to increase at a rapid pace. Due to rapid growth of the town from a rural settlement, most of the core areas have road network of narrow width unable to accommodate any movement of vehicles. Accordingly, rapid growth of vehicle ownership has led to creating major traffic bottlenecks due to absence of adequate and well-defined parking spaces. In the absence of

such spaces most of the vehicles are parked on the roads leading to traffic congestion and problems of movement of vehicles. Accordingly, in order to rationalize the movement of traffic in the town and to achieve the desired level of efficiency, in addition to creating new linkages/widening of existing roads, it will be critical to provide adequate parking spaces in the town. In order to meet the basic requirements of parking, it is proposed to use the space made available by the shifting of Bus stand as the major area for parking of vehicles. In addition, parking spaces would also be created through the system of development control regulations which provide for creating adequate parking spaces on defined norms for each industrial/commercial/institutional use as integral part of development of such landuses.

Further, auto and rickshaw parking lots near to the proposed Bus stand site and other areas having large number of such vehicles have been proposed.

The proposals of traffic and transportation as detailed above aims at rationalizing the existing road network, creating a well defined hierarchy of roads, redesigning the critical areas including road junctions, creating over-bridges, rationalizing the inter and intra city traffic, creating adequate parking spaces, ensuring distribution and collection of traffic from various parts of the town both in terms of existing and proposed development, developing well defined interface between different landuses, improving efficiencies in traffic movement within the town, minimizing delays etc. The proposed traffic and transportation plan aims at improving the operational efficiency and productivity of the town and creating appropriate environment by minimizing vehicular pollution. The proposed traffic and transportation plan defined in the Proposed Landuse Plan will form the basis for promoting the rational and planned growth of the Gurdaspur town and the LPA area.

The proposed network will also help in redefining the town in to different development zones which can be planned on the basis of self contained and self sufficient neighborhood principles with convenience as a major objective. This would also help in promoting communities and interlinking them to the basic framework of the town. In addition, it will also help in redesigning the basic infrastructure and services essential for basic sustenance of the people and the town.

10.5 SPACE NORMS AND STANDARDS

PLANNING NORMS FOR EDUCATIONAL INSTITUTIONS

For ascertaining the need and requirement of various levels and categories of educational institutions in the context of the city, planning norms have been worked based on the basis of

population in order to ensure that educational facilities of desired quantity and quality are available uniformly to the entire population including their spatial distribution. Further the norms have been defined in terms of areas to the provided under each unit. The level of facilities to be provided have been categorized into general purpose education at the school level, undergraduate and post graduate level besides technical and professional institutions and universities. Based on above, the norms for educational institutions have been detailed as under:

Table 78: Norms for Educational Facilities

S.No	Category	Population	Units	Strength of student	Area in Hects.			Remarks
					Built up	Play Field Area	Total	
A.	**GENERAL EDUCATION-TILL 10+2**							
i	Pre-Primary, Nursery School	2500	1	-	-	-	0.08	Location close to park with minimum of vehicular traffic
ii	Primary School (class 1-5)	5000	1	500	0.20	0.20	0.40	Location close to park with minimum of vehicular traffic. Minimum play area of 18 m X 36m to be ensured.
iii	Nursery-cum-Primary School (up to class 5)	5000	1	750	0.25	0.25	0.50	As above
iv	Senior Secondary School (class 6-12)	7500	1	1000	0.60	1.00	1.60	Minimum play field area of 68 m X 126 m to be ensured.
v	Integrated School without hostel facility (class 1-12)	90,000-1,00,000	1	1500	0.70+ 0.40 as hostel area	2.50+ parking area of 0.30	3.90	Minimum play field area of 68 m X 126 m to be ensured.
vi	Integrated School with hostel facility (class 1-12)	90,000-1,00,000	1	1000	0.70	2.50+ parking area of 0.30	3.50	Minimum play field area of 68 m X 126 m to be

								ensured.
vii	School for handicapped	45,000	1	400	0.20	0.30	0.50	
B	**HIGHER EDUCATION**							
i	College	1,00,000	1	1000 - 1500	1.80 +0.40 for residential/hostel	1.80 + Parking Area 0.50	4.50	
ii	University	20,00,000	1	-	-	-	60.00	
iii	University Campus	10,00,000	1	-	-	-	10.00	
C	**TECHNICAL EDUCATION**							
i	ITI + Polytechnic	10,00,00	1	400+500	-	-	ITI (1.60) Poly (2.40)	
ii	Engineering College	5,00,000	1	1500-1700	-	-	6.00	
iii	Architecture College	10,00,000	1	250	-	-	2.00	
iv	Management Institutes	5,00,000	1	240	-	-	2.00	
v	Medical College	10,00,000	1	500	-	-	15.00	Includes space for specialize general Hospitalize

Notes:

- One crèche for a population of 25,000 in an area of 0.05 hectare shall be provided. This could be made integral part of any category of educational institutions with addition of the area of the crèche.
- Number of units in each category shall be based on the population prescribed above. In case the population for the area works out to be merely 50% norms specified above, in such cases individual sites in that category shall be provided. Additional sites shall be provided in case balance population exceeds 50% of the standards prescribed above.
- In case of higher student capacity, the built up and open area shall be increased proportionately.
- In order to economize on the land and optimize the infrastructure, educational institutions could be run on double shift basis.
- The open space shall be sow designed in order to ensure that hey are also made available to the community as play area in the time when it is not being used by the institution.

- Adequate area for plantation shall also be earmarked in order to improve the quality of environs and area under tree cover.
- Adequate arrangement for parking and buses, vehicles of students/staff shall be made.
- Unless specified in the zoning plan and building bye-laws, the ground coverage, FAR ,height and various categories of buildings shall be as under .

Table 79: Permissible Levels of Education Facilities

Category	Maximum Ground Coverage	Maximum permissible height	FAR
Nursery School	40%	8 mtrs.	0.75
Primary School	40%	8 mtrs.	0.75
Higher Sec.School	33%	15 mtrs.	1.00
Colleges	33%	15 mtrs	1.00
Uni/Tech/Prof. Inst.	25%	20 mtrs.	1.00

Basement should be allowed under the built up area up to the maximum extent of ground coverage. It shall be used for parking, services, storage etc. It shall not be used for habitable purposes. No classes or other student's activities shall be held in the basement. Basement area shall not be counted towards FAR.

In case of large institutions, area for academics, residential, sports and cultural activities, parks and landscape shall be clearly defined. The area under academics shall not exceed 45%, residential 25%, sports and cultural activities 15% and parks and landscape 15%.

NORMS FOR THE HEALTH CARE 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 activity area including commercial, industrial, institutional etc. well defined hierarchy will be essential to meet both the basic and specialized needs of the health care. Adequate arrangements would be critical to provide for greater role of private sector in healthcare by making available required proportion of site for the sector. The healthcare facility of various grades to be provided in the town/city shall be based on the following norms:

Table 80: Norms for Health Facilities

S.No.	Category	Population	Unit	Area (Hectares)	Remarks
1.	Nursing Home	7,500	1	0.10	Capacity of 5-10 beds
2.	Dispensary	15,000	1	0.12-0.15	For outdoor treatment only
3	Health Centre	50,000	1	0.4	Capacity of 25-30 beds
4	Poly Clinic	1,00,000	1	0.4	with some observation beds
5	Intermediate Hospital (category B)	1,00,000	1	0.1 i)for hospital 0.6 ii)for residential 0.4	capacity of 80 beds with initial provision of 50 including 20 maternity beds
6.	Intermediate	1,00,000	1	3.70	capacity of 200 beds with

S.No.	Category	Population	Unit	Area (Hectares)	Remarks
	Hospital (category A)			i)for hospital 2.70 ii)for residential 1.0	initial provision of 100 beds
7.	General Hospital	2,50,000	1	6.00 i)for hospital 4.00 ii)for residential 2.00	capacity of 500 beds with initial provision of 300 beds
8.	Multi Specialty Hospital	1,00,000	1	9.00 i)for hospital 6.00 ii)for residential 3.00	capacity of 200 beds with initial provision of 100 beds
9.	Specialty Hospital	1,00,000	1	3.70 i)for hospital 2.70 ii)for residential 1.00	capacity of 200 beds with initial provision of 100 beds

Note:

- In case of specific requirements for medical facilities other than those indicated above , additional sites may be provided for catering to specialize needs of healthcare.
- All Medical colleges shall also include provision of medical hospital of 500 beds as integral part of the complex.
- Additional sites may be provided in case of Regional/National level healthcare institutes which are to be located as part of the city.

The height, ground coverage, FAR, setbacks for various sites shall be as defined in the building bye-laws, zoning plans and development control regulations.

I NORMS FOR FIRE STATION

Table 81: Fire Station Norms

S.N.	CATEGORY	POPULATION PER UNIT	MINIMUM AREA	REMARKS
1	Fire station with essential residential accommodation	1 for every 2,00,000	1 Hectare.	
2	Sub-Fire station with essential residential accommodation	1 for every 2,00,000	0.6 Hectare.	

- One Fire Station/Sub-Fire station to be provided within distance of 1-3 kms covering a population of 2,00,000
- 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 storyed buildings.

II NORMS FOR SECURITY - POLICE, CIVIL DEFENCE AND HOME GUARD

Table 82: Police/Defence Norms

S.N.	CATEGORY	POPULATION PER UNIT	MINIMUM AREA	REMARKS
1	Police Station	90,000	1.50 Hectares	* In case of civil defence and home

				guard additional area of 0.05 hectare to be provided. ** Area includes essential residential accommodation
2	Police Post	40,000-50,000	0.16 Hectares	*Area includes essential residential accommodation ** To be provided where area is not served by Police Station
3	District. Office and Battalion	10,00,000	4.80 Hectares *(for District. Office =0.80 for Battalion =4.00 Hcts.)	
4	Police Lines	20,00,000	4.00-6.00 Hectares	
5	District. Jail	10,00,000	10.00 Hectares	
6	Civil Defence & Home Guards	10,00,000	2.00 Hectares	

III SOCIAL CULTURAL FACILITIES

Table 83: Socio Cultural Norms

S.N.	CATEGORY	POPULATION PER UNIT	MINIMUM AREA
1	Community Room	5,000	1000 sqm (0.1 Hct)
2	Community Centre	15,000	2500 sqm (0.25 Hect).
3	Re-creational Club	1,00,000	10000 sqm. (1.0 Hct)
4	Music Dance, Drama Centre	1,00,000	1500 sqm. (0.15 Hct)
5	Meditation & Spiritual Centre	1,00,000	5000 sqm. (0.5 Hct)
6	Socio Cultural Centre	10,00,000	150000 sqm. (15.00 Hct)
7	Religious Sites (Mandir, Gurudwaras & Churches)	15,000 (3 sites provided in each sector)	1000 sqm. (0.10 Hct)

IV SPORTS ACTIVITIES

Table 84: Standards for Sports Activities

S.N.	CATEGORY	POPULATION PER UNIT	MINIMUM AREA	REMARKS
1	Residential unit play area	5,000	0.5 Hct	
2	Neighbourhood play area	15,000	1.50 Hects.	
3	District sport centre	1,00,000	.8.0 Hcts	
4	Divisional sports centre/City sports centre	10,00,000	20.00 Hcts.	

V POSTAL FACILITIES

Table 85: Standards for Postal Facilities

S.N.	CATEGORY	POPULATION PER UNIT	MINIMUM AREA	REMARKS
1	Post office counter without delivery	15,000	85 sqm.	To be provided in shopping centre
2	Head Post Office with delivery	2,50,000	750 sqm.	

	office			
3	Head Post Office & Administrative Office	5,00,000	2500 sqm.	

