

MASTER PLAN OF LOCAL PLANNING AREA SULTANPUR LODHI

2010-2031



**OFFICE OF DEPUTY DISTRICT TOWN PLANNER, KAPURTHALA
DEPARTMENT OF TOWN AND COUNTRY PLANNING, PUNJAB**

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ABBREVIATIONS

<i>F.A.R</i>	<i>Floor Area Ratio</i>
<i>M.C</i>	<i>Municipal Committee</i>
<i>O.H.S.R</i>	<i>over Head Surface Reservoir</i>
<i>H.P</i>	<i>Horse Power</i>
<i>B.D.O</i>	<i>Block Development Office</i>
<i>Gms</i>	<i>Grams</i>
<i>B.Ed.</i>	<i>Bachelor of Education</i>
<i>P.A.P.R.A.</i>	<i>Punjab Apartment and Property Regulation ACT</i>
<i>Mt.</i>	<i>Meter</i>
<i>P.C.U</i>	<i>Passenger Car Unit</i>
<i>E.C.S</i>	<i>Equivalent Car Space</i>
<i>O.U.V.G.L</i>	<i>Optimum Utilization of Vacant Govt. Land</i>
<i>T.D.R</i>	<i>Transfer of Development Rights</i>
<i>T.D.S</i>	<i>Town Development Scheme</i>

<i>P.T.I</i>	<i>Punjab Town Improvement</i>
<i>S.H.U.D</i>	<i>Secretary, Housing and Urban Development</i>
<i>R.O.W</i>	<i>Right of Way</i>
<i>LPA</i>	<i>Local Planning Area</i>
<i>N.H</i>	<i>National Highway</i>
<i>S.H</i>	<i>State Highway</i>
<i>P.W.S.B</i>	<i>Punjab Water Supply and Sewerage Board</i>
<i>R.O.B</i>	<i>Railway Over Bridge</i>
<i>C.P.H.E.E.O</i>	<i>Central Public Health and Environment Engineering Organization.</i>
<i>L.P.C.D</i>	<i>Litre per Capita per Day.</i>
<i>M.T</i>	<i>Metric Tonne</i>
<i>M.L</i>	<i>Million Litres.</i>
<i>U.D.P.F.I</i>	<i>Urban Development Plan Formulation and Implementation Guidelines.</i>
<i>S.D.M</i>	<i>Sub-Divisional Magistrate.</i>
<i>B.D.P.O</i>	<i>Block Development and Panchayat Office.</i>
<i>P.U.D.A</i>	<i>Punjab Urban Development Authority.</i>
<i>P.R.T.P.D Act.</i>	<i>Punjab Regional and Town Planning and Development Act.</i>
<i>U/S</i>	<i>Under Section</i>
<i>S.C</i>	<i>Scheduled Caste.</i>
<i>G.S.D.P</i>	<i>Gross State Domestic Product.</i>
<i>P.A.U</i>	<i>Punjab Agriculture University.</i>
<i>P.R.S.C</i>	<i>Punjab Remote Sensing Centre.</i>
<i>D.D.T.P</i>	<i>Deputy District Town Planning.</i>
<i>E.G.S</i>	<i>Electric Grid station.</i>

1. SUMMARY

Introduction

- 1.1. Sultanpur Lodhi with its population of 17354 is a very famous religious town of Kapurthala District as well as of Punjab. Because of some tourism activities and to some extent religious development that has already taken place, its growth impulses have led to growth of Sultanpur Lodhi town. Recognizing the need for regulating the development of the entire influence area of Sultanpur Lodhi town, Government of Punjab has delineated Local Planning Area (LPA) Sultanpur Lodhi and notified U/S 56(1) of “Punjab Regional and Town Planning and Development (Amendment) Act, 2006” in the official gazette vide notification No.12/17/2007- 4HGI/5025, dated 05/07/2007 .In continuation of the above said notification dated 05/07/2007 government has further altered the boundaries of LPA Sultanpur Lodhi vide notification No.12/17/07- 4HGI/3727 Dated 04/06/08. The Government has also designated the Chief Town Planner, Punjab as the Planning Agency to prepare the Master Plan of LPA Sultanpur Lodhi.
- 1.2. The LPA Sultanpur Lodhi comprises one urban settlement and ten villages. The total area of LPA Sultanpur Lodhi is as per revenue record is 3270 hect. As per PRSC data, the area of LPA Sultanpur Lodhi is 3255.76 hectares. Out of which 347 hect. is Urban area and 2908.76 hectares lies under rural area. Total population of LPA Sultanpur Lodhi is 22,184 persons out of which 17354 are urban.

Regional Setting

- 1.3. Sultanpur Lodhi is a Sub divisional headquarters of the district Kapurthala and is also an important religious town of Punjab state .It falls within Doaba region of the state. Sultanpur Lodhi is situated at of 75° 9’48” to 75° 14’50” East longitude and extends from 31°11’13” to 31° 14’48” to’ North latitude. Sultanpur Lodhi is situated at a distance of 26 km south of Kapurthala, 46 km west of Jalandhar and 196 km west Chandigarh.

Although Sultanpur Lodhi doesn’t falls on any National Highway and State Highway yet it is well connected by roads with the surrounding cities and towns like Jalandhar, Kapurthala, Goindwal, Makhu and Ferozpur. The town is situated on Kapurthala – Lohian– Makhu railway line is connected with Kapurthala- Ferozpur broad gauge railway line.

Historical background

- 1.4. Sultanpur Lodhi is one of the ancient cities of India, though it had been established in the first century of the current era. It has witnessed ups and downs of politics, religion, literature, trade and commerce .It carries lot of memories from its proud past. It is situated on the left bank of Kali Bein.

Founder of the Sikhism Guru Nanak Dev Ji lived at Sultanpur Lodhi for 14 years 9 months and 13 days. In this town, his sister Bebe Nanki and her husband Bhai Jai Ram, an official in the services of Nawab Daulat Khan Lodhi, used to live. Many tales and stories are famous about Modi Khana and Guru Ji. Today Sultanpur Lodhi has several Gurudwaras commemorating events connected with the life of Guru Nanak Dev Ji, while staying here, in June 1488, Guru Nanak Dev Ji was married to Bibi Sulakhani Ji and had two sons , Shri Chand Ji and Lakhmi Das Ji

Legal Framework

- 1.5. The Punjab Regional and Town Planning and Development Act, as amended 2006 provide the legal framework for preparation of Master Plan. The four-stage process involves declaration of Local Planning Area, designation of Planning Agency, preparation of present land use map and preparation and approval of Master Plan. The contents of the Master Plan as laid down by the Act are;
- (a) Broad indication of the manner in which the land in the area should be used.
 - (b) Allocation of areas or zones of land for use for different purposes.
 - (c) Indication, definition and provision of the existing and proposed highways, roads, major streets and other lines of communication.
 - (d) Indication of 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 affecting either the heritage site or its vicinity, shall be carried out.
 - (e) Regulations to regulate within each zone the location, height, number of storey's and size of buildings and other structures, open spaces and the use of buildings and structures.

