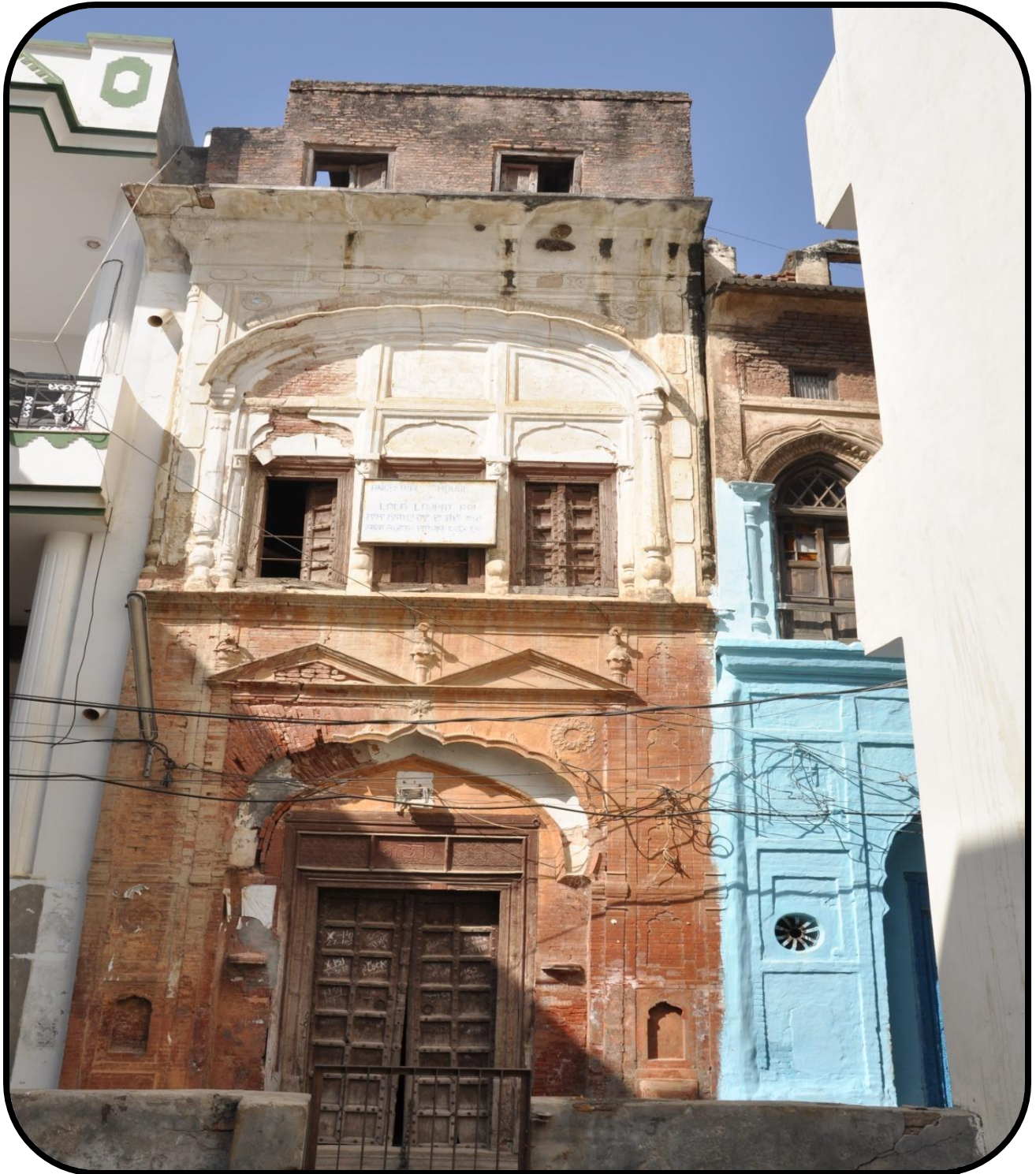


# **MASTER PLAN JAGRAON**

## **2008-2031**



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# CHAPTER 1

## INTRODUCTION

### 1.1 Regional Setting

Municipal Council Jagraon is a class one council in the Ludhiana district. According to 2001 census the population of the town was 60106. Jagraon is located at almost the geographical center of Punjab state, 16 kilometers from the River Satluj. This town is situated on Ludhiana- Firozpur railway line. To the West lies District Moga, Raikot lies 13 miles to the South and Ludhiana town is 24 miles east. (Refer location plan at Fig. no.1).

The Jagraon Vegetable and Grain Market is the second largest Grain Market of Asia after Khanna. The town's major industry, besides agriculture, is rice husking, with more than 100 rice shelling facilities. Jagraon hosts the second largest animal market in Punjab, the largest being Vallah, near Amritsar.



#### 1.1.1 Connectivity

The town is very well connected with other areas of the state and country through road and rail links. It is located at the junction of National Highways No. 95 and 71. Jagraon is connected by rail and road to Ludhiana and Ferozepur. The other major links of the town are Jagraon –Moga, Jagraon-Raikot, Jagraon- Sidhwan Bet.

#### 1.1.2 Constituent Areas & Jurisdiction:

Jagraon town has an area of 14 square kilometers as per census of 2001, its population is 60106.



### **1.1.3 Local Planning Area:**

To meet the challenge of rapid growth of Jagraon town and to provide for a workable framework for comprehensive planned and regulated development, preparation of statutory master plan of Jagraon town is essential. Hence in order to develop Jagraon town and its surroundings in an orderly manner there is need to prepare its Master plan under “The Punjab Regional and Town Planning and Development 1995 (Amendment) Act-2006”.

The Local Planning Area of Jagraon town for the preparation of Master Plan of the town was notified vide notification no. 12/1/2008-4HGI/406 dated 15-1-2008 under section 56(1) of “The Punjab Regional and Town Planning and Development Act 1995 (Amendment), 2006” (list attached at annexure I). The total area proposed for Local Planning Area is substituted as 21345 hectares which comprises of Jagraon M.C., and adjoining 31 villages”.

## **1.2 Physiography and climate:**

### **1.2.1 Topography of the town:**

The topography of Jagraon town and its surrounding area is a typical representative of an alluvial plain. The town is centrally located in plain region. Jagraon is located between 30° 44' to 33° 00' latitude and 75° 21' to 75° 37' longitude. It has an average elevation of 235.31 meter.

### **1.2.2 Climate conditions and seasons and their duration:**

The typical climate of the region is very hot in summers and extremely cold in winters. The cold season is from about the middle of November to the earlier part of the March. The succeeding period upto the June is the hot season. July, August and the first half of the September is Monsoon period. Mid September to about the middle of November may be termed as the post monsoon or transitional period.

### 1.2.3 Temperature:

June is generally the hottest month with the mean daily maximum temperature of 44 degree centigrade and the mean daily minimum at 27.2 degree centigrade. The January is the coldest month. The mean daily maximum in the January is 19.5 degree centigrade and the mean minimum is 6.4 degree centigrade. (See table no.1)

### 1.2.4 Rain fall:

About 70% of the annual rainfall is received during period from July to September. The rain fall during the period of December to March accounts about 16% of the rainfall. The average annual rainfall in the town is 859.4mm. (See table no. 1)

**Table no. 1: Temperature and Rainfall in Jagraon**

Maximum Temperature	44 degree centigrade
Minimum Temperature	6.4 degree centigrade
Average Rainfall	859.4 mm

*Source: Census of India, 2001*

## 1.3 Historical Background

### 1.3.1 Brief History of the Town

Jagraon is more than three centuries old. The town's original name was *Jagar aon*, meaning *a place of great flooding*, although this flooding has since ceased. Jagraon word actually derives from a source with a suffix *-graon* being a development of the Sanskrit *Grama*, meaning *Village* as found in the Hindi word *Gaon*. Jagraon (Jagrawan - *The place of the Rais*) was founded by Rai Kamaluddin of Raikot in 1688 AD.

Local tradition goes that jagraon town was founded about 250 years ago by Rai Kalha with the blessings of Mohammadam Faquir called 'Lape Shah', who took up his abode on the site of the present town and prophesized that a big town would grow up Rai Kalha invited cultivators, Gujars, Arains and Jats from surrounding area and assigned them land according to number of each tribe.

The town was named after a Rajput Jigra (Council), who looked after the growth of the town. About 3 Km north of Jagraon on west of Sidhwan Road is situated a mound of some dimensions. It is called Solah and marks the site of an old village. It was here in 1802 that young Rai 'Alian' met his death in the hunting field. Under the Ranis who

succeeded him, Ahmed Gujjar the Thanedar, tried to assert his independence. He was expelled with the help of ruler of Patiala in 1806, Maharaja Ranjit Singh deprived the Ranis of their possession

### 1.3.2 LANDMARKS

#### 1) Gurudwara Nanaksar Sahib

Gurudwara Nanaksar Sahib is one of the important places of worship for the Sikhs. Gurudwara Nanaksar, a gurdwara built as a memorial for of the Saint, Baba Nand Singh. Baba Nand Singh founded Gurudwara Nanaksar decades ago.



**Fig no. 2: Gurudwara Nanaksar**

Gurudwara Nanaksar Jagraon houses one of the oldest shrines of the place. A beautiful pond within the shrine attracts pilgrims from many distant places. Guru Govind Singh fought in a massive war against the Mughals. Guru Govind Singh died while fighting the Mughals. A Gurudwara was later constructed at the place where he fell and this place came to be known as Gurudwara Nanaksar Jagraon. Sri Nanaksar made its sacred beginning nearly a hundred years ago, as a humble hut (Kutia) in the thick of a jungle.

#### 2) Gurudwara Mehdiana Sahib

Gurdwara Mehdiana Sahib is known for its unique depiction of scenes from Sikh history, especially those of atrocities committed on the Sikhs by various Mughal rulers, in the form of life-sized status.

#### 3) The Jain Temple

Jain Temple in Jagraon is considered as one of the most holy places for Jains in the region. The temple has a peaceful ambience and lush green gardens and attracts thousands of pilgrims from the Jain community all over the world, for the annual Diksha Mahotsav in the third week of March.



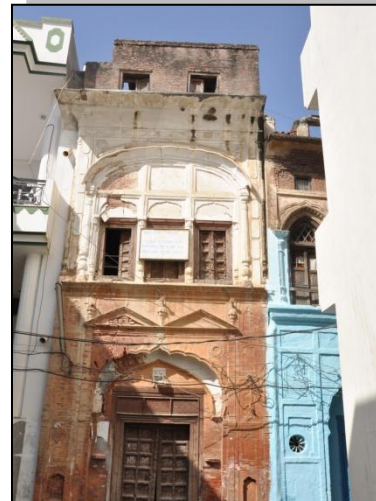
**Fig no. 3: Jain Temple**

#### 4) Gurudwara Har Gobind Sahib, Kaunke Kalan

Guru ji with 200 soldiers and elephant and horses took rest where now gurudwara Har Gobind Sahib exists. Sikh ragi who was hajoori ragi of Barodi king came to know that Guruji is visiting this place, he recited kirtan in front of guruji. Guruji was happy and told him to ask for wishes. Sikh ragi replied that everything is given by guruji. Guruji again asked for 3 wishes but sikh ragi replied that guruji has already given him everything. Guruji was very happy on his reply and asked his name, sikh ragi replied that his name is Heera. Guruji gave him blessing that this land will give birth diamonds (Heera) some concealed and some will erupt and this land will be prosperous and lucky. Guruji before leaving this place, planted kikar stem on this area which was uprooted during the construction of golden temple. Therefore guru granth sahib was placed on this area. However on this area guruji heard kirtan and guruji came here in 1628 and 1684.

#### 5) Lala Laj Pat Rai house

Jagraon is also the home of Late Lala Lajpat Rai, a well-known figure in the Indian Independence movement, who greatly influenced patriots and great freedom fighters like Shaheed Bhagat Singh. His house is now a municipal library.



**Fig no.4: Lala Laj Pat Rai house**

6) Muslim places of worship include the famous **Khangah** and the mausoleum of Mai Jeena, where a three-day annual fair, called the Roshni Mela is held in the third week of February every year. Before 1947 there was a large Muslim presence in this area.



**Fig no.5: Roshni Mela**



7) **The old walled town**, with its four gates namely Subash gate, Moori gate, Philli gate and Committee gate is known locally for its Mughal period architecture. Even the local market within the walled town is known as Anarkali bazaar, after the title of a beauty at Mughal Emperor Akbar's court.

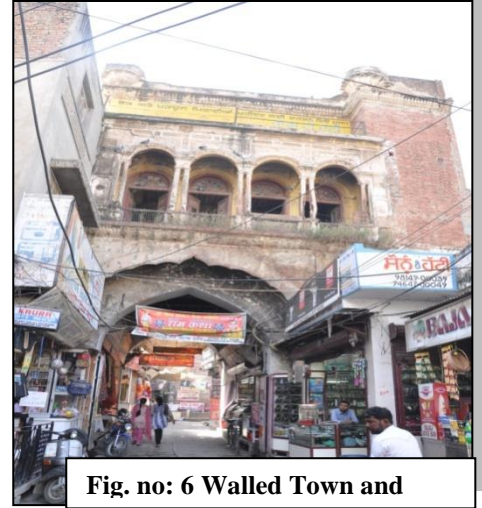
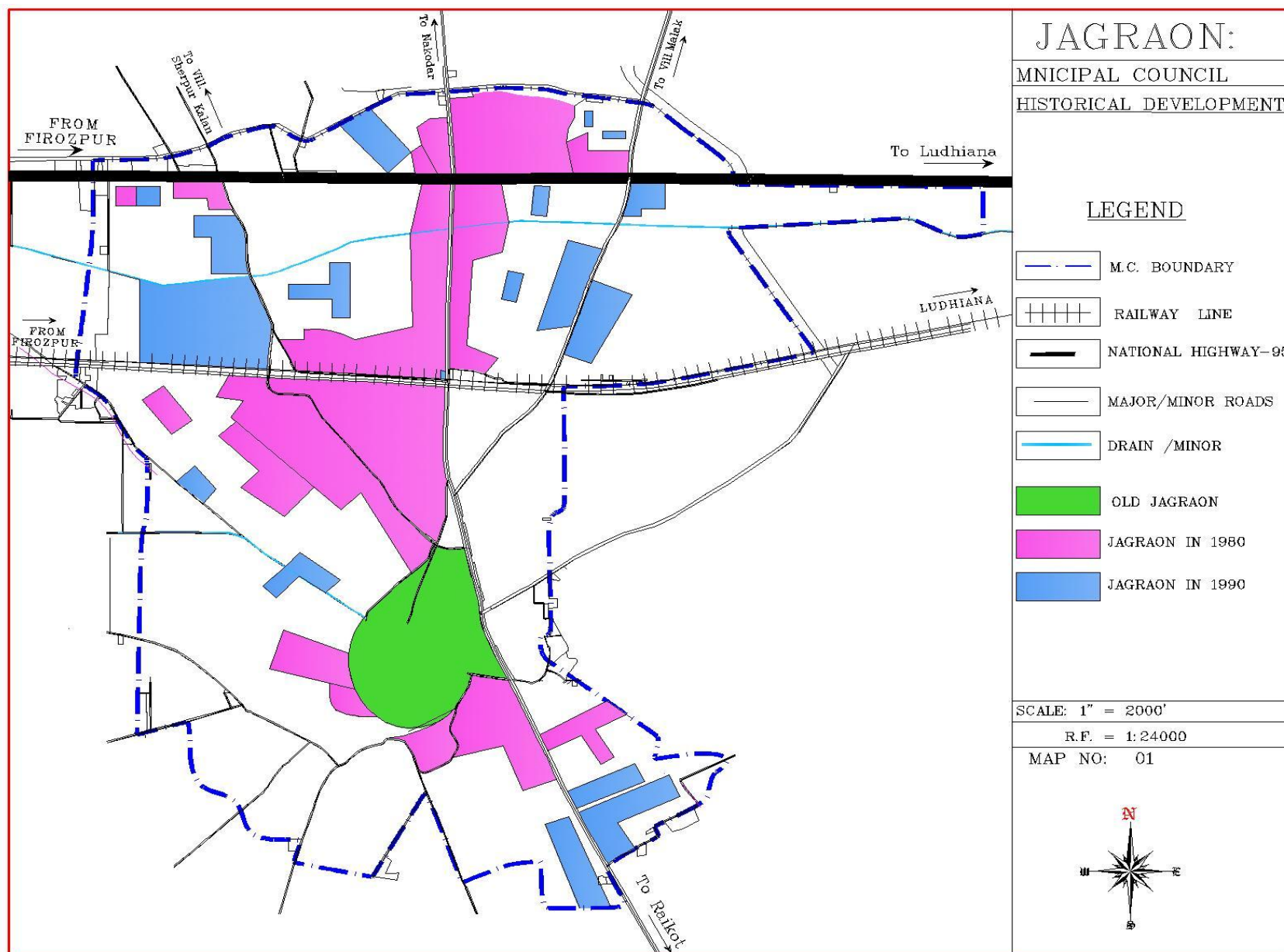


Fig. no: 6 Walled Town and

# MAP NO.: I-HISTORICAL DEVELOPMENT: JAGRAON MUNICIPAL COUNCIL



### 1.3.3 Major Events in Development History of L.P.A. Jagraon

**Table no.2: Major Events in Development History of L.P.A. Jagraon**

Year	Event
Nanaksar Gurudwara in Jagraon	100 years ago
Jagraon has a class-II Municipal Committee	1866
Jagraon was reduced to notified area committee, but was restored to the status of a class II	1923
Class –I Municipal Committee, Jagraon came into being	1936
Civil hospital in Jagraon	1937
Anderson Grain market	1941
Moori Gurudwara in Jagraon	1941
Historical gates in Jagraon	1947
Railway line in Jagraon	1947
Electric grid in Jagraon	1955
Water supply network in Jagraon	1962
Sanmati College in Jagraon	1969
Grain market in Jagraon	1984
Sewerage network in Jagraon	1986
Kalyani Hospital	1977
Cinema in Jagraon	1981
Ist PUDA Licensed Colony (Town Enclave, Jagraon)	29.9.2006, Area = 4.384 acre
L.P.A. Jagraon	15.1.2008 (Notification NO. 12/1/2008 4HGI/406) under section 56(1) of “The Punjab Regional and Town Planning and Development Act 1995 (Amendment),

*Source: Municipal Council Jagraon, P.S.E.B Jagraon, Integrated Block Development Plan Jagraon Block*

The historical development of Jagraon town is shown at thematic map no.:1

## **1.4 Legal Framework for Master Plan**

**1.4.1 Main provisions of the Act:** Master plan of Jagraon is prepared as per the provisions of "Punjab Regional and Town Planning and Development (Amendment) Act, 2006". Main provisions of the law are given as under:

**Section 56 (i)** Under Section 56 (i) State Government may declare and publish any planning area.

**Section 57:** After the declaration of planning area, the State Government has to designate the Planning Agency for the Local Planning Area.

**Section 59:** The Designated Planning Agency shall not later than 6 months after its designation or within such time as the government may from time to time extend prepare a present land use map indicating the present use of every piece of land in the planning area.

**Section 60:** The State Govt. may determine in the prescribed manner the amount which a local authority, State Govt. or any other authority functioning in the Planning Area shall pay to the Designated Planning Agency as Contribution towards the expenses incurred by it.

**Section 70 (i):** After the declaration of a Planning area and after the designation of a Planning agency for that area, the designated Planning agency shall prepare Master Plan and submit to state govt. for its approval. The Master Plan so prepared shall:-

- (a) Indicate broadly the manner in which the land in the area should be used;
- (b) Allocate areas or zones of land for use for different purposes.
- (c) Indicate, define and provide the existing and proposed highways, roads, major streets and other lines of communication.
- (cc) Indicate areas covered under heritage site and the manner in which protection, preservation and conservation of such site including its regulation and control of development, which is either affecting the heritage site or its vicinity, shall be carried out.



- (d) Indicate regulations (hereinafter called "Zoning Regulations") to regulate within each zone the location, height, number of storeys and size of buildings and other structures open spaces and the use of building, structures and land.

**Section 70 (3):** State Government shall direct the Planning Agency to publish the Existing Land-use Plan and Master Plan and place its copies for public objections and suggestions within 30 days time after publication. State Government shall consider the objections / suggestions so received in consultation with the Board Government shall direct the Planning Agency to modify the Master Plan or may approve it as such. State Government shall finalize the Master Plan and direct the Designated Planning agency to publish the intimation to Government within 30 days from the date of its approval.

**Section 75:** Operational date of Master Plan shall now be the date of publication.

The legal framework of the master plan is illustrated in the form of flow chart below.

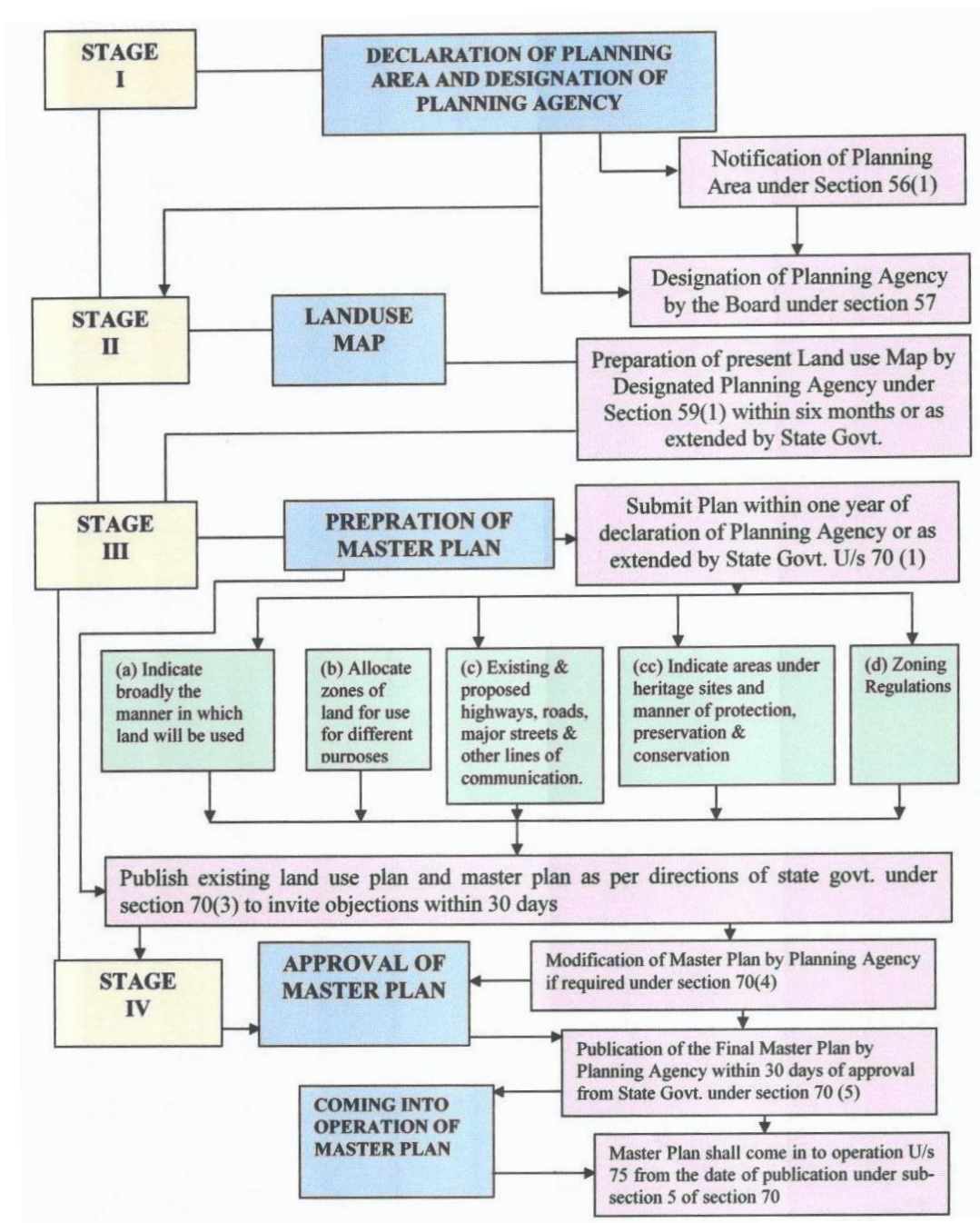


Fig no.7: Stages of Master Plan Preparation

## **1.4.2 Methodology Adopted/Stages For Plan Preparation:**

### **(A.) DECLARATION OF PLANNING AREA AND DESIGNATION OF PLANNING AGENCY :**

- Notification of Planning Area under section 56(1)
- Designation of Planning Agency by the Board under section 57

### **(B.) LAND USE MAP :**

- Preparation of present land use map by Designated planning Agency under section 59 (1)
- Time schedule: six months or as may be extended by the state government under section 59(1)

### **(C.) PREPARATION AND APPROVAL OF MASTER PLAN:**

- Submit plan within one year of declaration of Planning Agency ( or as extended by state government ) under section 70(1)
- Publish existing land use plan and master plan as per directions of state govt. under section 70 (3) to invite objections within 30 days.
- Modification of Master Plan by Planning Agency if required under section 70(4)
- Publication of the Final Master Plan by Planning Agency within 30 days of approval from state government.

### **(D.) COMING IN TO OPERATION OF MASTER PLAN:**

- Master plan shall come in to operation from the date of publication under sub section 5 of section 70 referred to.

### **(E.) AMENDMENT OF MASTER PLAN:**

- Preparation of revised master plan at any time after the Master Plan comes into operation and at least once after every 10 years under section 76 (1)
- Its approval in the same manner as in case of Master Plan under section 76(2)

### **(F.) MINOR CHANGES IN MASTER PLAN:**

- Minor changes by agency with prior approval of the state govt. in the Master plan as necessitated by topographical and cartographical error provide no such change shall be made unless it is in public interest and notified to the public under section

## CHAPTER -2

### POPULATION, ECONOMY, HOUSING AND EMPLOYMENT

#### 2.1 Population Growth and Characteristics of L.P.A. Jagraon

The true character of the town can be judged by statistical data related to demographic profile in terms of the population growth, population density, literacy rate etc. The decadal study of population growth and its characteristics are of great help in bringing out the trends of population growth, population density, literacy rate etc. and for perceiving the future of the town. Thus, the following study examines the population growth and various characteristics of population in L.P.A Jagraon.

##### 2.1.1 Population Growth since 1901 of Jagraon Municipal Council

Growth rate of population refers to the net change in the number of people living in a particular period between two given points of time and is expressed in percentage.

**Table no. 3: Growth Trends-Urban Population In Punjab, Jagraon Town:**

Years	Urban Population of Punjab (Persons)	Decadal Growth rate of Urban Pop of Punjab (%)	Population of Jagraon Municipal Council (Persons)	Population of Jagraon Municipal Council as %age of Total Urban Pop. of Punjab	Decadal Growth rate of Jagraon Municipal Council (%)
1901	934766	-	18760	2.01	-
1911	813224	13.00	15039	1.85	-19.83
1921	869526	6.92	17731	2.04	17.90
1931	1168413	34.37	27108	2.32	52.88
1941	1657415	41.85	26704	1.61	-1.51
1951	1989267	20.02	24519	1.23	-8.18
1961	2567306	29.06	29617	1.15	20.79
1971	3216179	25.27	32999	1.03	11.42
1981	4647757	44.51	39683	0.85	20.26
1991	5993220	28.95	47372	0.79	19.38
2001	8245566	37.58	60106	0.73	26.88

*Source: Census of India, 2001*



The growth rate of the population at Jagraon has not been uniform one. The marked factors of population change have been fast and irregular growth. Table no.: 3 shows that the highest population growth rate which the town ever attained was in the decade 1931-41 when it was 52.88%. It was due to mass migration of refugees to the town. In 2001, the growth rate is 26.88%. Jagraon town is developing as a multifunctional town and as large number of migrants are migrating to it for jobs and facilities.

It is observed from the above table that the town was having a regular growth in the past 40 years. The growth is likely to be accelerated in the next decade.

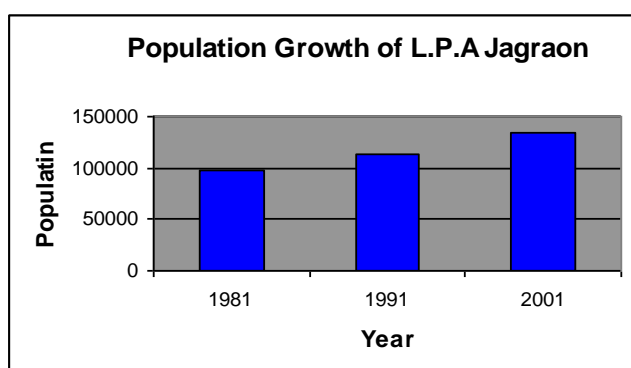
### 2.1.2 Population Growth of Local Planning Area, Jagraon

The Local Planning Area of Jagraon comprises of one urban area (namely Jagraon and 31 villages). Table No.4 (table below) reveals the growth trends of Local Planning Area of Jagraon. It shows that during the decade of 1981-91 the growth rate of population was 14.82% which rose to 19.18 % in the decade of 1991-2001. This is due to increase in population and other factors of urbanization viz; improved economic status of the people of the LPA, better health facilities etc.

**Table no.4: Population growth of Local Planning Area, Jagraon**

S.No.	Year	Population	Decadal Growth %age
1	1981	98362	-
2	1991	112945	14.82
3	2001	134608	19.18

*Source: Census of India, 2001*



**Fig.No.8: Population growth of Local Planning Area, Jagraon**

### 2.1.3 Age Sex distribution, sex ratio, literacy of Jagraon.

#### 2.1.3a Age Structure

The most important demographic characteristic of a population is its age-sex structure. The age structure of population is given by grouping different age groups. (Table No.5 below) It helps in studying various facilities provided as well as required by town population. In the year 2001, the maximum population i.e. 32.4% is in the age group of 20-39 i.e. working age group. Age structure is also a tool for deciding the job structure and providing job opportunities in the town. The percentage of persons in the age group of 20-39 (32.4%) is more as compared to age group 5-19 (27.9%) i.e. the youth and their needs i.e. services and facilities including educational facilities like schools and colleges, sports, facilities, library, recreational facilities to be considered while earmarking proposals. 7.90% population of the town falls in the age group of 60+, this age group is dependent population of the area but requires various facilities like hospitals, clinics, parks, community centre, old age homes etc. Area requirements and location aspects to be given special attention while planning for this age group.

**Table no.5: Age Structure-Jagraon Town 2001**

Age Group	Persons	%age	Males	Females
0-6	7179	11.94	3912	3267
5- 19	16529	27.50	5478	8051
20-39	19473	32.40	10322	9151
40-59	11600	19.30	6071	5529
60 & above	4748	7.90	2498	2250
Age not stated	577	0.96	304	273
<b>Total</b>	<b>577</b>	<b>100</b>	<b>31585</b>	<b>28521</b>

*Source: Census of India, 2001*

#### 2.1.3b Sex ratio:

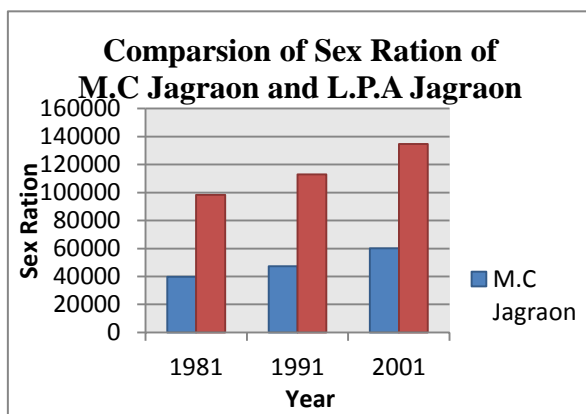
The numerical measurement of sex composition of population is often expressed in terms of sex ratio. It is the number of females per thousand to males. Sex ratio helps in determining the occupational structure and facilities required by males and females. Thus, it decides the deciding area requirements in the planning of L.P.A. Jagraon. According to the census 1981, there were 910 females per thousand to males in L.P.A. Jagraon (Table No.6 below). In 1991, the sex ratio decreased up to 898 females per thousand to males which increased to 900 in 2001. The sex ratio in Jagraon M.C. has

shown a decreasing trend in the table no.6 i.e. the number of females in comparison to males are less in number. Prevalence of social evils like dowry system, female foeticide and infanticide are the major reasons for low sex ratio in L.P.A. Jagraon.

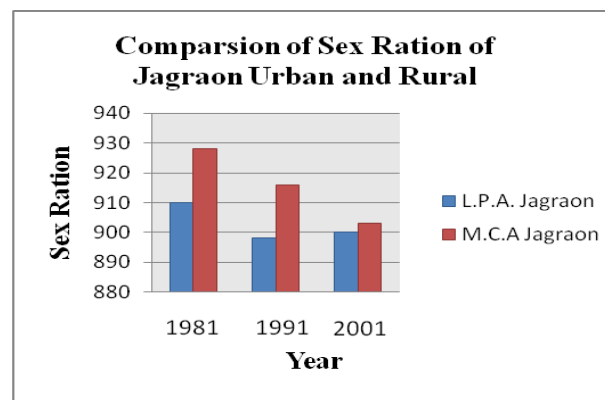
**Table 6: Sex Ratio in Jagraon Town**

Year		Total	Males	Females	Sex-Ratio
1981	<b>L.P.A. Jagraon</b>	98362	51492	46870	910
1991		112945	59497	53448	898
2001		134608	70852	63756	900
1981	<b>Municipal Council Jagraon</b>	39683	20581	19102	928
1991		47372	24723	22649	916
2001		60106	31585	28521	903
1981	<b>L.P.A. Rural</b>	58679	30911	27768	898
1991		65573	34774	30799	886
2001		74502	39267	35235	897

Source: Census of India, 2001



**Fig no.9: Composition of Sex ratio of M.C. Jagraon & L.P.A. Jagraon**



**Fig no.10: Comparison of Sex ratio of Jagraon Urban & Rural**

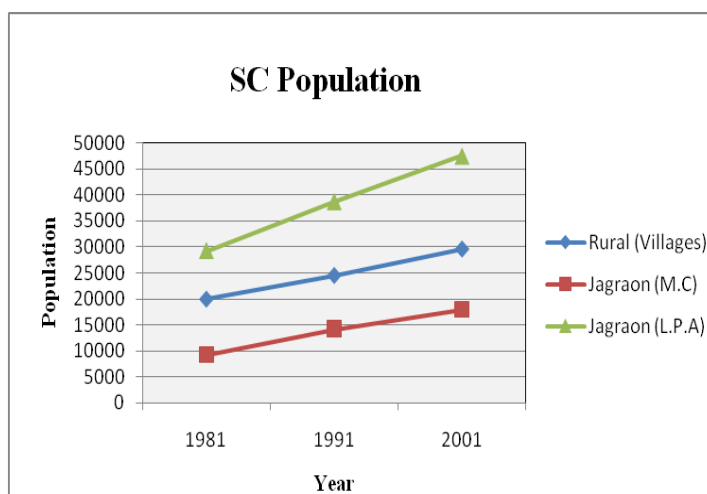
## 2.1.4 CASTE COMPOSITION (L.P.A.) JAGRAON

*Schedule caste population and %age of S.C. Pop to Total*

**Table no. 7: Caste Composition Population**

		1981			1991			2001	
	Total population	S.C. Pop	%age of S.C.Pop	Total population	S.C Pop	%age of S.C.Pop	Total population	S.C Pop	%age of S.C.Pop
LPA Total	98362	29189	29.67	112945	38686	34.25	134608	47482	35.27
Rural (Villages)	58679	19916	33.94	65573	24467	37.31	74502	29543	39.65
Jagraon (Municipal Council)	39683	9273	23.36	47372	14219	30.01	60106	17939	29.84

Source: Census of India



**Fig No.11: Schedule caste population**

The major reason for the increase in number of scheduled caste population in L.P.A. Jagraon is the availability of jobs and development of various facilities as well as the incentives being given to the scheduled caste under various state level policies and schemes in Punjab. There is consistent increase in the number of scheduled caste population in Local Planning Area of Jagraon i.e. 29.67% in 1981 and 34.25% in 1991 and increase in 2001 it was 35.27% (Table No.7 above).

In case of Jagraon Municipal Council, the percentage of scheduled caste population to total population has increased from 23.36% (1981) to 29.84% (2001).

### 2.1.5 Density

Density of population refers to the man-land ratio. The density of population of Jagraon town has decreased from 3968 persons/km<sup>2</sup> (1981) to 3383 persons/km<sup>2</sup> (1991) (table No.8 below). The population density of town decreased in the year 1991, but increased in the year 2001 (4293 persons per sq.km.).

**Table no.8: Population Density Jagraon M.C.**

Year	Total Population	Area (Hectare)	Decadal	
			Persons/sq.km	Persons/hectare
1981	39683	1000	3968	39.68
1991	47372	1400	3383	33.83
2001	60106	1400	4293	42.93

*Source: Census of India, 2001*

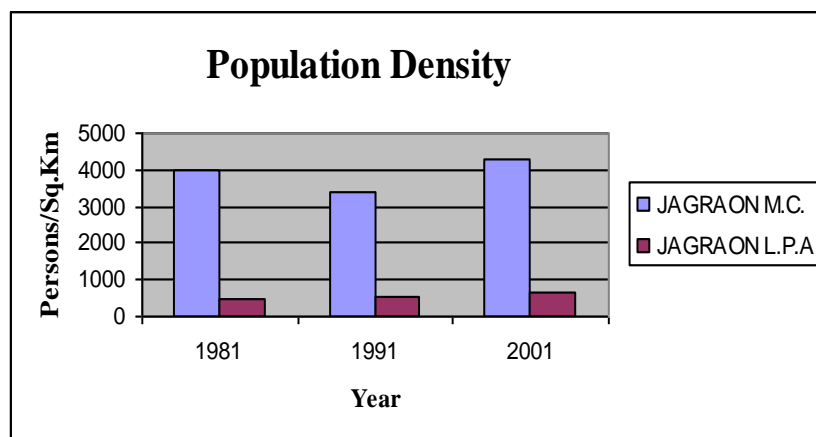
The population density of L.P.A. Jagraon increased from 529 persons per sq. km in year 1991 to 630 persons per sq. km in year 2001.



**Table no. 9: Population Density of L.P.A. Jagraon**

Year	Total Population	Area (Hectare)	Decadal	
			Persons/sq.km	Persons/hectare
1981	98362	21345	460	4.60
1991	112945	21345	529	5.29
2001	134608	21345	630	6.30

Source: Census of India, 2001

**Fig No. 12: Population Density of L.P.A Jagraon, MC Jagraon****2.1.6 Literacy Rate****Table no.10: Literacy Rate**

Type	Year	Total Population	Total Literates	Males		Females		Literacy Rate
				Number	%age	Number	%age	
L.P.A. Jagraon	1981	98362	46826	27156	57.99	19670	42.01	47.60
	1991	112945	62784	35764	56.96	27020	43.04	55.88
	2001	134608	86359	48040	55.63	38319	44.37	64.16
Municipal Council Jagraon	1981	39683	21884	12521	57.22	9363	42.78	55.14
	1991	47372	28788	15811	54.92	12977	45.08	60.77
	2001	60106	40748	22306	54.74	18442	45.26	67.79
L.P.A. Rural (31 villages)	1981	58679	24942	14635	58.68	10307	41.32	42.50
	1991	65573	18038	19953	58.70	14043	41.30	51.84
	2001	74502	45611	25734	56.42	19877	43.58	61.22

Source: Census of India, 2001

Socio- Economic status of the town is well determined by literacy rate. The literacy rate in L.P.A. of Jagraon is increasing from year 1981 to 2001. In 1981, it was 47.60 % only and in 1991 it was 55.88%. In 2001, it further increased to 64.16 %.

In comparison to the literacy rate of Punjab in (2001) i.e. 69.7% the literacy rate of L.P.A. Jagraon is 64.16 %. It shows that the literacy level among the population of L.P.A is quite high. A major reason of high literacy rate in L.P.A. Jagraon is that a large number of schools, colleges have been opened up. High literacy rate shows that population can use the available socio-economic resources in a better way.

### 2.1.7 Population Growth in Context of Punjab State

**Table no.11: Punjab Population Growth 1981-2001 Punjab State**

	1981 (Pop.)	1991 (Pop.)	Growth rate	2001 (Pop.)	Growth rate
Total	16788915	20281969	20.81	24358999	20.10
Urban	4647757	5993225	28.95	8262511	37.86
Rural	12141158	14288744	17.69	16096488	12.65

Source: Census of India, 2001

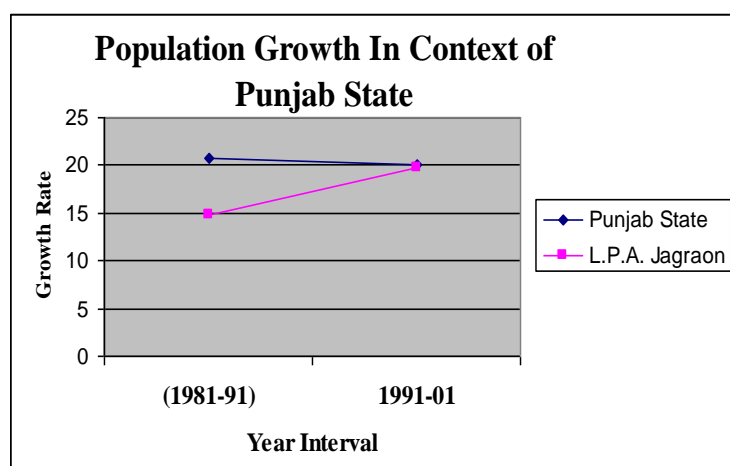
**Table no. 12: L.P.A. Jagraon Population Growth 1981-2001**

	1981 (Pop.)	1991 (Pop.)	Growth rate(%age)	2001 (Pop.)	Growth rate(%age)
Total	98362	112945	14.82	134608	19.18
Urban	39683	47372	19.37	60106	26.88
Rural	58679	65573	11.74	74502	13.61

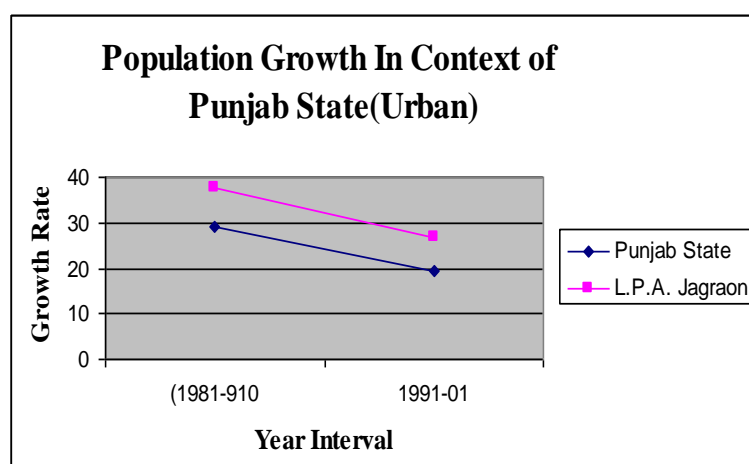
Source: Census of India, 2001

From table no.12 it is clear that growth of Jagraon L.P.A. (urban) is increasing i.e. 19.37 % in 1991 to 26.88% in 2001. This is due to increasing urbanization and migration from rural area

**Fig No.13: Population growth in context of Punjab.**



**Fig No.14: Population growth in context of Punjab (urban).**



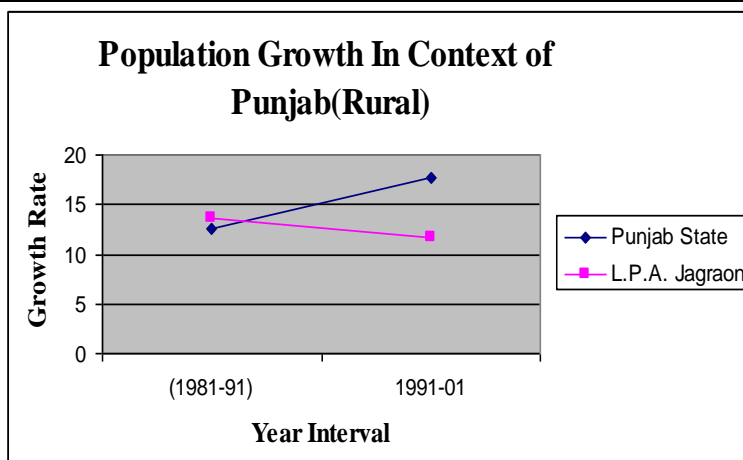


Fig No.15: Population growth in context of Punjab (Rural)

Table No. 13: Share of LPA in Punjab (%age)

	1981	1991	2001
Total	0.84	0.85	0.86
Urban	0.35	0.38	0.45
Rural	0.49	0.47	0.40

Source: Census of India, 2001

From table no.13 above it is clear that share of Jagraon L.P.A. urban in Punjab is increasing i.e. 0.38% in 1991 to 0.45% in 2001. Whereas the share of Jagraon L.P.A. rural is decreasing from 0.47% in 1991 to 0.40% in 2001. As more and more people are migrating from rural areas due to lack of basic faculties and moving toward urban areas for job opportunities and in search of facilities.