VI TELEPHOENE & TELEGRAPHS

Table 86: Standards for telephone and telegraph services

S.N.	CATEGORY	POPULATION PER UNIT	MINIMUM AREA	REMARKS
1	Telephone Exchange for 40,000 lines	4,00,000	4.00 Ha.	
2	Telegraph Booking Counter	1,00,000	200 sqm.	To be provided as part of the commercial area
3	Telegraph Booking & Delivery Office	5,00,000	1700 sqm.	To be provided as part of the commercial area

NORMS FOR THE COMMERCIAL AREAS

Table 87: Commercial Area norms

Category	Population	Unit	Area (In Sq. Mts.)	No of units	Norms for shops	Area/ 1000 Persons (In Sq. Mts.)
Convenient Shopping	5,000	1	1500	37	1 for 110 Persons	220
Local shopping	15,000	1	4600	77	1 for 200 Persons	300
Community Centre	1,00,000	1	50,000	475	1 for 200 Persons	500
District Centre	5,00,000	1	75,000	1,620 (Both & Informal	1 for 300 Persons	880
Local Wholesale Market	10,00,000	1	1,00,000	--	--	--
Weekly Markets	1,00,000	1-2	4,000	300-400 Shops	--	--
Organized informal eating space	1,00,000	1	2,000			

Hierarchy to be followed for Commercial Centre

- Formal Shopping
- Convenient Shopping to be provided at cluster level
- Local shopping to be provided at sector level
- Community Centre to be provided for a group of sectors
- District Centre to be provided at the level of group of community centres
- Sub City Centre to be provided at the level of sub city
- City Centre to be provided at city level
- Local Wholesale Market to be provided at city level
- Informal shopping
- Weekly Markets to be provided for group of sectors
- Organized informal eating space to be provided at the traffic nodes

NOTE:

Above hierarchy of commercial areas to be provided depending upon the size of the city.

- In case of small towns, shopping at housing cluster, sector and community levels shall be provided.
- In case of medium towns, shopping at housing cluster, sector, community & district levels shall be provided.
- In case of large towns/cities, shopping at housing cluster, sector, community, district, sub – city & city levels shall be provided.
- All shopping areas are to be provided with adequate parking as per the prescribed norms

10.6 STRATEGY FOR OBTAINING LAND FOR PUBLIC PURPOSES

A city typically requires 40 to 50% of its area for variety of public purposes. Where land is owned by the state as in Delhi, Chandigarh or Navi Mumbai it is easier to allocate land of public purposes. However where private land market is active, how to ensure land for public purpose it is a major challenge in preparing Master Plans. Conventional master planning relied on the powers of compulsory acquisition of land designated in the master plan for public purposes. However limitations of this approach have been painfully exposed. At the same time not addressing the question of land for public purposes may limit the utility of the master plan itself.

With this background a wide menu of strategies to obtain land for public purposes is examined in this chapter. The land required for public purpose can be divided into four-fold classification as illustrated in diagram below.

	A Specific Location	**B** Flexible Location
A. Positive impact on land prices	**AA** Arterial Road network	**AB** Parks, play grounds, schools etc.
B. Negative price or environmental impact invoking NIMBY response.	**BA** Sewage Pumping Stations and treatment plants	**BB** Solid waste disposal sites

(In many cases necessity of a particular activity at the city scale is recognised e.g. solid waste disposal site or a slaughterhouse. But they are locally undesirable and invoke "Not in My Backyard" response.)

No single alternative needs to be used throughout the city. It may vary for example, in core areas v/s outlying areas. Similarly different alternatives may be suitable for different types of public purposes. The possible alternatives for obtaining land for public purposes such as

roads, educational, health, parks, water supply, sewerage, social and religious institutes, old age homes, community centers etc with their limitations are listed as below.

10.6.1 THROUGH O.U.V.G.L. SCHEME

Identifying vacant government land (including municipal land) and using it as source for providing land for public purposes. However given the need for using government land for generating financial resources, entire stock of government land need not be assigned to non-remunerative public purposes. In fact government land would offer many opportunities for PPP where part of the land could be used for public purpose. For example a plot of government land could be allocated for an intercity bus terminal with a budget hotel.

Rationalising obsolete uses of public lands could be another way of putting public land to more relevant public purpose. Old jail or an agricultural produce market in the congested part of the city is common examples. But this requires public land at other location.

Make specific designations on the master plan and then proceed with compulsory acquisition of land. Impracticability of this is too well known to be recounted here. But this may be unavoidable in certain cases – particularly 'A' category public purpose.

10.6.2 THROUGH T.D.R.

Alternative to monetary compensation could be award of Transfer of Development Rights either to remainder of the land or to a distant location. This could be in three generic cases viz.

Roads and Road widening: Development rights calculated at the FAR permissible in adjoining area may be allowed to be used in the remainder of the plot up to a limit. Development rights that cannot be so consumed can be transferred elsewhere in receiving areas. If FAR is related to width of the road, resistance to widening may get reduced.

Public purposes on open land or exclusive plots: Lands required for parks and playgrounds or exclusive uses like secondary school, fire station etc. can receive TDRs in lieu of compensation. Weight related to price differentials in originating and receiving zones could be considered as an incentive.

Public purposes that require built-up space but not necessarily exclusive plot: Examples of this could be municipal vegetable market, library etc. In such cases landowner may be allowed to fully use his development rights provided that he offers the built up space required for the public purpose.

10.6.3 THROUGH PAPR ACT 1995

Layout and Sub-division Regulations: These regulations depending upon the total area of layout can provide for some reservation for general public purpose in addition to local requirements. This is currently being used under the colonisation rules operated under the PAPRA Act.

10.6.4THROUGH LAND POOLING OR TOWN PLANNING (DEVELOPMENT) SCHEMES

As per the provisions of section 91 (Chapter XII) of Punjab Regional and Town Planning & Development (Amendment) Act, 2006, the concerned Authority may for the purpose of implementation of the provision of the Master Plan or for providing amenities where the same are not available or are inadequate, frame the Town Development Scheme and land for various amenities can be earmarked as per the provisions of sub section 2(g) of section 91.

The strategic approach would relate to geographically depicting the sites required for public purpose and proposing regulatory framework for obtaining the land for public purpose whether shown on the plan or not. For this, master plan has to consider a wide menu. Described below is a possible menu. Admittedly all items on the menu may not be available for every city.

Table 88: Strategy for Obtaining Land for Public Purpose

Alternative	Land Acquisition through 1894 Act	TDR	Development of land through PAPR Act 1995, TDS under PRTPD Act 2006 and Development Schemes under PTI Act, 1922	Land Pooling	Govt / Panchayat / Waqf Board lands
Plan Proposal	Land designated for public purposes	Land designated for public purposes	Land designated for public purposes	Land designated for public purposes	Land designated for public purposes
Regulation	No separate regulatory provision necessary	Regulation about use of TDR on receiving plots is necessary	Certain proportion (about 40%) of land is dedicated for public purposes.	This requires a separate legal process to be followed of reconstitution of plots along with evaluation of compensation and betterment as provided in Chapter XII of the 1995 Act.	No separate regulatory provision necessary
Means of	Compulsory	Monetary	Availability of		Land can be

securing land	acquisition by paying monetary compensation	compensation substituted by Transfer of Development Rights (TDR)	land through layout plan provisions		made available through transfer of ownership from one department to another. No monetary compensation is involved.
Limitations	Lack of finances for compensation	Lack of finances for compensation	This is the method currently relied upon where minimum area for colony is set at 10 acres, as in case of PAPRA.	Comprehensive Land Pooling Policy is required to be framed.	Locational disadvantages in certain cases.
	Landowners' resistance	Landowners' resistance	This is to be market driven and present response is said to be not so encouraging.	Difficulty in pooling of land of large number of owners.	Minimum area requirement may not be fulfilled
	Iniquitous distribution of costs and benefits. Cost borne by those who lose land and benefits enjoyed by surrounding landowners	Iniquitous distribution of costs and benefits. Cost borne by those who lose land and benefits enjoyed by surrounding landowners		Time consuming and complicated process	Source of revenue for Panchayat Bodies / Waqf Board gets depleted.
		But where real estate prices are high particularly where land price is several times the construction cost, chances of success are high.		Equitable distribution of costs and benefits to different share holders.	
		Could also be used for heritage conservation.		New concept difficult to be implemented.	
		New concept difficult to be implemented.			

Given the details included in the Master Plan, it is not possible to specify which of the above techniques will be used for obtaining land for public purpose. This would be address in the detail zone plans.

CHAPTER 11
DEVELOPMENT CONTROL & ZONING REGULATIONS

11.1 SECTION I: ZONING REGULATIONS

The zoning regulations proposed under this Master Plan are primarily concerned with the control of land use. The Proposed Land Use Plan includes following land use zones:

- Residential
- Commercial
- Mixed Land Use
- Industrial
- Agriculture and Water Bodies

In addition, specific designated uses have been shown in respect of Recreational, Traffic & Transportation, Utilities & Services, Governmental and Public & Semi-Public facilities including Protected Monuments and other heritage sites.

The sub-division of land, design and construction of buildings falling within the different land uses shall be controlled through Building Byelaws applicable to the area and the zoning regulations defined in this chapter and those framed by the competent authority from time to time. The zoning regulations under the Master Plan are seen as the guiding parameters for these agencies to ensure that the development permitted by them is in conformity with the Master Plan.

11.1.1 USE AND DEVELOPMENT OF LAND TO BE IN CONFORMITY WITH MASTER PLAN

Section 79 of the Punjab Regional and Town Planning and Development (Amendment) Act 2006 provides:

After coming into operation of this Master Plan, no person shall use or permit to use any land or carry out any development in any area otherwise than in conformity with such Master Plan, provided that the Competent Authority may allow the continuance of any use of any land, for a period not exceeding ten years, upon such terms and conditions as may be provided by Regulations made in this behalf for the purpose and to the extent, for and to, which it was being used on the date on which such a Master Plan came into operation.

To give incentive and to encourage users to move from the non-conforming landuse zone to the landuse zone, where the use is in conformity with the Master Plan, CLU charges and EDC

will be waived off.

11.1.2 THE ZONING REGULATIONS PROPOSED FOR ADOPTION IN LPA GURDASPUR ARE PRESENTED BELOW:

Chief Town Planner, Punjab being the Planning Agency designated under Section 57 of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 for the Local Planning Area declared under Section 56 of the said Act, following the requirement under clause (d) of sub section 1 of Section 70 of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 hereby makes following Zoning Regulations as a part of the Master Plan prepared for the Gurdaspur Local Planning Area.

11.1.3 SHORT TITLE, SCOPE, EXTENT & COMMENCEMENT

1. Title

These regulations shall be called the Zoning Regulations for Gurdaspur Local Planning Area (herein after referred to as "Regulations").

2. Scope of the Regulations

The scope of these regulations is limited to defining permissible land uses in various land use zones depicted in the Proposed Landuse Plan forming part of the Master Plan. Other aspects of development such as sub-division and layout of land or intensity of development measured through FAR, ground coverage, parking requirements, building design and construction etc. will be governed by other Acts, Rules/Byelaws and Regulations promulgated by Government from time to time. Competent Authorities under such regulations shall ensure that the development permitted by them is in conformity with these Regulations.

3. Jurisdiction

These Regulations shall apply to all "development" in the Gurdaspur Local Planning Area, declared under section 56 of the Punjab Regional and Town Planning and Development Act 1995 *vide* notification no.12/4/2007 – 4 HG1/6784 dated 22nd August 2007 and revised notification no. 12/4/2007 – 4 HG2/6784 dated 5th August 2010.