The Act also provides for “Control of Development and Use of Land in Area where Master Plan is in Operation”

Population growth

- 1.6. The population of LPA Sultanpur Lodhi is 22,184 persons as per census data 2001 with a decadal (1991-2001) growth rate of about 15.58% and population of Sultanpur Lodhi town is 17354 with a decadal growth rate of 17.34% between 1981-91 and 15.86% between 1991-2001.

Population Density

- 1.7. The average gross population density of Sultanpur Lodhi town is 50.01 persons per hectare. However ward wise densities vary considerably. The highest and the lowest are being 432.22 and 7.28 persons per hectare in ward no. 12 and 1 respectively.

Housing

- 1.8. Growth of housing is declining to 3.42% in 2001 from 33.865 in 1991. 93.34% of the total housing stock as per census data is purely used as residential use. According to 2001 Census, 2503 houses are of permanent nature, 212 are semi-permanent and only 20 non-serviceable temporary houses. As regards access to service, 2230 have tap water, 2710 have electricity. According to Census 2001, about 7636 persons are slum dwellers. There are 12 slums areas and all are located on private land.

Employment

- 1.9. The work force participation rate of LPA, Sultanpur Lodhi town is 34.40% and that of Sultanpur Lodhi town is 32.38%. The main sectors providing employment in LPA Sultanpur Lodhi are Rice Sheller, Brick-klin, Banks and Finance companies, Petrol pumps, Marriage palaces, Various types of shops concentrated various part of the town.

Existing Land Use and Transport Network

- 1.10. Preparation of present land use map was undertaken with the help of Punjab Remote Sensing Centre (PRSC), Ludhiana. For the core built up area Quick Bird data of 0.6m resolution was used, where as for the outer areas 'Cartosat -I' data of 2.5 m resolution was used. The maps based on satellite imageries were updated by undertaking field surveys. Out of a total LPA, Sultanpur Lodhi town area of 3255.76 hectares (as calculated by PRSC) maximum proportion is occupied by 2908.76 hectares by agricultural use, 166.92 hectare followed by residential, 19.86 hectares by industrial and 95.86 hectares by transport. In case of Sultanpur Lodhi town out of a total area of 347 hectares (as calculated by PRSC) 90.89 hectares are occupied by residential use, 14.72 hectares by industrial use, 36.91 hectares by public & semi public use, 33.21 hectares by transport use and 125.73hectares by rural and agriculture use.

The regional road network comprises of Sultanpur Lodhi town – Ferozepur road, Sultanpur Lodhi – Kapurthala road-via Pajian, Sultanpur Lodhi – Kapurthala via Talwandi Chaudhrian road. Although the Right of Way (ROW) of these roads outside the municipal area varies between 13.41mts to 62.20 mts, the effective carriageway varies between 5.48 mts to 6.76 mts. Jalandhar-Ferozepur railway line provide excellent connectivity to the town but it also leads to fragmentation of the town into two parts, necessitating number of ROB's to provide accessibility.

Physical Infrastructure

- 1.11. Water for Sultanpur Lodhi town is sourced from ground water. The total supply is 6.10 MLD. For Present population it works out to be 271 LPCD which is more than standards nearly 76 % of the total population is covered by piped water supply and is managed by PWSSB. The water supply to all the villages is handled by Public Health Department, Punjab.

As regards sewerage 74% of the population of Sultanpur Lodhi town has access to underground sewerage. Average daily sewer flow is 2.30 LMD. Sewerage treatment plant is available for the treatment of sewage.

Though collection and transportation of solid waste is managed by the Municipal Council, disposal is not in the form of sanitary landfill as required by the Municipal Solid Waste Rules of the Ministry of Environment and Forest. Similarly the disposal of Bio-Medical waste too does not comply with relevant rules.

Traffic

- 1.12. Roads of Sultanpur Lodhi town are not congested due to small size of town. This means that there is no acute traffic problem on major roads of the town. There is acute shortage of parking particularly in the traditional bazaar areas of the town. Small area of Bus stand exists in the centre of the town sometimes leads to congestion on town roads and the areas around it.

The number of vehicles increased from 250 to 2153 during 2000 and 2008, thus registered a growth rate of 76% .However, keeping in view the growth of vehicles in future, the improvements in road network, transport terminals and parking will be of very high priority.

Social Infrastructure.

- 1.13. There is sufficient number of educational and health care facilities in LPA, Sultanpur Lodhi town. The sports and recreational facilities are also not adequate as there is only one stadium and no major park in the town is available. However the individual stadiums

are available in some educational institutions. Only one cinema is providing entertainment in town but no club facility is available.

Population and Employment forecast

- 1.14. The population of LPA, Sultanpur Lodhi town is estimated to grow to 50600 of which the population of Sultanpur Lodhi town along with that of the fringe villages is estimated to be 48 thousand by 2031.

Infrastructure Requirements

- 1.15. The infrastructure requirements of this growth by 2031 would be,
- (a) Water supply: 7.45 Mld
 - (b) Wastewater: 6.63 Mld
 - (c) Solid waste management: 12 mt.ton per day
 - (d) Power: 19200 kw.

Vision 2031

- 1.16. A specially constituted “Think Tank” comprising official and non-official representatives from all walks of life articulated the Vision 2031 for Sultanpur Lodhi town in following terms:

“To transform Sultanpur Lodhi town into a tourist centre from religious point of view and trade commerce and science centre of surrounding region by providing high quality physical and social infrastructure to all its citizens in an inclusive and environmentally sustainable manner.”

The strategies to attain this vision would require spatial land use planning, infrastructure planning and financing, enabling private investment in economic growth, ensuring environmentally sustainable development etc. The role of Master Plan in this regard would be that of facilitating a spatial land use planning framework conducive to attaining the vision.

Visualizing the future structure of the town involves delicate trade-offs. If urban development is freely permitted anywhere it might lead to sprawl that is difficult to serve in terms of infrastructure services and may cause loss of fertile agricultural land. On the other hand if the future structure is visualized as compact town that is easier to serve, it might increase the land price where development is permissible and might cause unauthorized development where it is not. The extent of urbanization visualized is therefore not narrowly linked to land required for accommodating the projected population and economic activities by 2031. The extent of urbanization is defined based on the land requirement for various urban land uses,

transport network that would be desirable and the areas that would acquire development potential on account of such transport network.