### 2.1.8 Urban – Rural Growth Differential

The process of urbanization can be best examined through Urban Rural Growth Differential (URGD). From year 1981-2001 the URGD of Punjab was 11.26% which increased in the decade of 1991-01 i.e. 25.21%. In the context of Local Planning Area of Jagraon the URGD has increased i.e. 2.45% in 1991 to 24.97% in 2001. Urbanization has been found to have high degree of positive co-relationship with the processes of industrialization and globalization. The development of commercial areas, industrial areas and housing areas in Jagraon urban has lead to high URGD.

Table no. 14: Urban – Rural Growth Differential

Year	Punjab (%)		URGD	Jagraon (L.P.A.)		URGD
	Urban	Rural		Urban	Rural	
1981	-	-	-	-	-	-
1991	28.95	17.69	11.26	9.29	11.74	2.45
2001	37.58	12.65	25.21	38.58	13.61	24.97

Source: Census of India, 2001

## 2.2 Economy and Employment

### 2.2.1 Salient features of Punjab's Economic Growth:

Punjab being an agrarian state, agriculture has played a pivotal role in the economic development of the state. In the recent past the primary sector along with the other two sectors of the economy i.e. secondary and tertiary have also played an important role in strengthening Punjab's Economic growth. The description of key economic indicators of Punjab as per the Economic survey of Punjab, 2007-08 Economic Adviser to Government of Punjab is as per table below:-

**Table no. 15: Key Economic Indicators:**

Item	Unit	2004-05	2005-06	2006-07
GSDP at 1999-2000 prices	(Rs. crores)	81229.39 (R)	85729.29 (P)	91148.12 (Q)
Growth Rate of GSDP at 1999-00 Prices	Percent	5.20 (R)	5.54 (P)	6.32 (Q)
Per Capita Income at 1999-00 Prices	(Rs.)	27851 (R)	28872 (P)	30158 (Q)
Food grain Production	(000 Tonnes)	25662	25180	25309
Contribution to Central Pool	(Lakh Tonnes)			
Wheat	-do-	92.4	90.1	69.5
Rice	-do-	91.1	88.6	78.3
Electricity Generated	(mk W.h)	21296.00	24642.00	23965.00
Per Capita power consumption	()k W.h)	871	906	968
Fiscal Deficit	(Crores)	4114.94	2653.97	4383.58*
Revenue Deficit	(Crores)	3390.55	1240.25	1748.69*
Committed Expenditure	(% of Revenue Receipts)	93.55	77.99	80.15
Debt Stock	(Crore)	44982	48838	48344
Net Irrigated Area	(000,Hect)	4035	4060	4078
Cropping Intensity	(Percent)	189.00	189.00	187.88

The sectoral growth rate in GSDP at 1999-2000 prices is as follows:-

As per provisional estimates the overall economy of Punjab has witnessed a growth rate of 5.54 % at Constant (1999-2000) prices during 2005-06 and it is expected to grow by 6.32% during 2006-07 as per Quick estimates.

The Gross State Domestic Product (GSDP) at Constant (1999-2000) prices has increased to Rs.85729 crore (P) in 2005-06 from Rs. 81229 crore in 2004-05 showing a growth rate of 5.54 % (P) in 2005-06 as compared to 5.20 % in 2004-05. Quick estimate of GSDP at

Constant (1999-2000) prices for 2006-07 is Rs. 91148 crore showing a growth rate of 6.32 percent.

The GSDP from primary sector which comprises mainly of agriculture and livestock activities has increased from Rs. 27541 crore in 2004-05 to Rs. 28004 (P) crore during 2005-06 registering a growth rate of 1.68 % at constant prices(1999-2000)as compared to 2.16 % in 2004-05. According to quick estimates, it will further increase to Rs.29138 crore in 2006-07 showing a growth rate of 4.05 percent.

The GSDP from the secondary sector which covers the manufacturing, construction and power sectors has increased from Rs.19086 crore in 2004-05 to Rs. 21408(P) crore in 2005-06 showing a growth rate of 12.17% at Constant Prices (1999-2000) as compared to 9.66 % in 2004-05. Its share in 2006-07 (Q) is Rs 23609 crore registering a growth rate of 10.28 %.

The tertiary sector which comprises of trade, transport, banking and insurance and public administration, etc. recorded a growth rate of 4.95% (P) during 2005-06 against a growth rate of 5.34% in 2004-05. Quick estimates show a growth rate of 5.74 % during 2006-07. Under this sector, Transport, Storage & Communication, and Banking and Insurance have shown the growth rate of 10.45% and 9.00% respectively during 2006-07 over the previous year.

The Per Capita Income at Constant (1999-2000) prices in Punjab is Rs. 28872 (P) during 2005-06 as against Rs.27851 during 2004-05 registering an increase of 3.67%. It is expected to increase to Rs. 30158 as per quick estimates in 2006-07 showing a growth rate of 4.45%. The per capita income at current prices is Rs. 36759(P) in 2005-06 as against Rs.33158 in 2004-05 showing an increase of 10.86%. As per Quick estimates, per capita income is Rs. 40566 during 2006-07, registering a growth rate of 10.36 percent.

The detail of sectoral growth rate in GSDP at 1999-2000 prices is shown in table in 15 and the detailed of gross state domestic product at factor cost by industry of origin at 199-2000 prices is as per table No. 16.

**Table No. 16: Sectoral growth rates in GSDP at 1999-2000 prices**

Percentage change over the previous year							
Item	2000-01 (R)	2001-02 (R)	2002-03 (R)	2003-04 (R)	2004-05 (R)	2005-06 (R)	2006-07 (Q)
I.Agriculture & Allied (Primary)	1.42	0.81	(-)1.12	5.77	2.16	1.68	4.05
II. Industry (Secondary)	5.66	(-)2.07	3.02	6.85	9.66	12.17	10.28
Manufacturing	3.87	(-)5.19	6.09	3.72	6.46	7.66	6.03
Electricity ,Gas & Water Supply	0.03	0.06	4.47	6.75	1.61	8.12	4.20
Construction	16.19	5.98	(-)6.27	16.61	23.71	24.98	21.77
III.Services (Tertiary)	5.39	5.21	6.11	4.63	5.34	4.95	5.74
Trade, Hotels & Restaurants	7.01	3.47	3.26	5.35	6.22	4.03	5.12
Transport, Storage & Communication	14.90	18.67	12.24	13.76	7.15	8.63	10.45
Banking & Insurance	4.95	4.72	11.26	(-)1.00	9.57	8.43	9.00
IV.Total GSDP	3.96	1.92	2.81	5.52	5.20	5.54	6.32

**Table No.17: Gross State Domestic Product At Factor Cost By Industry Of Origin, Punjab****AT 1999-2000 PRICES (As on 28.02.2008)**

Sr.No.	Sector	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
1	Agriculture	2482182	2515667	2534660	2499371	2640414	2701155	2743768	2853584
2	Forestry & logging	21685	22378	21825	21906	22189	21834	22451	22640
3	Fishing	16904	18632	20791	24535	29973	27840	30687	34007
	Agr and Allies								
4	Mining & quarrying	2520771	2556677	2577276	2545812	2692576	2750829	2796906	2910231
a	Sub Total of Primary	543	363	414	3134	3319	3247	3512	3612
5.	Manufacturing	2521314	2557040	2577690	2548946	2695895	2754076	2800418	2913843
5.1	Manu-Registered	1003007	1041824	987766	1047913	1086872	1157065	1245737	1320832
5.2	Man-Unregistered	606925	626045	577670	607056	611218	653926	701394	736534
6	Construction	396082	415779	410096	440857	475654	503139	544343	584298
7	Electricity, gas and Water supply	293846	341433	361859	339188	395527	489290	611518	744645
b	Sub Total of Secondary Industry	231173	231253	231398	241738	258057	262216	283521	295429
8.	Transport, storage & communication								

8.1	Railway	1528026	1614510	1581023	1628839	1740456	1908571	2140776	2360906
8.2	Transport by other means	1528569	1614873	1581437	1631973	1743775	19118118	2144288	2364518
8.3	Storage	317263	364547	432607	485563	552363	591847	642936	710123
8.4	Communication	377263	364547	432607	485563	552363	591847	642936	710123
9	Trade, hotels & restaurants	817678	875021	905370	934903	984903	1046156	1088321	1144043
10	Banking & Insurance	298416	313192	327978	364904	361268	395842	429092	467819
11	Real estate, ownership of dwellings & business services	314121	321389	329311	336614	344158	359364	367851	380321
12	Public administration	329565	330718	336930	365853	377043	38577	405258	420171
13	Other services	591240	607199	626456	651616	665105	681286	698177	717586
c.	Sub Total of Tertiary	2668283	2812066	2958652	3139453	3284840	3460292	3631735	3840063
14	State domestic product (Rs.lacs)	6717623	6983616	7117365	7317238	7721191	8122939	8572929	9114812
15	Calculated State domestic product (Rs. lacs)	6717623	6983616	7117365	7317238	7721191	8122939	8572929	9114812
16	Population	23854000	24310000	24621000	25076000	25540000	26012000	26493000	26983000
17	State Per Capita Income (Rs)	28161	28727	28908	29180	30232	31228	32359	33780

The share of agriculture (proper) in GSDP has declined from 26.27% in 1999-2000 to 20.65 % in 2006-07(Q). The share of primary sector which includes agriculture and livestock has come down from 37.53% in 1999-2000 to 31.97% in 2006-07(Q). The share of secondary sector has increased from 22.75% in 1999-2000 to 25.90% in 2006-07(Q) which is mainly due to increase in activity of construction sector. The share of tertiary sector which comprises of services sector has increased from 39.72% in 1999-2000 to 42.13% in 2006-07(Q). This growth is mainly due to increase in contribution of transport, storage & communication, trade, hotels & restaurants and banking & insurance sector. It is evident that structurally Punjab's economy is following a trend that a fall in the share of agricultural sector in GSDP has given a corresponding rise in the tertiary sector.

### 2.3 Employment

Primary, secondary and tertiary sectors form the economic base of the town. The economic viability of an area lies in its carrying capacity and its ability to provide



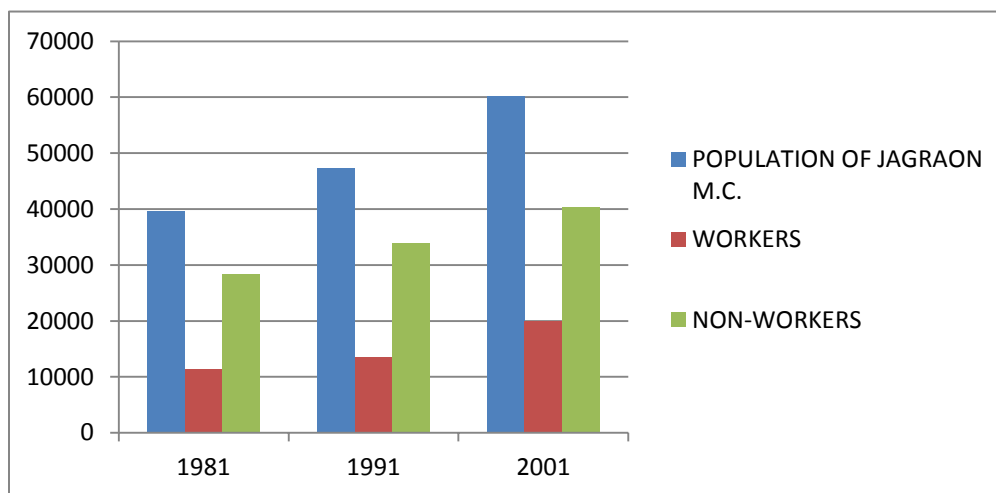
employment opportunities. Tertiary sector activities such as development of integrated freight complexes/ wholesale markets and informal sector should be given emphasis.

The number of total workers in Jagraon Municipal Council has increased in recent decades. As Jagraon is fast developing as multifunction town i.e administrative, commercial and educational town, large number of migrants is coming to Jagraon town for employment. The percentage of total workers in Jagraon Municipal Council shows an increasing trend during the decadal period of 1981-1991 as well as 1991-2001. In 1981 growth was (28.55 %), 1991 (28.55%) and in 2001 it was 33.00%. Similarly, the percentage of non workers have decreased i.e. in 1981 as it was 71.45% , 71.45% in 1991 and 67.00% in 2001 as shown in Table no.18 given below.

**Table No. 18: Workers & Non Workers (Jagraon Municipal Council)**

Year	Population of Jagraon M.C.	Total Workers		Non Workers	
		No. of Workers	%age to total population of Municipal Council Jagraon	No. of Non-Workers	%age to total population of Municipal Council Jagraon
1981	39683	11329	28.55	28354	71.45
1991	47372	13527	28.55	33845	71.45
2001	60106	19838	33.00	40268	67.00

*Source: Census of India 1981, 1991, 2001*

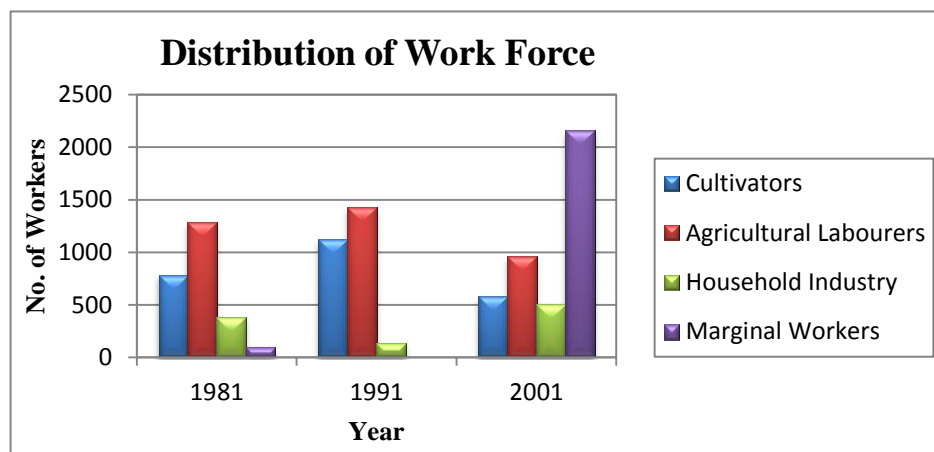


**Fig no.16: Workers and Non-Workers of Jagraon M.C.**

**Table No. 19: Distribution of Workforce (Jagraon Municipal Council)**

Year	Total Workers	Cultivators		Agricultural Labourers		Household Industry		Others		Marginal Workers	
		No	%age of total workers	No.	%age	No.	%age	No.	%age	No.	%age
1981	11329	784	6.92	1287	11.37	384	3.39	8774	77.44	100	0.88
1991	13527	1122	8.29	1429	10.56	139	1.03	10837	80.12	-	-
2001	19838	579	2.92	959	4.84	504	2.54	15637	78.82	2159	10.88

Source: Census of India 1981, 1991, 2001

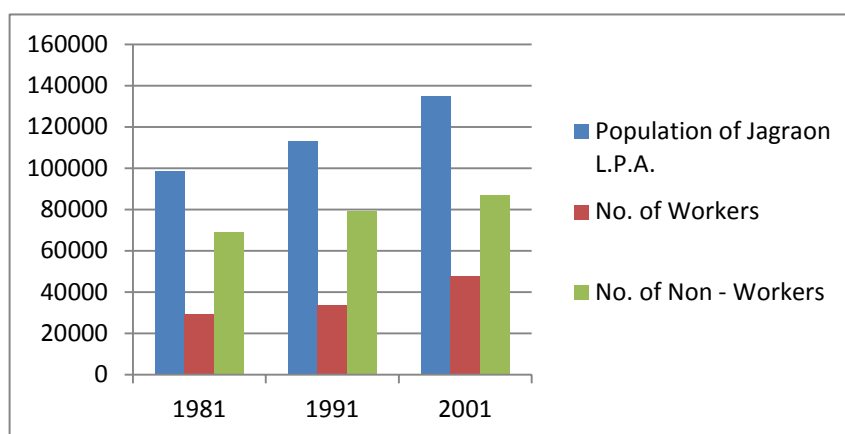
**Fig no.17: Distribution of Workforce (Jagraon MC)**

From the above table no.18, it is clear that in Jagraon Municipal Council the percentage of non workers have shown an decreasing trend from 1981 (71.45%) to 2001(67.00%) but still there percentage is greater than total workers. If the workers are further classified as shown in table no. 19 given above, it shows that from 1981-2001, both the number of cultivators and agricultural labourers in Jagraon decreased during 1981-2001. The number of cultivators which was 6.92% (1981) fell down to 2.92% (2001) and agricultural labourers which were 11.37 % (1981) drooped to 4.84% in 2001. It is due to the increasing number of workers in other occupations like transportation, service industry etc.

**Table No. 20: Workers & Non Workers (Jagraon L.P.A.)**

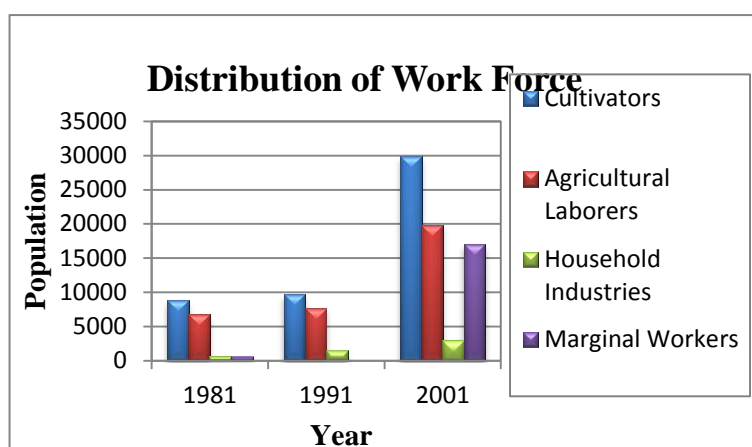
Year			Total Workers	Non Workers	
	Population of Jagraon L.P.A.	No. of Workers	%age to total population of L.P.A. Jagraon	No. of Non-Workers	%age to total population of L.P.A. Jagraon
1981	98362	29431	29.92	68931	70.08
1991	112945	33733	29.87	79212	70.13
2001	134608	47872	35.56	86736	64.43

Source: Census of India 1981, 1991, 2001

**Fig No.18: Workers and Non-Workers of Jagraon L.P.A.****Table No. 21: Distribution of Workforce (L.P.A. Jagraon)**

Year	Total Workers	Main Workers								Marginal Workers	
		Cultivators		Agricultural Laborers		Household Industries		Others			
		No.	%age	No.	%age	No.	%age	No.	%age	No.	%age
1981	29431	8811	29.94	6785	23.05	707	2.40	2329	7.91	547	1.89
1991	33733	9724	28.83	7630	22.62	1465	4.34	13052	38.69	-	-
2001	117708	29825	25.34	19750	16.78	3031	2.57	48100	40.86	17002	14.44

Source: Census of India 1981, 91 & 2001



**Fig no.19: Distribution of workforce (L.P.A. Jagraon)**

According to census 1991, the percentage of total workers in L.P.A., Jagraon is 29.87 % and non workers are 70.13 % as shown in table no.20. It reflects that non workers are still putting huge pressure on the working population as well as on the economy of L.P.A.

### **2.3.1 Manufacturing Industries**

For sustaining growth of town's economy, it is imperative that the manufacturing sector should be developed for achieving this objective of self propelling growth of town economy, the development of various industry is important.

Jagraon town is developing as industrial town and large number of migrants is migrating to it for jobs and facilities. Organic development has come up in residential areas and along the main roads in haphazard manner leading to various problems such as adverse impact on surroundings in terms of air pollution, noise pollution, water pollution.

### **Small scale industries**

There are 39 small scale industries existing in Jagraon. The table below shows the number of small scale industrial units being added every year to the existing industrial units, their investment in Lacs, employment and production.

**Table no.:22: Small scale industries**

Year	Number of units	Investment (lacs)	Employment	Production
2000-01	9	175.53	85	1176.01
2001-02	12	428.57	103	761.60

2002-03	5	287.09	53	477.16
2003-04	-	-	-	-
2004-05	-	-	-	-
2005-06	3	245.67	49	283.00
2006-07	1	0.66	2	1.50
2007-08	1	19.00	9	10.00
2008-09	2	189.00	34	580.00
2009-10	6	323.00	62	2919.00
<b>Total</b>	<b>39</b>	<b>1668.52</b>	<b>397</b>	<b>6208.27</b>

### Large Scale Industry

There is no large scale industry in Jagraon.

### 2.3.2 Warehousing & Wholesale Trade

Jagraon's Grain Market is second largest Grain Market in the Asia, located in the north west of the town between Sherpur Road and Firozpur Railway line. It has a total area of about 78.12 acres having 139 shops, 97 shop-cum-flats, 188 booths, 16 Semi industries, 18 fodder shops, 1 electric grid, 3 reserve sites, 1 cinema site and 1 farmer canteen. Grain Market is well equipped with the infrastructure facilities such as Water Supply, Sewerage etc.

There are about 192 arhtiyas (Licensed Commission Agents) in a Mandi setting about 10.7lac quintal (for the year 2009-10) wheat, 22.2 lac quintal (for the year 2009-109) paddy in a season.

**Table no.23: Production of Wheat, Paddy, Groundnut in Grain Market Jagraon**

Sr. No.	Year	Wheat			Paddy		
		Production in quintals	Rate Rs.	Total amount	Production in quintals	Rate Rs.	Total amount
1.	2001-02	1065840	610	650162400	951351	560	532756560
2.	2002-03	1143243	620	708810660	2214555	560	1240150800
3.	2003-04	847948	620	525727760	2425184	580	1406606720
4.	2004-05	948973	630	597852990	2642015	590	1558788850
5.	2005-06	862889	640	552248960	2396017	600	1437610200
6.	2006-07	665006	650	432253900	2137261	610	1303729210
7.	2007-08	558169	850	474443650	2255620	675	1522543500
8.	2008-09	82960	1000	825596000	2278162	880	2004782560
9.	2009-10	1074811	1080	1160795880	2227117	980	2182574660

Apart from Grain Market, Jagraon has a Sabzi Mandi with a total area of 1.15 acres (209'X 241').

**Table No.24: Production of Vegetables and Fruit**

Sr.No.	Year	Vegetables in Quintals	Fruit in Quintals
1	2004-2005	190383	48885
2	2005-2006	216113	50145
3	2006-2007	255434	34450
4	2007-2008	331071	46727
5	2008-2009	619905	44601
	2009-2010	285509	37700

### **2.3.3 Finance, Insurance & Banking**

To cater the economic growth of Jagraon, there are total 10 banks operating in town. The number of banks include both national and private banking sector. Apart from banks, there has been a growth of insurance companies in the town to capture the market of Jagraon town and adjacent villages.

*There are 10 branches of Ludhiana Central Co-operation Bank namely:-*

1. Jagraon
2. Kaunke Kalan
3. Mannle
4. Pablian
5. Sidhwan Bet
6. Swaddi
7. Bhundri
8. Kamalpur
9. Lodhiwal
10. Nahtwal

### **2.3.4 I.T. Sector**

As compared to Ludhiana, the development in I.T. sector in Jagraon town is still lagging. So far, no I.T. industry has been set up in the town. But still a number of I.T. institutes/training centers have come up to educate the students and to train them for the future industry.

## **2.4 HOUSING**

Housing, in addition to making contribution to the quality of living also plays a significant role in improving the national economy and generation of employment. Housing has multiplier effect on the economy and industry of the country. It does not provide merely a shelter but gives an identity to the human being besides making him better human beings. Poor quality of

housing or absence of appropriate shelter has considerable impact on the economy and productivity of human beings besides health and hygiene. Housing has been considered to have critical role in maintaining the social health and stability and in ensuring the people a decent quality of life. Accordingly, housing has been placed high on the agenda of any national government committed to the cause of promoting human welfare. Considering the role and importance of housing in the national economy, productivity, industrial growth, employment and quality of life number of policies dedicated to creating affordable housing has been framed at the national level. The agenda of these policies have been focusing on the ultimate goal of providing affordable shelter to all by 2021.

#### **2.4.1 Housing Characteristics (Stock)**

Housing characteristics (stock) reflects the economic and social status of the people residing in a particular area. Increase in the number of houses is an indicator of increase in population and development. The development provides job opportunities which attract people not only from surrounding cities but states also. The in migration requires additional housing stock which results in the increase in number of houses in both planned and unauthorized way.

#### **2.4.2 Housing in Jagraon**

With the rapid increase in population, number of houses has also recorded an increase. Besides individuals, Agencies have also contributed to the household stock of the Jagraon town. PUDA/GLADA and Municipal Council, Jagraon are the main agencies which facilitate housing. Municipal Council has contributed by framing 4 Town Planning Schemes offering residential plots to the people.

The description of planned development within L.P.A. Jagraon is shown in table below:-

**Table No.25: Detail of Planned Development Schemes in Jagraon M.C.**

<b>Sr. No</b>	<b>Agency</b>	<b>No. of schemes</b>	<b>Area in acres</b>
1.	T.P Schemes	4	131.92 39.4 67.21 107.25
2.	Promoters/PUDA approved	3	4.384, 8.806, 8.60
	<b>Total Area</b>		<b>367.57</b>

*Source: Improvement Trust Jagraon, M.C. Jagraon, GLADA*



\*The detail of schemes is attached at the annexure no.2.

As mentioned in table no.26, as per the Census 2001, the number of houses increased at the growth rate of 25.03% during 1981-91 and 121.51 % during 1991-2001. The number of households in the town shows a growth rate of 39.79 % in the last decade. In the year 1991, the number of 7852 households was which rose to the figure of 10977 households in the year 2001. The tables no.26, 27 show the growth pattern of houses, households and household size of Jagraon town and Jagraon LPA (Rural) respectively.

**Table No.26: Growth pattern of occupied residential houses and no. of households (M.C. Jagraon)**

Year	Occupied residential houses	%age growth rate of residential houses	No. of households	%age growth rate of households	Household size
1981	6207	-	6236	-	6.4
1991	7761	25.03	7852	25.91	6.0
2001	17192	121.51	10951	39.79	5.4

*Source: Census of India 1981, 1991, 2001*

**Table No.27: Growth pattern of occupied residential houses and no. of households (Jagraon Rural)**

Year	Occupied residential houses	%age growth rate of residential houses	No. of households	%age growth rate of households	Household size
1981	9060	-	9062	-	6.4
1991	10060	11.01	10143	11.92	6.4
2001	11267	12	13030	28.46	5.7

*Source: Census of India 1981, 1991, 2001*

**Table No.28: Growth pattern of occupied residential houses and no. of households (Jagraon L.P.A.)**

Year	Occupied residential houses	%age growth rate of residential houses	No. of households	%age growth rate of households	Household size
1981	15267	-	15298	-	6.4
1991	17821	16.7	17995	17.6	6.2
2001	28459	59.2	23981	33.4	5.6

*Source: Census of India 1981, 1991, 2001*

### 2.4.3 Predominant Materials used in the Census Houses.

Besides looking at the housing stock in term of various uses, the use of material for the roof of the residential houses has also been looked into in order to qualitatively ascertain the housing stock. It has been observed that the majority of the housing stock has a permanent roof which constitutes around 92.38% of the total housing stock. As against this only 7.6 % of the housing stock has temporary roofing which includes materials like

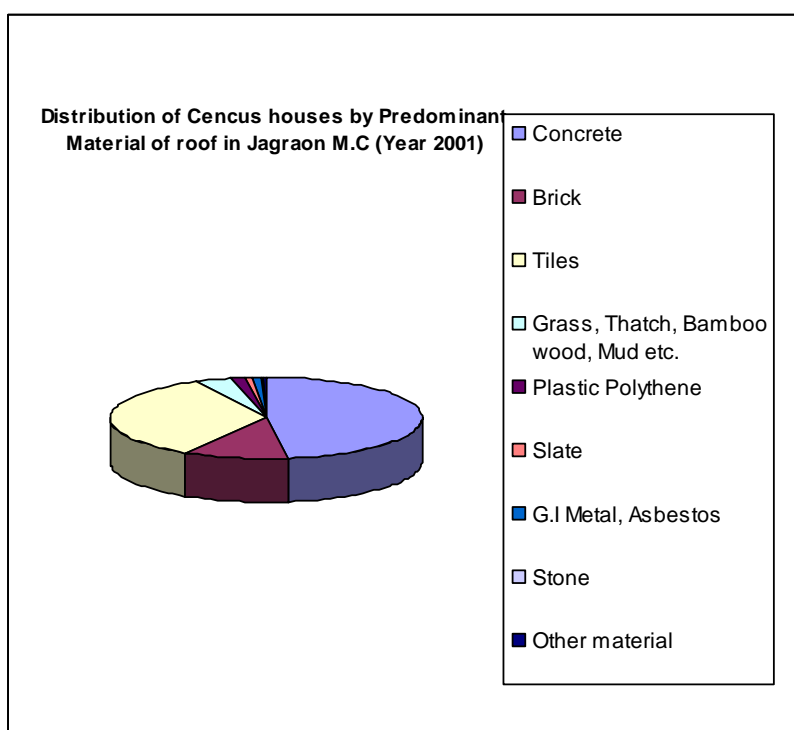
grass, thatch, bamboo, wood, mud, plastic, polythene, slates, GI material and stones etc. This indicates that the economic conditions prevailing in the town are much better. Most of the housing stock having temporary roofing have been found to be located in the existing slums of the town

It has also been observed that among the predominant material used for roof approximately  $\frac{3}{4}$ <sup>th</sup> of the housing stock has cement concrete roofing. Despite the fact that majority of housing stock is fairly placed so far as quality of roofing is concerned but still there are more than 1900 houses which require up-gradation of their roofs in order to improve the quality of housing. Table no.29 indicates the distribution of census houses by predominant material of roof in Jagraon (year 2001).

**Table No. 29: Distribution of census houses by predominant material of roof in Jagraon M.C. (year 2001)**

S. no.	Material	No. of houses	%age of total
1	Concrete	8235	47.90
2	Brick	1861	10.83
3	Tiles	5787	33.66
4	Grass, Thatch, Bamboo wood, Mud etc.	686	3.99
5	Plastic Polythene	239	1.39
6	Slate	135	0.78
7	G.I Metal, Asbestos	163	0.95
9	Stone	51	0.30
10	Other material	35	0.20
	<b>Total</b>	<b>17192</b>	<b>100</b>

Source: Census of India  
2001



**Fig no.20: Distribution of census houses by material of roof in Jagraon M.C**

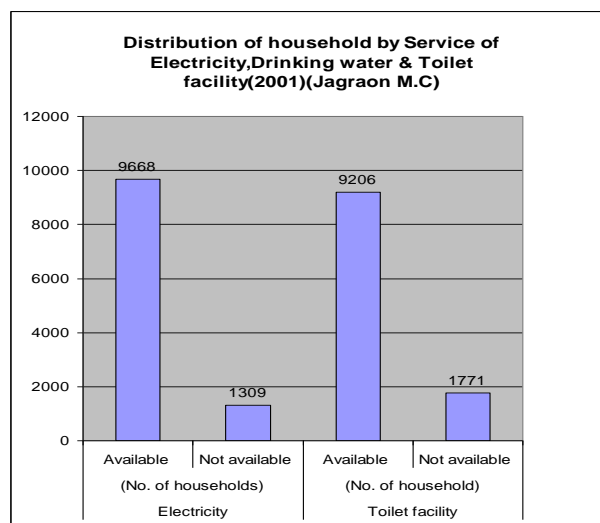
#### 2.4.4 Services Available to the Housing Stock:-

The services available to the housing stock help to examine the basic infrastructural facilities and services provided by Govt. In the year 2001, 88.07% households of Jagraon MC are served with electricity. 56.333 % households of Jagraon M.C. The facility of toilet is available to 83.86 % households of Jagraon town. This reveals that basic facilities like electricity and drinking water are adequately available in Jagraon town. Table given below gives the detailed information regarding the services available to the households of Jagraon town.

**Table 30: Distribution of household by Service of Electricity, Drinking water & Toilet facility (2001) (Jagraon M.C.)**

Area	Total No. of House holds	Electricity (No. of households)		%age of served with Elec.	Drinking water (No. of households) Tap within premises		%age of served with D.Water Tap within premises	Toilet facility (No. of household)		%age of served with toilet facilities
		Available	Not available		Available	Not available		Available	Not available	
M.C. Jagraon	10977	9668	1309	88.07	6184	4793	56.33	9206	1771	83.86

*Source: Census of India 2001*



**Fig no.21: Distribution of household by Service of Electricity Drinking water & Toilet facility**

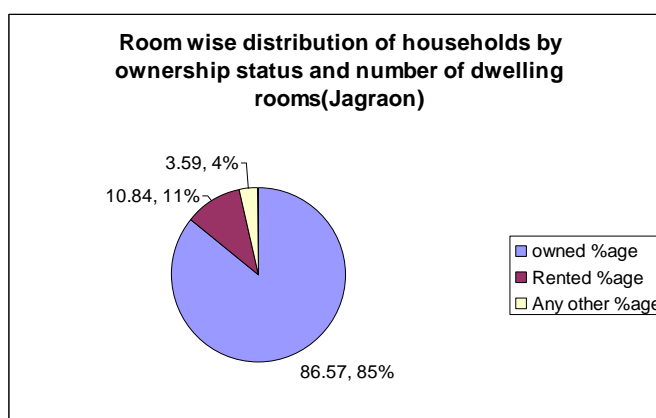
### 2.4.5 Room Wise Distribution of Households With Respect To Its Ownership Status:-

In the year 2001, 9393 (85.57 %) households have their own accommodation, 1190 (10.84 %) households in rented accommodation and 394(3.59%) is in any other accommodation. It shows that a good percentage of town population have owned households and enjoy high status of living.

**Table No. 31: Room wise distribution of households by ownership status and number of dwelling rooms (Jagraon M.C.)**

Dwelling rooms	Owned		Rented		Any other		Total No. of Households
	No.	%age	No	%age	No	%age	
<b>Total</b>	9393	85.57	1190	10.84	394	3.59	10977

Source: Census of India



**Fig no.22: Room wise distribution of Households by Ownership (Jagraon MC)**

### 2.4.6 Houseless Population:

Despite the fact that 922 houses were vacant in the town, 44 people were found to be without roof on their head in M.C. Jagraon according to 2001 census. In all 204 households were observed to constitute the houseless population in L.P.A. Jagraon (174 households were observed to constitute the houseless population in M.C. Jagraon). Most of these people have been found to squat on the public places and occupy available open spaces/public places for their shelter.

### 2.4.7 Unplanned Housing

Due to continuous migration, population is growing at a faster rate which leads to shortage of houses. As a consequence thereof, a large number of substandard houses in the form of shed and huts emerge which ultimately grow into slums. Other reason of the unplanned/unauthorized housing is lack of planned schemes for the lower income group. Unauthorized colonies and slums are two factors which lead to the unplanned development. In Jagraon there are 15 unauthorized colonies identified by the GLADA are devoid of basic facilities like water supply, sewerage network etc. Table no. 33 gives the detail information regarding the unplanned development.

There are 11 slums as per municipal council data attached at annexure no.3. The location of slums has been marked on the thematic map at Map no: 2.

**Table No. 32: Unplanned development in Jagraon M.C.**

Sr. no.	Development	Number
1.	Unauthorized colonies	15
2.	Slums	11

Source: M.C. Jagraon and GLADA, Ludhiana

**Table no.33: Infrastructure in Slums**

Sr.no.	SLUMS	SLUM AREA in acre	POPULATIONS	WATER SUPPLY		OPEN DRAINS		BRICK PAVING	
				EXISTING	REQUIRED	EXISTING	REQUIRED	EXISTING	REQUIRED
1	Agwar Rara	246.97	750	70%	30%	90%	10%	100%	-
2	Rani wala khoo	370.46	1140	75%	25%	80%	20%	85%	15%
3	Agwarkhawa jawaj	222.28	599	40%	60%	25%	75%	35%	65%
4	Shastrinagar	308.72	1020	75%	25%	60%	40%	65%	35%
5	Gandhi nagar	543.35	4037	60%	40%	70%	30%	60%	40%
6	Mohalla Dhonkian	61.7	354	100%	-	100%	-	100%	-
7	Kushat asharam	37.04	100	100%	-	100%	-	100%	-
8	Agwar Dala	251.91	2000	60%	40%	65%	35%	55%	45%
9	Mohalla Rampura	246.97	800	-	100%	70%	30%	-	-
10	Mohalla Gurdeep Nagar	382.81	1431	100%	-	100%	-	100%	-
11	Agwar ladhi	321.70	750	75%	25%	100%	-	100%	-
	<b>TOTAL</b>	<b>2993.91</b>	<b>12981</b>						

It is clear from the table that there are 11 notified slums in Jagraon town with total population of 12981 persons and total area of 2993.91 acres. On an average 70% of slums area has water supply, 75% slums have brick paved streets.

#### 2.4.8 Ownership Pattern

As per the data made available by Jagraon Municipal Council there are in all 11 slums existing in the town. Majority of these slums have been found to be located on the private land as compared to the Government lands. Only 100 % of the slums are located on Government land whereas there is no slum on the individuals or private sector. The land ownership of the slums of Jagraon is as in Table 34.

**Table No.34: Ownership of Land in Slums (M.C. Jagraon)**

<b>Sr. no</b>	<b>Ownership of land</b>	<b>Number of slums</b>	<b>%Age</b>
i.	Government land	11	100
ii.	Private land	-	-
iii.	Not available	-	-
	<b>Total</b>	<b>11</b>	<b>100</b>

*Source: M.C. Jagraon*

It is clear from table no.34, slums dwellers have the tendency of encroaching private land and in Jagraon town 100% of slums are located in the residential areas as depicted in table given below.

**Table No: 35: Slums according to the land use (M.C. Jagraon)**

<b>Sr. no</b>	<b>Location</b>	<b>Number of slums</b>	<b>%Age</b>
1.	Residential	11	100
2.	Industrial	-	-
3.	Commercial	-	-
4.	Total	11	100

*Source: M.C. Jagraon*

The existence of majority of slums on the private land can help in finding appropriate solution for the removal of the slums with the involvement of the owners of the land based on providing higher incentives and subsidies for creating appropriate shelter for the slum dwellers occupying such lands. Slum dwellers occupying the land can be treated as coparceners in the entire process by asking them to contribute part of the cost of the

shelter. On its parts, parastatal agencies can be asked to waive off all the charges and fees levied for construction, sanction of the building plans etc.

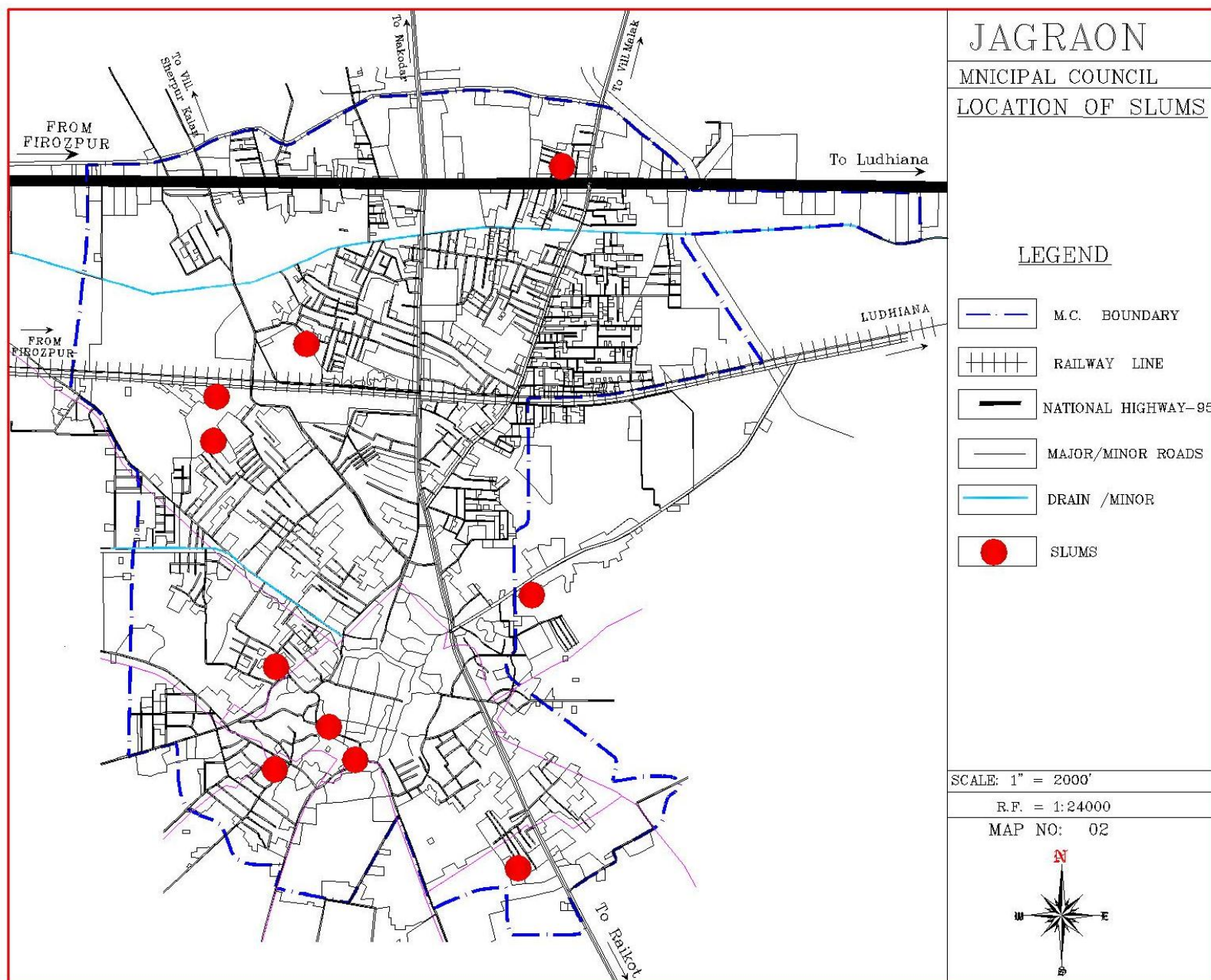
#### **2.4.9 Housing demand and supply**

The total number of houses required to shelter 60106 persons in Jagraon town is 10951 i.e. the housing demand in Jagraon town is of 11169 houses. Whereas the current housing supply in the town is of 17192 houses as per Census 2001. There is no demand/Shortage of houses in the town.