4. Date of Coming into Force

These Regulations shall come into force on the day on which the designated Planning Agency publishes the Final Master Plan and the Regulations in the Official Gazette after obtaining the approval of the State Government under sub-section (5) of Section 70 of the

Punjab Regional and Town Planning and Development (Amendment) Act, 2006.

11.1.4 DEFINITIONS

For the purpose of these Zoning Regulations, the following definitions, unless the context otherwise requires, shall apply:

a. **"Act"** means the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 (Punjab Act No. 11 of 1995) as amended from time to time.

b. **"Atta Chakki":** Atta Chakki, a service industry where:
Grinding of food grains is carried out through the process of crushing under the load and rotational movement of two plates or blocks, with maximum electric load not exceeding 20 KW, with limited retail /sale of flour permitted.

c. **"Chief Town Planner"** means the Chief Town Planner of the Department of Town & Country Planning, Punjab or any other officer to whom his powers are delegated.

d. **"Existing Land Use Plan"** means the Plan showing the different landuse existing at the time of preparation of the Existing Land Use Plan of Gurdaspur Local Planning Area and as indicated on No. DTP (G) 24/09 Dated 25-8-09Revised 15/2010 Dated 07-09-2010.

e. **"Farm House**" Farm house means a building allowed on a holding of agricultural land for residential and agricultural related activity of the land holder.

f. **"General Industry"** shall include all categories of industries (small scale, medium/ large scale) except special industries (highly obnoxious, hazardous, inflammable, non-compatible and polluting industries as defined by Punjab Pollution Control Board).

g. **"Government"** means the Government of the State of Punjab.

h. "**Household Industry"** Household Industry means occupation/activity, which is permitted to be conducted in the dwelling unit with or without power and which is non-polluting/non hazardous, subject to the terms and conditions specified by the Competent Authority.

i. **"Knowledge Park":** An area having all such uses and activities, which are confirming and do not include such uses/activities, which are polluting, hazardous and creating environmental problems. The activities/uses to be permitted shall be free from noise and vibrations, having no polluting effects on air and water and causing no public nuisance whatsoever. The uses in such park shall be as determined by the Chief Town Planner, Punjab from time to time.

j. **"Logistic Park"** an integrated facility to serve as a business hub for storage, insurance and distribution purposes for the trading of manufactured products.

k. **"Local Planning Area"** means the Local Planning Area declared under section 56 (1) of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 (Punjab Act No. 11 of 1995) *vide* notification no.12/4/2007 – 4 HG1/6784 dated 22nd August 2007 and revised notification no. 12/4/2007 – 4 HG2/6784 dated 5th August 2010.

l. **"Mixed Landuse"** means the multiple confirming use of land (except orange & red category industries) which is allowed on a plot of land subject to fulfillment of planning norms and environmental safeguards.

m. **"Non-Conforming Building or Use"** means building/use in respect of any land or building in the Local Planning Area, the existing use of which land or building is not in conformity or contrary to the prescribed land use in the Master Plan.

n. **"Planning Agency "** means the Chief Town Planner, Punjab designated as such under Section 57 of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 (Punjab Act No. 11 of 1995) as amended from time to time for Gurdaspur Local Planning Area.

o. **"Proposed Landuse Plan"** means the plan showing the proposed/admissible uses of different areas and Land use zones covered in the Gurdaspur Local Planning Area and as indicated on the Drawing No. DTP (G) 25/2010 dated 16.12.2010.

p. **Public and Semi Public Activities:** Public and semi public activities means governmental/ semi governmental offices, educational/cultural, religious and medical/health institutions, community centers, etc.

q. **"Sector Plan" (Zonal Plan)** means the detailed plan of a sector/zone, as indicated in the Master Plan and approved by the Chief Town Planner, Punjab showing all or any of the following:-

- Major road network, location of main utilities/sites, green belts/buffers, water bodies or other restrictions imposed on the development.
- Area temporarily or permanently prohibited for the building operation.
- Permissible land uses.
- Any other detail provided in the Layout Plan.

r. **"Special Industry"** shall include industries, which are highly obnoxious, hazardous, inflammable, non-compatible, polluting industries as defined by Punjab Pollution Control Board from time to time.

s. "**Zoning Plan"** means the plan of an area or part thereof or supplementary layout plan approved by the Chief Town Planner, Punjab and maintained in the office of Competent Authority showing the permitted use of land and such other restrictions on the development of land as may be prescribed in the zoning regulations, for any part or whole of the area such as sub-division of plots, open spaces, streets, position of protected trees and other features in respect of each plot, permitted land use, building, land, height, coverage and restrictions with regard to the use and development of each plot in addition to such other condition as laid down in these Regulations hereinafter.

Terms used, but not defined in these Regulations, shall have the same meaning as assigned to them in the Act/Rules.

11.1.5 LANDUSE ZONES

The Proposed Land use Plan of Gurdaspur LPA includes the following land use Zones:

- Residential
- Commercial
- Industrial
- Mixed Landuse
- Recreational
- Rural and Agricultural

11.1.6 LANDUSE CLASSES

For the purposes of these Regulations, the above landuses have been grouped into various landuse classes. Each class of landuse has been given a specific code. The Landuse Classes and Landuse Codes are detailed below:

Table 29: Landuse Classes with Class Codes

Sr. No.	Landuse Class	Use Class Code
1	Housing	A
2	Trade and Commerce	B
3	Manufacturing	C
4	Transport, Storage & Warehousing	D
5	Offices	E
6	Education, Training and Research Institutes	F
7	Healthcare Facilities	G
8	Recreational, Entertainment, Cultural and Religious Activities	H
9	Public Utilities and Services	I
10	Agriculture, Forestry and Fishing	J

11.1.7 USE PROVISIONS IN LANDUSE ZONES

The following table describes the landuse classes and their sub-classes along with the uses permitted in various landuse zones. The shaded cells in the table indicate that the use is generally permissible. A number in the cell indicates the conditions, subject to which the use is permissible. The conditions have been listed at the end of the table.

Table 30 : Land Use Zones and Permissible Land Uses

CLASS CODE/ SUB CODE	LAND USE CLASS/SUB CLASS	LAND USE ZONES					
		Residential	Commercial	Industrial	Mixed	Recreational	Rural and Agricultural
A	**Housing**						
A1	Residential houses in the form of Plotted Development, Flatted Development, Group Housing, Farm Houses for Customary Residence			1			2
A2	Old Age Homes, Orphanages, Hostels for Students, Working Women etc., Boarding Houses			1			
A3	Service Apartments, Hotels including Star Hotels, Motels, Guest Houses, Dharamshalas, Lodging Houses			3			
A4	Jails, Asylums, Reformatories and the like						
A5	Residences for Watch and Ward Staff, Residences for Industrial Workers/Management			1			
A6	Housing not classified above						
B	**Trade and Commerce**						
B1	Retail Trade including Markets for Fruits and Vegetables, Meat and Fish; Super Markets, Informal Shopping, Rehri Market						
B2	Department Stores, Malls including Super Market, Restaurants and Multiplexes						
B3	Personal and Community Services like Laundry, Hair Dressing, Beauty Parlours, Tailoring, Coaching Classes, Cyber Cafes, Atta Chakki, Repair of Household Appliances, Bank Branches, ATM, Boutiques, Phone Booths, Pan Shop, Chemist Shop, Sweet Shop, Tea Stall, Electric & Electronic Shop with Repair Facilities, Photo Studio, Property Dealer Shop, Dairy Products, Cable TV, Readymade Garments, Cycle and Motorcycle Repair, Stationery Shop, etc.						
B4	Wholesale trade with storage of commodities	4		4			4
B5	Filling Station (Petrol Pump) *						
B6	Kerosene Storage/Gas Godown/Coal/Wood Storage	5	5	5	5		4
B7	Gas Distribution (without Storage of Cylinders)						
B8	Trade Fares, Exhibition and Convention Centres						
B9	Showroom of Mills/ Factory Retail Outlets, Auto Showrooms and Auto Workshops						

CLASS CODE/ SUB CODE	LAND USE CLASS/SUB CLASS	LAND USE ZONES					
		Residential	Commercial	Industrial	Mixed	Recreational	Rural and Agricultural
B10	Marriage Palaces**	4	4				4
B11	Trade Not Classified Above						
C	**Manufacturing (NIC-2008, Section C)*** **						
C1	Manufacture of Food Products (NIC Division 10)	6	6		7		7
C2	Manufacture of Beverages (NIC Division 11)						
C3	Manufacture of Textiles (NIC Division 13)						
C4	Manufacture of Wearing Apparel (NIC Division 14)				7		
C5	Manufacture of Leather and Related Products (NIC Division 15)						
C6	Manufacture of Wood and Products of Wood and Cork; Saw Mill; Except Manufacture of Furniture (NIC Division 16)				7		
C7	Manufacture of Paper and Paper Products (NIC Division 17)						
C8	Printing and Reproduction of Recorded Media (NIC Division 18)						
C9	Manufacture of Coke and Refined Petroleum Products (NIC Division 19)						
C10	Manufacture of Chemicals and Chemical Products (NIC Division 20)						
C11	Manufacture of Pharmaceuticals, Medicinal, Chemical and Botanical Products (NIC Division 21)						
C12	Manufacture of Rubber and Plastics Products (NIC Division 22)						
C13	Manufacture of Other Non-Metallic Mineral Products (NIC Division 23)						
C14	Manufacture of Basic Metals (NIC Division 24)						
C15	Manufacture of Fabricated Metal Products, except Machinery and Equipment (NIC Division 25)						
C16	Manufacture of Computer, Electronic and Optical Products (NIC Division 26)						
C17	Manufacture of Electrical Equipment (NIC Division 27)						
C18	Manufacture of Machinery and Equipment n.e.c.(NIC Division 28)						
C19	Manufacture of Motor Vehicles, Trailers and Semi-Trailers (NIC Division 29)						
C20	Manufacture of Other Transport Equipment (NIC Division 30)						
C21	Manufacture of Furniture (NIC Division 31) except Saw Mill	4					
C22	Other Manufacturing (NIC 32)						

CLASS CODE/ SUB CODE	LAND USE CLASS/SUB CLASS	LAND USE ZONES					
		Residential	Commercial	Industrial	Mixed	Recreational	Rural and Agricultural
C23	Repair of Machinery and Equipment (NIC Division 33)	4					
C24	Milk Chilling (Independent Plot), Pastuerization Plant, Cold Storage, Ice Factory		4		7		
C25	Rice Shellers, Processing of Farm Products, Brick Kilns, Lime/ Charcoal Kilns						8
C26	Cottage Industry, Repair of Household Articles, Cycles and scooters repair, Household Industry	4					
C27	I.T. Park, Knowledge Park	4					
C28	Cement, Sand and Concrete Mixing Plant (Batching plant), Bitumen, Sand, Concrete Mixing Plant(Hot Mix Plant)						
C29	Manufacture, Storage and Sale of Fire Works	9	9		9		10
D	**Transport, Storage and Warehousing**						
D1	Warehousing and Storage Activities for Transportation (NIC Division 52) and Loading & Unloading Yard						4
D2	Rail and Air Freight Terminals						4
D3	Truck Terminals						
D4	Bus Terminals, Auto-Rickshaw/ Taxi/Two Wheeler/Cycle Stand, Bus Shelters						
D5	Warehousing, Logistic Park, Storage & Godowns, Freight Complex, Container Yards						4
E	**Offices**						
E1	Publishing of Books, Periodicals and Other Publishing Activities (NIC Group 581) Software Publishing (NIC Group 582)				7		
E2	Motion Picture, Video and Television Programme Production, Sound Recording and Music Publishing Activities (NIC Division 59)						
E3	Broadcasting and Programming Activities (NIC Division 60)	11					
E4	Telecommunications (NIC Group 61), Govt./ Semi-Govt. / Private Business Offices	11					
E5	Computer Programming, Consultancy and Related Activities (NIC Division 62)	11					
E6	Information Service Activities (NIC Division 63)	11					
E7	Finance, Banking and Insurance (NIC Section K)	11					4
E8	Real Estate Activities (NIC Section L)	4					
E9	Professional, Scientific and Technical Activities (NIC Section M)	4					
E10	Administrative and Support Services (NIC Section N)	4					
E11	Public Administration and Defence; Compulsory Social Security (NIC Section O)	4					