Proposed Land Use and Road Network

1.17. In the light of the above approach proposed land use and road network plans are incorporated in the Master Plan. The land in LPA, Sultanpur Lodhi has been zoned for Residential, Commercial, Industrial, Rural and Agricultural purposes. Further, areas have been designated for important specific purposes like Public Utilities, Transport Nagar, Mela ground and green buffer along bein. However specific designations for public purposes like schools, hospitals, playground etc have not been earmarked. The major road network has been proposed. The proposed land use plan is shown in Drg. No. DDTP (K) 09/2010, dated 30-07-2010. The major road network proposed comprises four categories roads viz. R1-(200 feet), R2-(100 feet), R3-(80 feet) and R4-(60 feet). Road network is also shown on Drg. No. DDTP (K) 09/2010, dated 30-07-2010. The proposed road network comprises of the Ring Road and radial roads of various rights of ways as explained above.

Zoning Regulations

- 1.18. The Punjab Regional Town Planning & Development (Amended) Act, 2006 provides for the “Control of Development and Use of Land in Area where Master plan is in Operation”. However for control of development through parameters like sub-division of land, ground coverage, FAR, parking requirements, norms for building construction etc. have already been notified on a state wide basis by the Government. The zoning regulations included in the Master Plan are therefore confined to use of land.

2. INTRODUCTION

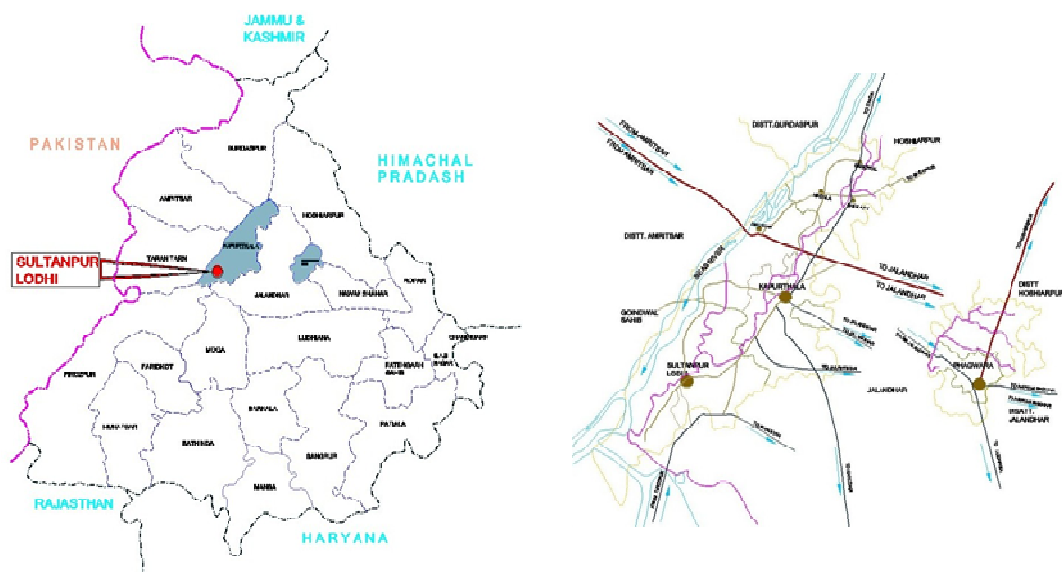
Initial Steps

- 2.1. As a first step towards the preparation of master plan Sultanpur Lodhi town, Local Planning Area has been delineated and notified U/S 56(1) of “Punjab Regional and Town Planning and Development (Amendment) Act, 2006” in the official gazette vide notification no.12/17/2007- 4HGI/5025, dated 05/07/2007 (Refer *Annexure-1*). In continuation of the above said notification dated 05/07/2007 government has further altered the boundaries of LPA Sultanpur Lodhi town within the meaning of Sub section 7 of section 56 of Punjab Regional and Town Planning and Development (Amendment) Act, 2006 vide notification no.12/17/2007-4HG1/3727 dated 04/06/08 (Refer *Annexure-2*). The physical extent and boundaries of LPA, Sultanpur Lodhi town are shown in Drg.no.DDTP(K)15/2007 dated.20-09-07.The Local Planning Area, Sultanpur Lodhi includes one urban settlement and 10 village. This area spreads over an area of 32.70 sq. kms (3270 hectares) serving a population of 22,184 persons. Out of total area of LPA, about 347 hectares are urban area which is 10.61% of the total area of LPA and 2923 hectare lies under rural area which is 89.39% of the total area of LPA. The Government also designated the Chief Town Planner, Punjab as the Planning Agency vide notification 12/17/2007-4HG I/6520 dated 14/08/07 to prepare the Master Plan of LPA Sultanpur Lodhi.(Refer *Annexure -3*) list of town villages included in Sultanpur Lodhi town is give in Annexure -4.
- 2.2. While delineating the LPA Sultanpur Lodhi, the following factors mentioned in rule 22 of the Punjab Regional and Town Planning and Development (General Rules 1995) have been considered:
- Administrative boundary limits of the villages, the tehsil, and the district has been followed for better identification and management of the Local Planning Area.
 - Geographical features of the area like rivulet named “Bein”, road network and drainage are considered.
 - For better accessibility, the means of transportation and communication have been considered for better development of the area.
 - The present and future growth trends and distribution of the population is another important factor considered for delineation of this area.
 - Economic base and commercial activities of the town and their surrounding areas are also taken care of.
 - Urban expansion trends and management of periphery areas for ecological and environmental balance have also been kept in view:

Regional Setting

- 2.3. Sultanpur Lodhi, a Sub Divisional headquarters of the district Kapurthala and is an important religious town of Kapurthala District in Punjab and It falls within Doaba region of the state. Sultanpur Lodhi is situated at a distance of 27 Km south of Kapurthala, 46 Km west of Jalandhar and 196 Km west of Chandigarh, “the Capital of Punjab”. It is situated about 6 miles (10 Km) north to intersection of Beas and Sutlej. The town is situated on Kapurthala –Lohian– Makhu road and is connected with Kapurthala- Firozpur broad gauge railway line .Although Sultanpur Lodhi town doesn’t falls on any National Highway and State Highway but it is well connected by roads with the surrounding cities and towns like Jalandhar,Kapurthala,Goindwal and Makhu. The LPA Sultanpur Lodhi, which surrounds the town, is an important part of rich fertile land of Doaba region of the state. It is situated between 75° 9’48” to 75° 14’50” East longitude and extends from 31° 11’13” to 31° 14’48” North latitude.

Figure 1: Location of Sultanpur Lodhi town with respect to Punjab State and District Kapurthala



Physiography and Climate

- 2.4. The physiography of Sultanpur Lodhi town and its surrounding areas is a typically representative of an alluvial plain and it owes its origin to aggravation work of river Beas. The Town is very ideally located in the plain region, which is marked for its flatness and featurelessness.