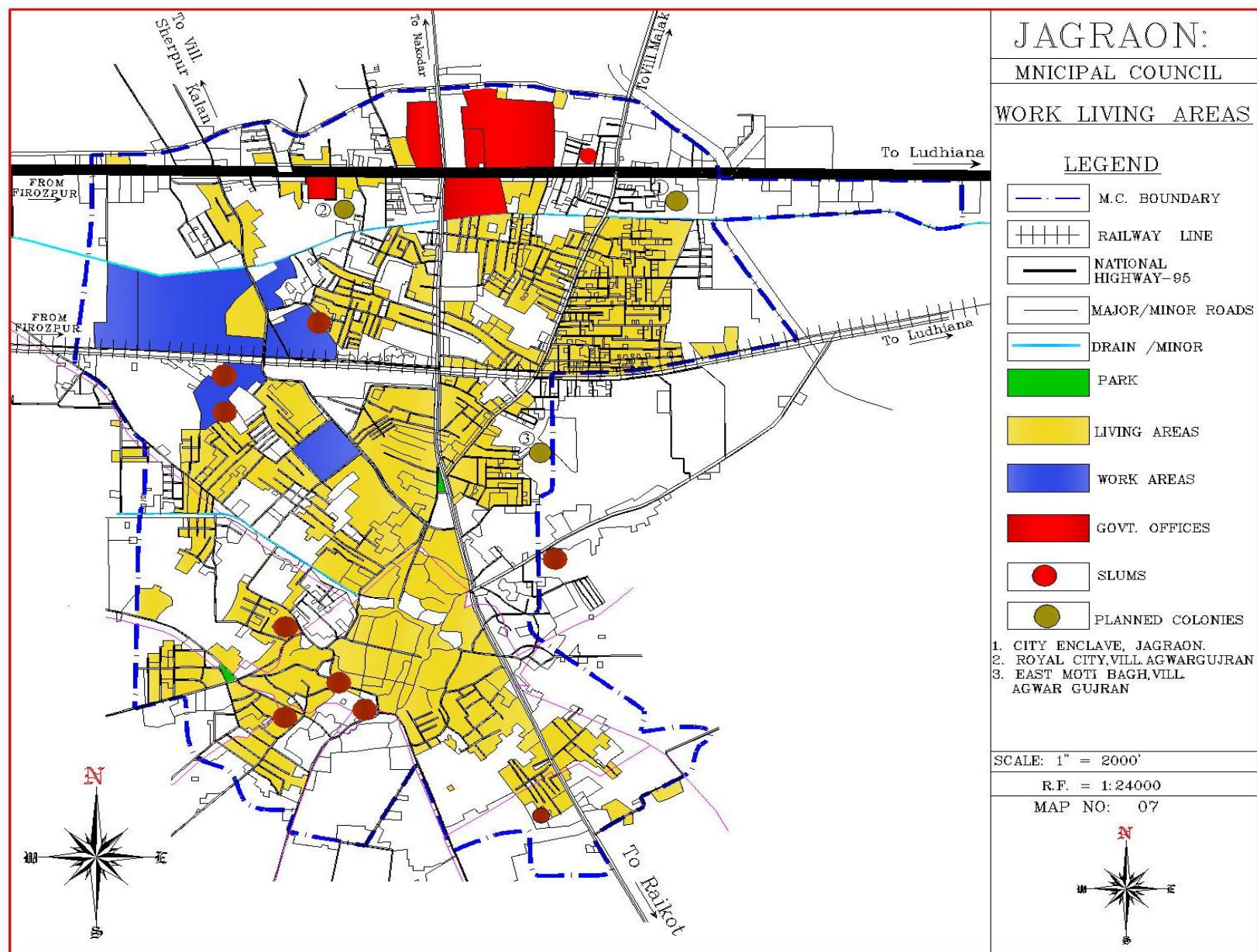
Similarly in case of L.P.A. Jagraon, the total number of houses required to shelter 134608 persons in Jagraon L.P.A. is 24037 i.e. the housing demand in Jagraon town is of 24255 houses. Whereas the current housing supply in the L.P.A. Jagraon is of 28459 houses as per Census 2001. Hence there is no shortage of houses in the town as well as L.P.A. Jagraon as there are 922 houses vacant in the town.



## MAP NO.: II - LOCATION OF SLUMS: JAGRAON MUNICIPAL COUNCIL



### MAP NO.: III-WORK LIVING AREAS: JAGRAON MUNICIPAL COUNCIL



## **CHAPTER-3**

### **EXISTING LANDUSE AND TRANSPORT NETWORK**

#### **3.1 Preparation of base map**

The work of preparation of base map for the Local Planning Area, Jagraon was assigned to Punjab Remote Sensing Centre, P.A.U Ludhiana. The base map of the Planning Area Jagraon is generated on 1:10,000 scale using Cartosat I data of 2.5m spatial resolutions. 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, Ludhiana and these maps have been scanned in the office of PRSC, Ludhiana and registered with Cartosat I data to demarcate village and musteel boundaries. The features like roads, rails, high and low lands, drains and settlements etc. have also been interpreted from Cartosat I data, by the concerned agency and shown on the draft base map prepared on basis of satellite imagery. After editing the map details the attributes to different features were assigned. After the preparation of LPA on 1:10,000 scale using Cartosat I data, the draft base map for densely populated built up areas of Jagraon town (core areas) was prepared on 1:5000 scale using quickbird satellite data of 0.6 mtr spatial resolution. The quickbird data (satellite imagery) has been received by the PRSC, Ludhiana from National Remote Sensing Agency, Hyderabad.

#### **3.2 Enhancement through field surveys-Land use and Road network**

The draft base map for the Local Planning Area, Jagraon 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 Ludhiana. 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 had ultimately been incorporated and an updated base map was prepared by P.R.S.C, P.A.U Ludhiana. The Office of D.T.P Ludhiana 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.

### 3.3 Existing Land Use: LPA, Jagraon

The LPA Jagraon comprises 21345 hectares of area as per revenue record whereas as per calculations of P.R.S.C. it works out 21275 hectares variation of 0.3% only is very negligible. The total Municipal Council area of Jagraon is 1032.4 hectares.

**Table No.36: Existing Land Use LPA Jagraon-2010**

	LAND USE	AREA		%age of total L.P.A Area
		<i>Acre</i>	<i>Hectare</i>	
1.	<b>Residential</b>	<b>1548.5</b>	626.9	3
2.	<b>Commercial</b>			
	Storage & Wholesale Market	205.3		
	Commercial	72.9		
		<b>278.3</b>	112.7	0.5
3.	<b>Industrial</b>	<b>446.5</b>	180.7	0.9
4.	<b>Traffic and Transportation</b>			
	Bus Stand	10.4		
	Railway Station	21.6		
	Truck stand	1.06		
	Roads	1037.9		
		<b>1071</b>	433.6	2.1
5.	<b>Public and Semi Public</b>	<b>258</b>	104.4	0.5
6.	<b>Government</b>	<b>90</b>	36.4	0.17
7.	<b>Recreational</b>	<b>6</b>	2.4	0.01
8.	<b>MISCELLANEOUS</b>			
	Petrol Pump	<b>6</b>	2.4	0.01
	<b>Rural and Agriculture</b>	48844.95	19775.5	92.81
	<b>GRAND TOTAL</b>	<b>52549.25</b>	<b>21275</b>	<b>100</b>

*Source: PRSC, PAU, Ludhiana*

LPA Jagraon covers the revenue estates of 31 villages which also include the area of one urban centers i.e. Jagraon. Local Planning Area Jagraon is mostly covered under agricultural landuse. The detail of breakup of major existing land uses is given in Table no.36.

### 3.3.1 Residential

Residential area constitute 3% of L.P.A. area, Jagraon i.e. 626.9 hectares. It includes both planned and unplanned areas. In case of planned development, there are three PUDA approved colonies namely Royal enclave village Agwar Gujran, Jagraon, Town enclave and East Moti Bagh village Agwar Gujran, Jagraon with areas 8.806 acres, 4.384 acres, 8.6 acres respectively and 4 town planning schemes.

Most of the residential development is coming up on the north and south part of the town along G.T. road, Sidhwan Bet Road and Malak road. Old unplanned growth characterized by narrow roads, dilapidated buildings and irregular street pattern is concentrated below the railway line within M.C. limit along Rani Jhansi road.

### 3.3.2 Commercial

Commercial uses are scattered throughout the town with no major commercial node point. These areas are developed in the form of commercial strips along major through fare without provision of parking facility, which has created traffic congestion/ bottlenecked and traffic hazards.

Commercial area constitutes 0.5 % of L.P.A. area i.e. 112.7 hectares. The main commercial centre (CBD) in Jagraon is the old town comprising old markets located along Rani Jhansi Road, Kamal Chowk namely Anarkali Bazaar, old market along Chhati Chowk, Nalkeya wala chowk, Chowk Charkhirya, Kohkar Chowk, Lala Laj Pat Rai road, College road, Nehru market, Mesarpura Bazaar etc.

Jagraon animal market located along G.T. road and Jagraon grain market is located along Sherpur road is well equipped with the infrastructure facilities such as Water Supply, Sewerage etc. It has a total area of about 31.6 hectares.

### 3.3.3 Industrial

Industrial area constitute 0.9% of L.P.A area of Jagraon i.e. 180.7 hectares. There are 39 small scale registered industrial units existing in Jagraon including rice shellers, feed factories, soap factories and flour mills.

### **3.3.4 Traffic & Transportation**

Area under traffic and transportation component is 433.6 hectares i.e. 2.1 % of total L.P.A area. The major problems related to this aspect are missing road hierarchy, lack of parking places, traffic bottlenecks, encroachment of roads, lack of traffic signals etc.

The further detailed study of traffic & transportation is covered in chapter no.5. The details of existing road network and other uses relating to traffic transportation are shown in Existing Land Use Plan Jagraon DTP (L) 58/2010 dated 23.11.2010.

### **3.3.5 Recreational**

Recreational component covers 0.01 % of the total developed area i.e. 2.4 hectares. It includes two parks namely M.C. Park and park in front of Gurudwara on the road leading to village Kaunke. Other than parks there exists clubs, cinemas, and other sources of recreation in the town.

### **3.3.6 Public & Semi-Public**

This Use comprises the areas covered under Education, Health, Socio-Cultural, cremation grounds etc. As per Table No.36, the total area covered by this use is about 104.4 hectares which is 0.5 % of total L.P.A area. The most of public and semi-public uses are concentrated along G.T. road (N.H.-95) as it is clear from the Existing Land use Plan DRG No. DTP (L) 58/2010 dated 23.11.2010.

### **3.3.7 Government**

This use comprises of 0.17 % of L.P.A area of Jagraon i.e. 36.4 hectares area. It includes government/ Semi government offices and government land.

### **3.3.8 Rural and Agriculture**

About 19775.5 hectares area is under agricultural use which is 92.81 % of total L.P.A. area.



## CHAPTER-4

### EXISTING INFRASTRUCTURE

#### 4.1 Physical Infrastructure

##### 4.1.1 Water Supply

Piped water supply was first introduced in Jagraon in the year 1962, by the M.C. Jagraon. It was proposed that town should have piped water supply system. Since the initiation of this scheme a reasonable program has been made in the field.

##### **(a) Source of Water Supply:**

There is no perennial river in the close vicinity of Jagraon. A minor distributory is passing by the town but this is not used for water supply. The system of water supply is based upon the underground water by digging wells in the town and pumping it to its users.

**(b) System of Water Supply and Area Coverage:** Municipal Council Jagraon provides water supply to the town and takes care of its operational and maintenance services. The state level agency i.e. Punjab Water Supply and Sewerage Board (PWSSB) handles the entire process of planning, designing, construction and laying the major network and construction of tube wells and OHSR. Board undertakes this work for and on behalf of the Municipal Council and after completing the system is handed over to Municipal Council.

The town is having either direct system of water supply through pumping or dual system. The source of water supply in both the cases is underground water. In the first case i.e. direct system the water is extracted from ground through tube well and directly supplied into the main lines via pumping. This system does not involve any kind of storage of water. In the second system i.e. dual system, has the pump set as well as storage tank (overhead reservoir). This system has the capability of supplying water directly by pumping it in the main line and also has the storage capacity for the emergency or for meeting the requirements of fire safety by the Fire Brigade Department.



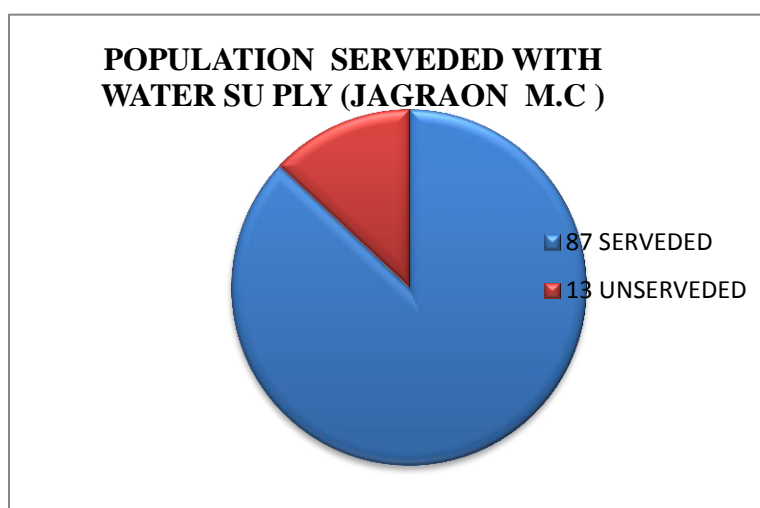
As far as the capacity of the existing water supply network is concerned the town is served up to an extent of 80 % coverage area with water supply i.e. 11.2 sq km coverage. The population of the town is not adequately served with the water supply system as 13 % of the population is totally uncovered under this and 87 % of the population is served with water supply by intermittent system. The detail of the water supply is given in table no. 37.

**Table No.:37: Area under Water Supply Coverage (Jagraon M.C.)**

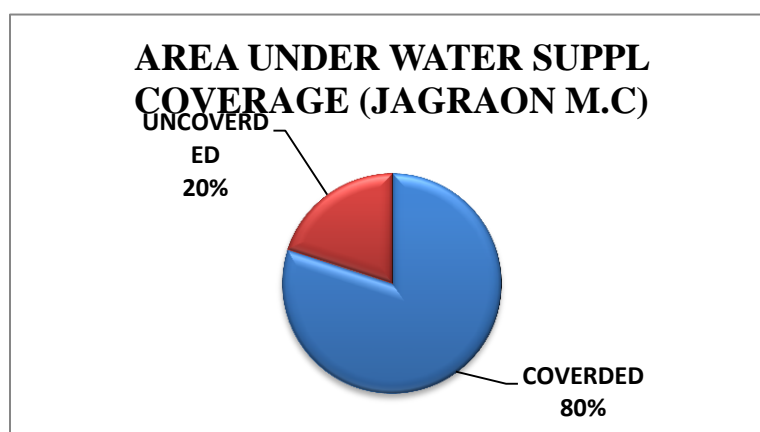
Item	Pipe length in sq. km.	Area under coverage sq. km.	Population under coverage
Total Municipal Area	79.18	11.2	45635

Source: M.C. Jagraon

The area covered under water supply network and number of tubewells is shown in Map no.:4.



**Fig no.23: Population served with water supply (Jagraon M.C.)**

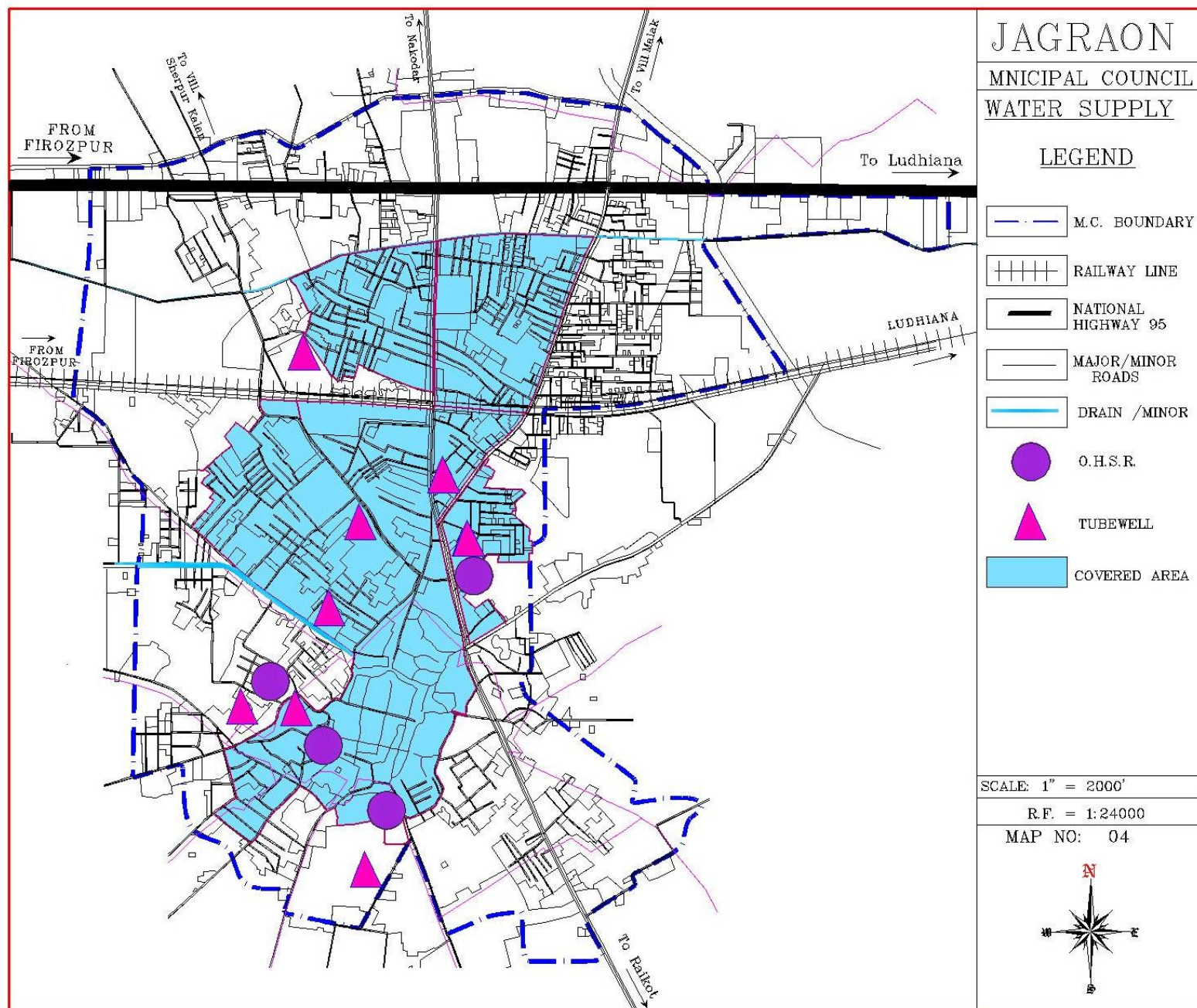


**Fig no.24: Area served with water supply (Jagraon M.C.)**

As already explained the system is completely dependent on ground water. The town is having direct water supply system mainly. At present a network of 8 tube wells spread over the town are used by the Jagraon Municipal Council to supply water. These deep tube wells extract water from a depth of 456 ft. and above. Amount of water extracted by these tube wells daily is to the tune of 7.09 mld. All the tube wells are equipped with chlorinators.

Municipal Council, Jagraon is having a network of 8 tubewells. There are 2 OHSR with a varying capacity of 1 lac gallon Per OHR according to the M.C. Jagraon. Since the supply is mainly through direct system, so the residents face a great difficulty in case of electricity failure as the pumping systems becomes non-operational.

# MAP NO.: IV-WATER SUPPLY: JAGRAON MUNICIPAL COUNCIL



The detail of tubewells under the different system is given in the table below:

**Table No.38: Water Supply Network, Jagraon M.C.**

Sr. No.	Item	Quantity	Remarks
1.	Total no. of the tube wells	8	Minimum area and population served by a tube well is 80% and 87%.
2.	Deep tube wells	8	
3.	Shallow tube wells	-	

Source: M.C. Jagraon

**Table No.39: Type of Network**

Network system	No. of tube wells	No. of water tanks	Remarks
System Direct supply i.e. without intermediate storage	8	2	Capacity of one water tank is 1,00,000 gallon
System-2 dual supply System		22 submersible pumps linked with pipe.	

Source: M.C. Jagraon

**(c) Connections:** The Jagraon town is having 7344 connections up till 31.03.2009. The water supply was made operational in the year 1962.

Daily water consumption through house connections is 5.70 mld.

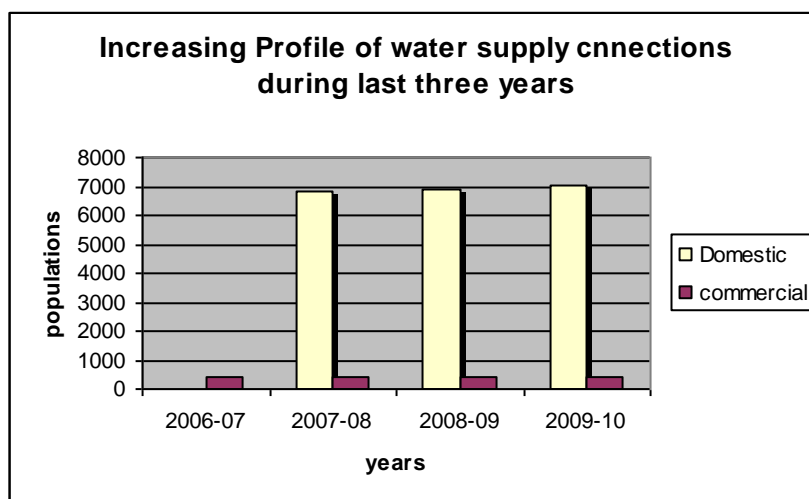
Daily water consumption through stand posts is 0.85 mld.

Total average daily water consumption is 6.55 mld.

**Table No: .40: Increasing Profile of water supply connections during last three years**

Years	Domestic	Commercial	Connections (free from bill)	Total
2006-07	6800	412	-	7212
2007-08	6860	422	-	7282
2008-09	6908	426	-	7334
2009-10	7021	433	1854	7454

Source: M.C. Jagraon



**Fig no. 25: Increasing Profile of water supply connections**

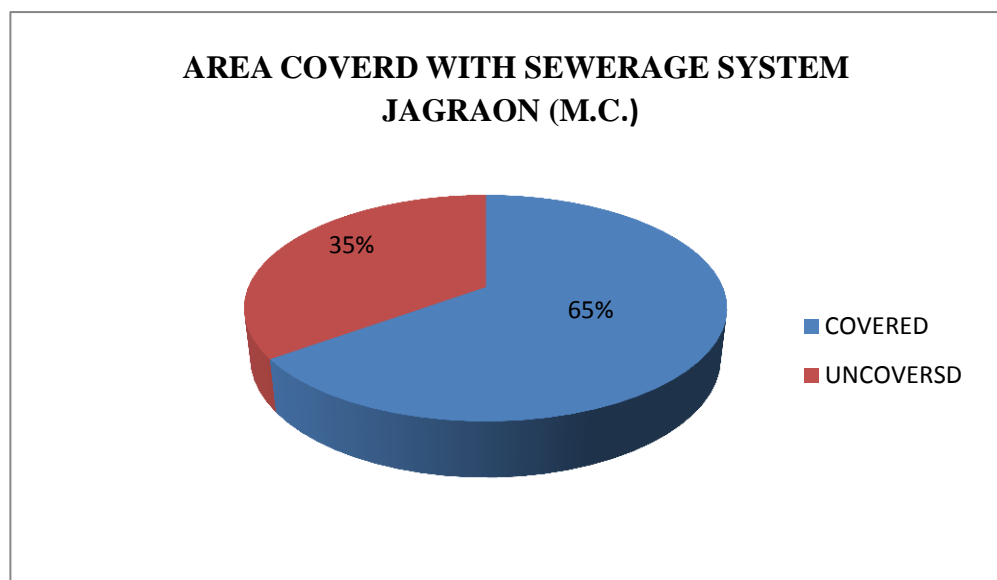
#### **4.1.2. Sewerage Network**

The quality of life of a town depends upon the kind of urban amenities with which it is being provided. This includes not only potable water supply but also the kind of disposal system the town is equipped with. The non-hygienic system of disposal or the absence of any planned disposal system may lead to the spread of epidemics and will affect the quality of environment. Hence it is the necessity of the day to have an efficient sewerage network in all the cities and Jagraon is not an exception. Sewerage network was introduced in 1986 in Jagraon town.

##### **(a) Area Coverage**

Jagraon Municipal Council provides the facility regarding disposal of sewage from the area under the Council. This includes waste generated from domestic, industrial, commercial and institutional units operating in the town. Despite the fact that sullage disposal is one of the critical activity of the Council, but still in the existing scenario the total town area is yet to be covered under this facility. Out of total 14 sq.kms. area, the extent of area covered under the sewerage system is 9.1 sq.kms which works out to be 65% of the total area. The area coverage under sewerage network is shown in Map no.5. In Jagraon town still 35 % area is uncovered in terms of sewerage network. In uncovered area there exists no provision of sewerage system and the population living therein is using septic tanks, soak pits and open drains as the mechanism for disposal of sullage. The areas which are devoid of sewerage facility are the areas which are falling outside the Municipal Council Limit of Jagraon.

The detail showing the area coverage and the extent of network laid in the entire town is given in Table No. 41.



**Fig no.26: Area served with Sewerage System (Jagraon M.C.)**

**Table No.41: Detail of Existing sewerage network required:-**

Year 2008	
Sewerage Network	Current coverage
Area in sq km	52.42
Sewerage line	5.00
Pipe length main sewer	2.40
Pipe length branch	45.02

*Source: M.C. Jagraon*

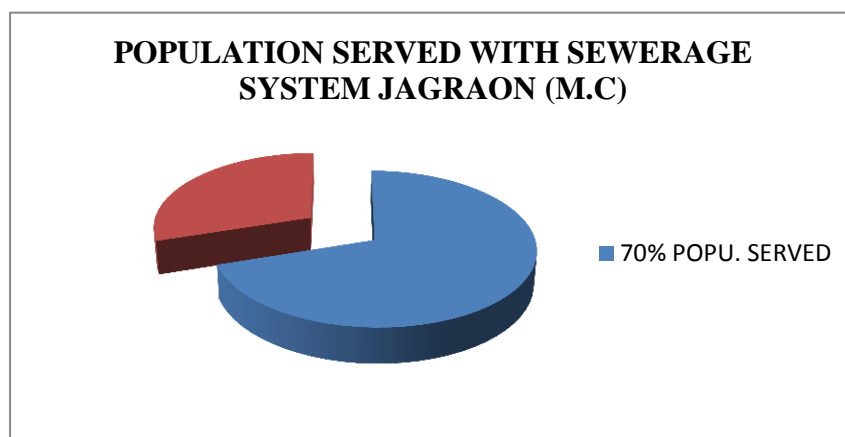
**(b)Population Coverage:**

70% of the total population has the facility of sewerage system whereas 30 % population does not have any access to the system with the result that they continue to suffer on account of polluted ground water and poor environment in and around their habitat. The detail of the population covered under the sewerage network is given in Table no.42 given below.

**Table No. 42: Extent of area and population covered under the sewerage system**

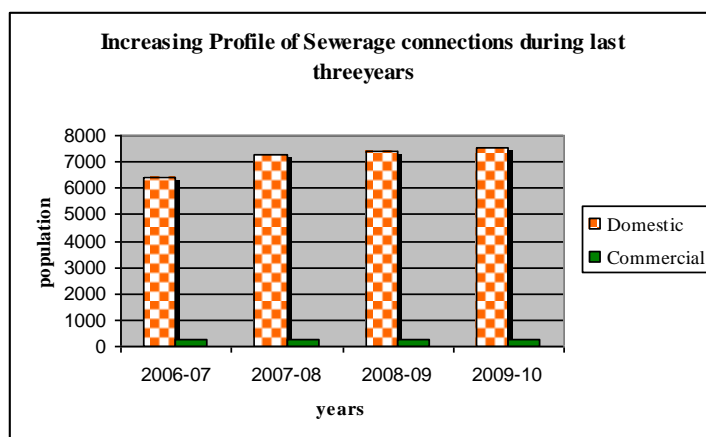
Item	Total Area(in sq.km)	Area under coverage (%)	Total Population(M.C.)	Population coverage (%)
Total M.C. Area	14.00	65%	60106	70%

Source: M.C. Jagraon

**Fig no.27: Population served with Sewerage System (Jagraon M.C.)****Table No.43: Increasing Profile of Sewerage connections during last three years**

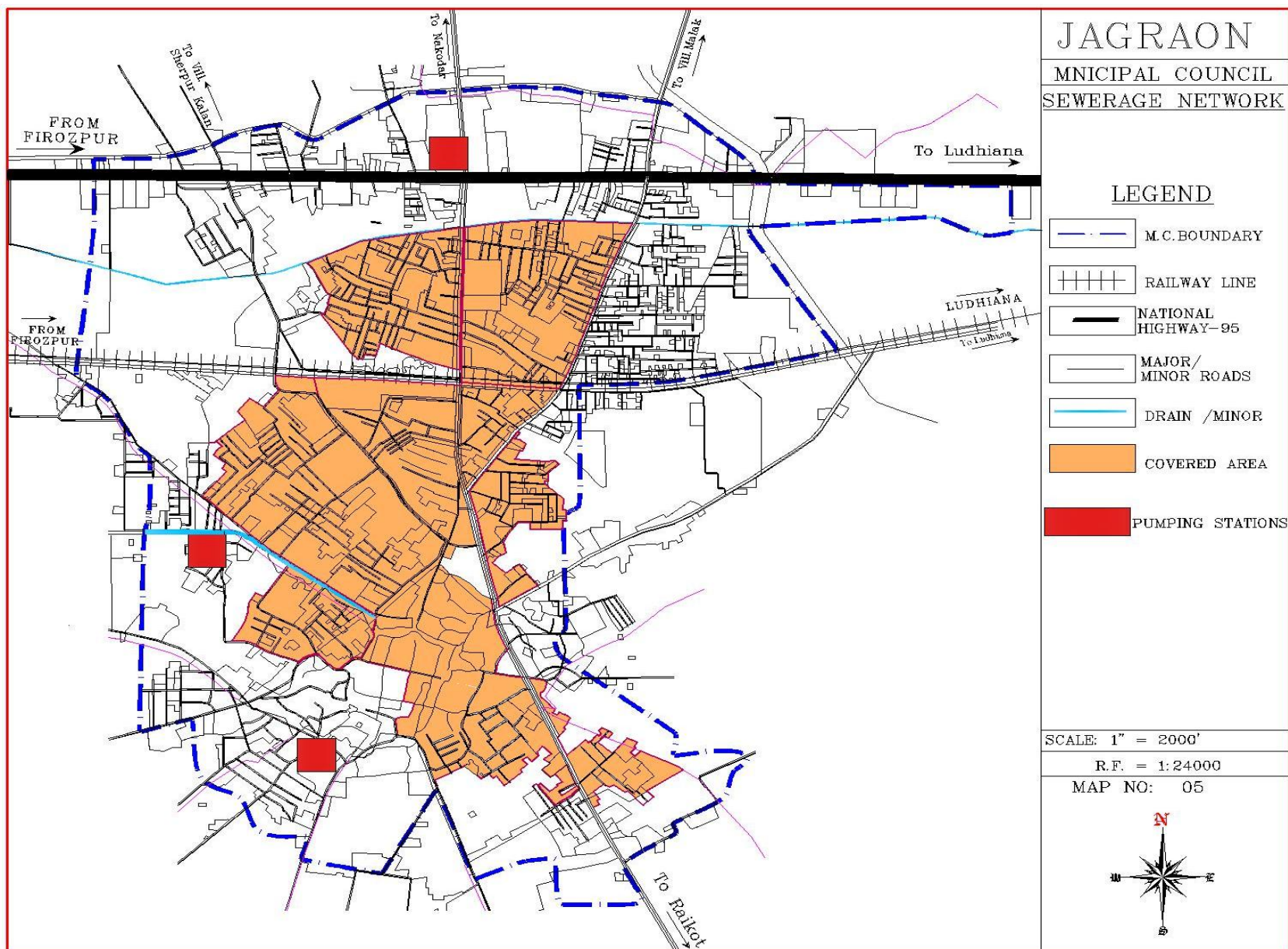
Years	Domestic	Commercial	Connections (free from bill)	Total
2006-07	6421	254	-	6675
2007-08	7276	263	-	7539
2008-09	7407	286	-	7693
2009-10	7523	297	1835	7820

Source: M.C. Jagraon

**Fig no.28: Increasing Profile of Sewerage connections**



# MAP NO.:5-SEWERAGE NETWORK: JAGRAON MUNICIPAL COUNCIL





### **4.1.3 Solid Waste Management**

#### **4.1.3.1 Introduction:**

Waste is unwanted material near places of animal and human habitation or material left over from the manufacturing process. Solid waste is a combination of unwanted and discarded materials from households, commercial and industrial operations besides street sweeping. Increase in urban population coupled with change in life style and economic prosperity has lead to generation of considerable solid waste. Solid waste has emerged as the major problem in urban areas with regard to its effective managements. Solid waste arising from human activity has emerged as one of the major environmental issue leading to extensive pollution and threat to human health. The national Conservation Strategy and Policy Statement on Environment and Development has laid stress on adopting stringent measures for prevention and control of pollution due to indiscriminate disposal of solid waste on land and into water resources. Hence, immediate steps are required for proper management of urban solid waste.

Solid Waste Management is the prime responsibility of Jagraon Municipal Council within the M.C. area. Council discharges this duty through the infrastructure created for collection, storage, transportation, processing and disposal. The public Health department of the Council is vested with the responsibility of day to day solid waste collection and disposal. The Council organizes the collection and transportation through of its own conservancy workers and a fleet of vehicles and dumpers-placers. Municipal Council collects solid waste from all the residential area within its municipal limits. Collection facility is provided in 100% area occupied by people.

Solid Waste Management is a part of public health and sanitation, and according to the Indian Constitution, falls within the purview of the State List. Since this activity is non-exclusive, non-rivalled and essential, the responsibility for providing the service lies within the public domain. The activity being of a local nature is entrusted to the Urban Local Bodies (ULB). The Urban Local Body undertakes the task of solid waste service delivery with its own staff, equipment and funds. In this sector, very large numbers of people are involved, whether as "Scavengers" or "rag pickers" or Municipal workers.

#### 4.1.3.2 Type & Quantity Of Waste Generated:

There has been no formal study estimating the amount of solid waste generated in the Jagraon Municipal Council. Jagraon town generates garbage to the tune of 26 M.Ton per day. The amount of garbage generated on per capita basis is in accordance to the pattern of garbage generation in other cities of the country which ranges between 300 to 450gms.

**Table No.44: Solid waste generated daily**

<b>Solid waste generated (daily)</b>	<b>Domestic</b>	<b>Commercial</b>	<b>Medical</b>
26 MT	22 MT	3 MT	1 MT

#### 4.1.3.3 Solid Waste collection - Household Waste.

Presently, a two level system of waste collection is made applicable in the Jagraon town, Waste is first collected from the point of generation known as primary collection which is then taken to 2nd level of collection created at the community level. Considering the large population, the largest proportion of solid waste is also generated at the household level. Considering the growing number of population, change in the life style and higher economic status attained, the quantum of waste generated has been growing very fast at the household level. This sector contributes maximum of the total waste generated in the town. The waste generated is largely non-toxic in nature with large component of organic and inorganic waste. There is no segregation of waste at the generation level except in few cases where waste pickers have been employed by contractor for collection of domestic waste with the result both the organic and inorganic waste get mixed up which poses considerable problem in effective disposal of the waste. In addition, it also causes enormous loss in terms of transportation and final disposal.

The waste generated at individual premises is removed initially by the owner or the Municipal employees. This collected solid waste is then dumped at various collection points identified by the council, and other unauthorized open places by the use of Wheel barrows and cycle rickshaws. Although Municipal council has not made any arrangement of segregation of solid waste but waste pickers segregate the plastic, glass and other material at the collection point and sell them to Kabaris. These collection points consists of 34 community bins (containers), designated open sites and portable bins. However the waste in many cases is not dumped directly into the community bins. It is dumped either outside the bin, into any open areas or just dumped

on the road side. This shows the awareness level in terms of importance of solid waste management is very low.

#### 4.1.3.4 Road Side Waste

The waste lying on the road sides is collected by the staff employed by the Council. The waste dumped outside the community bin (containers) and portable bins are also dumped inside the bin by the Safai sewaks. The safai sewak has been given wheel barrows to lift the waste and transport it to the identified dump site.

#### 4.1.3.5 Road Sweeping

Corporation has employed various safai sevaks to sweep the roads daily and collect the solid waste. Each safai sevak is given approximately 1 km of road length for sweeping of municipal roads.

There are total 9 garbage collection points in the Jagraon town which are maintained by the M.C. Jagraon. The details are given in table below. Open land fill system is adopted by the M.C. for dumping the solid waste.

The location of Dumping spots and garbage collection points are marked on thematic map at Map no.:6.

**Table No.45: Details of dumping points**

Sites	Area (in Acres)	Paved (pucca)	Containerized sites	No. of containers placed
1) Dashmesh Nagar,GT road	10X10 sqft	-	-	-
2) Tesil road near Royal Enclave	5X20sqft	-	-	-
3)Raikot Road	15X10 sqft	-	-	-
4)Near community center Raikot road	10X20 sqft	-	-	-
5) Lalan Wali road	5X5 sqft	-	-	-

6)Near Bhadarkali Mandir	10X15 sqft	-	-	-
7)Back to side Agarwal Lopo Park	15X20 sqft	-	-	-
8) Disposal Road	15X20 sqft	-	-	-
9) Sherpur road near railway crossing	10X10 sqft	-	-	-

*Sources: Municipal Council, Jagraon*

#### **4.1.3.6 Transportation of Waste:**

As shown in table no. 45 the solid waste from nine designated collection sites created at the secondary level is then transported to the dumping site located on the backside of Bhadar Kali Mandir of area 3-4 acre approximately for final disposal by Municipal Council staff on regular basis. The waste collected at the open sites is then lifted with the help of JCB into tipper trucks or tractor trolleys for transportation to the disposal sites. The containers used for collection are directly lifted for transportation to the disposal site. Solid waste so collected in the community bins and at other open places is presently being transported to the dumping site by using of Tractor Trolley in shifts. Detail of fleet deployed for waste collection including the vehicles and trips undertaken by them is given in table no.46.

**Table No.46: Detail of fleet deployed for waste collection (2008)**

<b>Type of vehicles</b>	<b>Available vehicles</b>	<b>No. of shifts</b>
JCB Machines	1	1
Truck Tippers	-	-
Dumper Placers	-	-
Tractor Trolley & Hawer tuggers	4 tractors,4 trolley	2
Refuse collector compactors machine	-	-

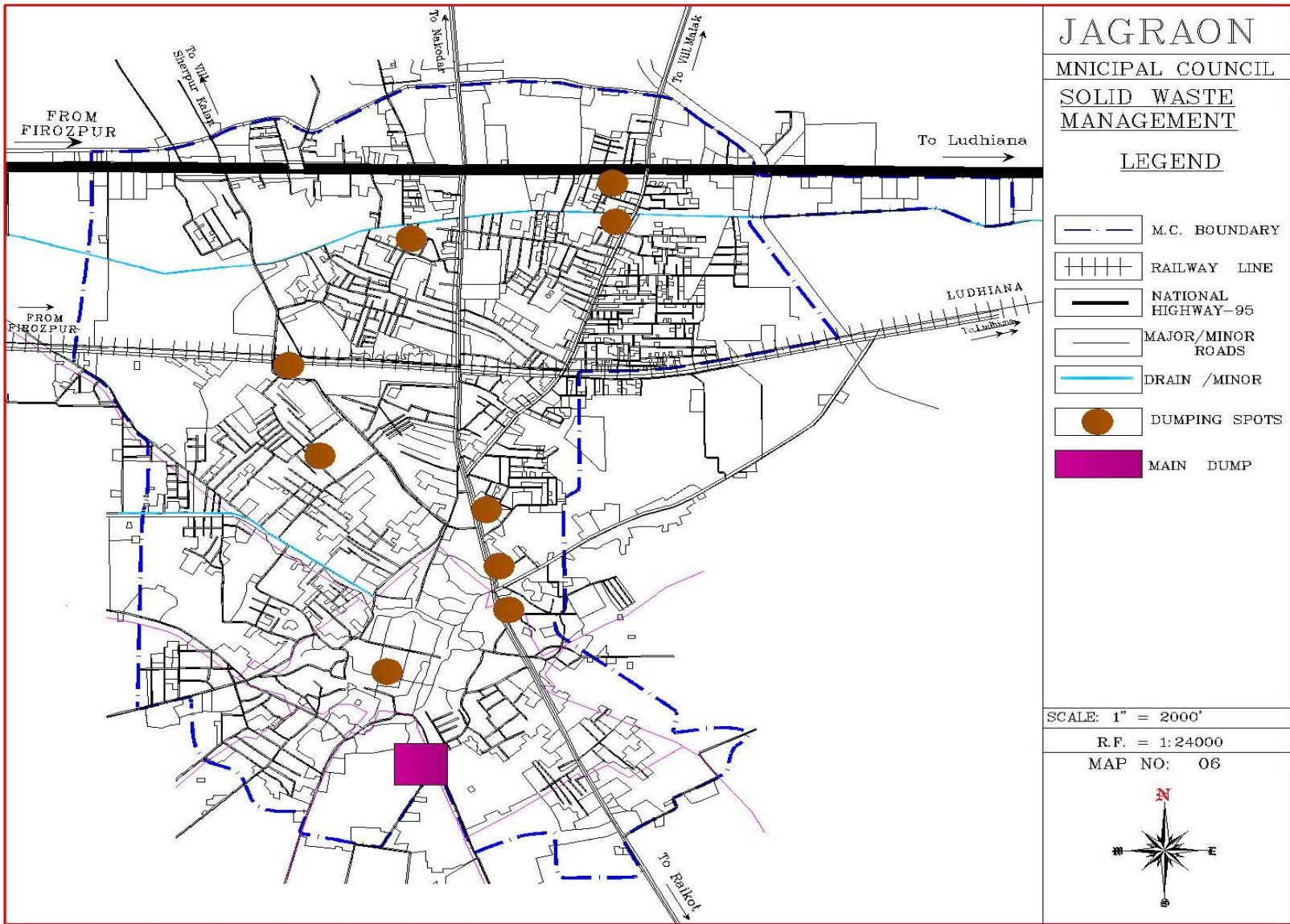
*Sources: Municipal Council, Jagraon*

#### 4.1.3.7 Manpower deployed:

The responsibility for the solid waste management within the urban limits of Jagraon Municipal Council has been vested with the Health Department of the Council. The Department manages the work with the help of 68 personnels which includes Sanitary Inspectors, Safai Sewaks and Drivers etc. The staff is not much aware of the current technological developments in the field which creates road blocks on scientific planning and disposal of the solid waste. There is absence of formal system of communication between the Supervisors and the subordinates. Most of the communication is through informal channel that is conveying verbally which leads to mismanagement of the system. Further there is no rational system of recording the public complaints regarding the solid waste. In the absence of the system, redressal of complaints has a low priority. Large scale absence of workers from their duty has also been observed. The detail of manpower deployed in the solid waste management is detailed in Table No.47.