CLASS CODE/ SUB CODE	LAND USE CLASS/SUB CLASS	LAND USE ZONES					
		Residential	Commercial	Industrial	Mixed	Recreational	Rural and Agricultural
E12	Professional Services like Lawyers, Chartered Accountants, Architects, Engineers, Doctors, etc.	4					
F	**Educational, Training and Research Institutes**						
F1	Pre-Primary Schools, Play Schools, Kindergarten	4					12
F2	Primary Schools	4					12
F3	Secondary Schools, Colleges, Vocational Training Institutes	4					12
F4	Research and Training Centers, Universities, Centres of Advanced Education and Training like IIM or IIT	4					12
F5	Educational, Training and Research Institutes not classified above	4					12
G	**Healthcare Facilities**						
G1	Medical and Dental Clinics, Dispensaries, Pathology Lab	13					12
G2	Hospitals (NIC Group 861) and Health Centre	13					12
G3	Nursing Care Facilities (NIC Group 871)	13					
G4	Residential Care Activities for Mental Retardation, Mental Health and Substance Abuse (NIC Group 872)	4					12
G5	Residential Care Activities for the Elderly and Disabled (NIC Group 873)	4					12
G6	Veterinary Services	4					12
G7	Health Care Facilities not classified above.	4					
H	**Recreational, Entertainment, Cultural and Religious Activities**						
H1	Creative, Arts and Entertainment Activities (NIC Division 90) and Multimedia	4					
H2	Libraries, Archives, Museums and Other Cultural Activities (NIC Division 91)	4					
H3	Gambling and Betting Activities (NIC Division 92) e.g. Race Course	4					15
H4	Sports Activities and Amusement and Recreational Activities (NIC Division 93), Tot-lots, Playgrounds, Stadia, Golf Courses etc.	4					12
H5	Places of Worship	4					12
H6	Arts, Entertainment and Recreational Activities not classified above including Convention Centre	4					4
I	**Public Utilities and Services**						
I-1	Electricity, Gas, Steam and Air Conditioning Supply (NIC Section D)	4					4
I-2	Water Collection, Treatment and Supply (NIC Division 36)	4					4
I-3	Sewerage (NIC Division 37)	4					4
I-4	Waste Collection, Treatment and Disposal Activities; Materials Recovery (NIC Division 38)	4, 14	4,14	4	4,14		4

CLASS CODE/ SUB CODE	LAND USE CLASS/SUB CLASS	LAND USE ZONES					
		Residential	Commercial	Industrial	Mixed	Recreational	Rural and Agricultural
I-5	Postal and Courier Activities (NIC Division 53)	11					12
I-6	Police Station	4					4
I-7	Fire Station	4					4
I-8	Cemeteries, Graveyards, Cremation Grounds	4					4
I-9	Telecommunication Towers/Antenna	4					4
I-10	Public Utilities and Services not classified above	4					4
J	**Agriculture, Forestry and Fishing (NIC Section A)**						
J1	Crop and Animal Production, Hunting and Related Service Activities (NIC Division 01)						12
J2	Land Conservation and Preservation Measures such as Storage, Check Dams and other Water Harvesting Measures						
J3	Fishing and Aquaculture (NIC Division 03)						
J4	Quarrying of Stone, Sand and Clay (NIC Group 081)						
J5	Plant Nursery and Greenhouses related to Nursery, Floriculture	4				4	

Notes:		
NIC	National Industrial Classification (All Economic Activities) 2008, Central Statistical Organisation, Ministry of Statistics and Programme Implementation, Government of India	
A	Shaded areas indicate that the use class is permissible in the zone	
B	Shaded area with number /notation indicates use permitted subject to the conditions prescribed	
	Only Housing for the Industrial Workers/ Essential Staff	1
	Only Farm Houses permissible in the zone	2
	Only Star Hotels and Guest Houses	3
	Only within the area designated and/or under specific conditions defined by the Competent Authority from time to time.	4
	Only Kerosene, Coal and Wood Storage	5
	Only Bakery, Flour Mill	6
	Only Green Industries	7
	Only Brick Kilns, Lime/Charcoal Kilns, etc.	8
	Only Retail Sale of Fire Works	9
	Only Manufacturing and Storage of Fire Works	10
	Only within the identified Commercial Areas	11
	Only Govt. approved Projects/Schemes	12
	Subject to fulfillment of conditions of Pb. Govt. Notification No. 17/17/5-Hg2/311 dated 11.01.08 and instructions issued from time to time	13
	Only Collection Centre	14
	Only Race Course	15
* The siting of petrol pumps shall be subject to instruction/guidelines of IRC/ MORTH/TCPO/Punjab Govt. issued from time to time.		
** Marriage Palaces shall be permitted based on the conditions specified by the Competent Authority from time to time		
*** All types of industries permitted in the designated landuse zone are subject to the fulfillment of requirements of different departments		
C	Minimum area required for Educational and Health care facilities shall be as defined above or as prescribed by government or the accrediting authorities from time to time.	
	All developments will be subject to Environmental Clearance wherever required.	
	Minimum width of the access road for all public places involving "Assembly/Occupancy" shall be 18 m.	
	Minimum width of the access road for the Atta Chakki shall be 18 m.	
	Minimum width of access road for warehousing uses shall be 80 feet.	
	The activities not mentioned in the table above but found compatible for particular landuse zone shall be permissible with the approval of Competent Authority.	

Note:

In addition to the landuses permitted above, the following conditions shall be required to be completed:

- **Residential**

1) The location of following activities shall be permitted in the residential areas abutting roads of minimum R.O.W. 18 m or above in approved residential colonies: Primary/Sr.

Secondary school (including Nursery/Montessori School, Creche), Nursing Home, Clinic, Dispensary, Pathology Lab and Diagnostic Centre, Bank, Fitness Centre (including Gymnasium, Yoga/Meditation Centre), Coaching Centre, Tuition Centre other than those imparting structured courses leading directly to the award of a degree or diploma.

2) Retail/Convenient Shopping shall be allowed subject to the terms and conditions prescribed in the para 11.2.2. Minimum width of access road for warehousing uses shall be 80 feet.

3) a) Professional activities in residential area is permissible in plotted development and group housing involving services based on professional skills namely Doctor, Lawyer, Architect, Chartered Accountant, Company Secretary, Cost and Works Accountant, Engineer, Town Planner, Media Professionals and Documentary Filmmaker.

b) Professional activity shall be permitted on ground floor in case of plotted development, and in the case of flatted development having multiple ownership in the area of flat, subject to maximum of 25% of the permissible/sanctioned FAR/constructed area, whichever is less.

- **Mixed Landuse**

1) All landuses, which are compatible including industries, except the orange and red category industries, shall be permitted in the mixed landuse zone.

2) In case of the standalone projects having depth more than the prescribed depth of the mixed landuse in the Proposed Landuse Plan, such projects shall be considered for approval irrespective of the prescribed depth of the mixed landuse.

11.1.8 DESIGNATED AREAS

In addition to the landuses defined in para 11.1.5, following uses have also been specifically designated in the Proposed Land Use Plan.

- Traffic and Transportation
- Utilities
- Government
- Public and Semi Public

11.1.8.1 Use Provisions in Designated Areas

Following uses are permissible in the Designated Areas mentioned above:

- **Traffic & Transportation: Uses Permissible**

Rail Yards, Railway Station & Sidings, Transport Nagar (including Post & Telegraph Offices & Telephone Exchange, Dhabas, Labour Yards, Areas for Loading and Unloading,

Stores, Depots and Offices of Goods Booking Agencies, Petrol Filling Station & Service Garages, Parking Spaces, Public Utilities and Buildings), Bus Terminus & Depot, Bus Stop Shelter, Taxi/ Tonga/ Rickshaw/Scooter Stands, Parking Spaces and other support infrastructure/facilities.

- **Utilities: Uses Permissible**

Water Supply, Drainage, Storm Water, Wastes Processing and Disposal, Electricity, Communication Systems, Network and Related Installations, etc.

- **Government: Uses Permissible**

Governmental and Semi Governmental Offices, Governmental Administrative Centers, Projects/Activities undertaken from time to time to meet the operational/administrative needs of the govt. etc.

The landuse of all central/state govt. lands shall be as determined by the respective governments from time to time.

In case of land belonging to the Development Authorities/Improvement Trusts/Local Bodies or any parastatal agencies, its use shall be as determined by such agencies subject to the prior approval of the Department of Housing and Urban Development and the State Government.

The use of land covered under Optimum Utilization of Vacant Government Land (OUVGL) Scheme of the State Government shall be as determined by the Government at any appropriate time notwithstanding the provisions of these regulations.

In case of Defence Land, the uses permitted shall be as determined by the Ministry of Defence from time to time with prior consultation to the competent authority.

- **Public and Semi-Public: Uses Permissible**

Educational including Schools, Colleges, Universities, Vocational Training Institutes, Technical Institutes, etc., Healthcare including Dispensaries, Hospitals, Nursing Homes, Super Speciality Hospitals, etc., Cultural and Religious institutions including Theatre, Auditorium, Community Center, Club, Orphanage, Old Age Home, Temples/Gurudwaras/Churches/Masjids, etc., Banks, Police Stations, Fire Stations, Cremation Ground, Playground, Stadium, etc.

- **Prohibited Uses**

i) Forest Areas: Uses Permissible

The use of the land notified under the Indian Forest Act, 1927 and the Punjab Land Preservation Act, 1900 shall be subjected to the provisions of the said Acts as amended from time to time, irrespective of the landuse of such land shown on the Proposed Landuse Plan.

No construction/activity shall be permitted in this area unless expressly allowed by the Forest Department/State Govt.

ii) Protected Monuments/Sites: Uses Permissible

In case of protected monument/heritage building or conservation site notified by the competent authority, i.e. (Archeological Survey of India/State Govt.), only the activities related to the promotion, preservation and conservation are allowed. All other uses are prohibited.

All Protected Monuments/Sites declared under The Ancient Monuments and Archeological Sites and Remains Act, 1958 shall have a 100m of Prohibited Area and another 200m as Regulated Area around the limits of Protected Monument/Site as declared vide notification no. S.O. 1764 dated 16th June 1992 of Department of Culture (Archeological Survey of India) for purposes of both mining and construction. Irrespective of the landuse shown, if any, in the Proposed Landuse Plan, no construction is allowed within the Prohibited Area of 100 m. The construction in the next 200 m shall only be permitted with the prior approval of the competent authority/ASI.