River and Drains

- 2.5. The Beas River and Kali Bein constitute the chief hydrographic features of the areas.

The Kali Bein:

- 2.6. This rivulet flows along Sultanpur Lodhi town Kali Bein holds a very sacred part in all Sikh's lives. This is the rivulet where founder of Sikhism Shri Guru Nanak Dev Ji had a dip and recited Mool Mantra. The 160-km-long rivulet springs from the land around Dhanao village in the Hoshiarpur district of the Punjab. The minerals that seep into the river have lent the river its name as they cause the river to give a black reflection in the viewers' eye. Kali Bein flows by several villages and cities; one of them is Sultanpur Lodhi a historical town where Guru Ji stayed some part of his life with his Brother-in-Law and Sister Bebe Nanaki Ji.

Figure 2 : View of Kali Bein



The Beas River:

- 2.7. This river flows about 6 kms west of Sultanpur Lodhi town of this area .Both the above Kali Bein rivulet of Beas river and Beas river itself are a perennial source of water both too drinking and irrigation purposes and a rich source of alluvial soil thus making it very fertile land.

Climate

Climatic Divisions, Seasons and their Duration:

- 2.8. The cold season is from about the middle of November to the early part of March. The succeeding period up to June is the hot season. July, August and the first half of September is monsoon. Mid September to about the middle of November may be termed as the post monsoon.

Temperature:

- 2.9. June is generally the hottest month with the mean daily maximum temperature at 43.80°C and the mean daily minimum temperature at 26.50° C. January is the coldest month of the year. The mean daily maximum temperature in January is 18.50°C and the mean daily minimum temperature is 2.2° C.

Rainfall:

- 2.10. About 70 percent of the annual rainfall (55.49 cm) is received during period from July to September. The rainfall during the period of December to March accounts for about 16 percent of the rainfall

Historical Background

- 2.11. Sultanpur Lodhi is one of the ancient cities of India, though it has been established in the first century of the current era. It has witnessed the difficulties of politics, religion, literature, trade and commerce. It carries lot of memories from its proud past. It is situated on the left bank of rivulet, called “Kali Bein” about 6 miles north to intersection of Beas and Sutlej rivers.

From the first century to sixth century, it was one of the major centers of meditation and knowledge for Buddhism. In that period, the town of Sultanpur Lodhi was known by the name of ‘*Sarwmanpur*’. Many statues, coins and other such objects were found during the archeological excavations of the town. It is also believed that the ancient Buddhist book of ‘*Abinav-Prastava*’ authored by Katiyana was written in Sultanpur Lodhi.

In the eighth century, the town became a great empire of Hinduism and Buddhism. Many coins and objects of that period were found in this town.

In the eleventh century, when the Islamic invader Mehmood Gaznavi invaded, the Hindu-Buddhist town then known as *Sarwmanpur* was reduced to ashes by his army, a layer of black soil, found only a few meters below the ground level has literally left proof of that.

It was founded by Sultan Khan Lodhi a General (Faujdar) of Mohamad Gaznavi in the 11th Century A.D. & was earlier main town of Doaba Region. During the time of Sikander Lodhi, the famous Sultan of Delhi assigned the construction of Sultanpur to Nawab Daulat Khan of Lahore. He gave a very beautiful landscape to the environment of this town and turned it into a Nakhilstan (Green Patch) and play-hunt (Sikargarh).

In the 12th Century, the Nawab Wali Muhammad Khan, cousin brother of the Emperor of Delhi Nasir-u-din Muhammad Shah, was appointed as the Hakim (ruler) of Punjab. Once, one of the two sons of Hakim, Sultan Khan traveled though the area and the beauty of the surroundings of the remains of the town struck him. He decided to

rebuild the town calling it by his name and so it is how the memory of *Sarwmanpur* faded as the town of Sultanpur Lodhi rose out of the ashes.

Sultanpur Lodhi, in those days was not only famous for the special qualities of the land and surrounding, its trade but also for its educational institutions .Many of the Islamic schools of education known as MADRASAS were in this town. The two princes of Delhi, AURENGZAB and DARA-SHIKOH sons of the Emperor Shah-Jahan completed their studies at the University of Sultanpur .Well into the next two centuries and during the Mughal Empire, it maintained its position as the centre of the Muslim culture. This new town of Sultanpur Lodhi was also the centre point of the old trade route between Delhi and Lahore. It was one of the major trade centers of North India at that time. It consisted of 32 major markets and about 5600 shops. At that time, the town was spread over an area of 8 square miles. The Kali Bein at that time runs through the centre of the town. These features at that time were more than enough to make it a big town.

Sultanpur Lodhi is given a great importance in the ancient book of *Aie-ne-Akbari*. This Town in those days had many royal Gardens and Farms. There are many royal buildings built at that time. One of those is *Handira*. At that time, it was a marvelous building.

At the end of the 14th century, The Governor of the Lahore Daulat Khan Lodhi ruled it. Sultanpur Lodhi before the start of Sikhism was also called *Peeranpuri* (Town of Monks). Many religious personalities related to the town before that time. Many of the tombs (Makabras) of these monks are still present in the town.

Founder of the Sikhism Guru Nanak Dev Ji lived in Sultanpur Lodhi for 14 years 9 months and 13 days. In this town, his sister Bebe Nanki and her husband Bhai Jai Ram, an official in the service of Nawab Daulat Khan Lodhi, used to live. Many tales and stories are famous about Modi-Khana and Guru Ji. While staying here in June 1488, Guru Nanak Dev Ji was married to Bibi Sulakhani Ji and had two sons, Shri Chand Ji and Baba Lakhmi Das Ji. Today Sultanpur Lodhi has several Gurudwaras Commemorating events connected with the life of Guru Nanak Dev Ji .

Figure 3 : Residence of Bebe Nanaki ji



The brief history of the religious places is given below:-

Gurudwara Ber Sahib:

- 2.12. The principal shrine at Sultanpur is situated on the bank of the rivulet Kali Bein. Guru Nanak Dev Ji performed his morning ablutions in the Bein and then sat under a Ber (Zizyphus jujuba) tree to meditate. One morning, Guru Nanak Dev Ji disappeared into the stream and was not seen for two days.

When he reappeared at a spot, 2 km upstream, now known as *Gurudwara Sant Ghat*, the first words he uttered were, "There is no Hindu, and there is no Musalman." Guru Nanak ji was now ready to embark on his long journeys. Near the side of an old Ber tree later on Gurudwara Ber Sahib was built up. The town grew around the Ber or Jujube sapling that was planted by Guru Nanak Dev ji. The tree still stands in its original place where it was destined by Guru Nanak Dev.