**Table No.47: MSW-Existing man power deployment**

<b>Sr. No.</b>	<b>Name of the Official</b>	<b>Number</b>
1.	Health Officers	-
2.	Chief Sanitary Officers	-
3.	Sanitary Inspectors	-
4.	Sewadars	-
5.	Sanitary Supervisors	-
6.	Safai Sewaks (Full time)	68
7.	Drivers	-
	Total	68

**MAP NO.: VI-SOLID WASTE MANAGEMENT: JAGRAON MUNICIPAL COUNCIL**

#### 4.1.4 Traffic and Transportation

If urban centers have been recognized as engines of economic growth, traffic and transportation has rightly been termed as wheels of such engines. Urban transport has also been considered an integral part of urban planning. The objective of studying the transport sector is to analyze and understand the role of transport in the present scenario of the town and the surrounding and to understand the existing potentials, strengths, weaknesses and constraints of the transport sector and consequently arrive at strategies and projects which will form an integral part of the town development strategy.

##### 4.1.4.1 Existing Road Network:

Detailed knowledge of existing traffic and transport conditions is essential in order to measure current level of traffic service and to determine the magnitude of deficiencies resulting from the impact of growth on the existing system. Therefore, collection and analysis of data relating to existing traffic conditions is basic to determine the future transport facilities.

##### The Regional Road System:

The regional road system serving the Jagraon Urban Area consists of National Highway as well as other district roads. These roads perform the function of providing road connections between Jagraon and its immediate surroundings as well as other towns of the state. These roads are:

- Jagraon-Ludhiana road- National Highway (N.H.-95)
- Jagraon- Raikot road
- Jagraon- Sidhwan Bet Road
- Jagraon-Sherpur road
- In addition to these Katcha Malak road, and other roads connects Jagraon with villages of its surroundings.

**Table no.48: Road Geometry within Municipal Council, Jagraon**

Road	Carriage way (in feet)	Road reservation		Central verge	Footpath	R.O.W.
Ludhiana-Jagraon road	33'	92'	85'	-	-	210'
Railkot road (Towards Ludhiana)	22'	25'	33'	-	-	80'
Sidhwan Road	22'	27'	31'	-	-	80'

Sherpur Road	10'	12'	11'	-	-	33'
Malak Road	10'	17'	17'	-	-	44'
Aligarh Chowk(Bypass) Jagraon town to Ferozpur Road	12'	10	10	-	-	32'

*Source: Primary Survey, 2010*

### Urban Road System:

The existing road network in the town follows a radial pattern and is dominated by both rail and road network. The inner road system does not form an organized form or pattern. It has narrow roads, irregular alignment.

### Road Hierarchy:

As per norms and standard, width of the road recommended for different categories of roads are:-

Arterial            50-60 m

Sub-arterial    30-40 m

In Jagraon, Jagraon- Ludhiana road, Jagraon- Raikot road, Jagraon- Sidhwan -Bet road are arterial level roads because of their functionality. These roads do not have effective width.

**Jagraon- Ludhiana Road** - Carriageway width is 66' with road reservation of 92'(left) and 85'(Right). Commercial activity is abutting along the road, creating hindrance in free flow of traffic.

**Jagraon- Raikot road:** The road reservation is 13'(Left) and 20'(right) with carriageway width of 44'. The presence of commercial activity along the road and on street parking encroach the road and reduces the effective width of road. This road is arterial road and carries both through and local traffic, causing inconvenience to public. It is unable to cater the needs of today's traffic.

**Jagraon – Sidhwan Bet Road:** The carriageway width is about 22' and road reservation is about 58'. This road has poor alignment, isolate geometry, uncontrolled inter sections, and inadequate street lights lower standard of road safety and capacity.

**Jagraon- Sherpur Road:** The carriageway width 22'. Commercial activity is abutting along the road and it invites lot of traffic. Due to encroachment by the shopkeepers and absence of management traffic jams are frequent seen on this road. It connects Jagraon with the surrounding villages and provides access to the abutting properties also.



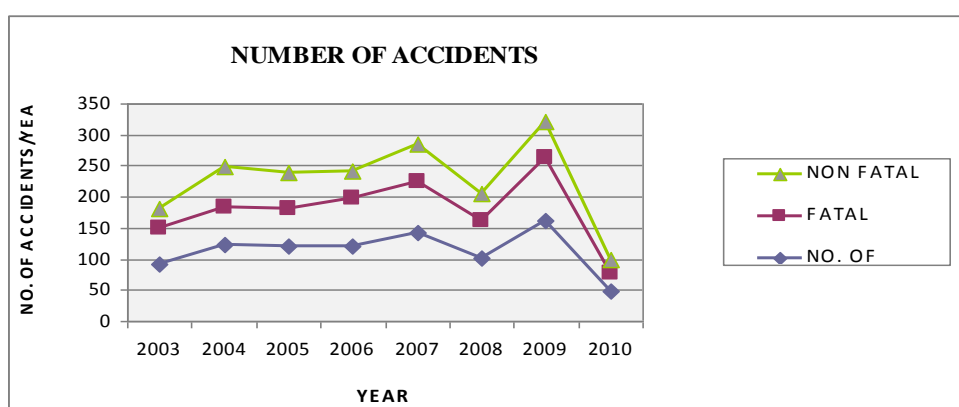
**Jagraon- Malak Road:** The carriageway width is about 22' and road reservation is about 32'. This road connects Jagraon to surrounding villages.

### Road Accidents

**Table no 49: Number of Accidents**

YEAR	NO. OF ACCIDENTS	FATAL	NON FATAL
2003	91	58	33
2004	124	60	64
2005	120	62	58
2006	121	77	44
2007	143	82	61
2008	102	60	42
2009	161	102	59
2010	49	28	21

Source: SSP Office, Jagraon



**Fig no.29: Number of Accidents**

The spectacular increase in the number of motor vehicles on the road has lead to increase in number of accidents. The number of accidents recorded in 2003 were 91 whereas in 2009 were 161. This figure is quite alarming. It is clear from the Table No: 50 that the number of fatal accidents rose from 58 in 2003 to 102 in 2009. Number of non fatal accidents increased from 33 in 2003 to 59 in 2009.

Kamal Chowk till Committee Gate, Kamal chowk till Sherpur Chowk and Phili Gate till Committee Gate are accident prone areas. This is mainly because of poor circulation pattern, mixed traffic condition, prevailing on the roads, and absence of road geometry elements and entrance of regional traffic in the town.

Kamal Chowk, Tehsil Chowk, Sherpur Chowk and Malak Chowk are junctions without traffic lights and are poorly managed and are becoming one of the reasons for accidents.

### Vehicular Growth:

**Table no. 50: Total Registered Vehicles**

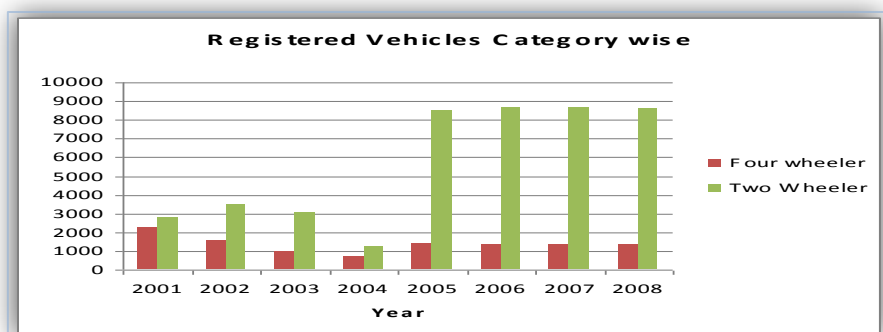
Year	No. of vehicles
2001-02	10000
2002-03	10000
2003-04	10000
2004-05	10000
2005-06	10000
2006-07	10000
2007-08	10000
2008-09	10000
2009-10	9434
<b>Total</b>	<b>89434</b>

Source: SDM, Jagraon

**Table no.51: Registered vehicles category wise**

Year	Four wheeler	Three Wheeler	Two Wheeler	Others	Total yearly	Grand total	%age growth rate
2001-02	3000	-	7000	-	10000	10000	-
2002-03	2800	-	7200	-	10000	20000	100
2003-04	3300	-	6700	-	10000	30000	50
2004-05	3096	-	6904	-	10000	40000	33.3
2005-06	2848	-	7152	-	10000	50000	25
2006-07	1986	-	8014	-	10000	60000	20
2007-08	2666	-	7334	-	10000	70000	16.6
2008-09	3185	-	6815	-	10000	80000	14.2
2009-10	2720	-	6714	-	9434	89434	12.5
Total	25601	-	63833	-	89434		11.7

Source: SDM, Jagraon



**Fig no. 30: Registered vehicles category wise**

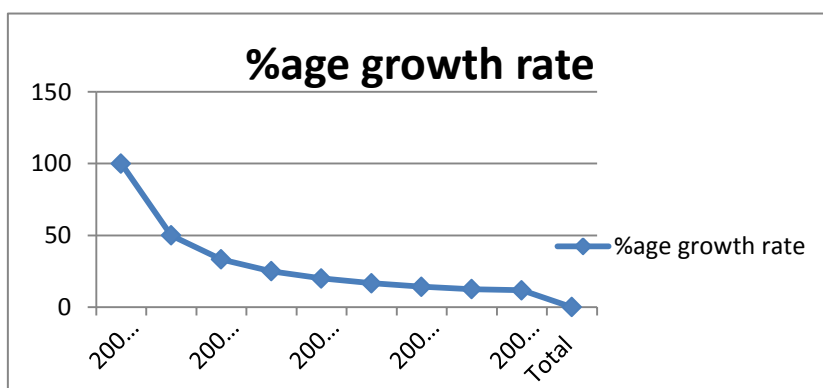


Fig no.31: Percentage Growth Rate of Registered fast Moving vehicles

Table no. 52: Slow Moving Vehicles Category wise

Year	Men driven	Animal driven	Total slow moving(yearly)	Grand total	%age of total vehicles	%age growth rate
2001-02	63	35	98	98	0.97	-
2002-03	76	43	119	217	1.18	21.43
2003-04	86	54	140	357	1.38	17.65
2004-05	98	63	161	518	1.58	17.65
2005-06	109	73	182	700	1.79	17.65
2006-07	173	88	261	961	2.54	43.41
2007-08	185	96	281	1242	2.73	7.66
2008-09	201	103	304	1546	2.95	8.19
2009-10	219	110	329	1875	3.37	8.22

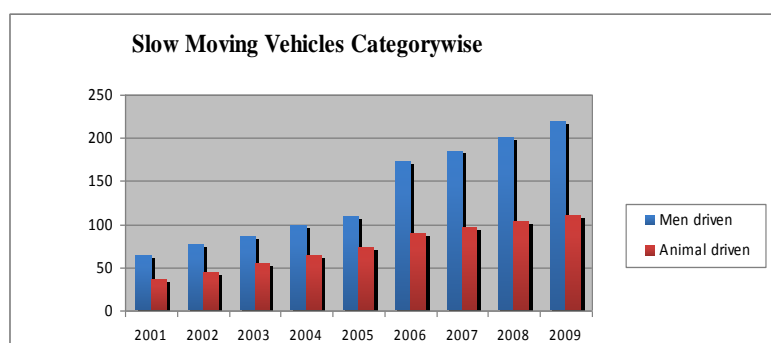


Fig no.32: Slow Moving Vehicles

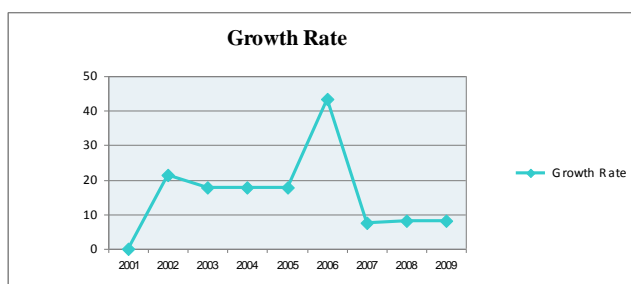


Fig no.33: Growth Rate of Slow Moving Vehicles

Table No. 53: Traffic Composition in Jagraon Town Year wise

Year	Fast moving		Slow Moving		Grand total
	Total vehicles	%age of Total vehicles	Total Vehicles	%age of total vehicles	
2001-02	10000	99.03	98	0.97	10098
2002-03	10000	98.82	119	1.18	10119
2003-04	10000	98.62	140	1.38	10140
2004-05	10000	98.42	161	1.58	10161
2005-06	10000	98.21	182	1.79	10182
2006-07	10000	97.46	261	2.54	10261
2007-08	10000	97.27	281	2.73	10281
2008-09	10000	97.05	304	2.95	10304
2009-10	9434	96.63	329	3.37	10329

Source: SDM, Jagraon &amp; M.C. Jagraon

Mixing of traffic on the roads have lead to slow speed, more accidents, congestion, constrained capacity, conflicts, delays and pollution. Table No: 53 above showing the composition of vehicles indicates that proportion of slow moving vehicles as compared to the fast moving vehicles has been going down. It is clear from Table No: 52 above that in the category of slow moving vehicles, men driven vehicles are 66.5 % as compared to animal driven vehicles i.e. 33.4% in the year 2009.

#### 4.1.4.2 Rail Terminal

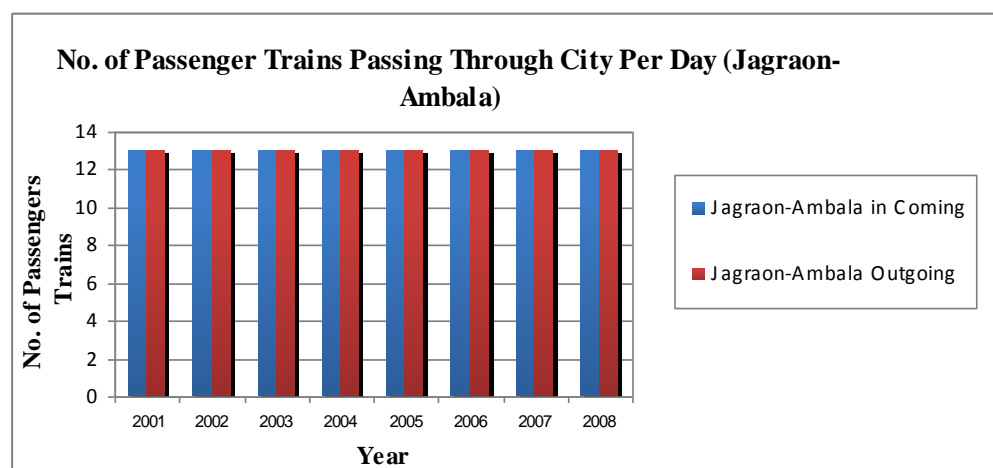
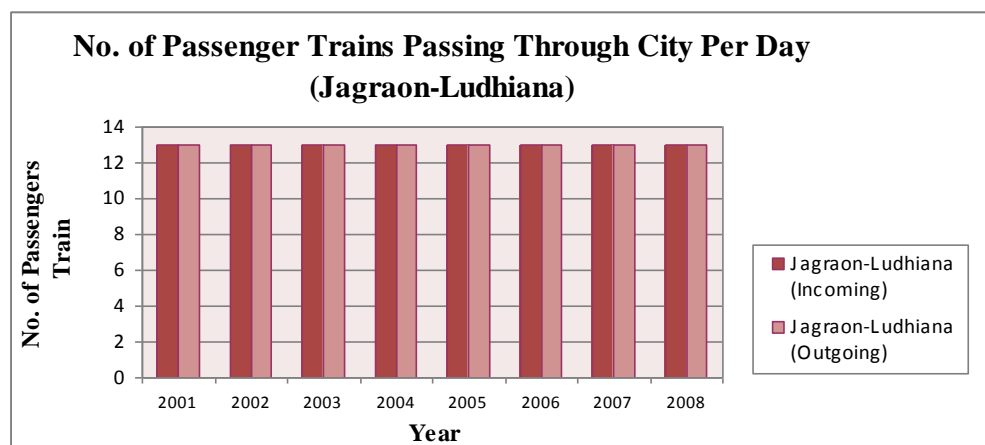
Total area of railway station is 13.6 acres (1000ft.X600ft.). The inflow and outflow of trains at Jagraon railway station reveals that about 13 trains arrives and 13 depart from the terminal in a day and about 1220(approximately) passengers use the railway terminal on a typical day. About 7 goods wagons arrive at the rail terminal per day. The loading and unloading is done at the railway station. The presence of Intermediate Public Transport (IPT) modes commutes the passenger to the different parts of the town from railway station. So, there is no problem of IPT mode in front of railway station.

**Table no.54: No. of passenger trains passing through Town per day**

Year	Jagraon- Ambala		Jagraon-Ludhiana	
	Incoming	Outgoing	Incoming	Outgoing
2003	13	13	13	13
2004	13	13	13	13
2005	13	13	13	13
2006	13	13	13	13
2007	13	13	13	13
2008	13	13	13	13
2009	13	13	13	13
2010	13	13	13	13

*Source: Station Master, Northern Railway Region, Jagraon*

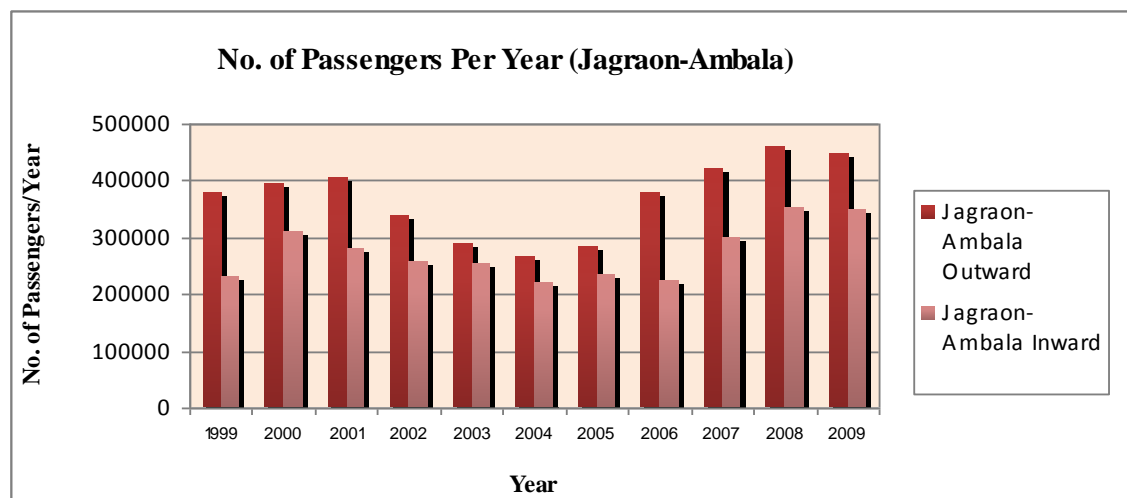
It is clear from table no.54 above, that in all 13 pairs of passenger trains pass through the town on daily basis which cater to the traffic on Jagraon –Ludhiana and Jagraon –Ambala routes.

**Fig no.34: No. of passenger trains passing through Town per day (Jagraon-Ambala)****Fig no.35: No. of passenger trains passing through Town per day (Jagraon-Ludhiana)**

**Table no. 55: Number of passengers per year**

Year	Jagraon-Ambala	
	Outward	Inward
1999	378258	231501
2000	394236	308781
2001	403509	279113
2002	337556	256988
2003	290155	253191
2004	267821	220124
2005	282644	235019
2006	377159	223790
2007	422392	300269
2008	459523	352848
2009	448276	349726

Source: Station Master, Northern Railway Region, Jagraon

**Fig no.36: Number of passengers per year**

It has been observed that passenger traffic catered to by railways is also on the increase. From 543346 passengers in 2003, the number rose to 798002 in 2009. Growth rate recorded 2004-05 was 6 % whereas it increased to 12.4% in 2007-08. However railways cater to large volume of traffic which basically comprise of daily commuters from & to the town, large number of migrants coming to serve in the agriculture and the industrial sector.

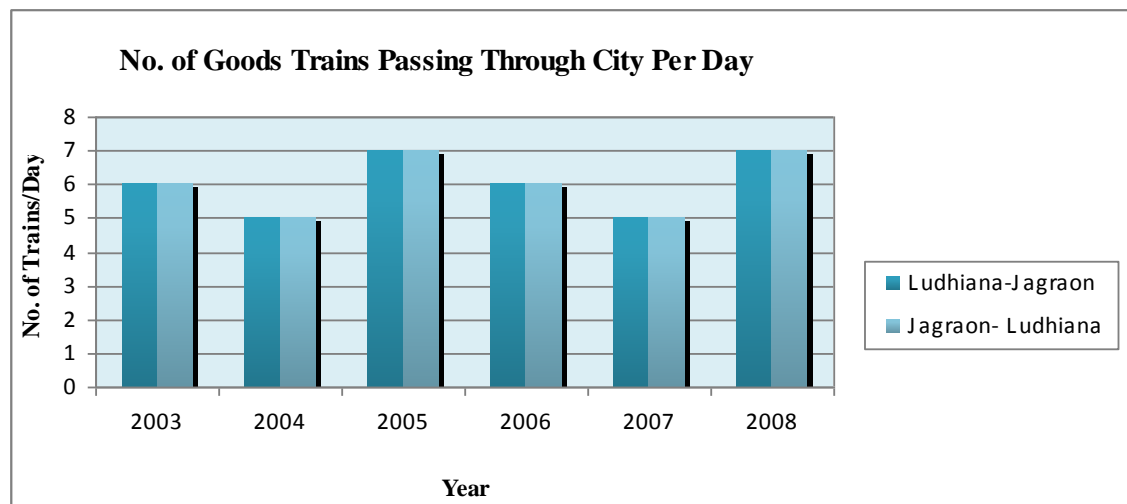
In addition to passenger trains, large number of goods trains also pass through the town for bring in and taken out raw material like fertilizer, paddy husk, salt, cement, maize etc and finished goods. Table no.56 given below indicates that number of goods trains plying on Jagraon –

Ludhiana route and vice versa are showing an increasing trend i.e 5 goods trains in 2004 and 7 goods trains in 2009.

**Table no. 56: No of Goods Trains Passing Through Town per Da**

From-To	2003	2004	2006	2007	2008	2009
Ludhiana-Jagraon	6	5	7	6	5	7
Jagraon- Ludhiana	6	5	7	6	5	7

*Source: Station Master, Northern Railway Region, Jagraon*



**Fig no.37: No. of goods trains**

### ***Rail Network***

Strong network of rail links with other parts of State /country exists in the town like Jagraon – Ludhiana railway line. These railway lines cut the road network of the town at numerous level crossings which become centre for traffic bottlenecks.

#### **4.1.4.3 Bus Terminal**

The total area of the bus terminal is 4.13 acre. Large numbers of passengers use the bus terminal. Buses move in all the directions on inter town and intra town roads.

*The description of the yearly bus traffic route-wise is given in the table below: -*

**Table no. 57: Daily Bus traffic route-wise**

Route	1999	2001	2003	2005	2007	2009	2010
Jagraon-Delhi	3	3	3	3	3	3	3
Jagraon- Ludhiana	106	106	106	106	106	106	106
Jagraon-Ganga Nagar	2	2	2	2	2	2	2
Jagraon-Jammu	2	2	2	2	2	2	2
Jagraon-Amritsar	8	8	8	8	8	8	8
Jagraon-Chandigarh	7	7	7	7	7	7	7

Jagraon-Raikot –Ahmedabad	60	60	60	60	60	60	60
Jagraon- Jalandhar	78	78	78	78	78	78	78
Jagraon- Barnala	37	37	37	37	37	37	37
Jagraon- Sudhar	16	16	16	16	16	16	16
<b>Total</b>	<b>319</b>	<b>319</b>	<b>319</b>	<b>319</b>	<b>319</b>	<b>319</b>	<b>319</b>

Source: Municipal Council, Jagraon

Table No. 57 indicates that over the years, bus traffic has remained same.

Intermediate public transport system plays an important role in transportation system. Auto rickshaw, cycle rickshaw, tempos are the best mode of intermediate public transport system which commute to different parts of the town from bus stand.

#### 4.1.4.4 Truck Terminal

**Table no.58: Truck Stand**

Sr. No.	Category	year	Name / location	Area	Road side
1.	Pvt.	1974 – 75	Near Bus Stand Sidhwan bet road	10 acre	Sidhwan bet road

#### 4.1.4.5 Goods Booking Agency

**Table no. 59: Goods Booking Agency**

Sr. No.	Category	Year	Name / location	Area	Road side
1.	Pvt.	1970	Bharat Transport		G.T. Road
2.	Pvt.	1970	Delhi Goods Carrier		(moga side) G.T. Road (moga side)

At present there are 2 private goods transport booking agencies in the Jagraon town. All the booking agencies are located on G.T road where loading and unloading of goods is done and trucks are parked. This creates traffic jams and hampers free movement of through traffic.

#### 4.1.4.6 PARKING

##### **TEMPO STAND**

There is one Tempo Stand located in Purani Dana Mandi in Jagraon Town comprising an area of 10 acre.

**Table No. 60: Tempo Stand**

Sr. No.	Category	Year	Name / location	Area	Road side
1.	Pvt.	1965	Purani Dana Mandi	10 acre	Purani Dana Mandi



### ***TAXI STAND***

There are four Taxi Stands operational in Jagraon town located on Raikot road, Tehsil road and G.T road. The detail of Taxi Stands is given in the table below:

**Table No.61: Taxi Stand**

Sr. No.	Category	Year		Area	Road side
1.	Pvt.	1982-83	Opp Lala Lajpat Rai Park		Raikot Road.
2.	Pvt.	1985	Near Kalyani Hospital		”
3.	Pvt.	1995	Near Govt. School		Tehsil road
4.	Pvt.	1990	Near Bus Stand		G.T. Road

### ***THREE WHEELER STAND***

For parking of three wheeler vehicles, 3 stands are provided in Jagraon town on G.T road and inside Anarkali Bazar. The details of parking are given in the table below:

**Table No. 62: Three Wheeler Stand**

Sr. No.	Category	Year	Name / location	Area	Road side
1.	Pvt.	1990	Near Bus Stand		G.T. Road
2.	Pvt.	1991	Isher Halwai Chowk		Anarkali Bazaar
3.	Pvt.	1992	Kukkar Chowk		Anarkali Bazaar

Kamal Chowk, Tehsil Chowk and Sherpur Chowk are the areas which require parking.

#### **4.1.4.7 Traffic Characteristics**

##### **Traffic Volume**

Traffic volume is another important aspect of the traffic and transportation plan. Traffic volume represents the number of vehicles passing from a point during a period of time and is an indicator of intensity of traffic on the road. Volume and composition of traffic are the indicators of structure, design and character of the town. The capacity is measured in PCU's per lane of road width. The V/C ratio is up to 1 is considered as the optimum condition. If ratio exceeds 1, it indicates condition of congestion whereas figure below 1 indicates under utilization of the road capacity.

In order to assess the capacity utilization of roads, a detailed analysis of the existing road network has been made in terms of volume & capacity of important roads. The peak hour

volume of different categories of major road net work in Jagraon has been assessed to calculate volume capacity ratio. Traffic volume counts were taken at different locations.

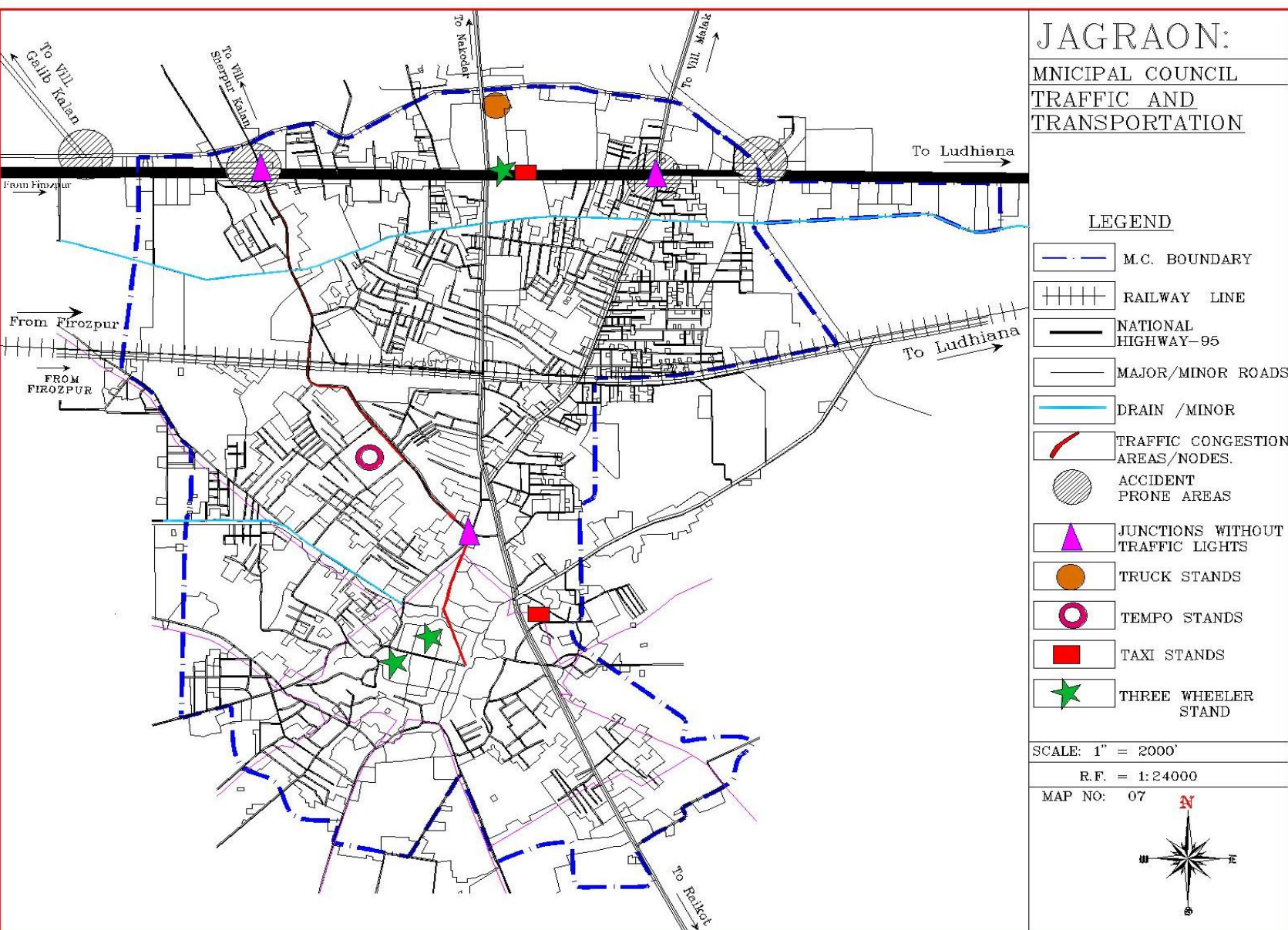
**Table no.63: Volume capacity ratio on main approaching roads (year 2010)**

Name of the road	Hour	Peak hour volume(PCU)	Capacity (PCU)	V/C ratio
Ludhiana-Jagraon	8 am to 10 am	1469	3600	0.4
	2 pm to 4 pm	1428		0.39
	5 pm to 7 pm	1600		0.44
Jagraon- Ludhiana	8 am to 10 am	2099	3600	0.58
	2 pm to 4 pm	1976		0.54
	5 pm to 7 pm	2078		0.57
Moga- Jagraon	8 am to 10 am	2089	3600	
	2 pm to 4 pm	2090		
	5 pm to 7 pm	2097		
Jagraon- Moga	8 am to 10 am	1591	3600	
	2 pm to 4 pm	1567		
	5 pm to 7 pm	1654		
Raikot- Jagraon	8 am to 10 am	978	900	1.08
	2 pm to 4 pm	930		1.03
	5 pm to 7 pm	1002		1.1
Jagraon- Raikot	8 am to 10 am	802	900	0.89
	2 pm to 4 pm	752		0.83
	5 pm to 7 pm	810		0.9
Katcha Malak Road (Ferozpur Road to Jagraon Town)	8 am to 10 am	949	900	1.05
	2 pm to 4 pm	874		0.97

	5 pm to 7 pm	977		1.08
Katcha Malak Road (Jagraon Town to Ferozpur Road)	8 am to 10 am	1627	900	1.80
	2 pm to 4 pm	1596		1.77
	5 pm to 7 pm	1404		1.56
Sidhwan Bet Road (Jagraon to Sidhwan Bet)	8 am to 10 am	371	900	0.4
	2 pm to 4 pm	404		0.4
	5 pm to 7 pm	476		0.52
Sidhwan Bet Road (Sidhwan Bet to Jagraon)	8 am to 10 am	445	900	0.49
	2 pm to 4 pm	419		0.46
	5 pm to 7 pm	421		0.46

Source: Primary Survey, 2010

The traffic volume on the roads like Jagraon- Raikot, Malak road has v/c ratio more than 1.0 i.e. the level of service on these stretches is below the accepted level of service and are saturated beyond their capacities. Although the saturation capacities are below 0.8 at some of the junctions of the town and they require geometric improvements and appropriate control to ensure the smooth flow of traffic and pedestrian safety.

**MAP NO.: VII-TRAFFIC AND TRANSPORTATION: JAGRAON MUNICIPAL COUNCIL**

#### 4.1.5 Fire Prevention and Protection

Fire services have to play pivotal role and be fully prepared in protecting people from fire hazards, building collapse, road accidents and other unforeseen emergency etc. At present there is no fire station in town.

##### Fire stations

**Table no.64: Fire facilities**

Sr.no	Type	Population/unit(approx.)	Existing	Required
1	Fire station	3-4 km radius	-	1
	Fire tenders	-	-	2 (as per data supplied by Municipal Council, Jagraon)
2	Fire post	5-7 km radius	-	-
3	Disaster Management centre	1 in each administrative zone	-	1
4	Fire training institute/college	Town level(one site in urban extension)	-	1

*Source: Municipal Council, Jagraon*

#### 4.1.6 Power Supply

Power is one of the prime movers of economic development and common denominator for all technologically advanced societies. Correlation between per capita income and per capita power consumption is very strong. If the power industry is below-par, overall growth is hobbled. The level of availability and accessibility of affordable and quality power is also one of the main determinants of quality of life. The power sector has not kept pace with the growth in demand with the result that the country has always faced energy and peaking shortages.

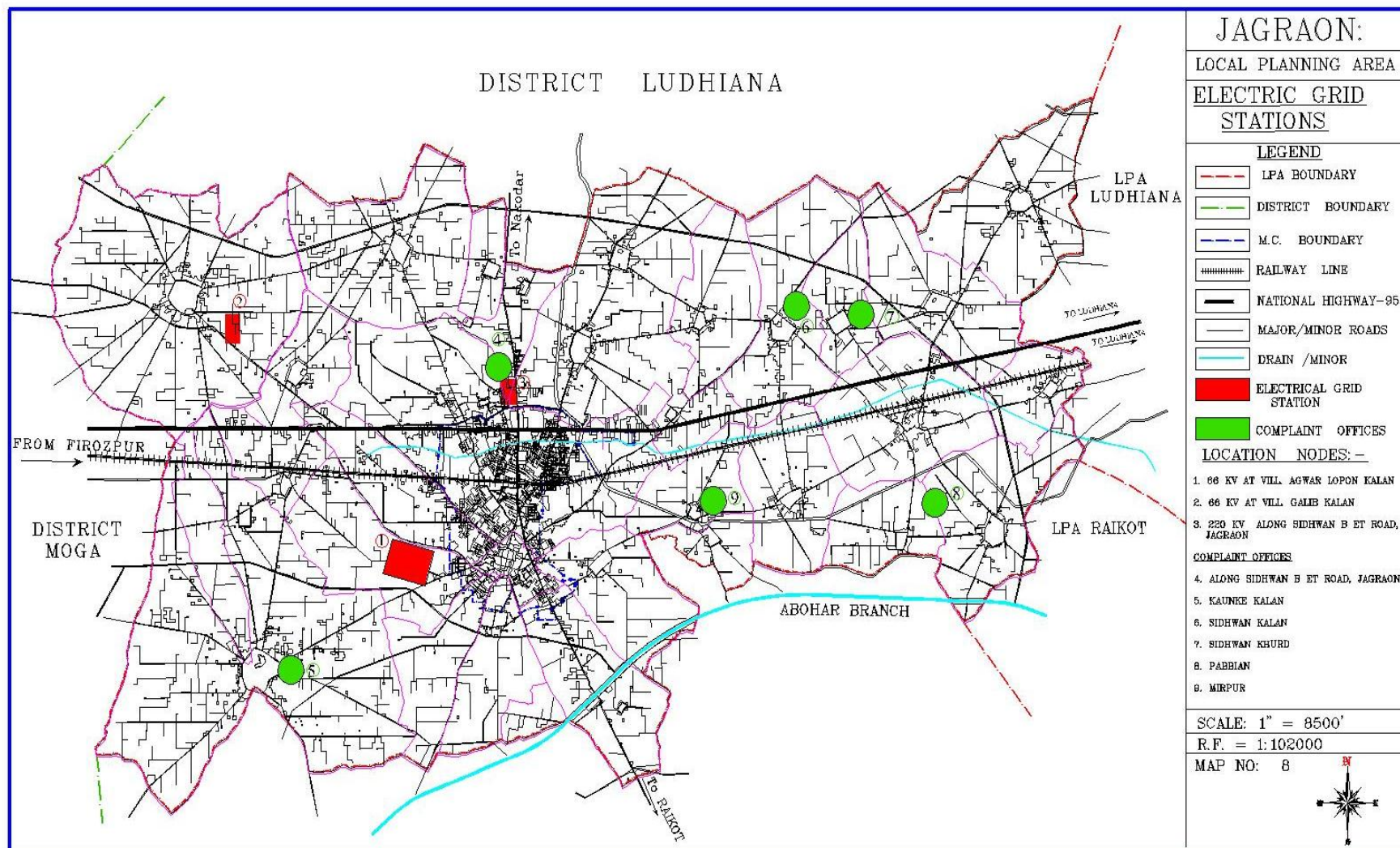
##### 4.1.6.1 Grid Stations

There are 3 grid stations of 66KV, 220 KV capacities. Total area under grid stations is 16 acre. A detail of area and location is given below in table no.65. There are 10 offices and 6 complaint centers. Location of grid stations, complaint centers is shown in thematic map at Map no.:8.

**Table no.65: Grid Stations**

Capacity	Number	Location	Area(acres)
66	2	Village Agwar Lapon, Village Galib	4 acre each
220	1	Jagraon	8

# MAP NO.: VIII-ELECTRIC GRID STATIONS: JAGRAON L.P.A.





## 4.2 Social Infrastructure

Social infrastructure can be considered in term of facilities available in the urban areas at various levels. This includes facilities pertaining to education, health, recreation parks and open spaces, post offices etc. It needs to be ascertained that spatial distribution of the social infrastructure is such that it is available to the entire population and is within their easy reach. Often it is found that social infrastructure is concentrated in few pockets of the town whereas certain areas have been found to be deficient. This adversely impacts the community living in deficient areas which are required to travel considerable distance to avail them. In the process, town faces problems due to unnecessary travel necessitated by irrational distribution of these services. According for proper and efficient functioning of the urban centers it is not only critical, that urban infrastructure in appropriate quality and quantity are provided but also it will be important that they are spatially distributed in a manner, So as to cover the entire town and its population. Based on this premise the available social infrastructure in the Jagraon town have been studied and evaluated.

### 4.2.1 Educational Facilities

Educational Facilities hold a significant place in the economic growth development and employment. Jagraon town has various schools and colleges which fulfill the need of town as well as surrounding villages.

These institutes serve the Jagraon town as well as its surrounding areas.

Jagraon town has 7 primary/Elementary schools which are more than standards as per Master Plan Ludhiana. 1 primary/Elementary schools are surplus in Jagraon. In case of Higher and senior secondary schools the number is more than the requirement. Tables given below clear the picture of education facilities in Jagraon.

**Table no.66: Educational Facilities (Jagraon M.C.)**

Sr. No.	Nature of Facility	Existing in Number	Standard (as per Master Plan Ludhiana)	Required as per standard	Deficit	Surplus
1.	Primary/Elementary schools	7	1 for 10,000	6	-	1
2.	Higher secondary & Sr.Sec. Schools	10	1 for 10,000	6	-	4
3.	Colleges	1	1 for 5 lac.	-	-	-
4.	ITI open university/vocational training centers	2	-	-	-	-

*Source: Census of India, 2001***In case of LPA rural****Table no.67: Educational Facilities (Jagraon Rural)**

Sr. No.	Nature of Facility	Existing in Number	Standard (as per Master Plan Ludhiana)	Required as per standard	Deficit	Surplus
1.	Primary/Elementary schools	26	1 for 10,000	8	-	18
2.	Higher secondary & Sr.Sec. Schools	8	1 for 10,000	8	-	-
3.	Colleges	2	1 for 5 lac.	-	-	2
4.	Ayurvedic college	-	1 for 5 lac.	-	-	-
5.	I.T.I.	-	1 for 5 lac.	-	-	-

*Source: Census of India, 2001***In case of LPA Jagraon****Table no.68: Educational Facilities (Jagraon L.P.A.)**

Sr. No.	Nature of Facility	Existing in Number	Standard (as per Master Plan Ludhiana)	Required as per standard	Deficit	Surplus
1.	Primary/Elementary schools	33	1 for 10,000	13	-	20
2.	Higher secondary & Sr.Sec. Schools	18	1 for 10,000	13	-	5
3.	Colleges	3	1 for 5 lac.	-	-	3
4.	Ayurvedic college	-	1 for 5 lac.	-	-	-
5.	I.T.I.	2	1 for 5 lac.	-	-	-



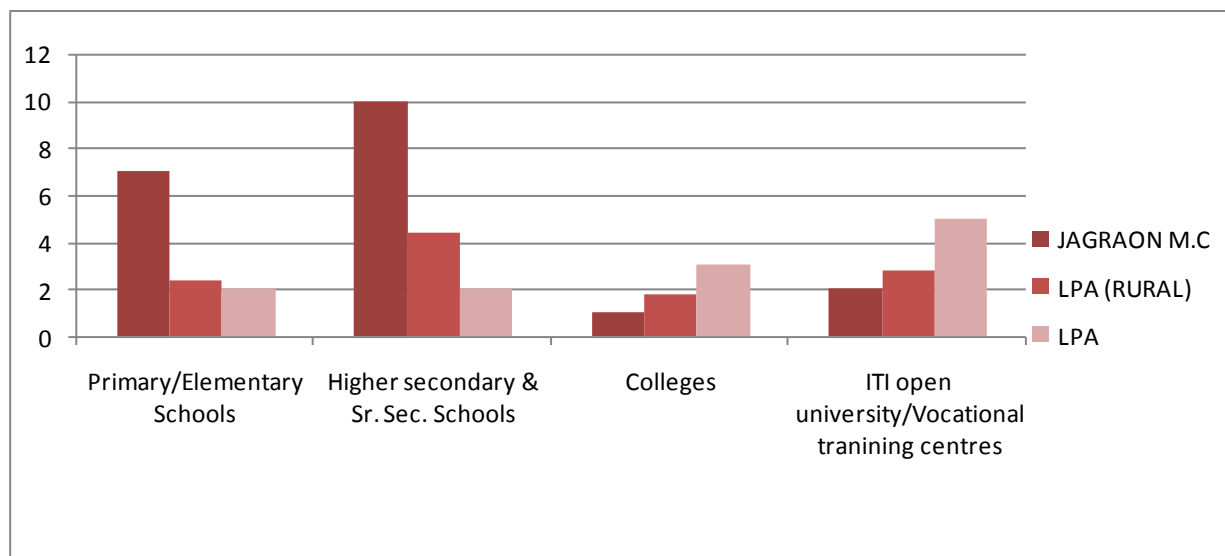


Fig no.38: Educational Facilities (M.C Jagraon, Rural Jagraon, L.P.A Jagraon)

## 4.2.2 Health Care

Table no. 69: Medical Healthcare Facilities (Jagraon M.C.)