Note:

1. In case of uses not listed above, the decision to allow/disallow them shall be vested with the competent authority, keeping in view the broad nature and requirement of the landuse.
2. In case of any ambiguity/clarification regarding the interpretation of the Land Use Plan, the master copy of drawing based on GIS shall be referred.
3. The siting and location of major traffic nodes including Bus Terminus, Truck Stand, etc. and physical infrastructure including STP, Electric Grid Station, Solid Waste Dumping Site, Water Works, etc. shall be as decided by the Govt. from time to time.
4. The siting of petrol pumps shall be subjected to instruction/guidelines of IRC/ MORTH/TCPO/Punjab govt. issued from time to time.
5. The Proposed Landuse Plan does not indicate in any manner the existing ownership pattern of land falling within the LPA. The Proposed Landuse Plan defines broadly the landuse pattern proposed for the land falling within the LPA.
6. The Development Projects approved prior to coming into force of these Regulations shall be deemed to be in compliance with these Regulations.

iii) Eco Promotion Zone: Uses Permissible

The uses permissible in this zone shall be as per those defined in the "Keshopur Chhamb Community Reserve – Eco Promotion Zone" explained in the proposal part of the report. All ses which maintain, promote and sustain the eco fragility of the wetland shall be permitted

and uses which degrade, degenerate or adversely impact the quality of living habitat, flora and fauna, ecology, etc. shall be prohibited.

11.1.9 RESIDENTIAL DENSITIES

The entire Residential zone for Gurdaspur LPA defined in the Proposed Land Use Plan Drawing No. DTP (G) 15/11 Dated 14.10.2011 has been divided into 2 distinct sub zones. Zone 1 includes area falling within the existing municipal council limits and Zone 2 shall comprise of area falling outside existing municipal council limits but within proposed urbanisable limit. The maximum permissible density in these zones shall be as shown below:

Sr. No.	Zone	Residential Density
1	Zone 1	Not exceeding 300 persons per acre
2	Zone 2	Not exceeding 200 persons per acre

To encourage flatted residential development and to preserve the valuable agricultural land, residential density @ 60 dwelling units per acre shall be permissible for standalone group housing projects, irrespective of the density of zone.

11.2 SECTION II: DEVELOPMENT CONTROL REGULATIONS

The purpose of the Development Control Regulations (DCR) is to assist all stakeholders including developers and end-users within the Gurdaspur Local Planning Area to strive for a sustainable, quality and environment-friendly development.

These Development Control Regulations are applicable to the entire set of existing and proposed developments that are going to come up within the Local Planning Area. The developers are required to comply with the provisions of Landuse Plans, Land use Zones, DCRs and Zoning Plans as defined in the Master Plan. However, Development Schemes/ Projects including CLU, which have already been approved by the Competent Authority before the coming into the operation these regulations, shall continue to be governed by the terms and conditions already stipulated for their approvals.

Chapter XI of the Punjab Regional and Town Planning and Development Act, 1995 (Amended 2006) provides for 'Control of Development and Use of Land where Master Plan is in Operation.' The Chapter lays down the procedural framework for exercising the development control. "Development" in the said act has been defined as:

> *Carrying out of building, engineering, mining, quarrying or other operation in, on, over or under land or making of any structural or material changes in any building or land including that which affects the*

appearance of any heritage site and includes demolition of any part or whole of the building or change in use of any building or land and also includes reclamation, redevelopment, a layout or sub-division of land.

In order to achieve the basic objectives of planned and orderly development within the planning area, following Regulations have been stipulated:

11.2.1 RESIDENTIAL

11.2.1.1 Plotted Development

In order to encourage and promote planned development of small and medium towns in the state, Punjab Govt. has notified Gurdaspur falling in the Low Potential Zone vide notification dated June 29, 2010 for the purposes of land requirements for setting up of a colony and charging EDC. Further, vide letter dated 22.12.2010 issued by the Department of Housing and Urban Development, the minimum land requirement for setting up a residential colony (plotted development) in the residential zone falling in the area between the existing municipal limits and LPA boundary of Gurdaspur (outside the municipal limits) shall be 5 acres or as amended by the State Govt. from time to time. The setting up of a colony shall be regulated by the provisions of the Punjab Apartment and Property Regulation Act, 1995.

Note:

1. Maximum area under residential and commercial use in residential colony shall be as defined in the Punjab Apartment and Property Regulation Act, 1995.
2. Minimum road width within residential areas shall not be less than 40 feet (12m). If the existing road is less than 40 feet (12m), then land on both sides of the road shall be reserved for future expansion for widening to comply with the minimum requirement of 40 feet (12m). The number of storeys in the buildings on these roads shall not exceed three (G+ 2 storeys).
3. Size of the front gate on boundary wall and construction of front boundary wall is optional to meet the parking requirements.
4. Provision of Floor Area Ratio, Height, Ground Coverage, Parking, Setbacks etc. for individual residential plots within the existing Municipal Council limits shall be governed by Municipal Building Byelaws. However, residential areas developed by any Development Authority falling within the municipal limits shall be governed by their respective building byelaws.
5. In case of area falling outside Municipal limits, the Building Byelaws of respective Development Authority/PUDA shall apply.

11.2.1.2Parking

Parking Requirements for Plotted Developments shall be as under:

Plot Size	Parking Requirements
85 sq m and less (100 sq yd and less)	2 scooter parking spaces
86 – 168 sq m (101 – 200 sq yd)	1.5 car parking spaces within plot area
169 – 425 sq m (201 – 500 sq yd)	2 car parking spaces within plot area
425 sq m and more (500 sq yd and more)	3 car parking spaces within plot area

Note:

1. Deviation up to 10% shall be allowed subject to the site conditions/constraints.

11.2.1.3 Group Housing- Outside Municipal Limits

Provision of Group Housing within the residential zone provided in the Proposed Landuse Plan of the Gurdaspur Local Planning Area outside existing municipal areas shall be subjected to following norms:

Minimum Plot Size	2 acres*
Minimum Road Width	For group housing standalone projects, minimum width of approach road shall be 60 feet. However, the promoter is required to leave space from his own land for widening the road to 80 feet and the space so left shall be deemed to be public space meant for road widening. In case of approved colonies, no group housing shall be permitted on a road width less than 60 feet.
Minimum Frontage	20 meters
Permissible FAR	1.75
Permissible Height	There shall be no restriction on the height of building subject to clearance from Air Force Authorities and fulfillment/compliance of other rules, including structural safety and fire safety requirements, setbacks, distance between buildings, etc. However, structural safety and fire safety requirements shall be mandatory and shall be as per the National Building Code
Parking Provisions	For group housing, parking norms shall not be less than 1.5 ECS per 100 sq m of covered area. The maximum provision allowable for group housing projects will be 3 ECS per dwelling unit.

*As notified by Department of Housing and Urban Development vide Memo No. 17/17/2001-5MO2/PF-1/3589 dated 22.12.2010 or as amended by the State Govt. from time to time.

11.2.1.3 Group Housing -Within Municipal Limits

Minimum area for a group housing project falling within the municipal limits shall be as notified by the State Government/Competent Authority from time to time.

Provision of Floor Area Ratio, Height, Ground Coverage, Parking, Setbacks etc. for individual residential plots within the existing Municipal limits shall be governed by Municipal Building Bye-laws applicable to the area. However, residential areas developed

by any Development Authority falling within the municipal limits shall be governed by their respective building byelaws.

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 applicable to the group housing.

11.2.1.4 Farm House

Provision of farm houses shall be governed by following area and coverage norms:

Minimum area	2.5 acres
FAR	0.04
Ground Coverage	2% or 200 sq m, whichever is less
Number of storeys	Not to exceed 2
Height	a. In case of Single Storey building not to exceed 18'-0" b. In case of Double Storey building not to exceed 28'-0"
Hard Surface	Not to exceed 10%

Note:

1. Farm House shall only be permitted to be used for personal residence and farm operations, and not for any commercial use whatsoever.

11.2.2 COMMERCIAL

Commercial uses in residential zones located within or outside the Municipal Limits shall be permitted on roads having minimum width of 80 feet. Area requirements for such commercial developments within the existing Municipal Council limits shall be as per the Municipal Building Byelaws/ Development Controls and Zoning Regulations as the case may be. The projects, schemes already approved and streets/roads already declared/notified as commercial by the state govt., falling within the existing Municipal Council limits on the date of notification of the Master Plan shall continue to be regulated by the respective provisions, conditions, rules and regulations of approval of such projects, schemes and streets/roads.

In case of standalone, commercial complexes with height greater than three storeys within/ outside Municipal limits, area, height, F.A.R. etc. of such buildings shall be governed by following norms:

Additional Criteria for Standalone Commercial Complexes Within/Outside Existing Municipal Council Limits (having more than three storeys)*

1	**Minimum Area Required**	1000 sq.m or as may be notified by the Competent Authority from time to time
2	**Minimum Frontage**	20 meters
3	**Maximum FAR**	1.75
4	**Maximum Height**	There shall be no restriction on the height of building subject to clearance from Air Force Authorities and fulfillment/compliance of other rules, including structural safety and fire safety requirements, setbacks, distance between buildings, etc. However, structural safety and fire safety requirements shall be mandatory and shall be as per the National Building Code
5	**Maximum Ground Coverage**	40%
6	**Parking**	For projects without multiplexes, the parking shall be provided @ 2 ECS per 100 sq m of total covered area
		For projects with multiplexes/cinemas/theatres, the parking norms shall be: a) @ 3 ECS per 100 sq m of covered area. The covered area shall be calculated on the basis of total covered area of the multiplex component + 30% of the said component, and b) @ 2 ECS per 100 sq m of covered area in respect of balance commercial component including circulation area
7	**Basement**	Multi-level basement will be allowed below and within the building envelope. No parking shall be permitted within the setback lines. Parking beyond the built up area on ground floor shall be provided at ground level with provision of mechanical ventilation made in case of more than one basement. Parking shall satisfy the public health and structural requirements.
8	**Minimum Approach Road Width**	80 feet
9	**Landscape**	In the case of sites having an area of one acre or more, minimum 15% of the site shall be landscaped.
10	**For Movement of Fire Tender**	Subject to prescribed norms and standards, minimum setback on all sides shall be 6 m.

*However, subject to the provision of minimum road width specified above, the provisions of minimum frontage, F.A.R., height, ground coverage, parking, basement etc. for the sites falling within the existing Municipal Council limits shall be governed by the respective Municpal Building Bye-Laws.

Note:

Total parking requirement defined above shall be provided within the plot area including basements, stilts and available open spaces etc. For the purpose of calculating the area under parking, norms for one E.C.S. shall be as defined below:

- 23 square meters in case of open parking at ground level
- 28 square meters for parking under stilts
- 32 square meters for parking in the basement

11.2.2.1 Commercial at Local Level

Adequate provision shall be made for convenient shopping in the shape of small scale, single storied commercial facilities at the local level within as well as outside the Municipal limits, to meet the local requirements, subject to the condition that such sites shall be located on the roads having minimum width of 18 m (60 feet) and provided with a minimum setback of 6m from road reservation for parking. These commercial facilities are intended to serve the needs of local residents only and shall form part of the predominant residential landuse defined in the Master Plan.

11.2.3 VEHICULAR ACCESS

No property located on National Highway, State Highway, Ring Road and Inter City Roads, designated as R1, R2 and R3 in the Proposed Landuse Plan, shall have a direct access from such roads. Vehicular access to all such properties (within and outside the Municipal Limits) that abut on these roads shall be through a service lane having a minimum width of 6 meter (20 feet). The setbacks in case of these properties shall be as defined by the Competent Authority from time to time. However, these roads will have a No Construction Zone as defined by the notification by the State Govt. as per section 143(1) of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 and as indicated in table 80 of para 10.4.2.1 of the Pathankot Master Plan.

11.2.4 INSTITUTIONAL

The Development Controls applicable to the institutional buildings shall be as follows:

Item	Permissible Norms / Standards
Plot size	Area and size shall be as per the affiliation authority norms.
Frontage	200 feet or as may defined by the Competent Authority/Affliating Authority
FAR	1:1
Ground Coverage	40%
Road width	The minimum road in front of institutional developments should be 18 m*
Parking provisions	1 ECS per 100 sq m of covered area

Note:

*1. In case of Nursery/Primary Schools, the mimimum roadwidth shall be as defined by the Competent Authority/Affliating Authority.