Figure 4 : Gurudwara Ber Sahib (Photograph and Aerial view)

Baba Jassa Singh Ahluwalia built a majestic shrine there around this place. The new building that stands now was started in 1938 and the construction completed in 1942. The purity of marble commensurate with the grace and divine environment of the

place. Guru Nanak Dev ji spread his first message of peace, love and goodwill from Sultanpur Lodhi. His idea of One God spread from this very land with the Guru's blessings. Maharaja Jagatjit Singh of Kapurthala and Maharaja Yadwinder Singh of Patiala reconstructed the present building of Gurdwara Ber Sahib.

Gurdwara Hatt Sahib:

- 2.13. Guru Nanak, the founder of the Sikh faith, spent 14 years in Sultanpur Lodhi, situated in Kapurthala district of Punjab. His brother-in-law, Jai Ram, got him employed in the service of Nawab Daulat Khan Lodhi who was much impressed by the intellectual equipment of Nanak. The Nawab offered him the portfolio of Household Minister but Nanak preferred the administration of Provision Supplies Department, the Modikhana. Probably it was concerned with charitable institution, helping the poor and the needy. As the custodian of the stores, the Guru worked with complete honesty. He gave everybody his due. Unlike the previous custodians, who had become rich by pilfering and short weighing, he always gave full measure to the customers. Everybody was satisfied and spoke highly to the Nawab about the good work of the Guru. At the site of the store where the great Guru distributed provisions, a Gurdwara has been built, with a tank adjoining it named “Gurdwara Hatt Sahib”, where eleven stone weights, said to have been used by the Guru, are preserved.



Figure 5 : Gurdwara Hatt Sahib

There is an episode mentioned in the biography of Guru Nanak connected with this place. Some jealous persons carried stories to the Nawab that Nanak was mismanaging the stores and squandering away state wealth. However, when the accounts were checked, it was found that instead of shortfall, there was some money in excess. Nawab Dault Khan Lodhi at once sent for his treasurer Bhavani Das to pay

the excess amount to Nanak immediately. He offered Nanak Rs. 3,000 as reward for honesty and efficiency.

Gurudwara Antaryatma Sahib:

- 2.14. Nawab Daulat Khan had invited Guru Nanak Dev Ji to participate in Namaz or Muslim prayer. Divining how the Nawab and the Kazi were only outwardly going through the ritual with their minds engrossed in worldly thoughts, Guru Nanak stood aside. When the Nawab asked him why he did not join the prayer, he told them exactly what he and the Kazi had been thinking of as they prayed. They fell at the Guru's feet. Nothing remains of the mosque now except the entrance gate to the compound.

Gurudwara Guru Ka Bagh:

- 2.15. Guru Nanak resided with his wife and children during his stay at Sultanpur Lodhi.

Gurudwara Kothari Sahib:

- 2.16. Guru Nanak was detained while his accounts in Modhi Khana were being checked following a false complaint lodged by his detractors.



Figure 6 : Gurudwara Sant Ghat and Gurudwara Kothari Sahib

Gurudwara Sant Ghat:

- 2.17. On the bank of the Kali Bein, where Guru Nanak Dev Ji re-appeared on the third day of his disappearance into the river near the site of Gurudwara Ber Sahib.

Gurudwara Bebe Nanaki Ji:

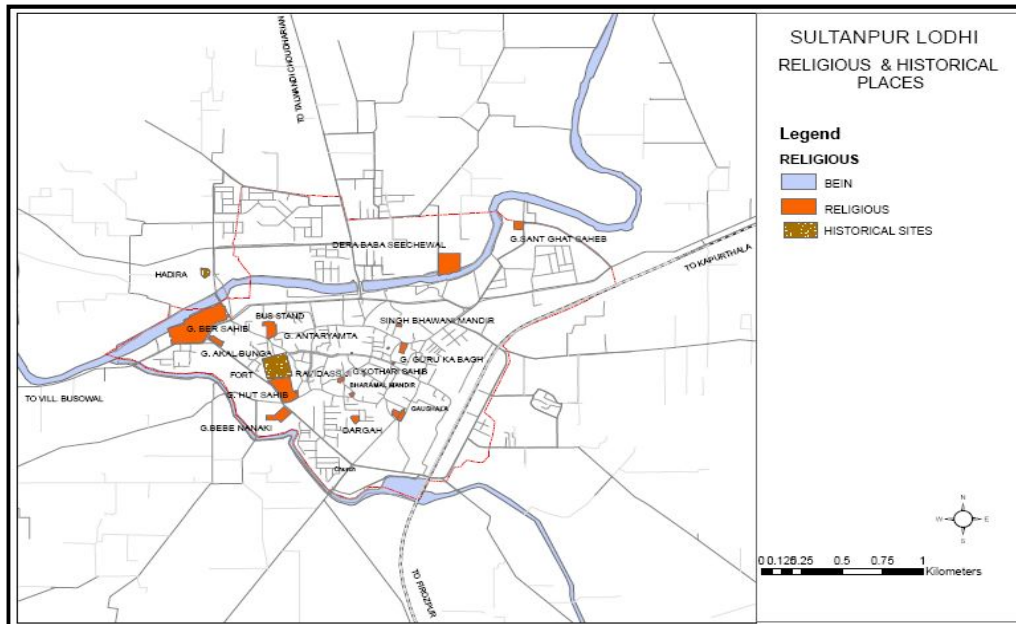
- 2.18. The actual house of Bebe Nanaki ji, elder sister of Guru Nanak Dev Ji, where she lived with her husband Bhai Jai Ram, is inside the old town.

Gurdwara Sehra Sahib:

- 2.19. Gurudwar Sehra Sahib is dedicated to Guru Arjan Dev Ji who passed through Sultanpur in 1604 on his way to Dalla for the marriage of his son Har Gobind, the future Guru Hargobind Ji (revered for his concept of Miri & Piri). According to

tradition, the marriage party stayed overnight at this place and the sehra, or ceremonial wreath was fastened round the bridegroom's head here.

Figure 7 : Religious Places at Sultanpur Lodhi town



Sultanpur Lodhi is amongst the prominent religious centers of Punjab and is well known for its Gurudwaras. The town gained religious importance because of its association with the events of life of Guru Nanak Dev Ji, Bebe Nanaki ji and Guru Arjan Dev Ji. Sultanpur Lodhi is known for its great sanctity by the Sikhs as a place where the divine call came to its founder Guru Nanak Dev Ji .He undertook journey to various lands to preach true religions to mankind.

Sultanpur Lodhi is related to Sikhism before its beginning in 15th century. Guru Nanak Dev Ji lived in Sultanpur Lodhi in several years before setting out on his famous travels (Udasis) to deliver the message around the world. This is also the town where the first stuck other chords of the Rabab.