Sr. No.	Nature of Facility	Existing in Number	Standard (as per Master Plan Ludhiana)	Required as per standards	Deficient	Surplus
1.	Hospital	1				
2.	Sub Health Centre	2	1 for 10,000	6	4	-
3.	Nursing Homes/Private hospitals	32	1 for 50,000	1	-	31
4.	Ayurvedic Dispensary	1	1 for 10,000	6	5	-
5.	Veterinary Hospital	1	1 for 50,000	1	-	-
6.	Veterinary Dispensary	1	1 for 10,000	6	5	-

Source: Census of India, 2001

Jagraon has large number of healthcare related facilities which not only save the town population but also that of region. There are two hospitals, two sub health centre, 49 Nursing homes/Private hospitals and one ayurvedic dispensary in Jagraon town.

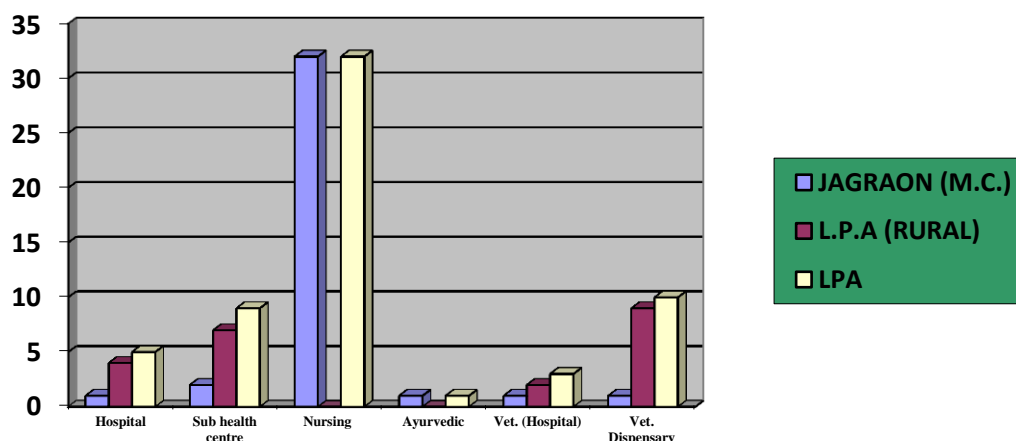
**Table no. 70: Medical Healthcare Facilities (L.P.A. Rural)**

Sr. No.	Nature of Facility	Existing in Number	Standard (as per Master Plan Ludhiana)	Required as per standards	Deficient	Surplus
1.	Hospital	4		-		
2.	Sub Health Centre	7	1 for 10,000	3	1	-
3.	Nursing Homes/Private hospitals	-	1 for 50,000	2	2	-
4.	Ayurvedic Dispensary	-	1 for 10,000	8	8	-
5.	Homeopathy Dispensary	-	1 for 10,000	8	8	-
5.	Veterinary Hospital	2	1 for 50,000	2	-	-
6.	Veterinary Dispensary	9	1 for 10,000	8	-	1

*Source: Census of India, 2001***Table no.71: Medical Healthcare Facilities (LPA Jagraon)**

Sr. No.	Nature of Facility	Existing in Number	Standard (as per Master Plan Ludhiana)	Required as per standards	Deficient	Surplus
1.	Hospital	5				
2.	Sub Health Centre	9	1 for 10,000	14	5	-
3.	Nursing Homes/Private hospitals	32	1 for 50,000	3	-	29
4.	Ayurvedic Dispensary	1	1 for 10,000	14	13	-
5.	Homeopathy Dispensary	-	1 for 10,000	14	14	-
5.	Veterinary Hospital	3	1 for 50,000	3	-	-
6.	Veterinary Dispensary	10	1 for 10,000	14	4	-

*Source: Census of India, 2001*



**Fig no.39: Medical Healthcare Facilities M.C. Jagraon, L.P.A( Rural) and L.P.A Jagraon**

Jagraon LPA provides an efficient system of healthcare to pets and animals. To cater to this segment there are 19 units operating in the town out of which 8 are veterinary dispensaries and 11 veterinary hospitals.

### 4.2.3 Sports and Recreation

For physical and social development of an individual, recreational facilities are very important, therefore the provision of these facilities at local, sub town and town level in a balanced form is most important. In Jagraon town there are a number of recreational facilities enumerated in table no. 72.

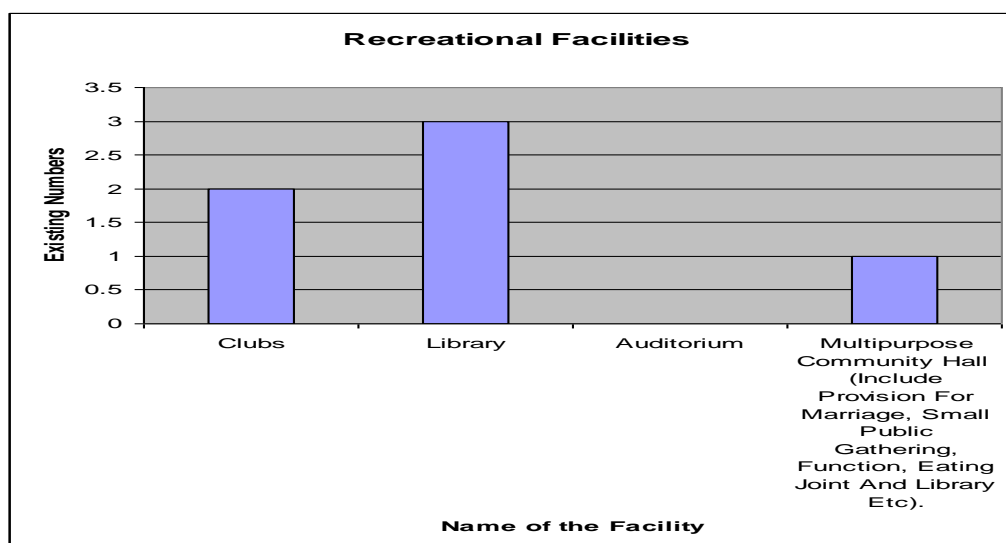
#### Recreational Facilities

Recreational facilities have been found to exist in the shape of parks and open spaces cinema, stadiums, museums, sports related activities, clubs, library etc. Provision of active and passive recreational facilities is given in order to cater to the essential needs of the individuals and communities.

**Table No.72: Recreational Facilities**

S. No.	Name Of The Facility	Existing Number
1.	Park	2
2.	Cinemas	1
3.	Stadium	-
4.	Museum	-
5.	Swimming Pool	-
6.	Clubs	2
7.	Library	3
8.	Auditorium	-
9.	Multipurpose Community Hall (Include Provision For Marriage, Small Public Gathering, Function, Eating Joint And Library Etc).	1

Source: Municipal Committee, Jagraon

**Fig no.40: Recreational Facilities**

Maximum number of recreational facilities has been found to be in shape of parks. There are in all 4 parks which include both small and large sized open spaces. One of the parks exists on the back side of Municipal Council, Jagraon and is well maintained by the office. But there is an urgent need to create adequate number of additional parks and open spaces in the town as per the specified norms besides ensuring their rational distribution in the town in order to ensure their availability to all the residents of the town.

In addition to the parks, there are three cinemas, one stadium, four auditoriums, two swimming pools and two clubs existing in the town. Looking at the fast population growth and rapid physical expansion of the town, it is important that adequate level of recreational facilities are created in the town and distributed to cover the entire population of the town.

#### 4.2.4 Post and Telegraph:

Rapid progress made in different modes of communications, post and telegraph still remains the most popular option of communication for vast majority of population. Number of post offices is reducing due to availability of better option of communication which is not only faster but also cheaper. But still, these facilities serve considerable proportion of population both at town level and national level. There are in all 31 post offices operational in the town out of which 30 are branch level and 1 head post office. There are also telegraph offices in the town. Details of the post offices available within Jagraon are provided in the table given below.

**Table No.73: Post offices in Jagraon**

Sr. No.	Name Of The Facility	Existing In Number
1.	Branch Post Office	9
2.	Sub Post Office	28
3.	Head Post Office	1

Source: Head Post Office, Jagraon

#### 4.2.5 Telephone Exchange

**Table No.74: Telephone exchange**

Numbers of BSNL Offices	Numbers of Telephone Exchanges	Capacity of Telephone Exchanges
1	5	1300

Source: Telephone exchange (BSNL), Jagraon

Into the rapid advancement in the technology and policy of liberalization adopted, communication has emerged as an important medium of communication. There are five telephone exchanges existing in the town having capacity of 1300.

With the increasing population and availability of enormous network, government sector would be required to expand its operational mechanism to meet the future demands in the urban sector. Accordingly number of telephone exchanges would require to be created within the town besides upgrading the facilities and infrastructure in the existing exchanges to cater the existing needs and the future requirements of population.

## CHAPTER-5

### PLANNING PROBLEMS AND ISSUES

Like many others town of the State, it suffers from the unbalanced and haphazard development which has resulted in congestion in the urban core and sporadic development of the out skirt, mixed land use pattern, Poor services, defective circulation and traffic bottlenecks, sluggish drainage and bad sanitation. All this ultimately result into manifold problems which are broadly listed below:

#### 5.1 Area between G.T. Road towards Ludhiana and Raikot Road

##### Industrial

- **The growth of Industrial Units/Commercial activity** along G.T. road is another major traffic problem. The most of the industries like Rice Shellers along G.T. road have come up in an unplanned manner generating ash as the by product causing air pollution.
- 1) Poor condition of roads.
- 2) Lack of Plants and parks in the area.
- 3) Lack of dustbins.
- 4) No sewerage treatment plant.
- Presence of Soap factories along Raikot Road creates water pollution due to the discharge of the chemicals without any treatment being used by the factories.

##### Mix Landuse

- There are incompatible mixed land uses in this part of area along G.T. road which are causing environmental problems.

##### Residential

- Inadequate water supply, sewerage and draining system causing air and water born diseases and pollution in the slums thus affecting health of its inhabitants.
- **Unplanned colonies:** Due to haphazard & unplanned growth of residential areas namely Gulabi Bagh, Punjabi Bagh, Golden Bagh, Moti Bagh along Malak Road in this part of the town, there is acute shortage of wide roads, open spaces & spaces for the

infrastructure like schools, dispensaries & religious places etc. The road width in unplanned colonies is 25 feet.

- Hira Bagh is the old posh residential area of Jagraon along Rani Jhansi road. This area has wider roads (35' to 40'), parks, street lights and spaces for the infrastructure.

### Commercial

- Lack of planned markets in this part of the town has resulted in haphazard growth of commercial activities on Raikot road causing environmental and traffic problems.

## 5.2 Area between Raikot Road and G.T Road towards Ferozpur

### Commercial

- Commercial uses are scattered throughout the town with no major commercial node point. These areas are developed in the form of commercial strips along major through fare without provision of parking facility, which has created traffic congestion/ bottlenecked and traffic hazards.



- The mushrooming growth of rehries, **vegetable/fruit shops** along Kamal Chowk is also a major traffic hindrance. The shopkeepers from both sides of this road display their articles on road berms, further reducing the traffic carrying capacity of the road which results in traffic congestion.

- Jagraon grain market is Asia's second largest grain market located along Shergpur road is well equipped with the infrastructure facilities such as Water Supply, Sewerage etc. It has a total area of about 78.12 acres having 139 shops, 97 shop-cum-flats, 188 booths, 16 Semi



Fig No.42: Grain Market At Jagraon

industries, 18 fodder shops, 1 electric grid, 3 reserve sites, 1 cinema site and 1 farmer canteen.

### **Mix Landuse**

- In this Zone industry and houses, commercial and houses rub shoulders causing noise, smoke, dust and traffic problems. It includes retail shops, Jain Temple, Schools along Raikot Road.

### **Industrial**

- Feed factory along Raikot Road do not have proper solid waste management. As the result industries dispose off waste on vacant land causing water pollution and land pollution.
- Air pollution is caused from the burning of ash from rice husk in rice sheller present in this pocket.

### **Residential Area**

- There are two major residential areas namely Atam Nagar and Karnail Gate area accommodating large number of population. Other old unplanned residential areas along Rani Jhansi road are Pratap nagar, Model town. These areas lack open spaces, parks, schools, and other infrastructure.
- Royal town is only planned colony in this pocket having wider roads (35 feet-40 feet), planned open spaces, parks, schools, religious places.



**Fig No.43: Royal Town At Jagraon**



### 5.3 Area between G.T Road towards Ferozpur and Sidhwan Bet Road

#### Commercial

- **Dominance of Central Corridor:** Activities both commercial and industrial are more concentrated along G.T. road due to well developed rail and road network. These activities attract traffic and causes traffic chaos.
- **Mushrooming of commercial** activity on road fronts without provision of adequate parking is another major traffic problem in certain pockets of this area.
- **Centrally located bus stand:** The main bus stand of the town is located on the G.T. road as a results of which this road invites heavy rush of buses and other passengers traffic because of which the road remains busy throughout the day causing traffic congestion especially near bus stand.



#### Industrial area

- Rice sheller is the major industry type in Jagraon and exists along road towards Sherpur Kalan village. Industries create noise pollution and air pollution due to the production of ash fly.

#### Residential

- There are number of slums existing in this pocket along G.T. road (N.H.-95). The mushrooming of slums on the road is another major problem in the area as they use illegal electricity/water connections. Moreover, these slum dwellers park their rehris, rickshaws along side

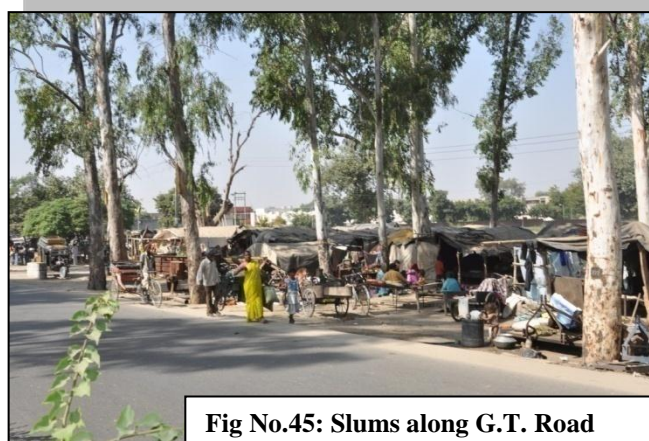


Fig No.45: Slums along G.T. Road

roads and their children also play on roads which cause traffic hindrance. Apart from

creating unhygienic conditions in an area, these slums create environmental and developmental problems.

### **Mixed traffic**

- There is no provision of central verge on this road. As a result the presence of mix moving traffic like rickshaws, pony carts, two wheelers, three wheelers, mini buses etc. causes traffic congestion.

### **Mix Landuse**

- **Mixed land use** is the major characteristic of this zone. The commercial & industrial activity co-exists with residential along road causing air, noise and smoke pollution.
- The growth of commercial activity on both sides of G.T. road without having adequate parking and loading /unloading facility has further added to the traffic congestion.

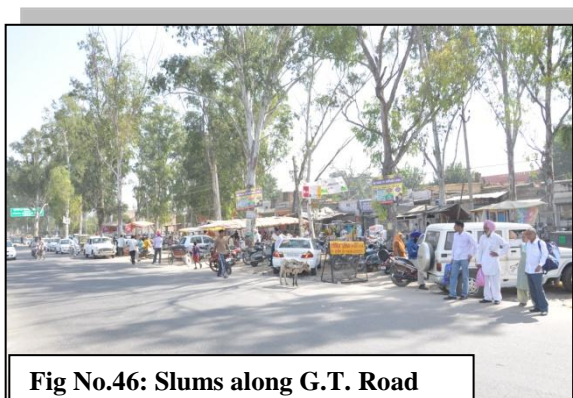
## **5.4 Area between Sidhwan Bet Road and G.T Road towards Ludhiana**

### **Mix Landuse**

- The **mushrooming of Hotel, Marriage Palace, Government offices** like Police Station, and hospitals without adequate parking on G.T. Road is another problem due to parking of customer vehicles on road side which sometimes becomes a major hindrance in the traffic movement.

### **Residential**

- Numbers of **slums are cropping up** in this area along G.T. Road. These areas are provided with water supply and sewerage network. These slum dwellers are using illegal electricity connections.



**Fig No.46: Slums along G.T. Road**

- **Mixed land use** is the major characteristic of this pocket. The commercial & industrial activity (rice sheller, cold storage) along Sidhwan Bet road co-exists with housing causing air, noise and smoke pollution.

#### **Mixed traffic**

- The mixing of slow moving traffic like cycle rickshaws and auto rickshaws etc. with fast moving traffic also causes traffic hindrance and traffic congestion. The Sidhwan Bet road width varies between 80'-100' which is not sufficient for providing service lanes, footpaths cycle tracks etc. as a result the slow moving traffic mixes with the fast moving traffic on this road causing traffic hindrance.

## **5.5 Area within Municipal Council**

### **Jagraon (Old area)**

- Narrow roads, poor road geometry within the old town, railway crossing, lack of proper parking places are the cause if traffic problems. The town has no organized town level park, playground and adequate open space for the recreation of its inhabitants.



**Fig No.47: Old Town**

- Y-Junction formed at Kamal Chowk is problematic junction. Commercial activity is clubbed along this junction generating traffic and creating problem in smooth flow of traffic.



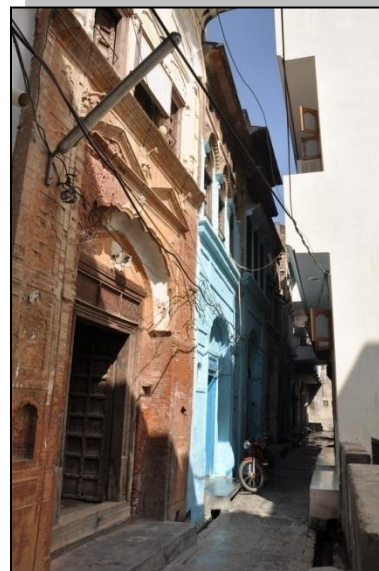
- Y-Junction formed at Rani Jhansi Chowk is problematic junction. Commercial activity, School, Offices is clubbed along this junction act as hindrance in traffic flow.



**Fig No.49: Y-Junction Formed At Rani Jhansi Chowk**

### Heritage

- Ancestral house of Lala Lajpat Rai comprising an area of 62 sq yds and plot in front of house (Plot 151) which is declared protected monument of Punjab under “The Punjab Ancient and Historical Monuments and Archaeology Sites and Remains Act, 1964” under by Department of Cultural Affairs, Archaeology & Museums, Punjab, Chandigarh is lying in miserable condition. Not much effort is being made by the concerned department to protect and maintain the structure.



**Fig No.50: Lala Laj Pat Rai House**

- There is no suitable infrastructure attached with the Lala Lajpat Rai Library and Museum. Moreover no efforts have been made by the concerned department to make it a suitable tourist spot.



**Fig No.51: Lala Laj Pat Rai Museum Cum Library**

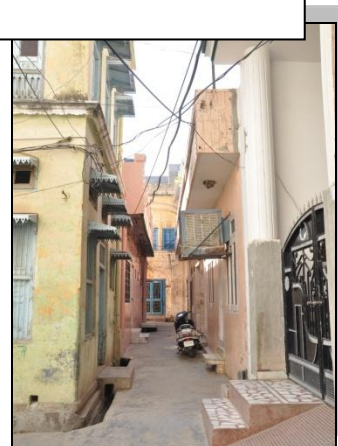
### Commercial





- **Narrow streets:** Bazaars with narrow streets viz; Anarkali Bazaar, old market along Chhati Chowk, Nalkeya wala chowk, Chowk Charkhira, Kohkar Chowk etc. without provision of parking remain choked during the day and causes a lot of inconvenience to the public. Due to narrow street pattern in some areas of the old town as mentioned above, it is very difficult to carry on rescue operations during any calamity. No fire tenders or ambulances could enter in these streets as a result; the loss to life/property is always more.

**Fig No.52: Old Bazaars Inold Town**



### **Residential**

- There is presence of large proportion of old and dilapidated buildings which suffer from the problems of fresh air, light and ventilation in Talab wala Mohalla, Ritae da mohalla.

### **Traffic & transportation**

- **Commercialization of narrow residential streets** with width as low as 6ft. pose serious threat to the effective movement of traffic and transportation.
- **Encroachment:** The shopkeepers from both sides of this road display their articles on footpaths and road berms, further reducing the traffic carrying capacity of the road which results in traffic congestion. The existing foot path is encroach by shopkeepers; pedestrians are forced to move on metalled portion of the road causes hindrance in the free movement of traffic their safety is left at the mercy of the vehicle drivers.
- **Narrow streets/road circulation:** The urban growth in this pocket is mostly unplanned having irregular, zig zag street pattern. The street width varies between 20-25 feet wide approximately which is quite inadequate to take mixed traffic and as a result, the streets remain over busy during the day.
- **Encroachment of road berms** by shopkeepers, rehri/ chhabriwalas and parking of auto rickshaws, mini buses, taxis, and private cars on road side in the above said areas reduces

the effective width of the available road network causing traffic bottlenecks & traffic jams.

- **Mixed Traffic:** The traffic on old town roads comprises commercial vehicles, hand carts, bullock carts, Rickshaws, auto rickshaws, cars, scooters etc. The conflict between slow and fast traffic invariably results in the blockade of roads causing frequent jams in the narrow bazaars of the old town.

### **Parks & open spaces**

- **Acute shortage of organized open spaces/parks** force the children to play in streets. Even most of the social functions are performed in streets/roads causing inconvenience to the public. There are only two major open spaces available in this part of the town namely M.C. Park and park in front of Gurudwara on the road leading to village Kaunke.

## CHAPTER-6

### VISUALIZING THE FUTURE

The requirements of infrastructure to be provided whether social or physical has to be based on the population projected up to the year 2031. Population and workforce are the first few things to be visualized. For this purpose the past trends of population growth of Jagraon town as well as that of rural and other settlements falling in L.P.A. Jagraon has been taken into account.

#### 6.1 Population Projections 2031

In order to achieve more realistic forecast of population a simplified version of ratio method has been used. Population of L.P.A is derived from the forecast made for Punjab state in the Report of the technical group on Population projections constituted by the National Commission on Population entitled "POPULATION PROJECTIONS FOR INDIA AND STATES 2026". For that purpose observed ratios of LPA population to the state population have been used. The population projections for Punjab state as presented in the report are reproduced in Table no.75 below:

**Table 75: Projected Population of Punjab – Total and Urban 2001-2026**

Year	2001	2006	2011	2016	2021	2026
Punjab Total	24359	26059	27 678	29112	30323	31345
Punjab Urban	8263	9439	10681	11940	13185	16456
Percentage Urban	33.92	36.22	38.59	41.01	43.48	52.50

*(Population in Thousands)*

The population projection up to the year 2031 based upon above table are given in table no. 76.

#### 6.1.1 Population Projections for Urban Areas

Share of population of urban areas falling in Jagraon L.P.A to the total urban population of Punjab state is given in Table below.

**Table no.76: Share of Population of Urban Areas of LPA Jagraon to the Total Urban Population of Punjab State 1981-2001**

Urban areas	Population of LPA Urban / Punjab Urban population		
	1981	1991	2001
Jagraon town (% Age)	0.85	0.79	0.73

*(Population in Thousands)*

Population projection of urban areas of LPA Jagraon is calculated assuming that its share in Punjab Urban (2001) will remain constant in future up to 2026. However the population for the year 2031 has been projected by Graphical method by extrapolating the trend line. Thus, Population Projection of urban areas of LPA Jagraon up to the year 2031 is given in Table no.77 below:

**Table no.: 77: Projected Population of Urban Areas of LPA Jagraon 2006- 2031**

Year	2006	2011	2016	2021	2026	2031
<b>Jagraon town</b>						
% Age of Punjab Urban	0.73	0.73	0.73	0.73	0.73	0.73
Projected Population	68905	77971	87162	96250	120129	149935

(Population in Thousands)

The projected population of urban areas in LPA Jagraon is shown in the above table no.77. The year 2031 is taken as horizon year for the master plan Jagraon to tally with the census year keeping in view the infrastructural requirements of Jagraon town for the future.

### 6.1.2 Population Projections for Villages of LPA Jagraon

Population of rural areas of LPA Jagraon has been projected in similar manner as applied in L P A Urban i.e. by using the ratio of LPA Rural to Punjab Rural.

**Table no.78: Projected Population of L.P.A Rural 2011-2031**

Population	2001	2006	2011	2016	2021	2026	2031
Punjab Rural in '000	16096	16620	16997	17172	17138	14889	-
Projected LPA Rural	74502	76452	78186	78991	78835	68489	80155
Share of LPA Rural %	0.46	0.46	0.46	0.46	0.46	0.46	-

### 6.1.3 Population Projection for LPA, Jagraon

The projected population of LPA Jagraon is calculated by adding the projected population of urban areas in LPA Jagraon and projected population of villages falling in LPA Jagraon. It is shown in Table no.79 below:



**Table no. 79: Projected Population of LPA Jagraon 2006-2031**

<b>Years</b>	2006	2011	2016	2021	2026	2031
<b>Projected Population</b>	145357	156157	166153	175085	188618	230090

## 6.2 Workforce Projections

For calculating the workforce projection, LPA, Jagraon is divided into two parts:

- (i) Jagraon town
- (ii) Villages in LPA, Jagraon

Category wise Employment data is available for Jagraon town and Jagraon district- as Total, Rural and Urban. To estimate category wise employment, for the year 2031 certain assumptions have been made as:

- Employment Pattern of Jagraon town will be same as observed in 2001
- Employment pattern of other towns will be similar to District Urban – (excluding Jagraon Municipal Council.)
- Employment pattern of villages falling in LPA will be similar to Jagraon total – (excluding Jagraon Municipal Council.)

**Table No.80: Total Workers and Employment Category Wise of Constituent Areas of LPA****Jagraon**

Data and assumptions 2001		Jagraon(M Council) 2001	Total Workers as % of Population and categories as % of Total workers	Jagraon L.P.A Excluding LPA Jagraon urban	Total Workers as % of Population and categories as % of Total workers
Population		60106	-	74502	
Total workers		19838	33.00%	28034	37.63%
A	Cultivators	579	2.92%	27.63	27.63%
B	Agriculture Hunting Forestry	959	4.83%	16.62	16.62%
C	Household Industry	504	2.54%	2.82	2.82%
D	Others	15637	78.82%	36.13	36.13%
E	Marginal Workers	2159	10.89%	16.80	16.80%

**Table no.:81: Employment Forecast for LPA Jagraon 2031**

Data and assumptions 2031		Forecast 2031		
		Jagraon (M. Council)	Rest of LPA	Total
Population		149935	106589	256524
A	Main workers	44366	34258	78624
B	Cultivators	3385	13690	17075
C	Agriculture Hunting Forestry	4885	9236	14121
D	Household Industry	987	2391	3378
E	Others	35109	8941	44050
	Marginal Workers	5418	6917	12335
	<b>Total workers</b>	<b>94150</b>	<b>75433</b>	<b>169583</b>

## 6.3 Infrastructure Requirements

### 6.3.1 Water Requirements

**General:** The term water demand refers to the estimated quantity of water required for a town to fulfill water needs of the people residing in the town. The estimated water demand includes per capita consumption, system losses, industrial and commercial consumption, fire fighting demand etc. The water demand is broadly classified as domestic and non-domestic water demand.

#### 6.3.1.1 Rate of water supply

#### 6.3.1.2 Domestic water demand:

The Indian codal precisions recommended a minimum water supply of 135 lpcd for cities and Jagraon adopts the same. The residential area in Jagraon is expected to have a much higher demand in future due to better life style adopted by the residents. However considering the availability of water and the norms followed by the PWSSB, a rate of supply of 135 lpcd for domestic purpose will be adopted for requirement purpose.

### 6.3.1.3 Industrial water demand

Bulk supplied to industrial establishment will be considered as per specific requirement of each industry. However the figures of 135 lpcd include water requirements for commercial, institutional and minor industries.

### 6.3.1.4 Unaccounted for water (UFW):

As per Central Public Health and Environmental Engineering Organization (COPHEEO) manual a maximum provision of 15% towards losses, unaccounted water shall be made.

### 6.3.1.5 Fire Demand:

As per COPHEEO recommendations a provision of in kilo liter per day based on formula of  $100 \sqrt{P}$  where P= population in thousands shall be kept in mind.

### 6.3.1.6 Estimation of Water Demand:

The water demand calculated based on water requirements of a one person per day as per UDPFI guidelines i.e 135 lpcd. However, the requirement of a particular unit is to be calculated separately as per the norms. The net water demand comprises consumption of domestic and non domestic purposes. Non domestic user includes consumption by Institutions (Colleges, School and Hospital), Commercial Establishment, Industries, Public Parks, Hotels, Tourist places etc. For non domestic user also average demand of 135 lpcd is calculated. Gross water demand comprises network demand and physical & non-physical losses (assumed 15%). Estimated net water demand and Gross water demand as calculated is given in Table no.82.

**Table no.:82: Projected Net and Gross water Demand for Jagraon Town 2031**

Year	2006	2011	2016	2021	2026	2031
Net water demand in MLD	9.3	10.5	11.7	12.9	16.2	20.2
Gross water demand in MLD	10.69	13.18	13.45	14.93	19.43	23.23

## 6.3.2 Sewerage requirements

### 6.3.2.1 Per capita waste water flow

The rate of wastewater flow depends upon the rate of water supply to community and the rate of ground water infiltration.

The entire water used by community should normally contribute to the total flow in a sewer. However, the actual dry weather flow quantities usually are slightly less than the per capita water consumption. Since some water is lost in evaporation, seepage into ground, leakage etc.

Generally, 80% of the water supply may be expected to reach the sewers. As per PWSSB's practical wastewater flows has been estimated considering 85% of water supplied to the consumers that will reach the sewers.

### 6.3.2.2 Projected waste water flows

Considering 85% of the water supplied to the consumption reaching the sewer and adopting the recommended norms for infiltration the projected waste water flows has been calculated.

**Table no.:83: Projected and Gross Waste Water Flows**

Year	2006	2011	2016	2021	2026	2031
Net waste water flows in MLD	7.9	8.9	9.9	11.0	14.3	17.1
Gross waste water in MLD	9.0	10.23	11.38	12.65	16.44	19.66

### 6.3.3 Solid waste disposal

The production of solid waste in an urban area is a function of the socio economic profile of the population and activities in the area. As per UDPFI guidelines the generating of waste varies from about over a quarter of a kilogram in small towns to about half a kilogram per capita in large and metro cities. For Jagraon town which is medium sized town the waste generation will be 3/8 of kilogram per capita i.e.  $3/8 \times 149935 = 56225.6 \text{ kg} = 56.22 \text{ metric ton per day}$ .

### 6.3.4 Power

As per the standards given in UDPFI guidelines the power consumption works out to be 2 KW per household at town level. Based on above the power consumption for Jagraon town on five yearly basis is calculated in the Table below:

**Table No.84: Power Requirement of Jagraon Town 2006-2031.**

Year	2006	2011	2016	2021	2026	2031
Household	12528	14531	15848	19281	21842	25584
Power consumption in MW	25	29	31	38	44	51

For the requirements of electric sub station, for the population of 15000 persons one electric sub station of 11KV is required as per the UDPFI guidelines. Thus for the projected population of 149935, 2 electric sub stations of the capacity of 66 KV are required.

### 6.3.5 Land Use Requirements

Before proceeding to prepare proposed land use plan and transport network the areas required for different purposes is to be worked out on the basis of norms and standards of various organizations.

**Table No.85: Stage Wise Residential Area Requirements for Jagraon L.P.A (2011-2031)**

Town	Year	No. of Families	Net Land Required in hectare (Assumed 1 family plot)	Gross Land in hectares
<b>Jagraon M.C</b>	2011	14531	323	646
	2016	15848	352	704
	2021	19821	428	856
	2026	21842	485	970
	2031	25584	569	1138
<b>Jagraon Rural</b>	2011	15024	334	668
	2016	15798	351	702
	2021	17568	390	780
	2026	13698	304	608
	2031	20359	452	904
<b>Total</b>	2011	29705	660	1320
	2016	33230	738	1476
	2021	36849	819	1638
	2026	37724	838	1676
	2031	45943	1021	2042

**Table No.86: Stage Wise Residential Area Requirements for Urban Area (2011-2031)**

Town	Year	No.of Families	Net Land Required in hectare (Assumed 1 family plot)	Gross Land in hectares
<b>Jagraon M.C</b>	2011	14531	323	646
	2016	15848	352	704
	2021	19821	428	856
	2026	21842	485	970
	2031	25584	569	1138
<b>Total</b>	2011	14531	323	646
	2016	15848	352	704
	2021	19821	428	856
	2026	21842	485	970
	2031	25584	569	1138

**Note:** Assumed family size = 5

50% area is assumed under convenient shopping, roads, parks & open spaces and public buildings etc.

Assumed 1 family per plot

**Table No.87: Area of Commercial Centers**

Name of Centre	Area per 1000 persons (sq.m.)	Number of shops
Cluster Centre	220	1 for 110 persons
Sector Centre	300	1 for 200 persons
Community Centre	500	1 for 200 persons
District Centre	880	1 for 300 persons
Total	1900	

As per the figures given in the table above 1900 sq. mts. area for different categories of commercial areas has been proposed for 1000 persons thus 1.9 sq. mts ( say 2 Sq. mts.) area is required per person.

**Table No.88: Commercial Area Requirements for Urban Areas of LPA Jagraon**

Sr .No	Name of Town	Projected Population	Commercial Area Required@ 2 sq. m. per person (In Hectares)
1	Jagraon M.C	149935	30
	Total	149935	30

### 6.3.6 Informal Trade

Projected population of L.P.A Jagraon = 356242 persons

**Table No.89: Number of formal and informal shops (L.P.A Jagraon)**

L.P.A Jagraon				
	Norms & standards	Requirement	Norms & standards	Requirement
Name of Centre	Number of formal shops	Number of Formal shops	Number of informal shops	Informal shops
Cluster Centre	1 for 110 persons	2332	3 to 4 units per 10 formal shops (to be provided in informal bazaar/service market components).	700
Sector Centre	1 for 200 persons	1283		385
Community Centre	1 for 200 persons	1283		385
District Centre	1 for 300 persons	855		257
Total		5753		1727

**Table No.90: Number of formal and informal shops (Jagraon Town)**

Projected population of Jagraon town = 149935 persons

<b>Jagraon Town</b>				
<b>Name of Centre</b>	<b>Norms &amp; standards</b>	<b>Requirement</b>	<b>Norms &amp; Requirement standards</b>	
	<b>Number of formal shops</b>	<b>Number of Formal shops</b>	<b>Number of Informal shops</b>	<b>Number of Informal shops</b>
Cluster Centre	1 for 110 persons	1363	3 to 4 units per 10 formal shops (to be provided in informal bazaar/service market components).	545
Sector Centre	1 for 200 persons	750		300
Community Centre	1 for 200 persons	750		300
District Centre	1 for 300 persons	500		200
<b>Total</b>		<b>3361</b>		<b>1345</b>

**Table No.91: Norms for service markets and organized informal bazaars**

Sub Town level (DC/CC)		Community level(LCS/CC)
Population	About 5 lakhs	About 1,00,000
	Service market	
Area (Ha.)	6.0	0.2
Activities permitted	Service and repair activities like auto work shops, fruit and vegetables, general merchandise, hardware and building materials, gas godowns etc.	Service and repair activities like auto work shops, fruit and vegetables, general merchandise, hardware and building materials, kabari etc.
	Informal bazaar	
Area (Ha.)	5.0	0.1
Activities permitted	Informal shops, weekly markets, organized eating places, handicraft bazaar, used book/furniture/building materials bazaar, cycle and rickshaw repair, kabari etc.	Informal shops, weekly markets, handicraft bazaar, cycle and rickshaw repair, kabari etc.

**Note:** Utilities, public conveniences shall be provided as per requirements

**Table No.92: Planning Norms**

<b>S. No.</b>	<b>Use zones/use premises</b>	<b>No. of informal shops/units</b>
1.	Retail trade: Metropolitan town centre, district centre, community centre, convenience shopping centre	3 to 4 units per 10 formal shops(to be provided in informal bazaar/service market components)
2.	Government and commercial offices	5 to 6 units per 1000 employees
3.	Wholesale trade and freight complexes	3 to 4 units per 10 formal shops
4.	Hospital	3 to 4 units per 100 beds
5.	Bus terminal	1 unit for 2 bus bay



6.	Schools Primary Secondary/ Senior secondary/integrated	3 to 4 units 5 to 6 units
7.	Parks District parks Neighbourhood parks	8 to 10 units at each major entry 2 to 3 units
8.	Residential	5 unit/1000 population
9.	Industrial	5 to 6 units per 1000 employees

### 6.3.7 Industrial

A total projected industrial worker for L.P.A. Jagraon is 18830 for the year- 2031. The projected industrial workers have been calculated taking 20% of total workers (which is 33% of Population).

Existing Industrial workers (L.P.A. Jagraon) (2001) = 3428

Projected (2031) (L.P.A. Jagraon) = 18830

Additional workforce = 15402

Proposed Industrial Workers Density = 40 person/hectares

Additional Area required = 385 hectares

For calculating the industrial use requirements the proposed land use structure standards cited in UDPFI guidelines are adopted.

Total existing industrial area of Jagraon town = 446.5 Acre or 180.7 hectares

Industrial workers (L.P.A. Jagraon) (2001) = 3428

Industrial workers density = 19 Persons/ hectare

Norms and standards for percentage of Industrial use (as per UDPFI standards)

= 10-12 %

The efforts have been made to work out the actual requirements of industrial area for urban settlements falling in LPA Jagraon as follows:

**Table No.93: Projected Urbanisable Area Requirements for Jagraon Municipal Areas-2031**

S. No	Town	Year	Gross Residential Land required	Urbanisable area required*	Industrial use requirement **
1	Jagraon	2011	646	1615	129
		2016	704	1760	141
		2021	856	2140	171
		2026	970	2425	194
		2031	1138	2845	228

**Note:**

- For calculating the Urbanisable area the residential use is assumed as 40% of the total urbanisable area for Jagraon town.
- \*\* Industrial use = 8% (assumed) for Jagraon town of total urbanisable area as per UDPFI standards.
- The proposals have been marked keeping its regional and locational importance into consideration of Jagraon and these will not only act as an independent self sustaining town/town but will also act as a regional focus centre to serve the higher level infrastructure to the surrounding settlement in the near vicinity.
- The area of M.C. Jagraon is 1400 hectares. Keeping its potential of development like industrial, institutional and wholesale into consideration urbanisable area of Jagraon is marked.

**6.3.8 Land required for social infrastructure:-**

The land requirement of social infrastructure for Health Care, Police, and Fire, Education and Recreational facilities for Jagraon urban is calculated as below:

**Table No.94: Land Requirement for Educational Facilities (for 100000 populations)**

	Norms	No. of units	Area/unit (in ha.)	Total area (in ha)
College	100000	1	4	4
Secondary School	7500	20	1.6	32
Primary School	5000	30	0.4	12
Pre-primary school	2500	60	0.08	4.8
<b>Total</b>				<b>52.8</b>

Area per person required in sq. mts. = 5.2

Total area required for Jagraon M.C. =  $5.2 \times 149935 = 78$  ha

Total area required for Jagraon L.P.A Rural =  $5.2 \times 106589 = 55$  ha

**Table No.95: Land Requirement for Higher Educational Facilities**

Sr.no	Category	Norms and standards (UDPFI)		Requirement	
		Population/Unit	Area (ha)	No.	Area (ha)
1	Technical education				
(i)	Technical education centre (A)	10 lakh	4	1	4
(ii)	Technical centre (B)	10 lakh	4	1	4
2	Professional education				
(i)	New Engineering college	2 sites to be provided in urban extension	60	2	120
(ii)	New medical college	2 sites to be provided in urban extension	15	2	30
	<b>Total</b>				<b>158</b>

Total area required for educational facilities = 291 hectares or 719 acres

Keeping Jagraon's regional importance into consideration, higher level educational facilities like technical and professional colleges are proposed in Jagraon. It will not only serve Jagraon but its adjoining towns.

**Table No. 96: Land Requirement for Medical Facilities (for 250,000 persons)**

Medical Facility	Norms		Requirements	
	Population	Area/unit (in hec.)	No. of units	Total area (in hec.)
Intermediate (Category-A)	100000	2.7	1	2.7
Intermediate (Category-B)	100000	0.6	1	0.6
Dispensary	15000	0.1	10	1
<b>Total</b>				<b>4.3</b>

- Area per person required in sq. mts. 0.17 Or Say 0.2
- Total area required under medical facilities for Jagraon M.C  

$$= 0.2 \times 149935 = 3 \text{ Hectares}$$
- Total area required under medical facilities for Jagraon L.P.A Rural  

$$= 0.2 \times 106589 = 2 \text{ Ha}$$
- Total area required for medical facilities = 5 hectare or 12.35 acres
- Total area under institutions = 296 hectare or 731.1 acres

### 6.3.9 Land Requirement for Police. (For 100,000 persons)

**Table No.97: Land Requirement for Police. (For 100,000 persons)**

	Norms	No. of units	Area/unit (in ha.)	Total area (in hec.)
Police station	100000	1	1.5	1.5
Police Post	50000	3	0.16	0.48
<b>Total</b>				<b>1.98</b>

- Area per person required in sq.mt. = 0.19 Say 0.2
- Total area required for police for Jagraon M.C =  $149935 \times 0.2 = 3 \text{ ha}$
- Total area required for police for Jagraon L.P.A. Rural =  $106589 \times 0.2 = 2 \text{ ha}$

**Table No.98: Land Requirement for Fire Station**

Type	Norms	No. of units	Area/unit (in hectares)	Total area (in hectares)
Fire/Sub Fire station	200000	1	1	1

- Area per person required = 0.5 sq. mt
- Total area required for Jagraon M.C =  $149935 \times 0.5 = 7.5$  ha
- Total area required for Jagraon L.P.A. Rural =  $106589 \times 0.5 = 5.3$  ha

## 6.4 The Strength Weakness Opportunities Threats (SWOT) Analysis of L.P.A

SWOT analysis helps in guiding the view of the town for future planning. Strengths and opportunities give the base for planning the landuse and infrastructure of the town. Threats and weakness suggests the areas requiring great attention and tactful solutions. In all SWOT analysis is a tool for developing long term vision of the town so that planned and regulatory development is attained. The present population of the L.P.A. Jagraon is 134608 persons (as per Census 2001) which have been envisaged as 230090 in the year 2031. The detail of SWOT is given as under:-

### 6.4.1 Strengths:

#### Strengths are shown in Map no.:9

- 1) The Jagraon Vegetable and Grain Market is the second largest Grain Market of Asia after Khanna and hosts the second largest animal market in Punjab, the largest being Vallah, near Amritsar.
- 2) Diversified economic activities besides agriculture, there are more than 100 rice shelling facilities, soap factory, cattle feed industry etc.
- 3) Its topography is relatively gradual and generally suitable for urban development.
- 4) Jagraon town is located at the junction of National Highways No. 95 and 71. The town is very well connected with other areas of the state and country through road and rail links. The other major links of the town are Jagraon –Moga, Jagraon-Raikot and Jagraon- Sidhwan Bet which provide the town connectivity for speedy economic growth.
- 5) It is having good number of education facilities like D.A.V. college, Lala Laj Pat Rai Memorial college etc. Educational institutions are helpful for giving quality education to the young generation.