2. Height, Setbacks, Number of Storeys, etc. shall be governed by building byelaws applicable to the area and the approved zoning plan approved by the competent authority.

3. Public and Semi Public uses in residential zone, including all public places involving "Assembly/Occupancy" shall be located on independent plots with minimum access roads of 18 metres.

11.2.5 SPORTS AND RECREATIONAL USE

The sports and recreational facilities to be permitted in this zone shall include Sports

Stadium, Indoor Stadium, Swimming Complex, Golf Course, Lifestyle Sports Hub, Amusement Park, Open Air Theatre, Theme Park, Other leisure and recreational spaces. The proposed development parameters for this zone are as below:

Item	Sports Activities	Recreational Activities
Minimum Size	As per the specification of the concerned authority	As per the specification of the concerned authority
Maximum FAR	1:0.02	1:0.05
Maximum Ground Coverage	1%	3%
Maximum Number of Storeys	2*	2*
Maximum Height	28 feet*	28 feet*
Maximum Hard Surface Area	5%	10%

Note:

*1. The maximum height and number of storeys may be redefined/relaxed by the Competent Authority depending upon the nature and specific requirement of sports/recreational activities and built up area.

Ancillary commercial uses including ATM and other facilities may be allowed within this zone to cater to the needs of users. However, commercial component shall be limited to a maximum of 5% of the total Ground Floor Area. Commercial uses such as shopping malls, cinema halls, multiplexes etc. shall not be permitted in this zone.

11.2.6 INDUSTRIAL

Size of Plot	Site Coverage
For the first 2420 sq yds	50% of the site
For the next 2420 sq yds	33% of the site
In excess of 4840 sq yds	25% of the site
FAR	1:1.0
Parking	@ 1 ECS per 100 sq. mt. of covered area*
Road width	The minimum road width for industrial unit shall be 12m
Height	There shall be no restriction on the height of building subject to clearance from Air Force Authorities and fulfillment/compliance of other rules, including structural safety and fire safety requirements, setbacks, distance between buildings, etc. However, structural safety and fire safety requirements shall be mandatory and shall be as per the National Building Code

* The area of 1 ECS shall be as defined in the Para 10.3 above.

Unless otherwise specified in the building byelaws, the norms for the site coverage, parking, FAR, height, etc. for the industrial sites falling outside municipal council limits and within the Gurdaspur LPA, shall be as under:

Note:

1. The minimum road width for each land use shall be as specified in the Master Plan or by the Government policy/guidelines issued from time to time. However, in case the existing road width is less than the minimum specified width in the Master

Plan/Government policy, and where the structures exist on both sides of the road, then the proportionate land on both sides shall be reserved for widening of the road to comply with the minimum requirement of ROW. In case, where habitation / settlement comes within the alignment and is on one side, in such a case the widening shall be made on other side of habitation / settlement.

2. In case the site of industrial project falls within municipal limits, then the building byelaws of the concerned local body shall be applicable, provided the landuse is in conformity to Master Plan.

   In case the site of industrial project falls within approved industrial project by the State Govt., then the rules and regulations governing such approvals shall be applicable.

3. Residential component in the industrial plot/premises shall not exceed 5% of the permissible covered area and shall be counted towards such area. The area shall be used for housing, watch and ward and essential manpower required to safeguard the industrial unit. In no case, it shall be used for housing the other manpower.

4. In case of Industrial/IT Park, minimum area requirement for setting up of such park shall be 10 acres.

   - In case of IT Park, the FAR to be permitted shall be 2 (two).
   - In case of Industrial Park, FAR permitted shall be 1 (one).
   - In case of IT cum Industrial Park, the FAR permitted shall be as defined above on the component of IT and Industry.

   In case of IT/Industrial Park, the width of approach road shall be 18 m or as specified by the Competent Authority/State Govt. from time to time, whichever is higher.

11.2.6.1 Existing Industries:

The existing industries falling within non-conforming uses shall be governed by following Regulations:

i) Red category industries falling within the residential plots would be required to shift to the designated industrial zone within a period of 10 years from date of publication of Master Plan.

ii) All industrial units falling in residential/commercial area shall be permitted to change the nature of industries that are knowledge based and involve the use of IT and ITES, for which permission shall be granted liberally subject to the condition that location does not cause any congestion and traffic problems.

iii) All the existing focal points/industrial estates set up the state govt. etc. have been retained as such in the Master Plan.

11.2.7 ENVIRONMENTAL CONSIDERATIONS

i) All the textile/dying and electroplating units shall set up treatment plants individually or collectively to achieve zero liquid discharge.

ii) Minimum green buffer of 15 meters depth in the shape of a belt comprising of broad leaf trees shall be provided around the boundary of village *abadis* falling in industrial zone of Master Plan. A buffer strip of 15 meters of broad leaf trees shall also be provided between residential areas and red category industries falling in industrial zone of Master Plan, boundaries of which are located within 100 m from the boundary of such areas. The provision of buffer strip shall be made by the owner of Land use, which comes later.

11.2.8 SPECIAL CONDITIONS

i) All commercial/public/industrial or other buildings of public use shall be made friendly for the physically challenged persons as per the norms and standards specified by the Government/competent authority from time to time.

ii) Provision for Rainwater Harvesting shall be made compulsory in all buildings subject to the guidelines issued by the Competent Authority from time to time.

iii) All new buildings to be constructed shall be made energy efficient based on design and use of energy efficient electrical appliances. Retrofitting of all existing buildings to make them energy efficient shall be taken up on priority.

iv) Trees shall be planted within and outside all residential areas and public/industrial buildings. Landscaping shall be made integral part of the building design.

v) All buildings shall be made structurally safe in order to mitigate the damage caused by the natural and man made disasters, including earthquake, fire, etc. and shall confirm to the guidelines and the stipulations made in the building byelaws and the NBC. It shall be duty and responsibility of the owner of the building to make the building safe against these disasters. Retrofitting of all existing buildings to make them safe against disasters shall be taken on priority.

vi) The existing High Tension lines shall be shifted along the road but outside the Right of Way to ensure unhindered ROW for traffic and other services for all times.

vii) Minimum 5 meters wide green strips on each side of minor/drain/distributory shall be maintained in the portion falling within the M.Cl limit and 10 meters in the portion falling outside the M.Cl Limit. On the other hand major water bodies such as rivers/canals etc. shall have minimum 30 meters green strips on each side.

Realignment of water bodies shall be permissible wherever feasible, subject to the certification by the Drainage/Engineering Department to ensure free flow of storm water.

11.2.9 DEVELOPMENT CONTROLS AND GUIDELINES FOR VILLAGES

i) **Expansion of Village *Abadis*:** Contiguous expansion of village *abadis* falling in the industrial zones of Master Plan is permissible up to 100 m of the *abadi deh* of the villages. This will be in addition to 15 m green buffer, which will be left between the industries and the proposed expansion of the villages.

ii) However, for the village *abadis* falling in residential zone of Master Plan, no such limit has been earmarked, as the area around them is already earmarked as residential.

iii) The contiguous expansion of village *abadis* falling under agricultural zone of Local Planning Area up to a distance of 100 m from the existing *abadi* deh, is permitted to accommodate the natural growth of villages.

iv) **Regulation for Village *Abadi*:** Special building regulation shall be prepared for the development and regulation of an area falling within the *Lal Dora/phirni* and the area proposed for expansion of the villages falling in the Local Planning Area in order to regulate the rational growth and development of the villages.

v) All Panchayat land of villages falling in Local Planning Area shall be used exclusively for public and semi-public uses including utilities, services, physical and social infrastructure, parks, open spaces, community facilities etc. and not for any other purpose.

11.2.10 EXCEPTIONS

i) Notwithstanding the above, the uses specifically provided in the Zonal Plans shall be permissible or as may be allowed by the Chief Town Planner, Punjab.

ii) Uses determined by the Chief Town Planner, Punjab as compatible with uses permissible shall be allowed in respective zones.

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

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

v) In the event of conflict in interpretation of data within the study area, the information in the GIS format will be deemed as the accurate version and will prevail.

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

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

11.2.11 IMPLEMENTATION OF THE REGULATIONS

i) All authorities competent to grant permission for layout or sub-division of land or construction of building or development of land in any other form shall ensure that the permitted development is in accordance and compliance with these Regulations.

ii) Landowners desirous of developing their land can obtain a list of permissible uses, by applying to the designated authority in writing and giving details of their land along with necessary maps.

iii) The landowners proposing development on their land shall obtain a certificate of "Compliance with Master Plan" from the designated authority.

CHAPTER 12
INVESTMENT PLAN & ACTION PLAN

City Investment Plan as align with the identified vision for Gurdaspur town has been prepared through a comprehensive process of assessment of gaps in the physical and social infrastructure sectors. This assessment has also led to the identification of sector-specific strategies, implementation actions and associated reforms with specific inputs from stakeholders. The strategies adopted primarily have three dimensions - improving service delivery by efficiency measures; improving service delivery by creating infrastructure assets; and improving the governance aspects of the Municipal Council. This section summarises the capital investments required for creating infrastructure assets and various strategic interventions required in the implementation of such projects; these strategies are both investment-oriented and administration-oriented. Investment Plan for Gurdaspur town highlights broadly the investment required for physical infrastructure such as water supply, sewerage, solid waste, etc. As far as Social Infrastructure is concerned, it is assumed that the required facilities shall be developed through Govt. on the basis of the latest PPP models.

12.1 INVESTMENTPLAN

The City Investment Plan is the multi-year scheduling of identified and prioritized investments. The scheduling or phasing of the Plan is based on studies of fiscal resources availability (for new investments and O&M), technical capacity for construction and O&M, and the choice of specific improvements to be carried out for a period of five years.

The CIP is needed for:

- Realisation of city growth and a meeting of infrastructure needs (to be carried out once every five years)
- Scheduling of investments of ongoing projects due to cost and/ or time overruns
- Assigning of priorities within the constraints of available financial resources

INSTITUTIONALISING THE CIP PROCESS

The City Investment Plan is an important element of the Master Plan and is significant in terms of the town's management process and sustainability with regard to the delivery of basic services. As a part of the Master Plan, the CIP prepared includes the following:

- Desired norms and standards for infrastructure services;
- Roles and responsibilities of various stakeholders in the implementation of identified projects

- Project phasing and strategies for implementation.

In Gurdaspur, Municipal Council is the primary agency responsible for delivering municipal services and hence the Master Plan proposals ought to be implemented by Municipal Council/Local Authorities. The projects, prioritization, investment phasing, strategies and action plan are framed accordingly. The CIP involved the identification of public capital facilities to cater the demands of the city populace by the year 2031 according to their infrastructure needs. The project identification has been done through a demand-gap analysis of the services and DPRs available with the Municipal Council. Further, project prioritisation and strategising of the investments/ phasing of investment are based on strategies, listed under each service sector as identified through stakeholder consultations. The projects derived are aimed at ensuring the optimal and efficient utilisation of existing infrastructure systems and enhancing the capacity of the systems/ services to cater the demands of future population additions. Certain other projects listed as part of the CIP include developmental projects other than those addressing the core service sectors viz. system modernisation, etc.

The CIP and the forecasted future needs for provision of capital facilities under each identified sector are presented below. These assets will help to universalise services for the current population as well as accommodate the expected increase in population. In sectors where long-term planning is required (for example, source development for water supply and development of landfill site), the planning horizon till the year 2031 is considered. Assets created in such sectors consider the projected population in this horizon.