- 2.20. The other places of historic interest are Sarai of Sher Shah Suri's period in which presently the Police station, Tehsil and Court of Sub-Judge are located, Hadira a dilapidated building situated across Bein, was used as a place of recreation during Mughal Period.
- 2.21. After the fall of the Mughals in Punjab, Sardar Jassa Singh Ahluwalia founded the principality of Kapurthala and made Kapurthala as his capital. It was left to his successor Sardar Fateh Singh to annex the historical town of Sultanpur to the State of Kapurthala in 1777. It has remained part of the State of Kapurthala upto 1961 A.D, when Kapurthala became a district of Pepsu. It is now a Sub-Divisional head quarter of Kapurthala District and is situated at a distance of 24 kms from Kapurthala.

Major Development Events

2.22. In the beginning of 20th Century, in the year 1914 the most important event in the history of Sultanpur Lodhi town was the laying down of first broad-gauge railway line Jalandhar-Sultanpur Lodhi-Firozpur. In addition to this in the year 1950, grain market (Now known as Old Dana Mandi) and first Rice Sheller was also established. Above events boosted the economic and physical development of the town.

Nagar - Panchayat was upgraded to Municipal committee in 1969 and in the same year water supply system was introduced to meet the requirement of portable drinking water of the town and also S.D.M /B.D.P.O/ Tehsil office and Guru Nanak Khalsa Collage established in the year 1969. Not much development has taken place in case of Sultanpur Lodhi town .Some developments like Cinema, Bus-stand, Sewerage system; new grain market had come up in the year 1975, 1977 and 1992, 2004 respectively. The events of development milestone in Sultanpur Lodhi are listed in Table below:

Table 1: Detail of Development Milestones in Sultanpur Lodhi

S.no	Year	Events
1	1914	First broad gauge railway line Jalandhar - Sultanpur Lodhi - Firozpur
2	1950	Old Grain Market in town
3	1950	First Rice Sheller
4	1969	Constitution of Municipal Committee
5	1969	First Water Supply
6	1969	S.D.M./ B.D.P.O. and Tehsil Office
7	1969	Guru Nanak Khalsa College
8	1975	First Cinema Jagatjit
9	1977	Bus Stand
10	1992	Started laying down of Sewerage
11	2004	New Grain Market

Planning Events

Not much has been done regarding planning of Sultanpur Lodhi town up to the end of 20th Century. First Residential Urban Estate Scheme prepared by PUDA was established in 2000 An attempt has made to prepare first non-statutory Master Plan of the town in 2001. Then in the year 2004 PUDA has framed first Commercial Scheme .First Approved Colony was established in the year 2005 on Sultanpur Lodhi-Talwandi Chaudarian road. Local Planning Area of Sultanpur Lodhi notified by the

Punjab Govt. under the Punjab Regional and town Planning and Development Amendment Act 2006 in the year 2007.

Table 2 : Detail of Planning Events in Sultanpur Lodhi town.

S.no	Year	Events
1	2000	Residential Urban Estate scheme prepared by PUDA
2	2001	First time Master Plan prepared
3	2004	First Commercial PUDA Scheme
4	2005	First Approved Private Colony
5	2007	Notification of Local Planning Area, Sultanpur Lodhi U/S 56(1) of PRTPD (Amendment) Act, 2006

Legal Framework for Preparation & Implementation of Master Plan

- 2.23. The principal legislation governing regional and town Planning is the “Punjab Regional and Town Planning and Development Act, 1995 (PRTPD)” was enacted in the year 1995 (Punjab Act No.11 of 1995) which has been amended in the year 2006 and is now known as “The Punjab Regional and Town Planning and Development (Amendment) Act 2006” (Punjab Act No 11 of 2006). This is an act to make provision for better planning and regulating the development and use of land in planning areas delineated for that purpose, for preparation of Regional Plans and Master Plans and implementation thereof, for the constitution of a Regional and Town Planning and Development Board, for guiding and directing the planning and development processes in the State, for the constitution of a State Urban Planning and Development Authority, Special Urban Planning and Development Authorities and New Town Planning and Development Authorities, for the effective and planned development of planning areas and for undertaking urban development and housing programs and schemes for establishing new towns and for matters connected therewith or incidental there to.
- 2.24. Prior to the enactment of the Act the town planning activity within urban areas was being governed by different legislations such as The Town Improvement Act 1922, The Punjab Municipal Act 1911, The Punjab Municipal Corporation Act 1976, The Punjab Urban Estates (Development and Regulation) Act 1964 etc and for areas falling outside municipal limits in the periphery of urban centers, there was ‘The Punjab Scheduled Roads And Controlled Areas Restriction of Unregulated

Development Act 1963(Now repealed) but no comprehensive legislation was available for the overall control and development at local and regional level.

The Punjab Regional and Town Planning and Development (Amendment) Act 2006 (Main Provisions of the Law)

2.25. This act provides the framework for preparing Master Plans and Regional Plans and provides for the manner in which the use of land in the area of a planning authority is regulated. The act also prescribes specific time period for various steps in the plan preparation process.

The act intends to achieve the following main objectives:

- (a) To consolidate, with suitable modifications, in one place laws dealing with the different aspects of urban development.
- (b) To set up a high powered Board to advise the State Government and to guide and direct planning and development agencies, with respect to matters pertaining to the planning, development and use of urban and rural land.
- (c) To set up a State level Urban Planning and Development Authority and to provide for the setting up of a Special Urban Planning and Development Authorities and New Town Planning and Development Authorities to promote and secure better planning and development of different regions, areas and cities.
- (d) To create a legal and administrative set up for the preparation and enforcement of Master Plans for regions, areas and for existing and new cities.
- (e) To make the whole programme of urban development mainly a self - sustaining and self - paying process.
- (f) To interlink land development and house construction permitting full exploitation of the urban land resource to provide a boost to the programme of house construction, especially the Economically Weaker Sections of the Society.
- (g) To provide a legal, administrative and financial framework for the preparation and execution of Town Development Schemes aimed at filling the gaps in the required civil infrastructure and securing the renewal and redevelopment of congested and decayed areas in the existing towns.

The main provisions of the Act related to preparation of Master Plan are described below:

- (a) Section 56(1) enables declaration of Local Planning Areas (LPA) in the official gazette for preparing Master Plan. Once an area has been declared under section-56 (1), no person can institute or change the use of land for any purpose or carry out any development in respect of any land without the previous permission of competent authority until the Master Plan comes into operation. However, this prohibition does not apply to any area comprised in abadi deh of any village falling inside its lal lakir or phirni.
- (b) Section 57 provides for the state Government to designate Planning Agency for area declared as Local Planning Area.
- (c) Section 58 defines scope of Planning agency and provides that;
 - The designated Planning Agency will work under the overall directions and control of the State Government.
 - The state Government may assign any or all of the following functions to the Designated Planning Agency, namely to
 - Carry out survey of the regional planning area, Local Planning Area, or a site for new town, as the case may be, and prepare reports on the surveys so carried out;
 - Prepare an existing land use map and such other maps as may be necessary for the purpose of preparing regional plan and outline master plan, a new town development plan or a comprehensive master plan, as the case may be;
 - Prepare a regional plan, an outline master plan, a new town development plan or a comprehensive master plan.
 - Subject to and in accordance with the directions of the Govt., a designated planning agency shall exercise all such powers as may be necessary or expedient for the purposes of carrying out its functions under this act and also perform any other functions which are supplemental, incidental or consequential to any of the functions specified in sub section (2) or as may be prescribed.
- (d) Section 59 deals with the preparation of present land use map and fixes six months time for this purpose, which may be extended by the State Govt. from time to time.