#### 6.4.2 Weaknesses:

**Weakness are shown in Map no.:10**

- 1) Poor quality of public utilities in terms of water supply & sewerage etc.
- 2) Lack of parking facilities.
- 3) Presence of slums along the G.T. road (N.H.-95) near bus stand.
- 4) Unplanned residential areas and unauthorized developments along roadsides.

#### 6.4.3 Opportunities:

- Ancestor house of Lala Laj Pat Rai located in the old part of the town is declared protected monument of Punjab under “The Punjab Ancient and Historical Monuments and Archaeology Sites and Remains Act, 1964”. It is the heritage of the town having potential to attract tourist and hence creating source of income and employment for the youth.
- Other places of historic and religious importance like Jain Temple, Khangah Muslim worship place, Gurudwara Nanaksar Sahib, Gurudwara Mehdiana Sahib, and old walled town(architecturally important buildings, old gates) are landmarks in the town attracting tourist which if explored, maintained properly can act as great potential for the town as major tourist destinations.
- The town is having growth potential because of its regional setting and links with the important cities like Ludhiana, Raikot, Moga and has Asia’s second largest grain market which is giving lots of work opportunities for labourers both from Punjab as well as other states. Satisfactory connectivity by rail and road provides speedy economic growth and attracts investors in Jagraon town.

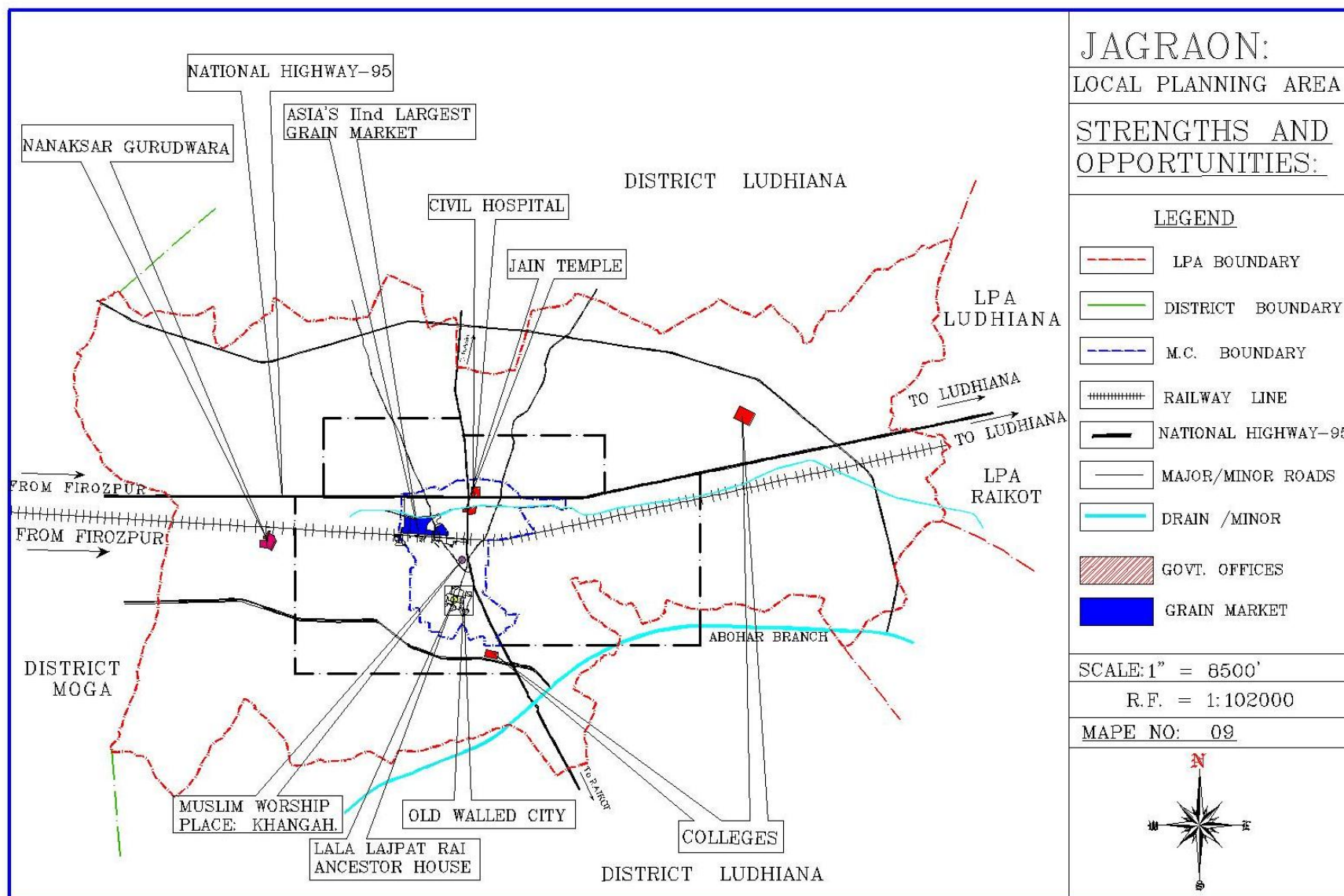
Opportunities are shown in Map no.:9

#### 6.4.4 Threats:

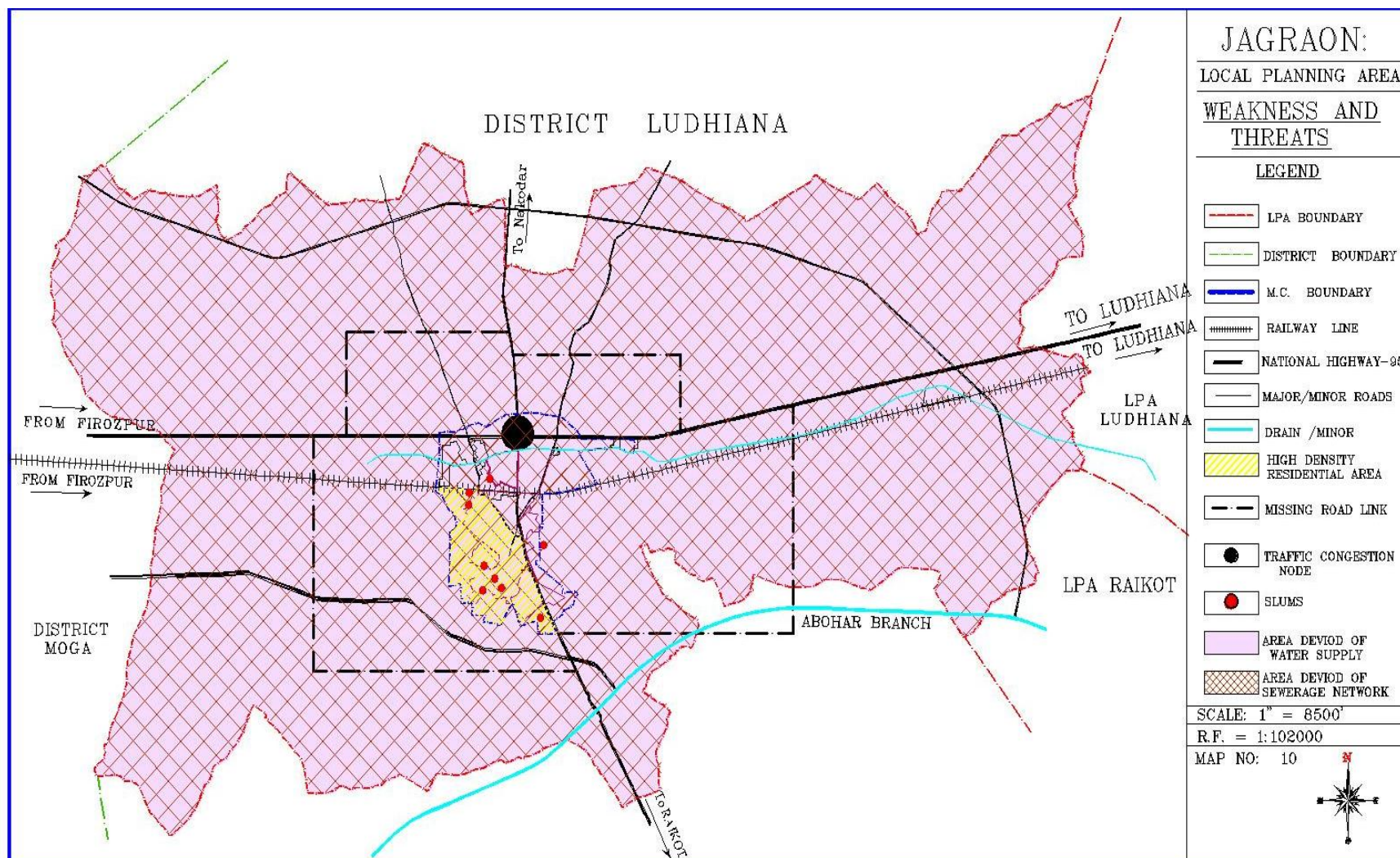
Threats are shown in Map no.:10

- 1) Haphazard growth may result in massive environmental degradation.
- 2) The town is developed along the both sides of G.T. Road dividing the town into two parts leading to traffic hazards because of inappropriate measures adopted.

# MAP NO.: IX-STRENGTHS AND OPPORTUNITIES: JAGRAON L.P.A.





**MAP NO.: X-WEAKNESS AND THREATS: JAGRAON L.P.A.**

## 6.5 Vision- 2031

- *“To espouse Jagraon town as wholesale, commercial and Industrial hub by providing eminence physical and social infrastructure in the region in comprehensive and environmentally sustainable manner.”*

## 6.6 Strategies to Attain Vision

In order to achieve the objectives and goals enshrined in the vision statement, the action plan is listed below:

- To develop Jagraon Grain market with world class infrastructure that will satisfy the needs of the farmers, laborers.
- To integrate the planning and development of Jagraon with the adjoining towns.

### 6.6.1 Growth management

- Making effective implementation and enforcement of plan as integral part of town planning and development process.
- Conserving the cultural fabric.
- Promoting planned development through effective town planning.
- Rationalizing land use pattern for effective traffic management and provision of basic services and amenities.
- Making growth management process participatory.
- Review of master plan on regular basis.
- Improving system of approvals of building plan through use of IT and GIS.
- Making urban development self sustaining.

### 6.6.2 Urban Environment

- Creating / developing new and improving existing parks and open spaces.
- Promoting better water management.
- Making town free from air, water and noise pollution.
- Discouraging the growth of slums and improving existing slums.
- Effective treatment of all sewage generated within the town.
- Improving solid waste management.
- Promoting better water management.



- Making town free from air, water and noise pollution.
- Discouraging the growth of slums and improving existing slums.

### **6.6.3 Urban Services:**

#### **6.6.3.1 Water supply**

- To ensure safe, equitable, reliable, adequate and quality water supply to all residents.
- To ensure 100% water supply coverage of the town
- To promote rain water harvesting and recycling of water.

#### **6.6.3.2 Sewerage and Drainage**

- 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.
- Total coverage of the town with sewerage and drainage system including slums.
- To promote eco-friendly decentralized treatment system.

#### **6.6.3.3 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” system of SWM.
- To make solid waste management people centric

#### **6.6.3.4 Storm water disposal**

- To introduce the storm water disposal system in the entire town
- To improve the capacity of the water bodies existing within the town
- To improve the natural water drainage channels by de-silting and stopping the sewage water from entering the channels.

#### **6.6.3.5 Traffic and Transportation**

- To segregate and rationalize the inter and intra town traffic
- To improve road geometry and road capacity of existing network
- To minimize pollution caused by traffic and transportation and improve environment.
- To improve safety, mobility and efficiency of traffic within and outside the town

- To create new road network and to improve the existing network to promote operational efficiency of traffic.
- To provide adequate parking spaces to remove traffic bottlenecks.
- To plan and provide effective public transport services

#### **6.6.4 Social Infrastructure**

- 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 provide adequate sites based on norms, for creating / developing various social infrastructures.

**To provide social infrastructure like education, health and recreational etc. following methods will be adopted:-**

- By encouraging planned development as provided in PAPRA Act, 1995, Town Development Schemes, Development Schemes of Improvement Trust.
- By introducing Land Pooling Policy, transfer of Development Rights concept may also be developed.
- Acquisition of land through Land Acquisition Act, 1894 may also be carried out for the provision of projects which are of state/ national importance in public interest.

**To provide utilities that will satisfy the needs of the residents of Local Planning Area, it would be imperative:-**

- To ensure 100% coverage of the town in terms of Sewerage System.
- To ensure 100% coverage of the town in terms of Water Supply partly supplemented by canal based water supply.
- To promote eco-friendly decentralized sewage treatment plant.

**To promote an eco-friendly Solid Waste Management system following steps need to be adopted:-**

- Promote recycling of solid waste.
- Installation of Solid Waste Processing Plants to reduce the waste for disposal and at the same time generating energy from the solid waste of preparing manure.

## **CHAPTER-7**

### **THE MASTER PLAN**

#### **7.1 Need for Master Plan**

Master Plan has been considered as one of the most effective mechanism to promote planned growth of the urban centers. It lays down the road map, agenda and framework within which the town growth is envisioned. It provides a tool for the authorities to take decision with regard to current and future development related issues. With the rapid growth and development of urbanization, there is need to promote the development in a planned manner to meet the basic needs of physical infrastructure. All the parameters of physical planning are to be given due consideration i.e. ecology and environment, housing, transport, socio-cultural and institutional facilities.

The future growth framework of the urban centers is defined by the Master /Development Plans which are evolved for each settlement at individual level. Master plan provides the framework for deciding the extent of the town for the coming years, deciding the land use distribution in an environmentally appropriate manner and rationalizing the orderly movement of traffic and transportation within the town and defines the area for laying down network of various services. The plan is used for promoting integrated development of the urban centre by rationalizing its pattern of land use and their interrelationship. It provides options for accommodating the future addition to population which is likely to come to the urban centre due to natural growth and migration.

Due to employment opportunities and development in the town, people from other parts of the state also come to this town and ultimately settled in this Town. Due to this demand for housing, water supply, sewer, education, health, shopping etc. increases. Development was not sufficient to bear the load of population pressure and subsequently a large nos. of unplanned colonies came up which not only resulted in the haphazard growth of the town but also lacked proper road network, park and open spaces, spaces for education, health and other social infrastructure.

It was in this background that the Government of Punjab through the Department of Town & Country Planning made an attempt to prepare the Master Plan of Jagraon Town so to

control the haphazard urban sprawl and provides better water supply, sewer system, good road network, reduce gap between demand and supply of housing stock, commercial & industrial activity, recreational and sports spaces and other social infrastructure etc.

## **7.2 Review of Past Master Plan**

The first master plan for Jagraon Town was prepared for the period of 1980-2000 drawing no. DTP (L) 55/80 dated 23/07/1980 having the total planned area of 3129 acres approximately. The revised master plan for Jagraon 1990-2010 drawing no. DTP (L) 16/9 dated 10/04/1991 was prepared to give better services to Jagraon Town. The master plan Drawing was revised and drawing no. DTP (L) 16/9 dt. 19/7/1991 was prepared. This master plan Jagraon was prepared for the period of 20 years with projected population of 65000 and up to year 2010 covering a planned area of 17875 acres. This master plan is still in existence but all these Master Plans lacked legal backing which has been considered a major obstacle in the implementation of these Master Plans.

Now with the enactment of Punjab Regional and Town Planning and Development (Amended) Act 2006, simple legal framework has been provided for the preparation of Master Plan for town/cities of the state. Accordingly, the Govt. of Punjab has declared Jagraon in the list of priority towns for preparation of Master Plan.

## **7.3 Delineation of Local Planning Area Jagraon (2007-31)**

As a first step towards the preparation of Master Plan Jagraon was delineated and notified u/s 56(1) of "The Punjab Regional and Town Planning and Development 1995 (Amendment) act, 2006" in the official gazette vide Notification No.12/1/2008-4HGI/406 (list attached at annexure I), the total area proposed for Local Planning Area is 21345 hectares which comprises of Jagraon Town and adjoining 31 villages. The details of area, population, schedule of boundaries and drawing no. DTP (L) 17/2007 dated 06/11/2007 of Local Planning Area Jagraon are given in Annexure-I.

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

i) Administrative boundary limits of the villages and the district has been followed for better identification and management of the LPA.

ii) Geographical features like canal, water distribution and other physical feature like roads and railway lines have been also kept in mind.

iii) For better accessibility, the means of transportation and communication have been considered for better development of the area.

iv) The present and future growth trends and distribution of the population is another important factor considered for delineation of this area.

v) Industrial location and commercial activities of the town/towns and their surrounding areas.

vi) Economic base and commercial activities of the town/towns and their surrounding areas.

vii) Preservation of historical and cultural heritage of the areas.

viii) Urban expansion trends and management of periphery areas for ecological and environmental balance have also been kept in mind.

## **7.4 Components of the Master Plan**

Master Plan is an important instrument for guiding and regulating development of a town over a period of time and contributing to planned development both conceptually and operationally. Master Plan has been considered as one of the most effective mechanism to promote planned growth of the urban centres. It lays down the road map, agenda and framework within which the town growth is envisioned. It provides a tool for the authorities to take decision with regard to current and future development related issues.

Under the Punjab Regional & Town Planning & Development Act, 1995, master plan of a Local Planning Area shall;

- a) indicate broadly the manner in which the land in the area should be used;
- b) allocate areas or zones of land for use for different purpose;
- c) Indicate, define and provide the existing and proposed highways, roads, major streets and other lines of communication.

- d) indicate areas covered under heritage site and the manner in which protection, preservation and conservation of such site including its regulation and control of development which is either affecting the heritage site or its vicinity, shall be carried out;
- e) Include regulations (hereinafter called "Zoning Regulations" ) to regulate within each Zone the location, height, number of storeys and size of buildings and other structures, open spaces and the use of buildings, structures and land.

## 7.5 Master Planning Objectives

The Master Plan is a critical step in identifying the challenges facing the town and establishing the values which should influence town policy and decisions. The Master Plan objectives represent policy and planning guidelines for identifying and evaluating the development alternatives by more clearly defining the future needs of the area. The overall focus and objective of the Master Plan is growth management.

The following objectives have guided the development of the Master Plan of for Jagraon:

- To control haphazard, unplanned and sub-standard growth and development of the town and to achieve planned growth to create healthy environment.
- To ensure safety, mobility and efficiency of traffic within the town through the mechanism of rationalizing the land use pattern defined in the Master Plan.
- To preserve natural resources and eco system and maintain a safe and secure operating environment.
- To protect and preserve open space and make land available for public purposes.
- Identify appropriate locations for commercial and business development opportunities that advance long-term economic interest in the area and are consistent with the land use planning and development objectives of local authorities/government.
- To optimize the use of available land resource through well defined development norms and to minimize diversion of valuable agricultural land for non-agricultural purposes.

- To examine potential future development that will detrimentally impact natural and cultural resources in the Town, particularly in view of the marginal nature of much of the remaining undeveloped land.
- To improve the capacity of the existing road net work through redesigned, improved road geometry and removal of encroachments.
- 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 ensure safety, mobility and efficiency of inter and intra-town traffic.

## **7.6 Evaluation of Alternative Town Structures:**

### **7.6.1 Evaluation of Existing Structure**

Evaluation of existing town structures helps in deriving alternative town structures. Different alternative town structures are made based upon the existing town scenario to adopt the future town structure.

A thematic maps of Jagraon shows such a structure which exists at present. A careful study of this map brings out the following:

- Work Areas
- Living Areas (Planned)
- Living Areas (Unplanned)
- Slum Areas

#### **Work Areas**

Grain Market is the major work place of Jagraon town, which is the Asia's second largest grain, located in the west of the town between Sherpur Kalan road and Firozpur –Ludhiana railway line. . It has a total area of about 78.12 acres having 139 shops, 97 shop-cum-flats, 188 booths, 16 Semi industries, 18 fodder shops, 1 electric grid, 3 reserve sites, 1 cinema site and 1 farmer canteen. There are 39 small scale industries existing in Jagraon mainly covering rice shellers.

#### **Living Areas**

The main living areas which are developed by various agencies like PUDA (GLADA) and Municipal Council are located towards north western and north eastern and southern part of town. There are three PUDA approved colonies locted along Malak road and G.T. road.

## Slum Areas

There are 11 slums areas situated along N.H.-95 and the railway track passing through the town.

### 7.6.2 Alternative town structures -2031.

Unchecked, unplanned and haphazard growth of areas is the eyesore of any town. Cities and towns are expanding in all directions resulting in large-scale urban sprawl and results in changes in the pattern of urban land use. It is the need of the hour to take steps to control the unplanned growth and plan for sustainable and healthy development of urban areas.

Keeping in view the present growth trend three different alternative structures could be envisaged for the future town of Jagraon. The different alternatives are as follows:

1. Compact core with expansion along main Axes
2. Development along main highways
3. Development at potential road intersections

#### 1. Alternate –I: Compact core with expansion along main Axis:

This alternative is based on the trend of residential colonies and commercial development along the main axis such as Malak road, G.T. road. Compact core with expansion along main axis minimizes the conversion of agriculture land into urban use and it follows the present growth trend of the town. These developments give the base to think upon this alternative to propose the future town along main axis. The alternate –I is shown in Map no. 11.

#### Merits:

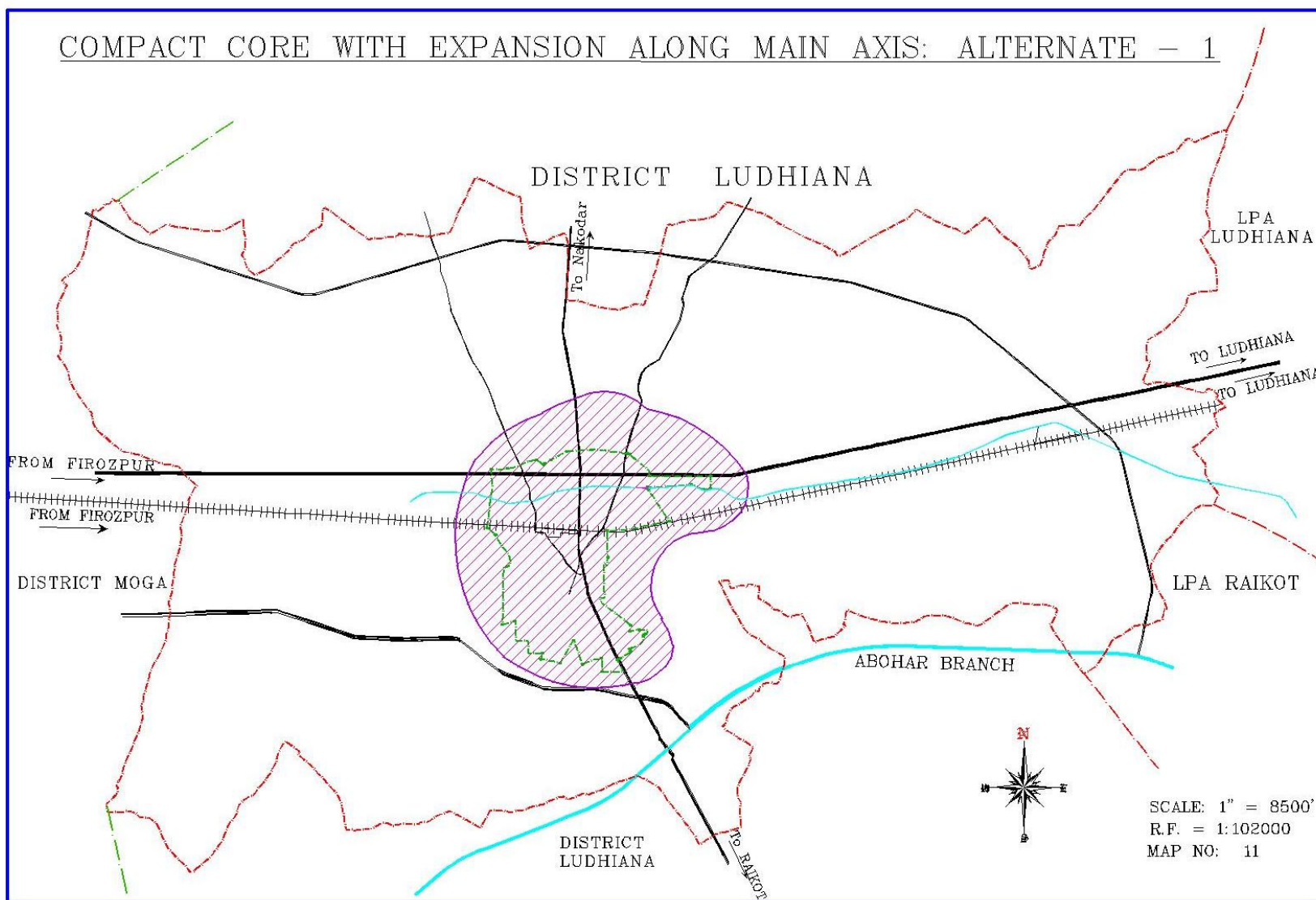
- Compact and integrated development of the town, avoiding sprawl
- An effective, economic and efficient infrastructure development
- Minimum invasion upon fertile and scarce land resource of the state.
- Close relationship of work-place and residential areas.

#### Demerits:

- Improving core town infrastructure to cope with increased population may be difficult.
- It may put extra pressure on main road.
- It may create a feeling of congestion and more load on existing infrastructures



## MAP NO: XI-ALTERNATIVE



## **2. Alternate –II: Development along main Highways:**

This alternative provides the opportunities to develop future town of Jagraon along the main highways passing through the town. The upcoming residential colonies on Malak road and G.T. road and cluster of other development activities such as Industries on G.T Road, Grain Market , hotel and marriage palaces attract the future development of the town towards the respective potential areas along main arteries besides areas all- around the existing town. The alternate –II is shown in Map no.12.

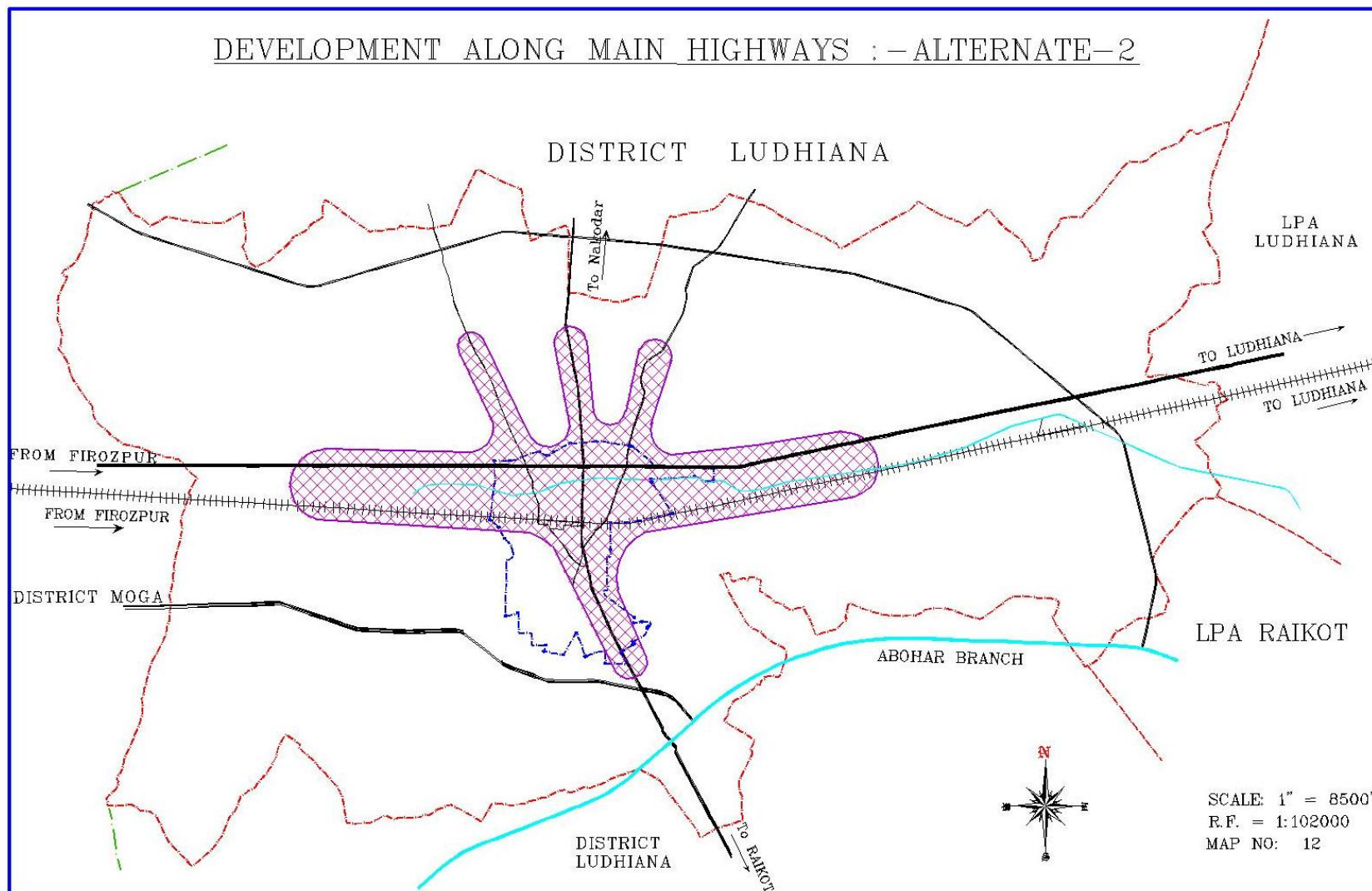
### **Merits:**

- Maximum utilization of existing infrastructure specifically the accessibility being provided by the main highway and Rail network.
- Provides new avenues of development on basis of the existing trend of growth of the town.

### **Demerits:**

- Ribbon development around main roads would take place.
- May be difficult to provide infrastructure up to long distances
- May invade upon large area of fertile land.

MAP NO.: XII-ALTERNATIVE- II



### **3. Alternate –III Development at Potential intersections:**

While studying the existing road network of LPA Jagraon and some proposed linkages, it is found that certain very important road junctions are coming up on all sides of Jagraon town which may prove to be potential nodal centers of development around the existing Jagraon town. Besides the potentiality due to future road intersections, all these nodal centers are having their own justification and reasons to grow. The alternate –III is shown in Map no.13.

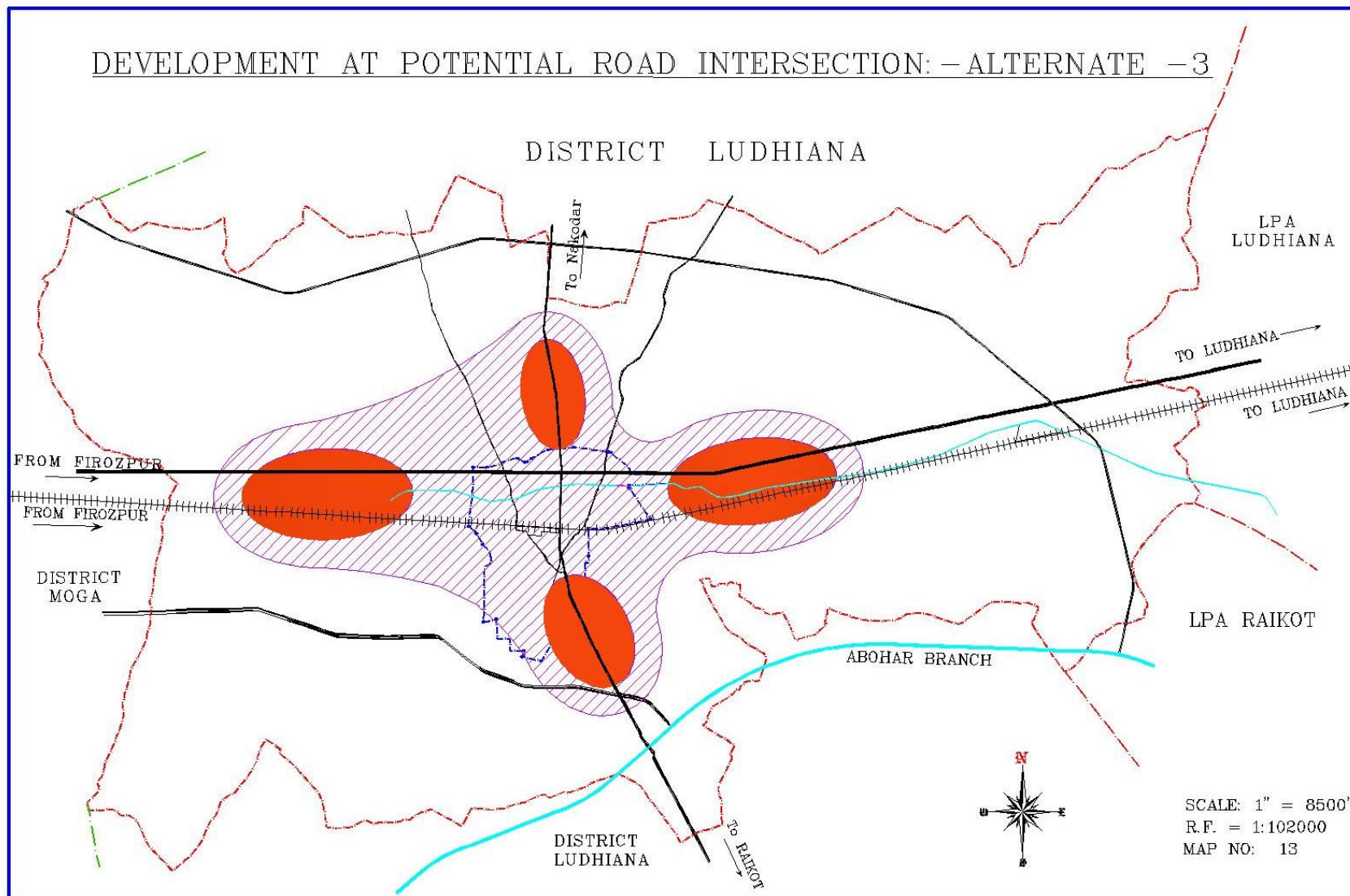
#### **Merits:**

- Would provide relief to the core town
- Would provide broader base for future expansion
- Conducive to present trends and increasing car ownership.

#### **Demerits:**

- May be difficult to integrate the infrastructure in near future.
- May be disastrous for limited fertile land resource of the state
- This type of leapfrogged development may not help maintain a close relationship between residence and place of work.
- All these centers may not fully develop by 2031 and the growth may appear to be a sprawl for quite some time.

It would be useful to keep in view and consider all the above alternatives and select the optimal. The merits and demerits of the alternatives are brought out from the basic spatial planning objectives like preventing sprawl, promoting compact cities to protect fertile farmlands. Each alternative have its own Merits and Demerits and we have to work on combination of these alternatives as per the feasibility.

**MAP NO.: XIII-ALTERNATIVE-III**

## 7.8 Proposed Land use (2008-2031)

Based on analysis, assumptions and projected population of LPA Jagraon, detailed studies conducted by the office of DTP, Ludhiana pertaining to LPA Jagraon, and discussions held at different levels i.e. with S.H.U.D, Adviser, Town Planning, Chief Town Planner and Think Tank, different landuse zones have been earmarked such as residential, commercial, industrial, mix land use, rural and agricultural etc. in the Proposed Land Use Plan 2031.

The sites on which various projects have been approved or whose change of landuse has already been permitted by competent authority/govt., such sites shall be deemed to be adjusted as sanctioned/permitted. The LPA Jagraon comprises 21345 hectares of area as per revenue record whereas as per calculations of P.R.S.C. it works out 21275 hectares variation of 0.3% only is very negligible.

**Table no.99: Break-up of Major Proposed Landuse LPA Jagraon 2031**

LAND USE	AREA (Sq. mtrs)	Hectare	%age
<b>RESIDENTIAL</b>	<b>39724705.46</b>	<b>3972.47</b>	<b>18.6</b>
Abadies	7329910.05	732.99	
RDI	8595568.11	859.55	
RD2	23799227.30	2379.92	
<b>INDUSTRIAL</b>			
Industrial zone	10658265.73	<b>1065.82</b>	<b>5.2</b>
<b>COMMERCIAL</b>	<b>10442137.21</b>	<b>1044.21</b>	<b>4.9</b>
Wholesale	831100	83.11	
Retail	295000	29.5	
Mixed Landuse along road front	9316037.91	931.60	
Logistic Park	-	-	
<b>GOVERNMENTAL</b>	<b>359975</b>	<b>35.99</b>	<b>0.2</b>
Govt. Office	132735.63	13.27	
Govt. Land	227239.4	22.72	
<b>RECREATIONAL</b>	<b>2555783</b>	<b>255.57</b>	<b>1.2</b>
Parks	24000	2.4	
Proposed Green Buffer	2531782.99	253.17	
<b>RURAL and AGRICULTURE</b>	<b>137024900</b>	<b>13702.49</b>	<b>64.3</b>
Agricultural Land	1344577900	13457.79	
Canal	1332814.56	133.28	
Drain	1114129.66	111.41	
<b>TRAFFIC and TRANSPORTATION</b>	<b>10940761.26</b>	<b>1094.01</b>	<b>5.2</b>
Existing Roads	3326272.18	332.62	
R3	968375.3	96.83	
R2	185695.93	18.56	
R1	2361322.7	236.1	
R5	1409860.32	140.98	

R4	1563280.12	156.32	
Bus Stand	42050.52	4.2	
Truck Stand	3839.12	0.38	
Railway Station	87733.10	8.77	
Railway Reservation	992331.97	99.23	
<b>PUBLIC and SEMI PUBLIC</b>	<b>1044000</b>	<b>104.44</b>	<b>0.4</b>
<b>TOTAL</b>	<b>212750000</b>	<b>21275</b>	<b>100</b>

Source: PRSC, PAU, Ludhiana

**Table no.100: Break-up of Major Proposed Landuses Jagraon 2031 with in Urbanisable area of L.P.A -2031**

LAND USE	AREA (Sq. mtrs)	Hectare	%age
<b>RESIDENTIAL</b>	<b>37279249.75</b>	<b>3727.91</b>	<b>56.8</b>
RD1	8595568.1	859.55	
RD2	26885000	2688.50	
Abadies	1798681.65	179.86	
<b>INDUSTRIAL</b>			
Industrial Zone	<b>10658265.73</b>	<b>1065.82</b>	<b>16.2</b>
<b>COMMERCIAL</b>	<b>9928400</b>	<b>992.84</b>	<b>15</b>
Wholesale Market	831100	83.11	
Retail	295000	29.5	
Mixed Landuse along road front	5092630.13	509.26	
Proposed Logistic Park	-	-	
<b>GOVERNMENTAL</b>	<b>354400</b>	<b>35.44</b>	<b>0.5</b>
Govt. Office	127234.69	12.72	
Govt. Land	227239.4	22.72	
<b>RECREATIONAL</b>	<b>1214400</b>	<b>121.44</b>	<b>1.9</b>
Parks	24000	2.4	
Proposed Green Buffer	1190420.88	119.04	
<b>RURAL and AGRICULTURE</b>	<b>682800.04</b>	<b>68.12</b>	<b>1.4</b>
Agricultural Land	0.03971	0.000004	
Canal	166608.19	16.66	
Drain	516297.31	51.62	
<b>TRAFFIC and TRANSPORTATION</b>	<b>4555857.69</b>	<b>455.54</b>	<b>6.9</b>
Roads	1890565.69	189.05	
Bus Stand	42050.52	4.2	
Railway Station	87733.10	8.77	
Railway reservation	479481.66	47.94	
Truck Stand	3839.12	0.38	
R3	613630.45	61.36	
R2	185695.93	18.56	
R1	404800	40.48	
R5	359328.7	35.93	
R4	488732.52	48.87	
<b>PUBLIC and SEMI PUBLIC</b>	<b>878926.03</b>	<b>87.89</b>	<b>1.3</b>
<b>GRAND TOTAL</b>	<b>65548400</b>	<b>6555</b>	<b>100</b>

Source: PRSC, PAU, Ludhiana

## 7.8.1 Planning Zones

6555 hectares area has been earmarked as Urbanisable area of Jagraon keeping in view the existing development scenario and its trend of growth in different directions, physical features/barriers, revenue boundaries etc. Various landuses have been detailed as below:

### 7.8.1.1 Residential

Residential land use is the major component of a town and accounts for majority of the total urbanisable area. It shapes and defines the overall structure of the town including its built mass. Residential areas are earmarked at various sites considering present trend of residential area and the work place relationship.

Residential area is proposed within proposed Inner Ring Road, along Nakodar Road in north-eastern direction of Jagraon Town, on both sides of Raikot Road and below Firozpur-Ludhiana railway line in south-western direction and pocket is proposed between Firozpur-Ludhiana road & Firozpur- Ludhiana railway line towards Firozpur side.

The total area under residential use within the urbanisable use is 3727.91 hectare i.e 56.8 %. Whereas the total residential area within the L.P.A. Jagraon is 3972.47 hectares i.e. 18.6 %.

### 7.8.1.2 Commercial

#### General Business

Historically, Jagraon old area is dominated and vibrant commercial centre which act as Central Business District (C.B.D) (Anarkali Bazaar, old market along Chhati Chowk, Nalkeya wala chowk, Chowk Charkhira, Kohkar Chowk etc). But this area lacks parking and other infrastructure facilities. The latest trend of commercial development in form of Shopping Malls and Multiplexes is also being observed in Jagraon.

As Jagraon is an important commercial centre at both local and regional level and will continue to function as a larger regional centre serving the population even outside L.P.A, therefore, the town requires development of new commercial centers or areas.

In order to meet the emerging requirement of commercial areas 4.9% of the total L.P.A. area has been proposed under this use. Hence, in all 1044.21 hectare area is proposed for commercial development.

Further, 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 that takes care of the needs of commercial area development. In order to overcome the perpetual problem of parking in commercial area, providing adequate parking area has been made



integral part of commercial area planning. Well defined norms for parking has been provided in the Development control Regulations appended in the Master Plan. Authorities must ensure that adequate parking space is provided in the commercial areas and no vehicle is allowed to use road as the parking space.

### **Wholesale market, fruit & vegetable and grain market, godwons**

Jagraon's Grain Market is second largest Grain Market in the Asia, located in the west of the town between Sherpur Kalan road and Firozpur –Ludhiana railway line. It has a total area of about 78.12 acres having 139 shops, 97 shop-cum-flats, 188 booths, 16 Semi industries, 18 fodder shops, 1 electric grid, 3 reserve sites, 1 cinema site and 1 farmer canteen. Grain Market is well equipped with the infrastructure facilities such as Water Supply, Sewerage etc. Apart from Grain Market, Jagraon has a Sabzi Mandi with a total area of 1.15 acres (209'X 241').

### **Planning norms for informal trade**

Informal sector has considerable role to play in meeting the basic needs of the residents besides generating employment. However, in the absence of any regulated system, informal sector has been found to exist in major part of the town. Hence informal sector is proposed to be made as an integral part of planning process. Planned development would incorporate the informal sector trade in various use zones. The provision of informal sector trade units should be ensured at the time of sanction of building plans/layout plans as per the norms already given in the Table No.92.

### **Mixed Landuse along Road Front**

The mixed land use zone is proposed on both sides of identified roads up to a depth of 200 meters from the boundary of road (i.e. proposed right of way). Mixed Landuse will be permissible along the road front upto a depth of 200 meters except the abadi deh of the village. The mixed land use has been proposed on the following roads as shown on the proposed Land use Plan.