12.2 SECTOR WISE INVESTMENT NEED

WATER SUPPLY

Sector Strategies and Investment Need

Strategy Identified	To cover the uncovered area by water supply network by augmenting the present distribution system network and to ensure equitable distribution of potable water to all through piped water supply ,and to provide a water treatment plant in the town
Expected Outcome	Assured ability to meet year 2031 demand
Total Investment Need	**Rs. 4030 Lakhs**

Long Term needs (2031)

The investment for various heads of water supply has been calculated for the year 2031 by taking into account unit cost of each of the heads as well as gaps (requirements) identified respectively. The total investment need for water sector by 2031 is estimated at Rs. 4030 lakhs.

SEWERAGE

Sector Strategies & Investment Need

Strategy Identified	Capacity expansion and up gradation of the existing collection and conveyance system to match additional water supply and provide for environmentally safe disposal
Expected Outcome	Synchronisation with water supply capacity
Total Investment Need	**Rs 5870 Lakhs**

Long Term needs (2031)

The total investment need for sewerage sector by 2031 is estimated at Rs. 5870 lakhs.

TRAFFIC AND TRANSPORTATION

Sector Strategies & Investment Need

Strategy Identified	Increase carrying capacity through widening and improve riding quality through strengthening of existing roads. New roads will cater missing links and developing areas roads.
Expected Outcome	Hassle-free travel on the roads, safe driving during nights
Total Investment Need	**Rs. 22680 Lakhs**

Long Term Needs (2031)

Identified investments based on the demand-gap assessment above presented are meant for the up-gradation of existing un-surfaced roads; new road development; widening and strengthening of major roads; implementation of the public transport system, traffic management systems and junction improvements, construction of ROBs at various critical intersections, etc. to achieve an efficient traffic management system.

The total investment need for roads, transportation and traffic management sectors by 2031 is estimated at Rs 22680 lakhs.

STORM WATER DRAINAGE

Sector Strategies & Investment Need

Strategy Identified	Laying down of closed pucca drains throughout the whole town and providing it a separate distribution line other than the sewerage one.
Expected Outcome	Universal coverage and disposal capability, restrict sewerage flow into storm water drains
Total Investment Need	**Rs. 31500 Lakhs**

Long-term needs (2031)

The system plans to cover 100% of the road network for service efficiency. The total investment need for drains sectors by 2031 is estimated at Rs. 31500 lakhs.

SOLID WASTE MANAGEMENT

Sector Strategies & Investment Need

Strategy Identified	Source segregation and door-to-door collection, effective transportation and environmentally safe disposal
Expected Outcome	Reduced waste generation, hygienic conditions and a clean city
Total Investment Need	**Rs. 1728 Lakhs**

Long-term needs (2031)

The total investment need for solid waste management sector by 2031 is estimated at Rs. 1728 lakhs.

ELECTRICITY

Sector Strategies & Investment Need

Strategy Identified	Installation of new electric sub stations as per the requirement by 2031, minimize the transmission losses and laying down of new hierarchical electric distribution system
Expected Outcome	Supply of regular uninterrupted electricity throughout the year.
Total Investment Need	**Rs. 2400 Lakhs**

Long-term needs (2031)

The total investment need for electricity sector by 2031 is estimated at Rs. 2400 lakhs.

Summary of Cost Estimation for different Sectors of Physical Infrastructure

Roads

Infrastructure Components	Numbers	Units	Rate (lakhs)	Cost (lakhs)
Major new roads	16	km	250	4000
Up gradation of roads including widening ,strengthening	55	Km	56	3080
ROBS	6	Nos.	2500	15000
Junction Improvement	6	Nos.	100	600
Total				**22680**

Water Supply

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Treatment Plant	18	MLD	25	450
New Network Distribution	52	km	25	1300
Upgradation of Existing Water supply lines	56	Km	25	1400
OHT	6	Nos.	55	330
Metering System	18358	Nos.	0.03	550.74
Total				**4030.74**

Sewerage (80% of Water Supply)

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Distribution of new network	71	Km	40	2840
Upgradation of existing network	57	Km	40	2280
Treatment Plant	15	MLD	50	750
Total				**5870**

Storm Water Drainage

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Network	126	KM	250	31500
Total				**31500**

Infrastructure Components	Requirement	Units	Rate (Rs.)	Cost (lakhs)
Collection, Transportation and Disposal	33430	KG	0.045	1504.35
Landfill site	14	acre	16	224
Total				**1728.35.**

Electricity/Power

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Sub Station	3	Nos.	800	2400
Total				**2400**

Infrastructure Components	Total Expenditure (lakhs)
Roads	22680
Water Supply	4030.74
Sewerage	5870
Storm Water Drainage	31500
Solid Waste	1728.35
Electricity	2400
Grand Total	**68209.09**
Grand Total	**682.09 crores**

ANNEXURE-I

GAZETTE NOTIFICATION OF GURDASPUR LPA

Regd. No. NW/CH-22

Regd. No. CHD/0092/2006-08

Rs. 2.70

Punjab Government Gazette

EXTRAORDINARY

Published by Authority

CHANDIGARH, WEDNESDAY, AUGUST 22, 2007 (SRAVANA 31, 1929 SAKA)

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

(HOUSING BRANCH-1)

Notification

The 22nd August, 2007

No. 12/4/2007-4HG1/6784.—Whereas it appears to the Governor of Punjab that to meet the challenge of rapid growth of Gurdaspur Town and to provide for a workable framework for comprehensive planned and regulated development, preparation of statutory Master Plan of Gurdaspur is very essential. Hence in order to develop Gurdaspur and its surroundings in an orderly manner and to prepare its Master Plan under "The Punjab Regional and Town Planning and Development Act, 1995", the Governor of Punjab is pleased to declare the Local Planning area of Gurdaspur with in the meaning of sub-section (1) of Section 56 of the Punjab Regional and Town Planning and Development (Amendment Act, 2006). The total area proposed for Local Planning Area is 5914.00 hectares including Gurdaspur Town and adjoining 32 villages. The schedule of boundaries of Local Planning Area is given below :—

SCHEDULE OF BOUNDARIES

North : Starting from point-A, which is the tri-junction point of villages Bhukra (HB No. 243), Sadhu Chak (HB No. 244) and Halla (HB No. 245) and moving towards East along the Northern boundary of village Halla and thence along Northern and Western boundary of village Gidar Windi (HB No. 248) up to point-B which is the tri-junction point of village, Sadhu Chak (HB No. 244), Gidar Windi (HB No. 248) and Keshopur (HB No. 249). Thence from point-B moving towards East along the Northern boundary of village Gidar Windi (HB No. 248), Barnala (HB No. 247), Jafarpur (HB No. 332), Mirpur (HB No. 331), Sherpur (HB No. 330), Abul Kher (HB No. 329), Dharo Chak (HB No. 328), Ghurala (HB No. 320) and Madowal (HB No. 317) up to point-C which is the tri-junction point of village Madowal (HB No. 317), Pantar (HB No. 313) and Bhawra (HB No. 315).

East : Thence from point-C moving towards South along the Eastern boundary of village Mak (HB No. 317) and Khojepur (HB No. 322) Northern and Eastern boundary of village Rauk (HB No. 323), Eastern boundary of village Gadrian (HB No. 324) up to point-D which is the tri-junction point of village Gadrian (HB No. 324), Lakhanpal (HB No. 657) and Bhangwan (HB No. 325). Thence from point-D moving towards West along the Southern boundary of village Gadrian up to point-E which the tri-junction point of village Gadrian (HB No. 324), Bhangwan (HB No. 325) and Bhoon (HB No. 326). Thence from point-E moving towards South along the Eastern boundary of villages Bhoon (HB No. 326), Warah (HB No. 359) and Eastern boundary of village Pahra (HB No. 357) up to point-F which is the tri-junction point of village Pahra (HB No. 357), Ghot Pukhar (HB No. 361) and Bhullachak (HB No. 362).

South : Thence from point-F moving towards West along the Southern boundary of village Pahra (HB No. 357), Churala (HB No. 355), Aujla (HB No. 340), Jiwanwal (HB No. 341) and Babri (HB No. 342) up to point-G, which is the tri-junction point of village Babri (HB No. 342), Dhariwal (HB No. 350) and village Jhawar (HB No. 352).

West : Thence from point-G moving towards North along the Western boundary of village Babri (HB No. 342), Nabipur (HB No. 339) and thence along Western and Northern boundary of village Hardo Bathwala (HB No. 338) and thence along Western boundary of village Halla (H. No. 245) up to point-A which is the point of start.

The boundaries of Local Planning Area around Gurdaspur Town are specifically shown on the drawing No. DTP(G)32/2006, dated 3rd October, 2006. All the provisions laid down under Section 56(2) of the "The Punjab Regional and Town Planning and Development (Amendment) Act, 2006" and all the concerned rules framed under this Act have been taken into consideration.

ARUN GOEL, I.A.S.,
Secretary to Government, Punjab,
Housing and Urban Development Department.

Chandigarh :
The 16th August, 2007.

ANNEXURE-II

REVISED NOTIFICATION OF GURDASPUR LPA

GOVERNMENT OF PUNJAB
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
(HOUSING-I BRANCH)

CORRIGENDUM

No.12/4/2007-4HG2/2580 NOTIFICATION Dated 5/8/10

In partial modification of Notification No. 12/4/2007-4 HG1/6784 Dated 22nd August, 2007 regarding declaration of Local Planning Area, Gurdaspur and in exercise of the powers conferred within the meaning of sub-section (7) of Section 56 of the Punjab Regional & Town Planning and Development (Amendment) Act 2006 and all other powers enabling him in this behalf, the Governor of Punjab is pleased to make addition of the following fifteen villages of district Gurdaspur in this Local Planning Area.

1. New villages added in the lists of above notification of Local Planning Area, Gurdaspur are as follows.

Sr.No.	Name	H.B.No.	Area in hectares	Populations (in persons)
1.	Keshopur	249	159	482
2.	Matwan	250	208	809
3.	Dala	252	156	534
4.	Khuda Dadpur	253	48	367
5.	Miani Jhamelian	258	244	429
6.	Passiyal	259	62	450
7.	Sadhu Chak	244	230	943
8.	Bhukra	243	87	1167
9.	Ale Chak	242	213	1042
10.	Magar Mudian	191	263	702
11.	Shamsherpur	261	88	295
12.	Bhago Kanwan	263	386	1325
13.	Ucha Dhakala	262	140	763
14.	Majithi	260	120	982
15.	Theh Mundi	257	42	14

2. Based on the above rectification, the description of total area, population and no. of Settlements in the earlier notification may be read as follows:

Sr.No.	Components	As per Notification No. no.12/4/2007-4GH1/6784 Dated 22th August 2007	Amended details
1.	Area	5914 Hectare	8360 Hectare
2.	Population	87174 Persons	97478 Persons
3.	No. of settlements(Urban and Rural)	32	47

The revised schedule of boundaries is as under:-

NORTH: Starting from point "A" which is the common meeting point of villages Bhago Kanwan (H.B. No. 263), Behlolpur (H.B. No. 186) and Kathiyali (H.B. No. 264) and moving towards east along the northern boundaries of villages Bhago Kanwan (H.B. No. 263), Ucha Dhakala (H.B. No. 262), Shamsherpur (H.B. No. 261), Majithi (H.B. No. 260) and Passiyal (H.B. No. 259) up to point "B" which is the common meeting point of villages Passiyal (H.B. No. 259), Najabatpur (H.B. No. 272) and Raipur (H.B. No. 273).