- (e) Section 70(1) states that the planning agency shall not later than one year after declaration of planning area and after the designation of that agency for that area shall prepare and submit to the state government a master plan for its approval. The Master Plan so prepared shall –
- Indicate broadly the manner in which the land in the area should be used.
 - Allocate areas or zones of land for use for different purposes.
 - Indicate, define and provide the existing and proposed highways, roads, major streets and other lines of communication.
 - 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.
 - Include 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.
- (f) Section 70 (3) has the provision for the state government to direct the designated planning agency to publish the existing land use plan and master plan and the information regarding places where copies of the same may be inspected by the public for inviting objections in writing with respect to existing land use plan and master plan within a period of 30 days from the date of publication.
- (g) Under Section 70(4), the state government after considering the objections and in consultation with the Board may direct the designated planning agency to modify the master plan or approve it as such
- (h) Under Section 70 (5), the Designated Planning Agency after approval of the state government shall publish the final master plan in the official gazette after carrying out the modification if any under intimation to the state government within a period of 30 days from the date of according the approval by the state government.
- (i) According to Section 75, the Master Plan comes into operation from the date of publication, referred in to sub section 5 of Section 70.

The entire process is shown in the form of flowchart Figure 2.

Chapter XI of the Act also provides for “Control of Development and Use of Land in the area where the Master Plan is in operation”.

Chapter XII, Section 91 of the Act deals with the preparation of Town Development Schemes that can play a significant role in the implementation of Master Plan by way of planned development and through making land available for the open spaces, recreation, education and health services, transport and communication network, water supply, sewerage, sewage disposal and other public utilities including electricity and gas etc

Chapter XIV deals with “Control and Development along Scheduled Roads”

In addition to the The Punjab Regional and Town Planning and Development (Amendment) Act 2006 there are a few acts that have no direct bearing on preparation of Master Plan but have a definite role to play in the implementation of the proposals of the Master Plan. These are briefly described below;

(A) Punjab Apartment And Property Regulation Act, 1995

The Punjab Apartment and Property Regulation Act, 1995 has been enacted with a view to regulate the promotion of the construction, transfer and management of apartments on ownership basis, to regulate colonies and property transactions and to provide for registration of promoters and estate agents and enforcement of obligations on promoters and estate agents and for matters connected therewith or incidental thereto.

- It provides planned development by checking, controlling and regulating the activities of the private developers.
- It makes funds available for planned development.
- It provides land for social and physical infrastructure through the mechanism of planned development.
- It also has the provision to make social housing available at low prices for Economically Weaker Section of the society.

(B) Punjab Town Improvement Act, 1922

The Punjab Town Improvement Act, 1922 plays a significant role for the implementation of Master Plans in the following manner:

- It helps to provide planned development through the mechanism of Development Schemes.

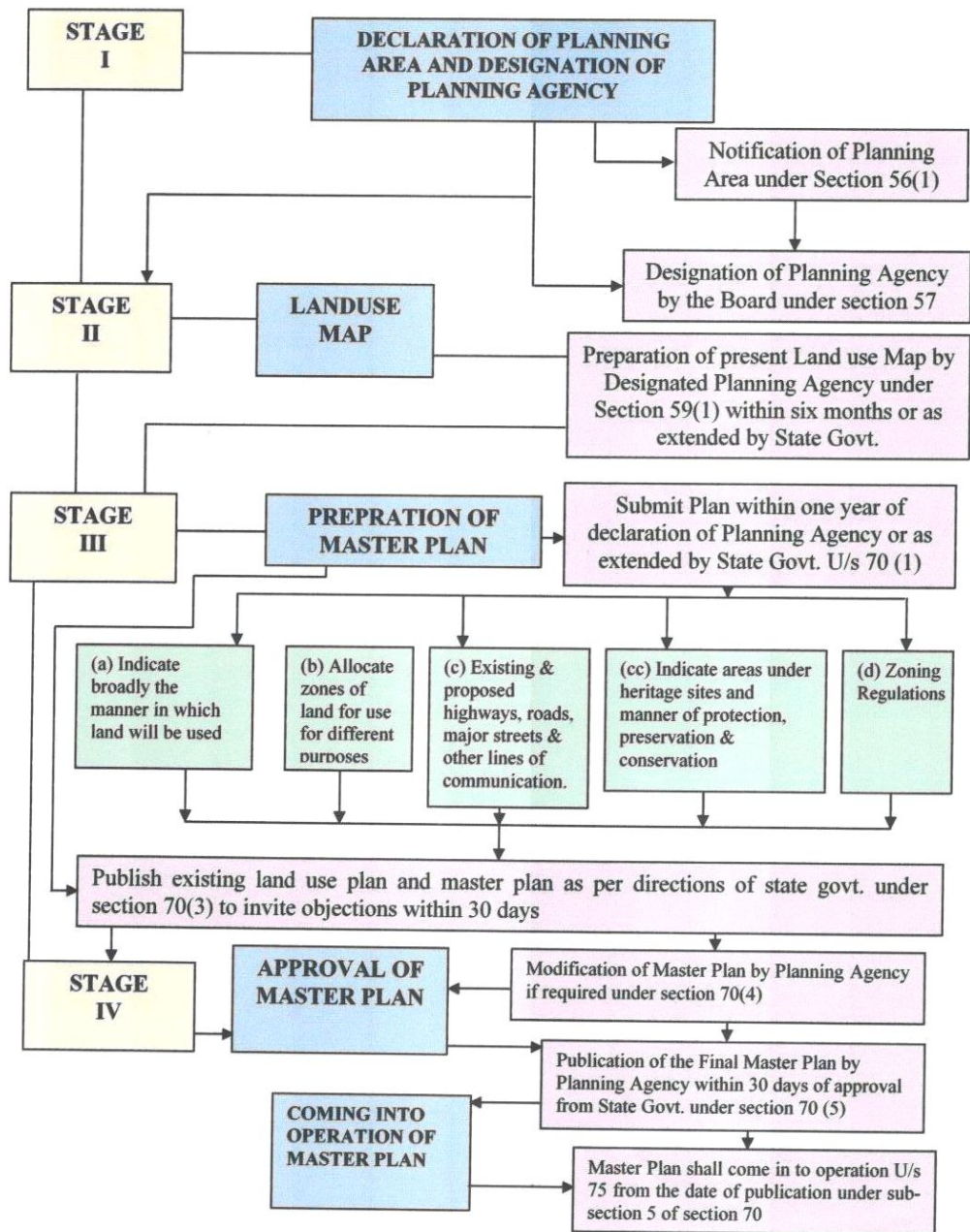
- It makes land available for the development of social and physical infrastructure like schools, health, parks and playgrounds, and planned road network etc.