- Jagraon-Nakodar Road
- Jagraon- Raikot Road
- Firozpur –Ludhiana Road(N.H.-95)
- Pocket enclosed between Firozpur-Ludhiana railway line and Firozpur-Ludhiana road towards Firozpur side in the west direction of the town.

### **7.8.1.3 Industrial**

With a view to provide fillip/boost to the economy of the town and to promote industrial activity in the region, a sizeable area of the order of 16.2% of total urbanisable area has been proposed for the industrialization.

Industrial zone has been proposed along N.H.-95 towards Firozpur and towards Ludhiana. Present industrial growth trend and wind direction aspects are kept into consideration while planning industrial zones.

Towards Firozpur side, the area enclosed by Inner Ring Road, Urbanisable Limit and Green Buffer in the North of NH-95 is kept as Industrial zone since there exists industrial units in the western direction of the town, covering part of revenue estates of Amar Garh Alais Kaler, Agwar Khawaja Bajju and Agwar Gujran has been proposed as industrial zone.

Towards Ludhiana side along N.H. -95, one pocket of industrial zone is proposed within urbanisable limit north-eastern direction of Jagraon town covering part of revenue estates of Shahid Rachhpal Singh Magar/Aligarh, Sidhwan Kalan, Pona.

Other pocket is earmarked on south direction of Jagraon town along N.H.-95 covering part of revenue estates of Sohian, Mirpur, Mann, Gagra, Sidhwan Kalan, Pabbian and of Shahid Rachhpal Singh Magar/Aligarh.

#### **Incentives for shifting of existing industries:**

Industries existing within the non designated industrial zone, which are in operation as on date of Master Plan notification, shift outside this zone to any of the designated industrial zone within the state of Punjab and generate at least the same number of jobs at the new location, will enjoy the following benefits:

- 1 No CLU, EDU or License Fee on the present site if used for plotted residential purposes provided the industry shifts within three years of the notification of the Master Plan. If used for any permissible land use other than plotted residential, the difference between CLU, EDC and License Fee of the new land use and plotted residential has to be paid. In case that particular land is put to a land use for which CLU, EDC or License Fee is less than the plotted residential, the difference between these fees / charges for the plotted residential and proposed land use shall not be payable by the Government / Urban Development Authority.
- 2 If the industry shifts in the subsequent two years of the above mentioned period of three years, it will enjoy 50% discount on CLU, EDC and License Fee on the present site if used for plotted residential purposes. If used for any permissible land use other than plotted residential, the difference between the CLU, EDC and License Fee of the new land use and that of 50% of plotted residential has to be paid. In case that particular land is put to land use for which CLU, EDC or License Fee is less than the plotted residential, the difference between these fees / charges for the plotted residential and proposed land use shall not be payable by the Government / Urban development Authority.

- 3 No CLU, EDC or License fee on the new industrial site if the industry shifts within five years of the notification of the Master Plan.
- 4 After shifting to the new location, the type of such industry may change.

The Prescribed distance for residential development in the non designated industrial from existing red industries shall be as prescribed by the Department of Environment, Government of Punjab or Punjab Pollution Control Board.

*Note:*

- I. No industry in the Master Plan shall be permitted on a road having less than 40' ROW. In case, the existing road is less than 40' wide, it shall be widened to 40' by taking equal strip of land from both sides of the road.*
- II. A minimum buffer of 15 meters of broad leaf shall be provided for segregating industrial zone from the residential zone. The provision of buffer strip shall be made by the owner of Land use which comes later.*
- III. The standards prescribed by Punjab Pollution Control Board from time to time would have to be met by all industrial units in addition to other specific conditions in terms of plot size, ground coverage, F.A.R., height, parking norms etc.*
- IV. The existing industrial units falling under red category (as classified by Punjab Pollution Control Board) located in non-designated areas need to relocate to designated areas themselves within period of 10 years from date of publication of this Master Plan.*

## **7.9 Traffic and Transportation**

Traffic and Transportation defines both existing and future patterns, typology of growth and development of the town. Traffic and Transportation Proposals aims at rationalizing the existing road network, creating a well defined hierarchy of roads, creating over-bridges, rationalizing the inter and intra town traffic, creating adequate parking spaces, developing well defined interface between different land uses, improving efficiencies in traffic movement within the town, minimizing delays etc in order to improve the operational efficiency.

### **7.9.1 Proposed Road Network**

The proposed Traffic and Transportation Plan of Jagraon L.P.A is based on a well-defined road network of appropriate hierarchy in order to cater to the traffic needs of the urban centers and population living and working there. It includes redefining, strengthening and augmenting the existing road network and additional linkages to be created in order to rationalize the traffic and transportation within the town and areas proposed to be brought under urbanization. Keeping in view the future shape and size of Jagraon urbanisable area, there is need for creating an efficient and effective system of transportation.

Ring and radial pattern has also been found to have distinct advantage of positioning an effective system of rapid mass transportation by using the rings and the radials to be used for

running such services. Accordingly, Ring and Radial pattern of road network has been proposed for Jagraon L.P.A taking into account the existing road pattern and proposed landuse pattern.

In order to rationalize the traffic and minimize congestion and to cater to the increased volume of traffic in future, two additional ring roads have been proposed. The Inner Ring Road is proposed to serve the town area proposed for urbanisation and proposed Outer Ring Road. The Outer Ring Road would provide high degree of connectivity between urban nodes proposed in the Jagraon LPA, besides rationalizing the regional traffic. (Refer Drawing No. D.T.P. (L) 25/2011 Dated 26/09/2011).

The existing network of radial roads passing through L.P.A has been retained and it is proposed for improvement/widening/strengthening. While demarcating the internal road network within L.P.A, efforts have been made to make optimum use of available road infrastructure and land available along the irrigation channels in order to minimize the cost of development and to ensure easy availability of land for the proposed road network. The large areas falling within the ring and radial roads have been proposed to be served by second order of hierarchy of roads serving inter and intra town traffic as shown in the Drawing No. D.T.P. (L) 25/2011 Dated 26/09/2011. In order to meet the future demand of traffic and transportation for the Jagraon Municipal Council and the LPA, following hierarchy of roads has been proposed:

**Table No.101: Proposed Road Hierarchy, L.P.A. Jagraon**

Category of Road	Right Of Way	Description
<b>R-1</b>	Above 150'	National highway-95
	200'	Outer Ring Road
<b>R-2</b>	150'	Other Major roads
<b>R-3</b>	100'	Inner Ring Road
		Link joining Proposed Outer Ring road moving along drain and joining Proposed Outer Ring Road in the South west direction of the town. This link is also the forms part of Proposed Inner Ring Road.
<b>R-4</b>	80'	Other Minor Roads
<b>R-5</b>	60'	Link Roads

Detail of roads is given at annexure no.: VII.

All these roads shall have 5mts no construction zones on both sides after ROW as per notification no.: 8/2/2001-4HGI/3112 dated 27<sup>th</sup> September 2010 and as per amended from time to time.

Cross sections of 60', 80', 100' and 150' roads are attached at annexure no. IV. List of trees to be planted along roads is appendixes at annexure no. V.

### **7.9.2 Outer ring road**

Considering the future town structure and the regional traffic scenario in future, an outer ring road has been proposed to meet the future inter-town travel needs of the L.P.A. This proposed Outer Ring road(R1) (200' wide) starts from Raikot road in south direction of Jagraon city passing through village Agwar Rahlan, Agwar Dalla crossing Jagraon distributory in west, crossing Firozpur-Ludhiana railway line and Firozpur-Ludhiana road, encircling village Amar Garh Alias Kaler moving along Khokri distributory, encircling villages Sherpur Kalan, Sawaddi Khurd crossing Nakodar road, touching L.P.A. Jagraon boundary, moving along Khokri distributory encircling villages Chimna, Pona, Sidhwan Kalan, passing between revenue estate of villages Sidhwan Khurd & Gurah, crossing Firozpur –Ludhiana road and Firozpur-Ludhiana railway line, passing through revenue estate of villages Sheikhu Pura, Mann, Kular, Mann, Pabbian, touching L.P.A. Jagraon boundary in south direction of Jagraon city and then moving along Abohar Branch upto Raikot Road.

This will prevent the regional traffic entering the city, thereby relieving the city roads from congestion. The proposed Ring Road will also provide high degree of connectivity between all the major settlements existing within L.P.A and will promote their economy, growth and development. It would also rationalize the pattern of population and activity distribution within the L.P.A promoting decentralization and urban-rural continuum. The total length of Proposed Outer Ring Road has been calculated to be 3.5 kms approximately. There shall be 5mts no construction zone on both sides after ROW.

**7.9.2.1.** Keeping in view the proposals of PIDB, 200 feet wide road has been proposed along Abohar branch Sirhind Canal in the south side of the town. The length of this road segment is 7 Km approximately.

### **7.9.3 Other Major roads**

The existing roads like Nakodar road and Raikot Road have been proposed as second hierarchy roads (R-2)(150' wide). However N.H.1 has been proposed to work as R-1 category because of the function of the road. The project of 6 laning of N.H.-1 is in process so it will be developed as per the proposals of National highway authority of India.

### **7.9.4 Inner Ring Road**

The Inner Ring Road starts from Proposed Outer Ring Road in the south direction of the town moving along Jagraon distributory passing through villages Agwar Rahlan, Agwar Dalla, then moving along Jagraon distributory crossing Jagraon- Kaunke Kalan road, covering villages Agwar Lupon Kalan, moving along 40' wide road from village Kaunke Kalan towards Gurudwara Nanaksar, crossing Firozpur-Ludhiana Railway line & Firozpur-Ludhiana road passing through the revenue estate of village Amar Garh Alais Kaler, Agwar Gujran, Sherpur Kalan crossing Nakodar road and moving along drain, passing through Firozpur-Ludhiana road & Firozpur- Ludhiana

Railway line, joining the urbanisable boundary in the south direction of the town and ultimately meeting Raikot road near Municipal Limit.

Other 100' road is proposed starting from Proposed Outer Ring road passing through the revenue estate of villages Chimna, Malak, Shahid Rachhpal Singh Magar/Aligarh, Gagra, Mirpur, Sohian, Pabbian, Mann, Kular and joining Proposed Outer Ring Road in the South west direction of the town. This link is also the forms part of Proposed Inner Ring Road.

#### **7.9.5 Other minor roads**

The lower hierarchy roads of R-4 (80' wide) which covers road along Firozpur- Ludhiana railway line, Road towards Kaunke Kalan village (from Proposed Outer Ring Road up to L.P.A boundary), road from M.C. boundary towards vill. Kaunke Kalan, Road from Firozpur- Ludhiana road up to Proposed Outer Ring Road towards Vill. Gurah (detail given at annexure no.VII) and R-5 category have been proposed to provide accessibility upto interior areas. All the existing link roads are to be widened proportionately on both sides to 60 feet. The proposed road network as explained above has been shown in DRG No. DTP (L) 25/2011 Dated 26/09/2011

**Note:** Road widening will be done proportionately on both sides.

#### **Proposed ROB/ Flyover**

Endeavor has been made to further improve the management of traffic and transportation in Master Plan proposals. Accordingly, keeping in view the volume of rail/road traffic, frequency and intensity, smooth flow of inter town traffic, traffic congestion in central the town, priority has been evolved Therefore a number of Flyovers/road over bridges, under has been proposed.

1. Firozpur- Ludhiana railway line( towards Ludhiana)- Outer Ring Road
2. Nakodar road-Outer Ring Road
3. Firozpur- Ludhiana railway line( towards Firozpur)- Outer Ring Road
4. Firozpur- Ludhiana railway line( towards Firozpur)- Inner Ring road
5. Outer Ring Road-Raikot road
6. Firozpur- Ludhiana railway line( towards Ludhiana)-Inner Ring Road

#### **7.9.6 Bus Stand**

Area of existing bus stand is 10.4 acre .The main bus stand of the town is located on the G.T. road as a result of which this road invites heavy rush of buses and other passenger traffic because of which the road remains busy throughout the day causing traffic congestion especially near bus stand.

#### **7.9.7 Public & Semi-public**

As it has already been discussed in earlier part of the report, there are several categories of designated areas such as Public & Semi-public uses like water works, Electric

Grid stations, Garbage Disposal site, etc existing in the Jagraon town and LPA Jagraon. All these designated areas have been proposed to be retained as such. However, the future demands will be met by various projects/colonies coming up as per required norms.

### **7.9.8 Recreational**

Parks and open spaces are the part of approved residential colonies/projects. So it is to be provided as per norms and standards from time to time as applicable in PUDA/GLADA approved colonies and other govt. approved projects.

### **7.9.9 Rural and Agricultural Zone**

With the objective of preserving the valuable agricultural land and maintaining its basic rural character, non-urbanisable area falling within Local Planning area has been proposed as rural/agricultural zone. This zone also includes village Abadis and their permitted expansion upto 100 metres from exiting phirni. This zone broadly comprising of agriculture, poultry, piggery, horticulture, floriculture, forest and other uses complimentary to agriculture are proposed, the detail of which is given in zoning regulations. Out of total area 21275 of hectares of LPA Jagraon, 13073.38 hectares have been proposed as rural and agricultural zone which is 61.5 % of total area. DRG No. DTP (L) 25/2011 Dated 26/09/2011 clearly shows that major share of land is allocated to rural and agriculture zone.

## **7.10 Heritage Conservation**

### **7.10.1 Ancestral house of Lala Lajpat Rai & Plot in front of House**

Ancestral house of Lala Lajpat Rai comprising an area of 62 sq yds and plot in front of house (Plot 151) is declared protected monument of Punjab under “The Punjab Ancient and Historical Monuments and Archaeology Sites and Remains Act, 1964” notified vide notification no.15 (45) 81-4TC/1670, dated: 11/08/1982 under by Department of Cultural Affairs, Archaeology & Museums, Punjab, Chandigarh.

## **7.11 Zoning Regulations: Jagraon**

**The zoning regulations proposed for adoption in L.P.A Jagraon are as 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, Jagraon declared under section 56 of the said Act, hereby makes the following zoning regulations as per the requirement under clause (d) of sub section 1 of section 70 of the above said Act relating to the Master Plan prepared for Local Planning Area, Jagraon.

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
- Rural and Agricultural

In addition, specific designated uses have been shown in respect of proposed traffic and transportation, utilities, governmental and public & semi-public facilities etc.

As explained earlier since sub – division of land, design and construction of buildings is being controlled through well-established building byelaws / regulations by the concerned authorities. 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.

#### **Use and development of land to be in conformity with Master Plan:**

As provided under **Section 79** of the Punjab Regional and Town Planning and Development (Amendment) Act 2006, after coming into operation of this Master Plan, no person shall use or permit to be used any land or carry out any development in any area otherwise than in conformity with this 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 this Master Plan came into operation.

#### **7.11.1 SHORT TITLE, SCOPE, EXTENT & COMMENCEMENT**

##### **Title**

These regulations shall be called the Zoning Regulations and development control regulations for Local Planning Area, Jagraon 2010 (hereinafter referred to as “Regulations”).

##### **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 land use 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 and regulations promulgated by Government from time to time. Competent Authorities under such regulations shall ensure that the developments permitted by them are in conformity with these regulations.



## Jurisdiction

These regulations shall apply to all “developments” in the Local Planning Area, Jagraon declared under section 56(i) of "The Punjab Regional and Town Planning and Development (Amendment) Act, 2006" vide notification no 12/72/2006 – 4 HGI/9835 dated 17-12-2007.

## 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 along with these 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".

*Till such approval, the authorities considering the applications for permission for development shall give due regard to the draft proposals including these regulations.*

## 7.11.2 DEFINITIONS

**For the purpose of these zoning regulations, the following definitions, unless the context otherwise requires, shall apply:-**

- 1) **“Act”** means "The Punjab Regional and Town Planning and Development (Amendment) Act, 2006" (Punjab Act No. 11 of 1995).
- 2) **“Government”** means the Government of the State of Punjab.
- 3) **“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.
- 4) **“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" for Local Planning Area, Jagraon.
- 5) **“Competent Authority”** means any person or authority appointed by the state government, by notification to exercise and perform all or any of the powers and functions of the competent authority as per section 2 (m) of the "Punjab Regional and Town Planning and Development (Amendment) Act, 2006.
- 6) **“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" vide notification No. 12/1/2008-4HGI/406 dated 15-1-2008.
- 7) **“Existing Landuse Plan”** means the Plan showing the different landuses existing at the time of preparation of the Existing Landuse Plan of Local Planning Area, Jagraon and as indicated on Drawing No. DTP (L) 58/2010 dated 23.11.2010 or as amended and notified from time to time.
- 8) **“Proposed Landuse Plan”** means the plan showing the proposed admissible uses of different areas and landuse zones covered in the Local Planning Area, Jagraon and as

indicated on Drg.no. DTP (L) 25/2011 Dated 26/09/2011 or as amended and notified from time to time.

- 9) **“Non- Conforming Building or use”** means use in respect of any land or building in the Local Planning Area, the existing use of which land or building is contrary to the prescribed landuse.
- 10) **“Zoning Plan”** means the plan of area or part there of 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 height, coverage and restrictions with regard to the use and development of each plot in addition to such other conditions as laid down in these regulations hereafter.
- 11) **“Mixed Landuse”:** Mixed landuse means the area where multiple use of land comprising residential, commercial, institutional, recreational and industries (other than orange and red category as listed by Punjab Pollution Control Board (PPCB) or as amended from time to time) shall be permissible subject to environmental safeguards in a regulated manner.
- 12) **“Commercial Mixed Landuse”:** Commercial Mixed Landuse means the area where only residential, commercial, institutional and recreational uses are permissible.
- 13) **“I.T. Park”:** An IT Park is a cluster of separate buildings together with a technical infrastructure created with the aim of attracting an indulge of knowledge and technology for science bodies and business.
- 14) **“Fashion Technology Park”:** Means where knowledge based infrastructure to inspire the global fashion community catching all segments of designing, manufacturing, marketing, R & D, logistics, broad forecasting are all under one roof.
- 15) **“Knowledge Park”:** A platform for interaction and provider of clustering opportunities to all the Organizations, Institutions, Hotels, Restaurants, Hospitals. Real Estate Agency clubs, Business Parks with main objective of facilitation of better technology for public and private sector.
- 16) **“Logistic Park”** A Logistic park is an area within which all activities related to transport, logistics and distribution of goods for both national and international transits are carried out by various operators on a commercial basis.

- 17) **“Farm House”** Farm house means a building allowed on a minimum holding of 2.5 acre (1ha.) agricultural land for residential and agricultural activity of the land holder.
- 18) **“Atta Chakki”** is categorized as service industry where:
- Grinding of only food grains is carried out through the process of crushing under the load and rotational movement of two plates or blocks.
  - The maximum electric load does not exceed 20 kW.
  - The Atta Chakki shall be used for grinding food grains supplied by the consumers only and no sale / purchase of food grains / flour shall be carried out by the Atta Chakki owner at commercial level.
  - The Atta Chakki shall only be permitted on roads having minimum 40 feet ROW.
- 19) **“Industry”**: Means the place or site where processing and reprocessing of raw materials into consumer goods or further processed goods from other industry or builds capital good used to manufacture consumer and non-consumer goods, it also includes energy producing industries and construction industries. It includes green, orange and red category industries or any other category as categorized by Punjab Pollution Control Board/Department of industries or as amended from time to time.
- 20) **“House Hold Industry”**: House Hold Industry means house hold occupation/ industrial activities conducted only by family members/persons residing in the dwelling unit with or without power and not contrary to the provisions of the Water Pollution (Prevention and Control) Act 1974, Air pollution (Prevention and Control) Act 1981 and Environment (Protection) Act 1986
- 21) **“Cottage Industry”**: Industrial units employing less than 10 workers, not creating excessive traffic and not omitting fumes, noise and effluents injurious to the existing sewers and not contrary to the provisions of the Water Pollution (Prevention and Control) Act 1974, Air Pollution(Prevention and Control ) Act 1981 and Environment (Protection) Act 1986.
- 22) **“Public and Semi Public activities”**: Public and semi public activities means the uses related to governmental/semi governmental offices, educational, medical institutions, recreational and entertainment facilities, cultural and religious institutions etc.

*Terms and phrases used but not defined in these regulations shall have the same meaning as assigned to them in Act.*

### **7.11.3 LAND USE ZONES**

The proposed land use plan incorporated in the Master Plan of LPA Jagraon depicts the following land use zones:-

#### **3.1 Residential**

- 3.2 Commercial
- 3.3 Industrial
- 3.4 Commercial Mixed Landuse
- 3.5 Rural and Agricultural

### **USE PROVISIONS IN LAND USE ZONES:-**

Permissible uses in the above land use zones shall be as given below:-

#### **3.1 Residential: Permissible Uses**

##### Housing

- Plotted housing, Group housing, Farm houses for customary residence including EWS housing.
- Oldage homes, Orphanages, Homes for mentally/physically challenged children, leprosy ashram, hostels
- Service apartments, Hotels, Motels, Guest houses, Dharamshalas, Lodging houses, Serai, Rayan Baseras
- Jails, Asylums, Reformatories

##### Trade & Commerce

- Retail trade and service shops, restaurants.
- Professional services such as those provided by lawyers, accountants, town planners, architects and others, A.T.M., Cyber Cafes
- Rehri markets
- Departmental stores, shopping malls
- Filling stations
- Gas distribution (without storage of cylinders)
- Milk chilling plant (in RD2 residential only)
- Gas godown / kerosene oil storage (in residential zone RD2 on independent plot only which shall be permissible till that time the residential or any other activity compatible to residential comes within a radius of 100 mts from the site)
- Household industry, Cottage industry, Atta chakki, Biogas Plants & Solar Energy Plants.
- Repairs of household articles, cycles & scooters
- I.T. Park, Knowledge Park, Fashion Technology Park, Bakery.

##### Public, Semi-Public

- Education- schools, coaching classes, I.T.I., polytechnic, engineering college, medical college and other degree colleges, universities, professional research and training Institutions, advanced education and training like IIM or IIT.
- Health care- Clinics, health centres, dispensaries, nursing homes / nursing care facilities, health clubs, hospitals( including super specialty hospitals) (subject to notification no.17/17/5-Hg2-311/11.1.08), veterinary dispensaries and hospitals
- Art, entertainment, cultural and religious activities such as libraries, museums, clubs, marriage palaces, bhawans, sports activities including parks, gardens, play grounds, swimming pools, gymnasia, stadia, golf courses etc., amusement parks, cinemas, auditoriums, theatres, places of worship.
- Public utilities and services- fire station, dhobi ghat, police stations, post office, water works, water treatment plant, storm water disposal, main pumping disposal, sewerage treatment plant, electric grid station, bus stand, auto rickshaw/taxi stand, telecom & transmission towers, telephone exchange.
- Plant nurseries and green houses related to nurseries, floriculture
- Cemeteries/ cremation grounds/ graveyards/ existing caracus sites/solid waste dump site
- Water harvesting measures

### 3.2 Commercial: Permissible uses

#### Trade & Commerce

- Retail trade (booths, shops, shop-cum-office, shop-cum-flat) business showrooms & service shops, restaurants.
- Rehri markets, informal markets
- A.T.M., cyber cafes
- Super markets, departmental stores, shopping malls, multiplex, metro stores, cash-n-carry stores.
- Trade fairs, exhibition & convention centres
- Filling stations
- Gas distribution (without storage of cylinders)
- Printing press, atta chakki
- Automobile showrooms, motor market and service stations

#### Housing

- Service apartments, hotels, motels, guest houses, dharamshalas, lodging houses
- Residences on upper floors only

#### Offices

- Offices of all types including banks and financial institutions etc.

#### Public Semi - Public

- Education- coaching classes, distant education, I.T. enabled services, colleges, vocational training institute.
- Health care- clinics, health centres, dispensaries, nursing homes, hospitals and veterinary services
- Art, entertainment, cultural and religious activities such as libraries, museums, marriage palaces, sports activities including parks, gardens, play grounds, swimming pools, gymnasia, stadia, golf courses etc., amusement parks, cinemas, auditoriums, theatre, casino, pubs & bars, night clubs, night food streets, discotheques
- Plant, nurseries and green houses related to nurseries, floriculture
- All Public utilities and services- fire station, water works, water treatment plant, main pumping disposal, sewerage treatment plant, storm water disposal, electric grid station, police stations, post office, bus stand, auto rickshaw/taxi stand, telecom & transmission towers.
- Water harvesting measures

### 3.3 Industrial: Permissible uses

All types of industries as classified by the department of industries and commerce further categorised by PPCB (Punjab Pollution Control Board) and following uses are permissible in the industrial zone:

- Junk yards, disposal works, gas works, power plant, hot mix plant
- I.T. Parks, Knowledge Parks, Industrial Parks, Super Mega Mixed Use Integrated Park (These parks shall be established as per the policies/guidelines of the govt. issued from time to time), fashion & technology park, film city
- Warehouses, godown & covered storage for industries, cold stores, logistic parks, freight complex, container yards, dry port, weigh bridges
- Loading & unloading yards, truck terminals, bus terminals, railway station and siding, railway yards, helipads, metro stations
- Trade & Commerce: Retail trade, business showrooms & service shops, restaurants. Rehri markets, informal markets, A.T.M., cyber cafes, Super markets, departmental stores, shopping malls, multiplex, Trade fairs, exhibition & convention centres, Filling

- stations, Gas distribution, printing presses, atta chakki, Automobile showrooms, motor market and service stations
- Tempo / taxi stand, bus stops, tonga stand
  - Petrol filling / service stations, fuel storage, LPG storage, manufacturing and storage of fire crackers
  - Education- Schools, coaching classes, I.T.I., polytechnic, engineering college, medical college and other degree colleges, universities, professional research and training Institutions, advanced education and training like IIM or IIT.
  - Health care- Clinics, health centres, dispensaries, nursing homes, health clubs, hospitals, including super specialty hospitals (subject to notification no.17/17/5-Hg2-311/11.1.08), veterinary dispensaries and hospitals
  - Entertainment centre, multimedia centre, hotel, restaurant, parks & open spaces, showroom of mills, marriage palaces, places of worships
  - Govt., Semi Govt. / Private business offices, financial institutions
  - Residences for watch & ward staffs, residences for industrial workers / management, E.W.S housing.
  - All public utilities, police station, police post, fire station, cemeteries / graveyard, caracrus site (existing only), slaughter house
  - Farming, quarrying

### **3.4 Commercial Mixed Land Use Zone: Permissible uses**

- All types of uses permissible in residential use zone, commercial use zone, wholesale & warehousing zone.
- All industries except those of orange and red category along with other uses permissible within industrial use zone shall be permissible.

### **3.5 Rural & Agricultural Zone: Permissible Uses**

This zone is sub divided into two sub zones viz village abadis and 100mts around phirni and agricultural/ rest of area.

#### **Area upto 100mts of Phirni: Permissible uses**

- Residential development in the form of plotted and group housing
- Educational, medical, cultural, religious and recreational uses which commensurate with the scale of village population
- Local commercial, service industry, cottage and household industry, dhobi ghat
- Public utilities & services including communication towers

#### **Agricultural Zone: permissible uses in the rest of the area**

- Farm houses, hostels for students, working women
- Oldage homes, orphanages, jails, asylums
- Agriculture, horticulture, dairy, piggery, fishing, poultry farming, mushroom growing centre, slaughter house
- Milk collection centres, Chilling stations, Pasteurization plants, Cold store, Ice factory, Fruit ripening centre and allied activities, Rice shellers, agro based industry (green category), Processing of farm (grains, fruits and vegetables) products, Brick Kiln, Lime Kiln, Charcoal Kiln
- Petrol filling/service stations, Storage of Fuel Oils, LPG Storage Godowns, Manufacturing and storage of Fire Crackers, wholesale trade of agricultural products only Warehousing, Godowns of agricultural produce, Logistic park, Cold storage, Cement / Sand and Concrete mixing plant, hot mix plant
- Railway line, railway station, sidings, bus stop, truck terminal, container yard, air freight and parking area

- Public buildings and utilities including electric sub-stations, sewage treatment plant (STP) solid waste dump site, caracas disposal site
- Transmission & telephone lines and poles, telecommunication towers, surface drainage, water bodies including irrigation canals
- Afforestation including orchards, gardens and commercial timber, Land preservation and conservation measures such as storage, check dams, Water harvesting measures.
- I.T.Park, Knowledge Park, Fashion Technology Park
- Education- schools, coaching classes, I.T.I., polytechnic, engineering college, medical college and other degree colleges, universities, professional research and training Institutions, advanced education and training like IIM or IIT.
- Health care- clinics, health centres, dispensaries, nursing homes / nursing care facilities health clubs, hospitals(including super specialty hospitals) (subject to notification no.17/17/5-Hg2-311/11.1.08), veterinary dispensaries and hospitals
- Art, entertainment, cultural and religious activities such as libraries, museums, clubs, trade fairs, exhibition, mela grounds, camping grounds, marriage palaces, bhawans, sports activities including parks, gardens, play grounds, swimming pools, gymnasias, stadia, golf courses etc ., amusement parks, places of worship.
- Panchayat ghars, dharamshalas and any other project of Central and State Govt. agencies / Deptts. / undertakings / Local Bodies.
- Expansion of upcoming thermal plant and its ancilliary activities.

**The activities / uses not mentioned above but found compatible for a particular land use zone shall also be permissible with permission of the Competent Authority.**

#### **7.11.4 DESIGNATED AREAS**

Following areas have been specifically designated in the proposed land use plan.

- 4.1 Traffic and Transportation
- 4.2 Recreational Use
- 4.3 Utilities
- 4.4 Public & semi public
- 4.5 Prohibited Areas

#### **USE PROVISIONS IN DESIGNATED AREAS**

Following uses are permissible in the designated areas

##### **4.1 Traffic & Transportation: Permissible uses**

All types of Roads, Railway lines, Dedicated Freight Corridor, Rail yards, Railway station & sidings, Crossing Station, 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 of broadcasting stations, Bus Terminus & depot, bus stop shelter, taxi/ tonga/ rickshaw/scooter stands, parking.

##### **4.2 Recreational uses: Permissible uses**

Sports Complex, Sports training centers, Swimming Pools, Regional parks, Local Parks, Green Belts, Play Grounds , Holiday Resorts with ground coverage not exceeding 3%,  
Open air cinema/auditorium and Shooting ranges.

##### **4.3 Utilities: Permissible uses**

Water supply, Sewerage system (including main pumping station and Sewage Treatment

Plant {STP}), drainage, storm water, waste processing and disposal, electricity, communication systems and related installations etc.

#### **4.4 Public and semi-public activities: Permissible uses**

Governmental and semi-Governmental offices, Governmental administrative centres/ Secretariat, Educational, Cultural and Religious institutions including theaters, auditoriums etc. Medical Health Institutions, Community Centres, Club, Orphanage, Old Age Home, Banks, Police Stations etc.

#### **4.5 Prohibited Areas: Permissible uses**

The areas around the Protected Monument of Jagraon up to the distance of 100 meters from the protected limits as described in the notification no. S.O.1764 Dated 16<sup>th</sup> June, 1992 issued by the Department of Culture, Archaeological Survey of India and guidelines issued by Government from time to time are to be prohibited areas and beyond it up to 200 meters regulated areas for the purposes of both mining operation and construction.

#### **7.11.5 SPECIAL CONDITIONS**

- The siting of Petrol Pump / Filling Stations shall be subject to fulfillment of instructions/guidelines of IRC/MORTH/TCPO /Punjab Govt. issued from time to time.
- Minimum width of access road for warehousing uses shall be 60'.
- All public and semi-public uses in residential zone shall be located on independent plots with minimum access of 60'.
- All types of industries permitted in the industrial use zone are subject to the fulfillment of conditions issued by industries department / Punjab Pollution Control Board from time to time.

#### **7.11.6 RESIDENTIAL DENSITIES**

Residential zone is divided into two sub-zones as shown on Proposed Landuse Plan Drg.no. DTP(L) 25/2011 dated 26/09/2011. The maximum average residential density of different sub-zones is given as under:

**Table 7.3.7: Proposed Residential Density for LPA, Jagraon 2031**

<b>Density zone</b>	<b>Proposed Residential density</b>
Area within MCI limits (RD1)	Not more than 300 persons per acre
Outside MCI limits and within urbanizable limits (RD2)	Not more than 200 persons per acre

In case of standalone group housing projects/chunk site reserved for group housing purpose, maximum average residential density @ 60 dwelling units per acre shall be permissible irrespective of the density zone. The areas zoned for residential use are not derived from affordable densities but are based on potential for growth. A large proportion of the areas of these density zones particularly on the periphery may remain undeveloped by 2031



### 7.11.7 IMPLEMENTATION OF THESE REGULATIONS

- 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 compliance with these regulations.
- Land owners desirous of developing their land can apply to the designated authority in writing by giving details of their land as per revenue record along with necessary maps.
- Similarly land owners proposing development of certain uses on their land can obtain a certificate of “Compliance with Master Plan” from a designated authority.

### 7.12 DEVELOPMENT CONTROL REGULATIONS

#### Section I: Development Control Regulations

The purpose of the Development Control Regulations (DCR) is to guide developers and land users within the Local Planning Area, Jagraon to strive for a more quality and environment – friendly development.

These Development Control Regulations are applicable to new and future developments. The developers are requested to abide by the zoning and planning intentions of the Master Plan. *However, development proposals/projects that have been granted approval (including CLU) by the Competent Authority before coming of these into operation will continue to be honoured subject to the terms and conditions of approval and shall not be affected by these controls.*

*The F.A.R height, ground coverage, parking areas, set back, width of road and frontage of site etc. regarding residential, commercial, institutional, industrial or any other use for areas existing within M.Cl. limits shall be governed by Municipal bye-laws.*

Some of the key regulations currently in force are reproduced below.

#### 7.12.1 Residential

Minimum area of colony (residential plotted) and for group housing falling within Master Plan Jagraon shall be as under or as amended from time to time :-

##### a) Minimum Plot size

Category	Minimum Plot size
Residential Plotted	5 acres
Group Housing	
General	2 acres independent
EWS	2.5 acres

##### Note:

- Minimum area of colony within M.Cl. limits shall be as per Local Govt. norms.*
- The minimum width of roads within residential areas shall not be less than 35 feet, if the existing road is less than 35 feet, the proportionate land on both sides shall be safeguarded for widening to comply with the minimum requirement. The height of buildings on these roads shall not exceed ground plus two (G+2) storeys.*
- The saleable area of any plotted residential colony shall be as per the provisions of PAPR Act, 1995 or as amended from time to time.*

**Group Housing (outside M.Cl. limits)**

1	Minimum Plot size	
	General category	2 acres
	EWS category	2.5 acres
2	Minimum road width	For group housing stand alone projects, minimum width of approach road shall be 60 feet and the promoter shall be required to leave space from his own land for widening it to 80' and the space so left shall be public space. In a planned colony, group housing shall not be permissible on a road less than 60' wide.
3	Minimum Frontage	20 meters
4	Permissible FAR	1:1.75
5	Permissible Height	There shall be no restriction on the height of building subject to clearance from Air Force Authority and fulfilment of other rules such as set backs, distance between buildings etc. However, structural safety and fire safety requirements as per National Building Code shall be compulsory.
6	Parking Provisions	For group housing developments, the requisite parking provision is 1.5 ECS per 100 sq m of covered area subject to maximum of 3 ECS per dwelling unit.

**Note:**

- i. *Construction of residential houses sold by promoters on floor basis shall also be considered as group/flatted housing development & parking requirements shall be as per the norms applicable to Group Housing.*
- ii. *For group housing within M.Cl. limits the norms of Local Govt. shall be applicable.*

**Farm House**

Minimum area	2.5 acres
FAR	0.04
Ground Coverage	2%
Number of storeys	2
Height	Single Storey 18'-0" Double Storey 28'-0"
Hard Surface	10%

**7.12.2 Commercial****At Local Level**

There shall be provision for small scale, double storey commercial facilities at the local level subject to the condition that abutting road shall have a minimum width of 60 feet & with minimum 20 feet front set back from road for parking purposes. However, the area requirements for low rise commercial developments within M.Cl limits shall be as per the local body/Municipal's Council's rules and regulations.

**Stand-alone commercial complexes**

For stand alone commercial complexes with height more than double storeys the additional criteria listed in following table shall apply.

**Additional criteria for stand-alone commercial complexes (more than double storeys)**

1	Minimum area required	1000 sq m
2	Minimum approach road width	80 feet
3	Minimum frontage	20 meters
4	Maximum F.A.R	1:1.75

5	Maximum ground coverage	40%
6	Maximum height	There shall be no restrictions on the height of building subject to clearance from Air Force Authority and fulfillment of other rules such as setbacks, distance between buildings etc. However, structural safety and fire safety requirements as per N.B.C shall be compulsory.
7	Parking	For projects with no multiplexes, the minimum parking shall be 2ECS per 100 sq m of covered area (including circulation area). For projects having multiplexes/cinemas/theatres, the minimum parking shall be: a) 3 ECS per 100 sq m of covered area (in respect of the covered area of the multiplex/cinema/theatre component +30% of the total covered area of that component). b) 2 ECS per 100 sq m of covered area (in respect of balance commercial component and circulation area). Total parking requirement shall be provided in the compulsory front set back and within the development site boundary or in the basement.
8	Basement	Multi level basement will be allowed below the building in zoned area except in setbacks provided it is proposed for parking purposes only and shall satisfy the public health and structural requirements.
9	Landscaping	If the site area is one acre or more, minimum 15% of the total area is to be reserved for landscaping.
10	Set backs	The minimum set back distance shall comply with the existing norms and standards.

**Note:-**

*The E.C.S shall be counted as below:*

- 23 square meters for open parking.
- 28 square meters for parking under stilts on ground floor.
- 32 square meters for parking in the basement.

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

### **7.12.3 No Construction zone along Major roads:**

No Construction zone along major roads: All properties within LPA Jagraon that abut on Major District roads (Schedule roads) and other proposed roads of category R1 & R2 shall have access through service lanes and shall have no construction zone of 5 mts on both sides of the R.O.W.

Sr. No	Category of road	Proposed Right of way of road (in feet) outside M.C limit	No construction zone on both sides of R.O.W. (in mts.)
1.	Proposed Outer Ring Road	200	5
2.	Ludhiana-Firozpur road	150	5
3.	Jagraon –Raikot	150	5
4.	Jagraon-Nakodar	150	5

**Note:** Where widening of existing road is proposed, the land shall be taken proportionately equally from both sides of existing roads.

### 7.12.4 Institutional

Components	Institutional
Minimum Plot size	Area and size shall be as prescribed by affiliating authority or 5000 square meter as prescribed by Punjab govt. policy whichever is more.
Minimum frontage	200 feet
Minimum width of approach road	60 feet or as proposed in Master Plan, only exceptions are primary & nursery schools
Maximum F.A.R	1:1
Maximum ground coverage	40%
Parking	1 ECS per 100 square meters of the covered area if the project is covered under notification no.17/17/5-Hg2-311 dated 11.01.08 .

**Note:** *Other building regulations shall be governed by Zoning Plan as approved by the competent authority.*

### 7.12.5 Industrial

Permissible ground coverage, floor area ratio, height, parking etc. shall be as under:-

Permissible Ground 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 / 100 sq. m of covered area
Road width	The minimum road width for industrial unit shall be 40 feet.
Height	There shall be no restrictions on height of building subject to clearance from Air Force Authority and fulfillment of other rules such as setbacks, distance between buildings etc. However, structural safety and fire safety requirements as per N.B.C. shall be compulsory.

**Note:**

- *Residential component: Residential component in the industrial plot/premises shall not exceed 5% of the area of the site and shall be within the maximum permissible covered area.*
- *The minimum road width for industry shall be 40 feet. However, in case the existing road width is less than 40 feet then it shall be widened to 40 feet by taking equal strip of land from both sides of road. In case, where habitation / settlement/ other physical feature comes in the alignment in that case widening shall be on the other side of habitation / settlement/ other physical feature.*
- *In case of industries existing before the final notification of this Master Plan , if the road width is less than 40 feet wide then the owner of the site/ industry shall give a self declaration for leaving the required strip of land from his ownership as and when required by the concerned authority.*
- *Industrial / IT Park shall have minimum 10 acres area. In IT Park, IT component shall have FAR 2.0. In industrial park, for an industry component FAR shall be 1.0 and other components shall have FAR as mentioned under different uses in the Master Plan.*

### 7.12.6 Environment Considerations

Minimum buffer of 15 meters green belt of broad leaf trees should be provided around the boundary of village expansion falling in the industrial zone of Master Plan. This should 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. It is clarified that 15 meter buffer shall be provided by the owner of the project who comes later. However, for special type of industries such as Rice Shellers / Sella Plants, Brick Kilns, Stone Crushers, Hot Mix Plant, the standards prescribed by the Punjab Pollution Control Board or any other agency shall be applicable or as amended from time to time.

- All residential colonies, commercial establishments like shopping malls, multiplexes etc shall maintain a minimum distance of 250 meters from the hazardous (maximum accident hazardous) industries notified by Director General, Factory Adviser Service Labour Institute. The distance shall be measured from source of pollution/hazard in the industrial

premises to the building lines as per Zoning Plan of the colony/complex or as amended from time to time.

- Gap of atleast 100' should be left between the railway boundary and the nearest private buildings so as to avoid smoke and noise nuisance to these adjacent buildings. Wherever it is not possible to leave, a road width (minimum 20') may be left between the railway boundary and the nearest adjacent buildings, the standards prescribed by the Railway Board conveyed by Divisional Supdt. Northern Railway, Ferozepur to the Secretary Local Self Govt. Punjab vide their letter dated 22.09.71

#### **7.12.7 Other Development Controls and Guidelines Required**

- i) Expansion of village abadies: Contiguous expansion of village abadies in non residential zones of Master Plan is permissible up to 100mts in the Master Plan. However, for the village abadies falling in residential zone of Master Plan, no such limit has been earmarked as the area around them is already earmarked as residential.
- ii) The contiguous expansion of village abadies falling under agricultural zone of Local Planning Area is also permissible to accommodate the natural growth of village abadies.
- iii) Regulation for village abadi: Special building regulations shall be prepared for the development and regulation of an area falling within the lal dora or phirni of the villages falling in the Local Planning Area.
- iv) The existing high tension lines shall be shifted along the road outside the right of way to ensure unhindered ROW for traffic and other services for all times.
- v) Minimum 5 meters wide green strips on each side of minor drain shall be maintained and other major water bodies 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. After any such realignment, the river mouth, the river bed and the green strip on either side shall be maintained at least to the minimum prescribed level. In these green strips, golf course, sports and recreational activities shall be permissible but no construction would be allowed. The supporting facilities for these activities shall be constructed outside the green strips.
- vi) 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. After any such realignment, the river mouth, the river bed and the green strip on either side shall be maintained as per to the minimum prescribed level.
- vii) In case of farm houses, an independent access from a "Revenue Rasta" or a public road shall suffice.

### 7.12.8 Transferable Development Rights

To facilitate development, it is necessary to accord top priority to the implementation of public utilities and infrastructure (such as roads, parks, green belts etc,) which will in turn encourage urbanization.

However, the respective technical agency or authority will not be able to proceed with its implementation programmes until the ownership of private land affected by these public utilities and infrastructure has been transferred to the state or to the relevant authority(s).

Acquisition of private land for this purpose can be carried out through one of the following options:

- Cash compensation can be made to affected land owners whose land is to be acquired.
- A government – approved land pooling scheme can be implemented.
- Transferable Development Rights (TDR).

Under the TDR scheme, the affected land owner(s) shall be entitled to additional FAR for the development of his balance land parcel at a rate of 1:1. The additional FAR will not be subjected to any CLU, EDC or license / permission fees. The land owner(s) also has the option to sell it in total or in parts to a third party.