EAST: Thence starting from point "B" and moving towards south along the eastern boundaries of villages Passiyal (H.B. No. 259), Miani Jhamelian (H.B. No. 258), Theh Mundian (H.B. No. 257), Khuda Dadpur (H.B. No. 253), Dala (H.B. No. 252), Matwan (H.B. No. 250), Abul Khair (H.B. No. 329), Dharo Chak (H.B. No. 328), Ghulla (H.B. No. 320), Madowal (H.B. No.317), Khojepur (H.B. No. 322), Rawal (H.B. No. 323), Gadrian (H.B. No. 324), Bhoon (H.B. No. 326), Warah (H.B. No. 359), and Pahra (H.B. No. 357) up to point "C" which is the common meeting point of villages Pahra (H.B. No. 357), Ghot Pokhar (H.B. No. 361) and Bhule Chak (H.B. No. 362).

South: Thence starting from point "C" and moving towards west along the southern boundaries of villages Pahra (H.B. No. 357), Ghurala (H.B. No. 355), Aujla (H.B. No. 340), Jiwanwal (H.B. No. 341), and Babri (H.B. No. 342) up to point "D" which is the common meeting point of villages Babri (H.B. No. 342), Dhariwal (H.B. No. 350) and Japuwal (H.B. No. 349).

WEST: Thence starting from point "D" and moving towards north along the western boundaries of villages Babri (H.B. No. 342), Nabipur (H.B. No. 339), Hardo Bathwala (H.B. No. 338), Ale Chak (H.B. No. 242), Magar Mudian (H.B. No. 191), and Bhago Kanwan (H.B. No. 263) up to point "A" which is point of start.

The revised boundaries of Local Planning Area, Gurdaspur, are specifically shown on the Drawing No. DTP(G) .10/10 Dated 19.07.2010. All the provisions laid down u/s 56(2)of "The Punjab Regional and Town Planning and Development(Amendment) Act,2006" and all the concerned rules framed under the Act have been taken into consideration.

Place,Chandigarh
Date: 2/8/2010.

Dr.S.S.Sandhu, I.A.S.
Secretary to Government of Punjab,
Department of Housing & Urban Development.

ANNEXURE- III

LIST OF SETTLEMENTS FALLING IN GURDASPUR LOCAL PLANNING AREA

DETAILS OF VILLAGES /TOWNS FALLING IN THE LOCAL PLANNING AREA GURDASPUR						
Sl. No	**Name of Village/Town**	**HB No.**	**Area in Hectares**	**Population as per census - 1991**	**Population as per census - 2001**	**Remarks**
1	Gurdaspur (M.Cl.)	-	1085	54733	68441	
2	Gurdaspur (Rural)	337	559	……..	0	Population including in M.C. area partially falls in M.C
3	Litter	336	…….	……..	0	Population and area included in M.C
4	Shehzada Nangal	335	-		0	Population and area included in M.C
5	Kotli Nangal	334	318		0	Population including in MC, area partially in MC
6	Babowal	333	66	1484	2072	…..
7	Chahia	246	57	692	898	Village partly falls in MC
8	Nabipur	339	308	1789	2190	Village partly falls in MC
9	Aujla	340	177	1920	2333	……
10	Ghurala	355	202	2204	2803	Village partly falls in MC
11	Mankaur Singh	356	17	8	9	Ditto
12	Ram Nagar	327	242	1600	1783	Ditto
13	Bariar	321	385	2777	4027	Ditto
14	Abul Kher	329	194	1848	2209	-
15	Sherpur	330	52	366	483	-
16	Mirpur	331	50	637	813	-
17	Jaffarwal	332	95	496	699	-
18	Barnala	247	105	850	1032	-
19	Babri	342	214	1841	2013	-
20	Bhoon	326	131	517	659	-
21	Jiwanwal	341	151	1024	1236	-
22	Hardobathwala	338	269	2309	3897	-
23	Halla	245	110	1073	823	-
24	Gidar Windi	248	71	497	539	-
25	Khojepur	322	178	1162	1601	-
26	Rauwal	323	65	487	908	-
27	Gadrian	324	70	470	478	-
28	Warah	359	80	139	181	-
29	Pahra	357	328	2724	3674	-
30	Dharochak	328	80	594	670	-
31	Ghulla	320	202	2204	115	-
32	Madowal	317	53	709	656	-
33	Ali Chak	242	213	655	1042	-
34	Bhago Kanwan	263	386	1138	1325	-
35	Bhukra	243	87	938	1167	-
36	Dala	252	156	435	534	-

37	Keshopur	249	159	404	482	-
38	Khuda Dadpur	253	48	319	367	-
39	Magar Mudian	191	264	441	702	-
40	Majithi	260	120	844	982	-
41	Matwan	250	208	749	809	-
42	Miani		244	357	429	-
43	Passiyal	259	62	342	450	-
44	Shamsherpur	261	88	244	295	-
45	Theh Mundian	257	42	6	14	-
46	Uchha Dhakala	262	140	679	763	-
47	Sadhu Chak	244	230	930	943	-
	Total	~	**7624***	**97478**	**1,17,546**	

*As per notification, partial areas of 8 villages have been added into the Gurdaspur M.Cl while as per the E.L.U. prepared by PRSC, whole area of these 8 villages have been added in the M.Cl area. Accordingly, the area provided by PRSC has been taken as final for the preparation of Master Plan.

ANNEXURE-IV

Wardwise Density in the Gurdaspur M.Cl

Ward No.	Population	Area (Ha)	Density (PPH)
Ward No.1	3089	47.72	64
Ward No.2	2486	7.22	344
Ward No.3	2306	7.75	297
Ward No.4	6124	241.46	25
Ward No.5	3603	8.88	405
Ward No.6	3876	61.77	62
Ward No.7	4285	28.25	151
Ward No.8	3593	255	14
Ward No.9	3537	84.97	41
Ward No.10	2997	62.60	47
Ward No.11	3588	54.07	66
Ward No.12	2670	12.08	221
Ward No.13	4518	55.03	81
Ward No.14	3179	25.62	124
Ward No.15	1105	17.11	64
Ward No.16	2064	24.17	85
Ward No.17	3273	8.75	374
Ward No.18	2769	14.36	192
Ward No.19	2742	45.35	60
Ward No.20	2999	13.38	224
Ward No.21	2676	9.88	270
Total	**67479***	**1085**	**62**

Source: Municipal Council Gurdaspur

*The area of wards is based on the map supplied by PRSC and the population of the M.Cl here is excluding the out growth

ANNEXURE-V

List of Trees recommended for Plantation on the Main Roads within Urban Limits/ Master Plan Areas

Sr. No.	Name of tree (Botanical/ common)	Description
1.	Alstonia scholaris (Chhatim)	Tall tree with columnar shape, Evergreen, very ornamental, bears greenish-white flowers in October- December.
2.	Barringtonia acuitangula (Smudar Phal)	Medium tree with spreading habits, deciduous from April to May. Ornamental foliage and flowers in pendulous branches. Bears crimson flowers in April and September.
3.	Bauhinia blackiana (Kachnar)	Small tree, evergreenwith columnar form, highly attractive and ornamental. Propagated by layers and cuttings. Flowers deep pink from January to April and from Septermber to Novermber.
4.	Bauhinia purpurea (Kachnar)	Medium tree, with columnar form, evergreen, bears purple coloured flowers in November.
5.	Bauhinia variegata (Kachnar)	Medium tree with columnar form. Sheds leaves in January-February, profusely flowering tree, highly beautiful when in bloom, bears pink, white and purple coloured flowers in February, March, April
6.	Cassia fistula (Amaltas)	Tall columnar shaped tree, leafless in April-May. Very hardy tree, looks very ornamental when in bloom. Bright yellow flowers in April-May.
7.	Cassia grandis (Pink Mohur)	Medium in height, with spreading habit. Highly ornamental tree. Bears deep carmine flowers in November, December.
8.	Cassia javanica(Java-ki-Rani)	Medium in height, leafless in April-May. It is the most beautiful flowering tree. Bears clusters of pink flowers in May-June
9.	Cassia Marginata(Pink Mohur)	Medium in height, spreading and graceful tree, bears deep pink flowers in May and June.
10.	Cedrela tuna (Tun)	Tall columnar shaped tree, lealfless in Dec.-January. fairly fast growing and hardy tree with creamy white flowers in March-April.
11.	Chakarassia Tabularis	Tall spreading tree, evergreen and hardy. Excellent for shade. Flowers are greenish, white in April-May.
12.	Chorisia speciosa(Maxican Silk Cotton Tree)	Medium in height, pyramidal in shape,leafless from October to January, fast growing, bottle shaped green trunk. Flowers are of pink and yellow colour in October-November.
13.	Delonix Regia (Gulmohar)	Tall tree, with spreading crown, leafless from Jan.-March. Fast growing, very ornamental creates mass colour effect with orange red flowers from April to June.
14.	Ficus religiosa (Pipal)	Tall columnar shaped tree, lelafless in February-March, very hardy and fast growing, flowers pale green in April.

15.	Ficus infectoria(Pilkhan)	Tall spreading, fast growing and hardy tree, leafless in March, good for shade, need protection from cattle, green yellow flowers in Nov., Dec.
16.	Hetrophragma roxburghii (Marour Phaly)	Tall columnar tree, ever green, flowers are of pale, yellow brown colour in March.
17.	Jacranda mimosaefolia (Jakaranada or Neely-Gulmohar)	Medium in height, leafless when in bloom, good for parks and houses, fern like bipinnate leaves, bears flowers of violet-blue colour in April-May.
18.	Kigelia pinnata(Jhar Phanoos)	Tall and spreading tree, evergreen hardy and fast growing flowers are of crimson, yellow and brown colour in April-May.
19.	Lagerstroemia fros-reginae (Queen's flower)	Medium sized tree, columnar shape, very pretty, leafless in winter (December-February). Purple and pinkish blooms in April-May and July-August.
20.	Lagerstroemia thorelli (Pride of India)	Medium in height, columnar in shape, beautiful tree, leafless from Dec-Feb, flowers of mauve colour from June to December
21.	Lagerstroemia rosea	Medium in height, columnar tree, very pretty. Leafless in winter (December-Feb.) with deep pink flowers from April to September
22.	Pongamia Glabra(Karanj)	Tall spreading and fast growing tree, leafless in March. Bears mauve coloured flowers in April, May.
23.	Pterospermum acerifolium (Kanak Champa)	Tall columnar tree, ever green, handsome, bears sweet scented flowers of creamy white colour in March-April.
24.	Putranjaniva Roxburghii (Jiva Pota)	Medium in height, pyramidal shaped, ever green, handsome and very graceful tree, good for shade and beautiful form. Flowers are of pale yellowish colour in March-April.
25.	Saraca Indica(Sita Ashok)	Height medium, spreading tree, ever green, very hardy, foliage glossy and ornamental. Highly flow growing takes 30 years to become a good tree. Bears highly attractive scarlet coloured flowers in large compact clusters in Feb. – March.
26.	Schleichera Frijuga(Kusum)	Tall columnar shaped tree, evergreen, good for shade, leaves become red in March, April and again in July,-Sept. Flowers are of green colour in Feb-March.
27.	Sweitnia (Mahogany)	Evergreen, shady, attractive foliage, very hardy, tall tree with columnar shape, blooms in April, tree is slow growing and very good for avenues.
28.	Tabeuia Rosea	Small in height, golumnar in shape, dedciduous from December to February,Scanty foliage, flower colour is purple pink in Februar-March.
29	Terminalia Arjuna(Arjan)	Tall, columnar shaped tree, sheds leves in March. Very Hardy tree, flowers of pale-yellowish white colour appear in September-October.
30	Terminalia Chebula(Bahera)	Tall, Columnar shaped tree, leafless in March, Pale-yellow flowers all the year round.