All the records of transactions administered under the TDR scheme shall be maintained by the state and / or relevant authority(s), based on the precedence set in Mumbai Maharashtra.

The TDR scheme shall be restricted to development projects for public infrastructure and facilities which shall be announced from time to time. The additional FAR shall not be transferable from one L.P.A to another.

Detailed policy guidelines on the operation and implementation of TDR Scheme shall be prepared and announced by the competent authority in due course of time.

### 7.12.9 EXCEPTIONS

- Uses determined by the Chief Town Planner, Punjab as compatible with uses permissible shall be allowed in respective zones.
- Developments/ projects approved prior to coming into force of these regulations shall be deemed to be in compliance with these regulations.
- The site 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.
- Use of Land covered under Optimum Utilisation of Vacant Govt. Land (OUVGL)

Scheme of the State Government shall be determined by the Government at any appropriate time notwithstanding the provisions of this Master Plan.

- 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 shall prevail.
- In case the area of a project falls partially under no construction zone along a water body, relaxation of maximum upto 5% on the total area of the project shall be allowed towards calculation of saleable area in lieu of the area falling under the no construction zone. In case, the area falling under no construction zone is less than 5% of the total area of the project then the relaxation shall be proportionately less.
- 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.
- Within the existing M.C. limits the buildings rules notified by the local Govt. shall be applicable. i.e. The F.A.R., height, ground coverage ,parking requirements, set backs, width of and frontage of site etc. regarding residential, commercial, institutional, industrial or any other use for areas existing within M.C. limits shall be governed by municipal rules/bye – laws.
- Any change in the above said development controls notified or to be notified in future by the concerned development authority shall have overriding effect on the development controls mentioned above.

**ANNEXURE NO.: I**  
**NOTIFICATION OF L.P.A. JAGRAON**

51-188

PUNJAB GOVT GAZ. (EXTRA.), JAN. 15, 2008 (PAUSA 25, 1929 SAKA)

55

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

(HOUSING BRANCH-I)

Notification

The 15th January, 2008

No. 12/1/2008-4HGI/406.—Whereas it appears to the Governor of Punjab that to meet the challenge of rapid growth of Jagraon City and to provide for a workable framework for comprehensive planned and regulated development, preparation of Statutory Master Plan of Jagraon City is very essential. Hence in order to develop Jagraon City and its surroundings in an orderly manner and to prepare its Master Plan under "The Punjab Regional and Town Planning and Development (Amendment) Act, 2006", the Governor of Punjab is pleased to declare the Local Planning Area of Jagraon City within the meaning of sub-section (1) of Section 56 of the Act *ibid*. The total area proposed for Local Planning Area is 21345 hectares (52722.15 acres) including Jagraon City and adjoining 31 villages. The schedule of boundary of the proposed Local Planning Area is as under :—

SCHEDULE OF BOUNDARY

- North :** Starting clockwise from point "A", which is the North-Western common meeting point of the boundaries of District Ludhiana and District Moga towards East along the Northern boundaries of village Ghalib Kalan (H.B. No. 124), village Sherpur Kalan (H.B. No. 123), village Sawaddi Khurd (H.B. No. 122), village Bodal Wala (H.B. No. 121), village Malak (H.B. No. 120), village Chinna (H.B. No. 59), village Pona (H.B. No. 60), village Sidhwan Kalan (H.B. No. 61), village Gurah (H.B. No. 111), and village Talwandi Kalan (H.B. No. 72) up to point "B" which is the common meeting point of boundaries of village Talwandi Kalan (H.B. No. 72), village Majri (H.B. No. 73) and village Talwandi Khurd (H.B. No. 76).
- East :** Thence from point "B" towards South along the Eastern boundaries of village Talwandi Kalan (H.B. No. 72), village Gurah (H.B. No. 111), village Sheikhu Pura (H.B. No. 110) and village Kular (H.B. No. 107) up to point "C" which is the common meeting point of village Kular (H.B. No. 107), village Tugal (H.B. No. 100), village Sujapur (H.B. No. 102) and village Hans (H.B. No. 105).
- South :** Thence from point "C" towards West along the South-Western boundary of village Kular (H.B. No. 107), Southern boundaries of village Pabbian (H.B. No. 106), village Sohian (H.B. No. 113), village Mirpur Hans (H.B. No. 114) and village Gagra (H.B. No. 118) and thence along the Eastern boundaries of village Agwar Pona (H.B. No. 127), South-Eastern boundary of village Agwar Ladhari (H.B. No. 123), Southern boundaries of village Bir Akhara (H.B. No. 129), village Agwar Rahlan (H.B. No. 130), village Agwar Daila (H.B. No. 135) and village Kaunke (H.B. No. 136) up to point "D" which is the South-Western common meeting point of boundaries of District Ludhiana and District Moga.
- West :** Thence from point "D" towards North along the common District boundary of District Ludhiana and District Moga up to point "A" which is the starting point.

The boundaries of Local Planning Area Jagraon is specifically shown on Drawing No. DTP(L)17/07, dated 6th November, 2007. All the provisions laid down under Section 56(2) of "The Punjab Regional and Town Planning and Development (Amendment) Act, 2006" and all the relevant rules framed under this Act have been taken into consideration.

Chandigarh:  
The 10th January, 2008.

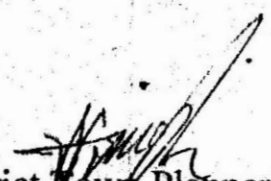
ARUN GOEL, I.A.S.,  
Secretary to Government of Punjab,  
Housing and Urban Development Department.

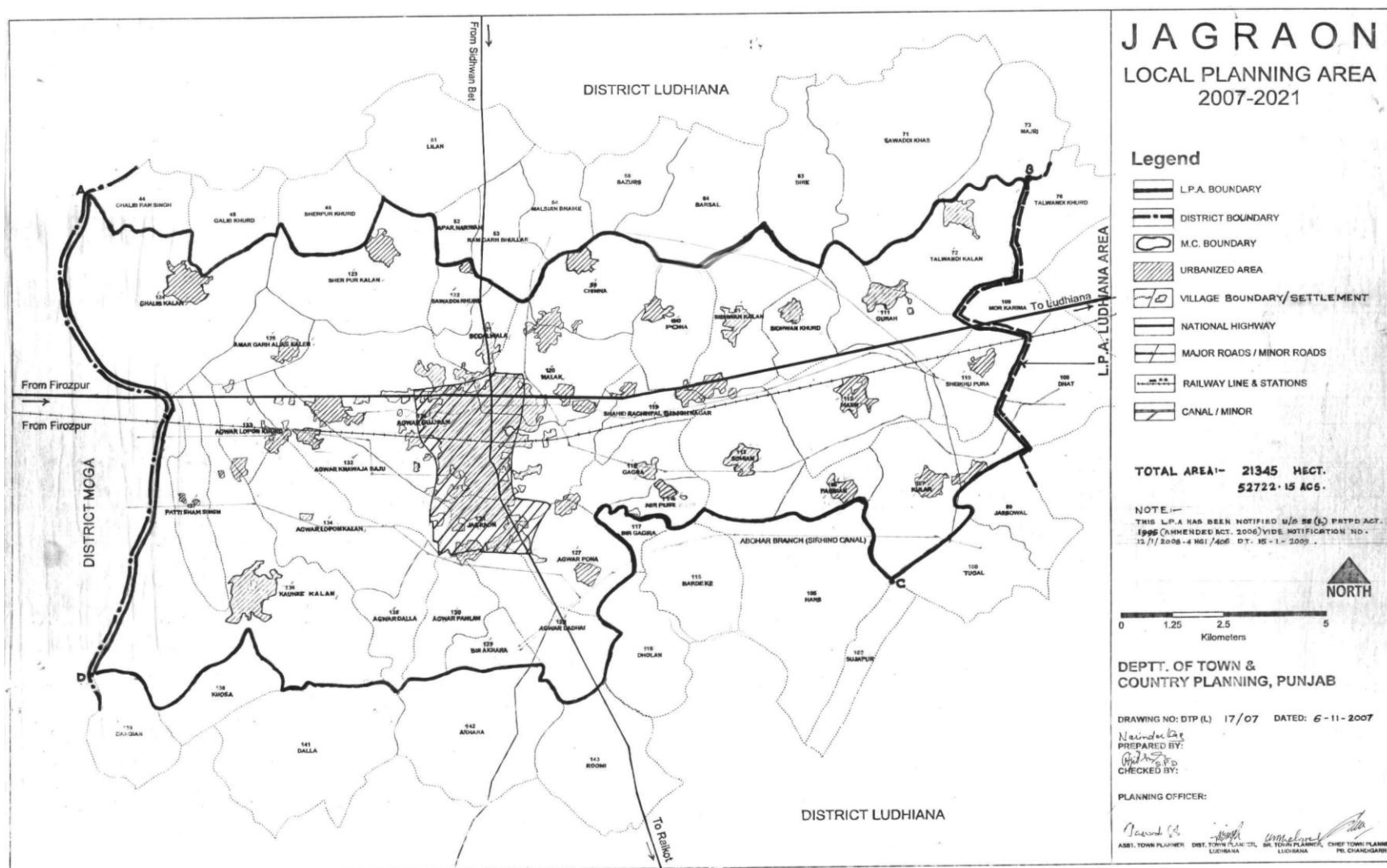


**LIST OF TOWNS & VILLAGES FALLING IN  
"LOCAL PLANNING AREA" JAGRAON - (2007-2021)**

Sr. No.	Village/Town Name	H.B. No.	Area in hectares	Population 2001	Remarks
1.	Jagraon Municipal Council		1400	60106	-
2.	Ghalib Kalan	124	2163	6863	-
3.	Sherpur Kalan	123	1039	5047	-
4.	Amargarh alias Kler	125	362	2345	-
5.	Patti Sham Singh	137	324	1249	-
6.	Kaunke Kalan	136	2637	11096	-
7.	Agwar Lupon Kalan	134	678	Population included in M.C. Jagraon	-
8.	Agwar Lupon Khurd	133	322	732	-
9.	Agwar Khawaja Bajju	132	446 (Partial)	2065	The rest of the area and population of this Revenue Estate fall in Municipal Council, Jagraon.
10.	Agwar Gujran	126	1224 (Partial)	5223	-Ditto-
11.	Sawaddi Khurd	122	186	1108	-
12.	Bodal Wala	121	238	1107	-
13.	Aligarh/Shahheed Rachhpal Singh Nagar	119	253	785	-
14.	Agwar Pona	127	486 (Partial)	1808	The rest of the area and population of this Revenue Estate fall in Municipal Council, Jagraon
15.	Agwar Ladhari	128	610 (Partial)	1083	-Ditto-
16.	Agwar Rahla	130	435 (Partial)	1213	-Ditto-
17.	Agwar Dalla	135	385 (Partial)	Population included in M.C. Jagraon.	The rest of the area of this Revenue Estate falls in Municipal Council, Jagraon.
18.	Bir Akhara	129	109	113	-
19.	Malak	120	791	3676	-
20.	Chimna	59	578	2160	-

21.	Pona	60	516	1481	-
22.	Sidhwan Kalan	61	786	3883	-
23.	Sidhwan Khurd	62	326	1634	-
24.	Gurah	111	749	3232	-
25.	Talwandi Kalan	72	863	2952	-
26.	Sheikhupura	110	319	1752	-
27.	Mann	112	856	3709	-
28.	Kular	107	759	2211	-
29.	Pabbian	106	401	1459	-
30.	Sohian	113	528	2452	-
31.	Mirpur	114	203	811	-
32.	Gagra	118	373	1253	-
	Total:		21345	134608	-

  
District Town Planner,  
Ludhiana.



**ANNEXURE NO.: II****PUDA APPROVED COLONIES**

<b>Sr. No.</b>	<b>Name of colony</b>	<b>License Number</b>	<b>Area(Acres)</b>
1.	Town Enclave, Jagraon	11/2006 dated 37/7/2006	4.384
2.	Royal Town, village Agwar Gujran, Jagraon	1/2007 dated 16/01/2007	8.806
3.	East Moti Bagh village Agwar Gujran, Jagraon	25/2006 dated 23/11/2006	8.60

**T.P SCHEMES**

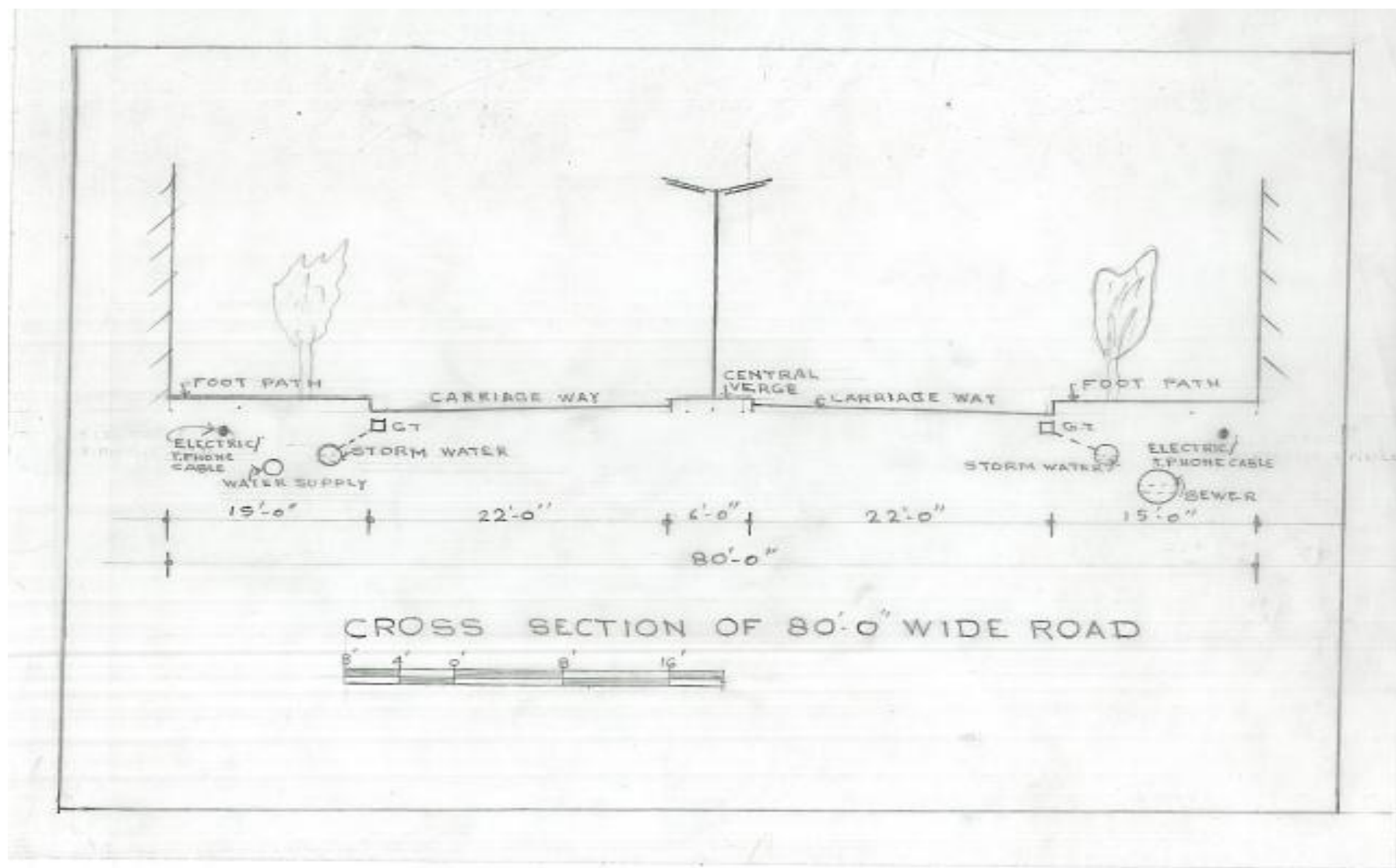
<b>Sr. No.</b>	<b>Name of T.P Scheme</b>	<b>Area of T.P Scheme(acres)</b>	<b>Present status</b>
1.	T.P Scheme No.1- Railway Crossing till Jassowal Minor	131.92	Case to drop T.P. Scheme No.1,2,3,4 is pending with Chief Town planner ,Chandigarh
2.	T.P Scheme No.2- From Jassowal Minor till G.T. Road	39.40	
3.	T.P Scheme No.3- From G.T. Road till Jassowal Minor	67.21	
4.	T.P Scheme No.4- From Railway Crossing Sherpur Road till right side of D.S.P. residence.	107.25	

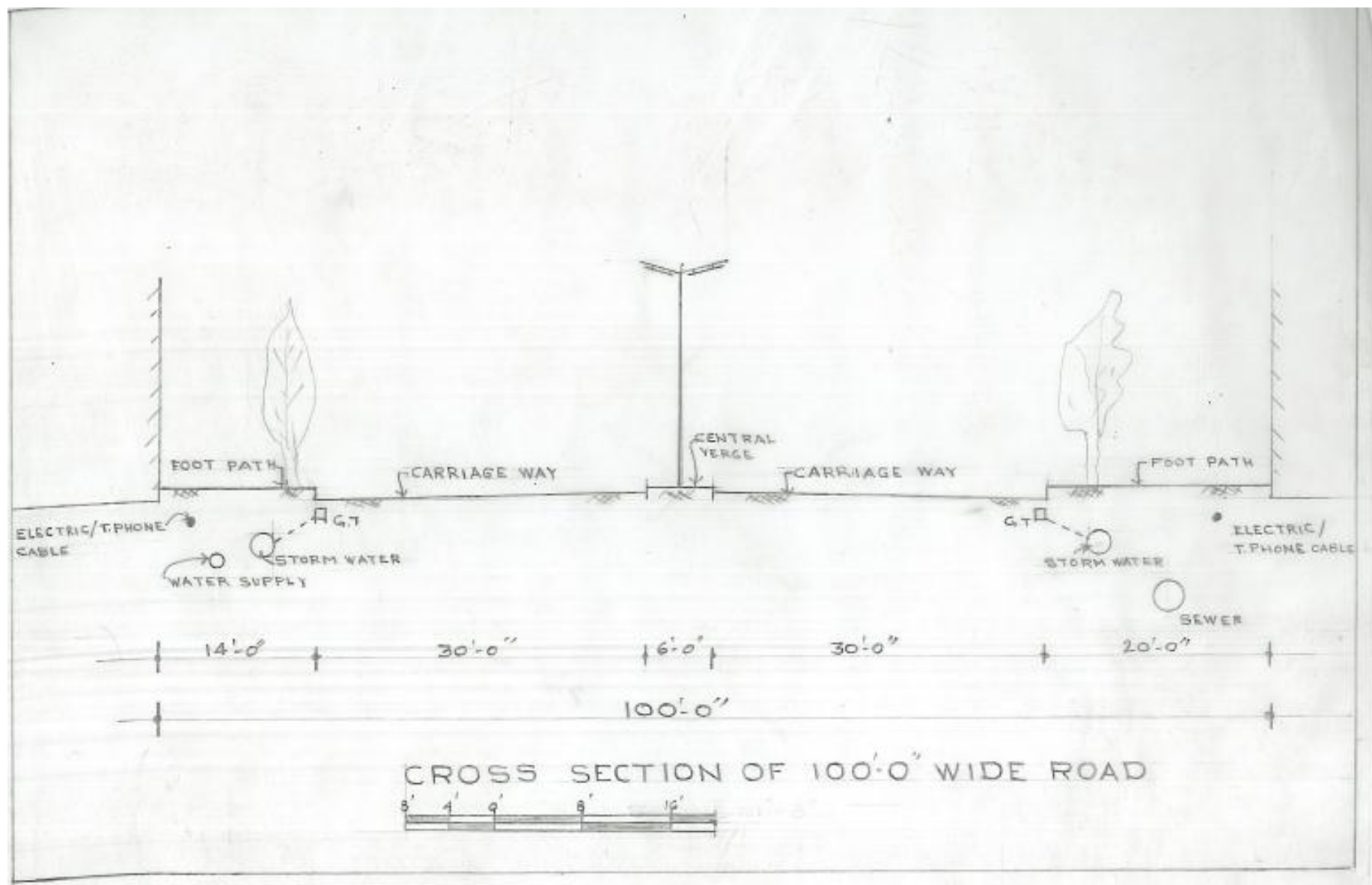
**ANNEXURE NO.:3****LIST OF SLUMS IN JAGRAON**

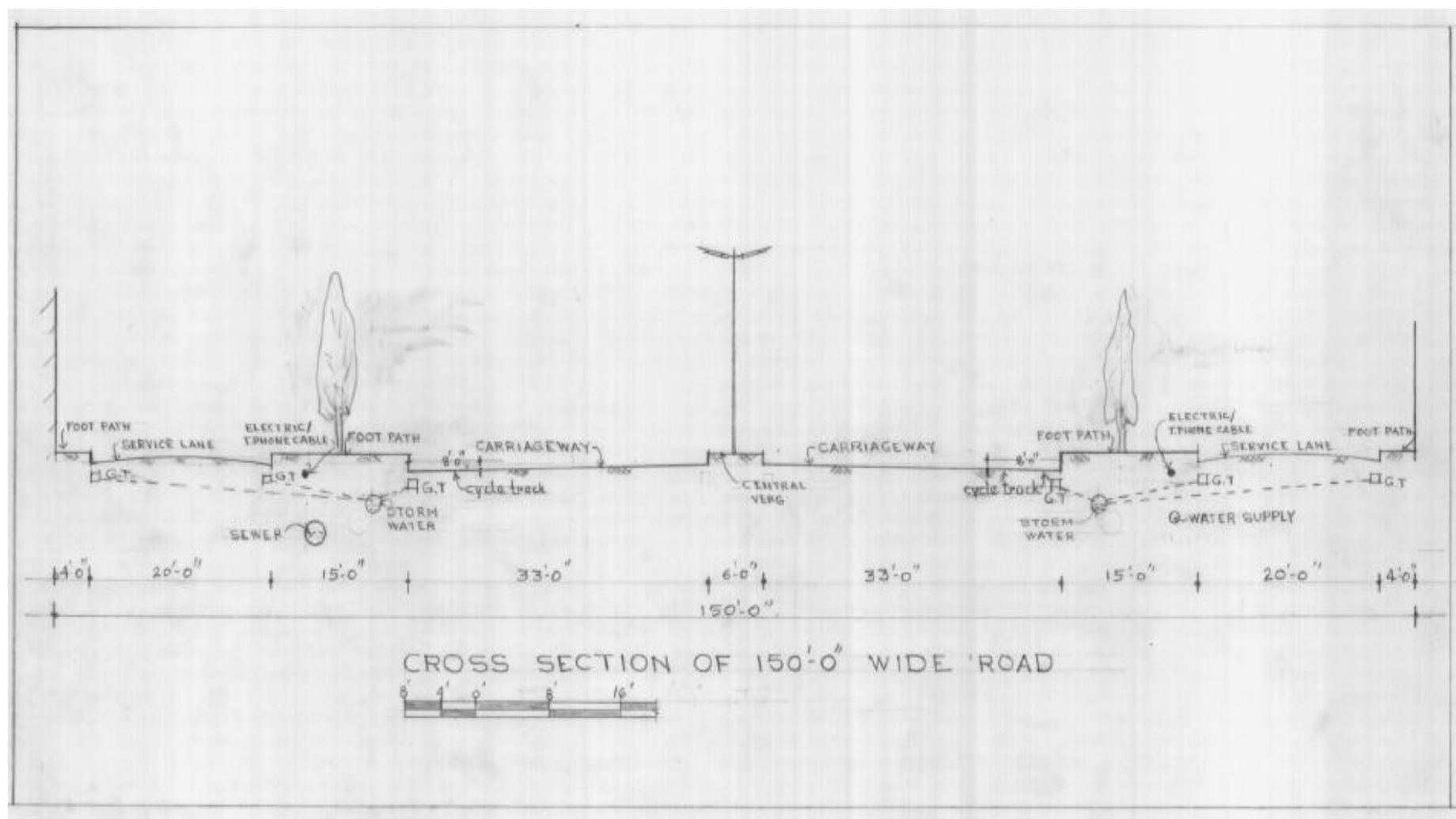
<b>Sr.No</b>	<b>Name of Slum</b>
1	Agwar Rara
2	Rani wala khoo
3	Agwarkhawa jawa jo
4	Shastrinagar
5	Gandhi nagar
6	Mohalla Dhonkian
7	Kushat asharam
8	Agwar Dala
9	Mohalla Rampura
10	Mohalla Gurdeep Nagar
11	Agwar ladhi

## ANNEXURE: IV

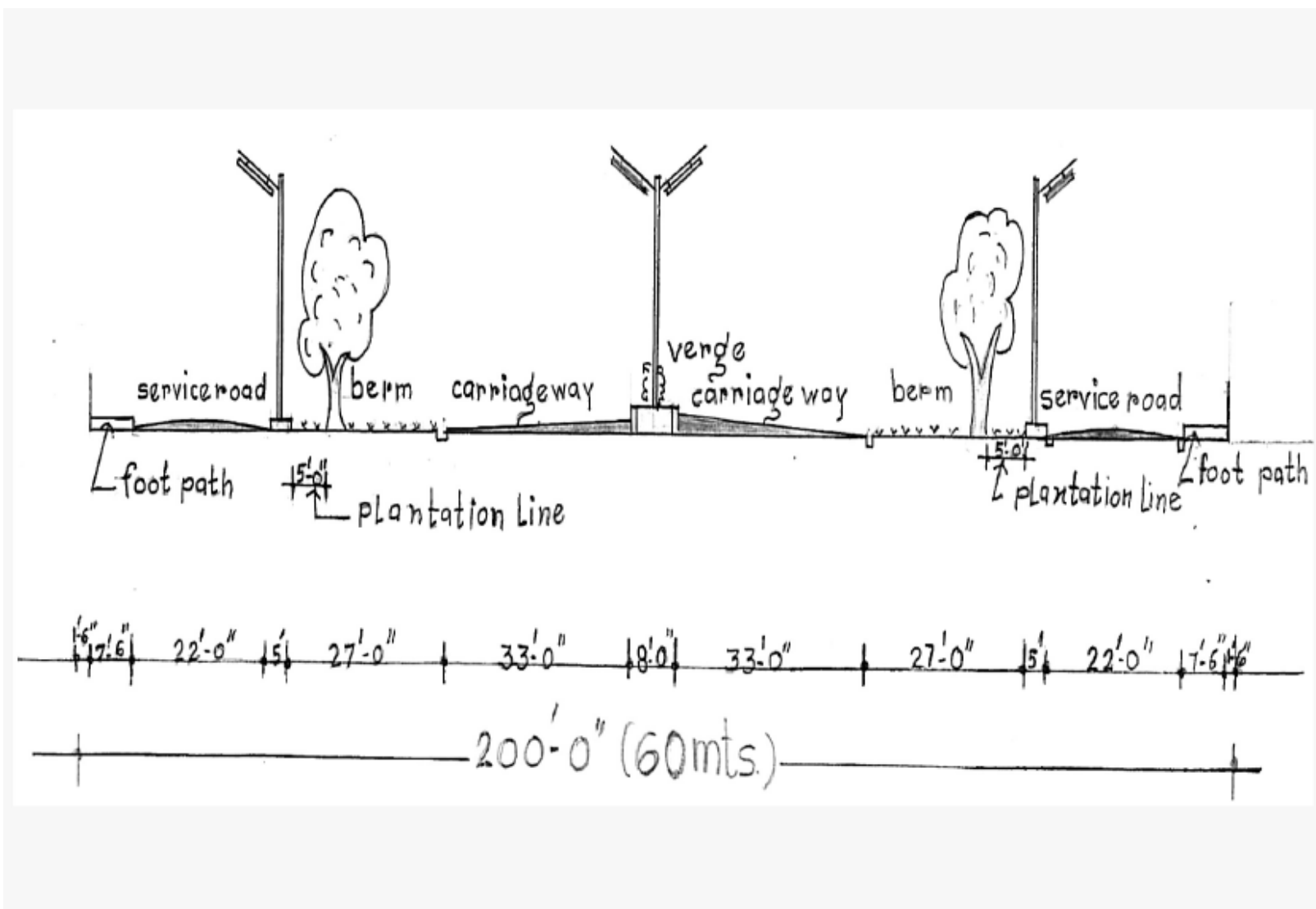
## TYPICAL ROAD CROSS SECTION OF VARIOUS HIERARCHY OF ROADS











## ANNEXURE NO.: 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 in height, with spreading habit, 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, evergreen with columnar form, highly attractive and ornamental. Propagated by layers and cuttings. Flowers deep pink from January to April and from September to November.
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, leafless 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, leafless 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, evergreen, flowers are of pale, yellow brown colour in March.
17	Jacaranda 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-m blue colour in April- May.
18	Kigelia pinnata (Jhar)	Tall and spreading tree, evergreen hardy and fast growing

	Phanoos)	flowers are of crimson, yellow and brown colour in April – May.
19	Lagerstroemia frosreginae (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, evergreen, handsome, bears sweet scented flowers of creamy white colour in March- April.
24	Putranjiva Roxburghii (Jiva Pota)	Medium in height, pyramid 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, evergreen, 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- September, flowers are of green colour in February- 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	Tabebuia Rosea	Small in height, columnar in shape, deciduous from December to February, scanty foliage, flower colour is purple pink in February –March.
29	Terminalia Arjuna (Arjan)	Tall, Columnar shaped tree, sheds leaves 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.

## ANNEXURE NO.: VI

**NOTIFICATION-**  
**LALA LAJ PAT RAI ANCESTOR HOUSE AND PLOT IN FRONT OF IT**

**LIST OF PROTECTED MONUMENTS IN PUNJAB**

Sr. No:	Name of Monument	Notification number & Date	Notified Area
<b><u>A) District : Amritsar</u></b>			
1	Old Tehsil, Ajnala	No: 12/82/92-4TC/1812 Dated: 16-8-93	3 Kanal 12 Marla
<b><u>B) District : Ferozepur</u></b>			
2	Anglo Sikh War Memorial, Sabhraon	No: 1397-3TC-78/18505 Dated: 29-5-78	1 Kanal 16 Marla
3	Anglo Sikh War Memorial, Ferozeshah	No: 4531-4TC-75/1681	2 Kanal 5 Marla
4	Anglo Sikh War Memorial, Misriwala	No: 862-3TC-78/17035 Dated: 16-5-78	9 Marla
5	Anglo Sikh War Memorial, Mudki	No: 1/17/78-4TC&C/35716 Dated: 3-10-78	3 Kanal 7 Marla
<b><u>C) District : Fatehgarh Sahib</u></b>			
6	Aam Khas Bagh, Sirhind	No: 2740/4TC-76/15186 Dated: 7-6-76	332 Kanal 5 Marla
7	Tomb of Ustad, vill. Talania, Sirhind	No: 362-T&C-76/19434 Dated: 15-7-76	2 Kanal 4 Marla
8	Tomb of Shagird, vill. Talania	No: 362-T&C-76/19434 Dated: 15-7-76	2 Kanal 14 Marla
9	Tomb of Amir Ali, vill. Dera Meer Mian	No: 3484-3TC/77/28528 Dated: 4-11-77	5 Kanal 2 Marla
10	Mosque Bhagat Sedna Kassi, Sirhind	No: 10/8/88-4TC/118 Dated: 18-1-89	3 Kanal 8 Marla
11	Jahaji Haweli, Toder Mal, Sirhind	No: 12/139/02-4TC/2068 Dated: 17-6-03	2 Kanal 17 Marla
<b><u>D) District : Faridkot</u></b>			
12	Old Thana Monument, Jaito	No: 3/12/94-4TC/55 Dated: 17-1-94	643.16 Sq.ft.
<b><u>E) District : Hoshiarpur</u></b>			
13	Jhandewala Temple, Dholbaha	No: 3688-ILG-70/29932 Dated: 18-11-70	15 Kanal 13 Marla
14	Excavated Temple, Dholbaha	-do-	3 Marla
15	Manasa Devi Temple, Dholbaha	-do-	2 Kanal 18 Marla
16	Ancient Temple, Dholbaha	No: 3688-ILG-70/29932 Dated: 18-11-70	5 Kanal 12 Marla
17	Octagonal Well, Dholbaha	-do-	1 Kanal 10 Marla
18	Mandir Hari Devi, Bhawanipur	No: 1010-3TC&C-78/10659 Dated: 19-4-78	2 Kanal 19 Marla
<b><u>F) District : Jalandhar</u></b>			
19	Commissioner's Residence, Jalandhar	No: 12/127/2000-4TC/742-50 Dated: 12-4-2001	338 Kanal
<b><u>G) District : Kapurthala</u></b>			
20	Moorish Mosque, Kapurthala	No: 1(9)4TC-81/134 Dated: 20-1-82	20 Kanal 5 Marla
21	Hindira - Sultanpur Lodhi	No: 1/18/78-4TC&C/1188 Dated: 22-6-79	3 Kanal 17 Marla
22	Gol Kothi Kapurthala	No: 12/154/02-4TC/61 Dated: 16-1-03 + 12/154/02-4TC/2544 Dated: 21-10-2003	9 Kanal 9 Marla
<b><u>H) District : Ludhiana</u></b>			

23	Mughal Sarai, Doraha	No: 12/87/95-43TC/2493 Dated: 28-9-95	41 Bigha 11
24	Anglo Sikh War Memorial Aliwal with approach path way	No: 1/8/78-4TC/1549 Dated: 24-3-79	1 Kanai 16
25	Ancestral House of Lala Lajpat Rai at Jagraon & Plot in front of house	No: 15(45)81-4TC/1670 Dated: 11-8-82	62 Sq. yard Sq. yd.
26	Ancestral House of Shaheed Kartar Singh at Sarabha	No: 12/124/97-4TC/2331-42 Dated: 21-11-97	1175 Sq. ft.
27	Ancestral House of Shaheed Sukhdev Thapar Ludhiana	No: 10/38/07-4TC/1402, Dated: 20-21/05/2008	30'-8" X 20
28	Quila at Payal	No: 10/12/2008-4TC/596, Dated: 16/03/2009	13704 Sq. ft.
29	Sarai Lashkari Khan, Teh. Khanna	No: 11/23/08-4TC/611, Dated: 16/03/2009	14 Kanai, 16 Marla
30	Tomb of Alawal Khan, Behlolpur	No: 38(3)85/4TC/1210	1 Kanai 41
31	Tomb of Hussain Khan (Father) Behlolpur	No: 10/11/88-4TC/1336 Dated: 1-8-89	17 Kanai 1
32	Tomb of Nawab Bahadur Khan (Son) Behlolpur	-do-	
<b>D District: Shaheed Bhagat Singh Nagar (Newaunghar)</b>			
33	Ancestral House of Shaheed Bhagat Singh, Khaskar Kalan Shaheed Bhagat Singh Nagar	No: 1(1)4TC-82/896 Dated: 12-5-1982	8489 Sq. ft.
34	Maharaja Ranjit Singh Hill Park, Asraon	No: 10/28/06-4TC/1806, dated: 09-07-2008	63 Kanai,
<b>D District: Patiala</b>			
35	Sheesh Mahal Patiala	No: 433-lig-72/4904	25365 Sq. ft.
36	Quila Mubarak Patiala	No: 1/57/93-4TC/2869	11.6 Acre
37	Samania Gate Patiala	No: 12/227/89/4TC/2414 Dated: 16-10-90	185 Sq. ft.
38	Sunam Gate Patiala	No: 12/227/89/4TC/2414 Dated: 16-10-90	185 Sq. ft.
39	Sirhind Gate Patiala	No: 12/227/89/4TC/2414 Dated: 16-10-90	190 Sq. ft.
40	Darshani Gate Patiala	No: 12/227/89/4TC/2414 Dated: 16-10-90	270 Sq. ft.
41	Baradari Moti Bagh	No: 3987-3TC-77/29587 Dated: 19-11-77	15872 Sq. ft.
42	Painted Chamber of Kali Devi Temple	No: 3082-TC-76/17070 Dated: 4-6-76	144 Sq. ft.
43	Quila Beer, Bahadurgarh (only outer wall & ditch)	No: 12/152/90/4TC/4641 Dated: 17-12-92	520 Kanai 8 Marla
44	Painted Chamber, Rani Hall, Nabha	No: 2438-4TC-76/15214 Dated: 31-5-76	200 Sq. ft.
45	Mound at Ghuram	No: 1528-3TC-77/12337 Dated: 13-5-77	143 Kanai
46	Kos Minar, Rajgarh	No: 359-T&C-76/19428 Dated: 14-7-76	7 Marla
47	Kos Minar, vill. Naushera	No: 360-T&C-76/19430	2 Marla
48	Mughal Sarai, Shambhu	No: 12/85/95/4TC/2486 Dated: 20-9-95	55 Bigha 15 Biswa
49	Shahi Samacha, Patiala	No: 10/147/08-4TC/231 Dated: 30/01/2009	26 Kanai, 13 Marla
50	Mandir Shri Badri Narsin (Bahadurgarh) Patiala	No: 12/81-4TC/898, Dated: 13/4/2006	202 Kanai 14 Marla

## ANNEXURE NO.: VII

## DETAIL OF ROADS

Name of Road	Right Of Way	Status of Road	Remarks(Permissible landuse)
<b>R-1</b>	<b>Above 150 feet wide</b>	<b>1)National Highway-95</b>	Mixed Landuse along road front
	<b>200 feet wide</b>	<b>2)Outer Ring Road</b>	Agriculture zone permissible on both sides of the road
			In south east and south west direction of town, residential zone permissible inside road and agriculture outside the road.
		3) Road along Abohar branch Sirhind canal in south side of the town.	Agriculture zone permissible on both sides of the road
<b>R-2</b>	<b>150 feet wide</b>	<b>1) Nakodar road</b>	Mixed Landuse along road front on both sides of the road upto M.C. Limit.
		<b>2) Raikot Road</b>	Mixed Landuse along road front on both sides of the road upto M.C. Limit.
<b>R-3</b>	<b>100 feet wide</b>	<b>Inner Ring Road</b>	Residential use is permissible on both sides of the road in south direction of the town.up to drain.
			Residential use permissible on b.s. of the road from railway line up to Fzr-Ldh road.
			Industrial use is permissible partially on right side of the drain.
			Residential use is permissible on b.s. from Fzr-Ldh road upto Proposed Inner Ring Road.
			Agriculture use is permissible from Nakodar road up to Fzr-Ldh road & partially Industrail use is permissible.
			Partially Mixed Landuse along road front and residential use is permissible b/w Fzr-Ldh railway line & Fzr-Ldh road.
			Agriculture use is permissible on left side & residential use is permissible on right side of the road b/w Fzr-Ldh railway line up to Jagraon distributory.
			Partially residential & partially agriculture use is permissible from Jagraon distributor up to Raikot road.
		Road starting from Proposed Outer Ring road passing through the revenue estate of villages Chimna, Malak, Shahid Rachhpal Singh Magar/Aligarh, Gagra, Mirpur, Sohian, Pabbian,	Agriculture on both sides starting from Proposed Outer Ring road up to Urbanisable limit. Residential use is permissible from urbanisable limit up till Firozpur-Ludhiana Railway

		Mann, Kular and joining Proposed Outer Ring Road in the South west direction of the town.	line on both sides and residential use is permissible on left side from Firozpur-Ludhiana Railway line up to Urbanisable limit in the south direction of the town. Industrial use is permissible on right side of the road from Firozpur-Ludhiana Railway line up to Urbanisable limit along drain. Mixed Landuse use is permissible on right side of the road.
<b>R-4</b>	<b>80 feet wide</b>	1) Road towards Kaunke Kalan village( from OuterRing road till L.P.A. boundary)	Agriculture use permissible on both sides of the road.
		2) Road from M.C. Limit towards Vill. Kaunke Kalan.	Residential use is permissible on both sides u to Proposed Inner Ring Road. Agriculture use is permissible on both sides from Proposed Inner Ring road up to Proposed Outer Ring Road.
		3) Road from Fzr- Ldh Railway line up to road towards Vill. Kaunke Kalan.	Residential use is permissible on both sides.
		4) Road connecting Raikot road crossing M.C. Limit and joining Fzr- Ldh road.	Residential use is permissible on both sides up to drain passing through the city. Industrial use is permissible on right side b/w drain & Fzr-Ldh railway line. Mixed Landuse is allowed on both sides up to Fzr- Ldh road.
		5) Road joining Fzr- Ldh road up to proposed Link along drain encircling Vill. Gagra.	Industrial use is permissible on both sides b/w Fzr-Ldh Railway line & link. Residential use is allowed on left side & industrial use on right side of the road. Mixed Landuse is allowed on b.s. upto Fzr-Ldh road.
		6) Road towards Abohar branch	Residential use permissible on both sides of the road uptill Outer ring road and agriculture use permissible on both sides of the road from Outer Ring road till L.P.A. boundary.
		7) Road towards vill. Ghalib Kalan	Industrial zone permissible on left side of the road and agriculture use permissible on right side of the road uptill Outer Ring Road. Outside Outer ring road, agriculture use is permissible on both sides of the road.
		8) Road from Fzr- Ldh railway line up to	Agriculture use permissible on both side of the road.

		Outer Ring Road towards Vill. Gurah.	Agriculture use is permissible on right side of the road. Residential use is permissible of the road.
		9) Road from Fzr-Ldh road towards vill. Talwandi Kalan uptill L.P.A. boundary.	Mixed landuse along road front and agriculture use is permissible on both side of the road form Khokri distributor till L.P.A. boundary.
		10) Road along Fzr-Ldh railway line towards Fzr side uptill Outer Ring Road.	On the right side of the road, residential use is permissible partially in the revenue estates of vill. Agwar Gujjaran and Agwar Khawaja Bajwa.
			Industrial zone permissible partially in the revenue estates of vill. Agwar Lapon Khurd, Agwar Khawaja Bajwa and Agwar Lapon Kalan on the right side of the road.
			Residential use permissible uptill Inner Ring road on the left side of the road and agriculture use is permissible till Outer Ring Road.
		11) Road along Fzr-Ldh railway line towards Ldh side, from drain till L.P.A. boundary.	Industrial zone permissible on both side of the road from Inner Ring road till Outer Ring Road.
			Agriculture use permissible on both side of the road from Outer Ring Road till L.P.A. boundary.
<b>R-5</b>	<b>60 feet wide</b>	Roads from Vill. Kaunke Kalan towards Inner Ring Road.	Agriculture use permissible on both side of the road.
		Road from Inner Ring Road till Outer Ring Road in NE direction.	Agriculture use permissible on both side of the road.
		Road from outer ring road crossing drain towards vill. Kular	Agriculture use permissible on both side of the road.
		Road from Fzr-Ldh railway line moving along drain in south direction of the town.	Agriculture use permissible on both side of the road.
		Road from Vill. Kular towards Drain.	Agriculture use permissible on both side of the road.
		Rod from Fzr-Ldh railway line via Vill.Shekhu Pura upto Jassowal distributor.	Agriculture use permissible on both side of the road.
		Road from vill.Sohian upto drain.	Agriculture use permissible on both side of the road.
		Road linking road from vill. Talwandito road leading to vill. Mor Karma.	Agriculture use permissible on both side of the road.
		Road from Vill.Sidhwan Khurd upto Outer Ring Road.	Agriculture use permissible on both side of the road and partially Mixed Landuse along road front is permissible.
		Road from Vill. Chimna upto L.P.A. boundary.	Agriculture use permissible on both side of the road
		Road from vill. Sherpur till	Agriculture use permissible on



		L.P.A boundary.	both side of the road
		Link joining L.P.A. boundary & Khokri Distributory in east direction of the town.	Agriculture use permissible on both side of the road