It also provides social housing to Economical Weaker Sections and thus helps to check the growth of slums.

2.26. The stages of preparation of Master Plan are shown in flowchart at figure below on next page in a more elaborated way.

STAGES OF MASTER PLAN PREPARATION

(As per the provisions of the Punjab Regional and town Planning and Development (Amendment) Act 2006)



3. POPULATION, HOUSING, ECONOMY AND EMPLOYMENT

- 3.1. This chapter covers the details on the population characteristics, demographic details, the housing typology and its characteristics, the economy and the employment characteristics.

Population growth and characteristics

- 3.2. The population study of Sultanpur Lodhi town is done decade wise which helps in bringing out the trends of the growth rate, literacy level, sex ratio etc. of the town. The identity of the town depends upon the character of the population, so it is an important component for town planning. The following studies have been conducted to know the demographic character of Sultanpur Lodhi town.

Population Growth: LPA Sultanpur Lodhi

- 3.3. LPA, Sultanpur Lodhi includes only one urban settlement i.e. Sultanpur Lodhi town and 10 villages. LPA Sultanpur Lodhi experienced growth rate of 19.08% and 15.58% during the year 1981-1991 and 1991-2001 respectively. Thus showing a decline in the population growth rate during the last decade which might be due to the weakening of the economic base of the town. Sultanpur Lodhi is an important town of Kapurthala district and is only urban settlement of its LPA, Sultanpur Lodhi with population of 17,354 persons in 2001. It is important to mention here that the population of Sultanpur Lodhi town is 15,571 as per census data and population of Sultanpur Lodhi rural is 1783 given separately which included in the M.C. limits of Sultanpur Lodhi town. Thus population of Sultanpur Lodhi rural included in the population of the Sultanpur Lodhi M.C. Similarly, for other demographic and economic aspects, data of Sultanpur Lodhi rural is included in data of Sultanpur Lodhi town and analysis is done accordingly.

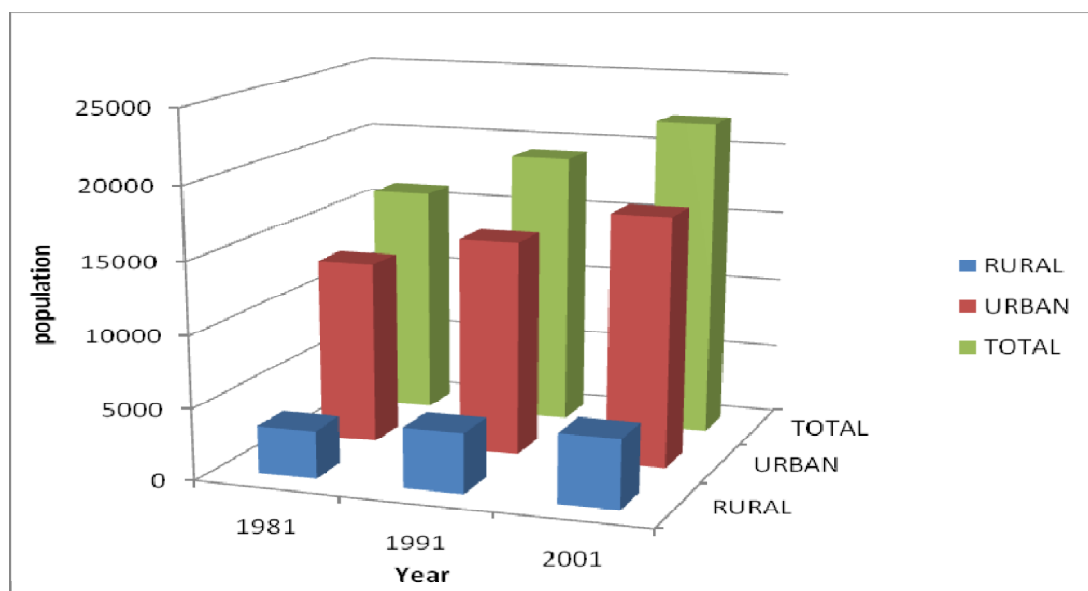
Table No:3 below depicts that growth rate of urban population i.e. of Sultanpur Lodhi town has decreased from 17.34% to 15.86% in 1981-1991 to 1991-2001 and it is very low when compared to growth rate of Punjab urban which is about 37.73% during the last decade. In case of rural population, the growth rate of rural population of LPA, Sultanpur Lodhi is decreased from 25.71% in 1991 to 14.59% in 2001, which is on the higher side than that of Punjab state which is about 12.74%. The growth trend of population of Punjab State and LPA, Sultanpur Lodhi is given in table below:

Table 3 : Population Growth Rate of Punjab State and LPA Sultanpur Lodhi 1981-2001

	POPULATION			GROWTH RATE IN %	
	1981	1991	2001	1981-91	1991-2001
PUNJAB STATE					
TOTAL	16.79	20.28	24.36	20.79	20.12
URBAN	4.65	5.99	8.25	28.82	37.73
RURAL	12.14	14.29	16.11	17.71	12.74
*POPULATION IN MILLIONS					
LPA SULTANPUR LODHI					
TOTAL	16,119	19,194	22,184	19.08	15.58
URBAN	12,766	14,979	17,354	17.34	15.86
RURAL	3,353	4,215	4,830	25.71	14.59

(Source: Census of India, Punjab, 1981 to 2001)

Figure 8 : Population Growth of LPA Sultanpur Lodhi: 1981-2001



Sultanpur Lodhi town

- 3.4. As already stated that Sultanpur Lodhi is a major urban settlement of District Kapurthala and is the only urban settlement of LPA, Sultanpur Lodhi. As per the table given below regarding the population growth of Sultanpur Lodhi town over the decades from 1911 to 2001, it can be said that growth of population is not uniform. Sultanpur Lodhi town recorded a lowest growth rate of -23.95% during 1941-1951 and had a population of 7733 persons in the year 1951. Town registered a negative growth rate, which can be attributed to out migration from the town due to partition. However, the town registered high growth rates of 39.12% during the decade of 1971-81. The high growth rate shows that the town occupied an important position in the region due to development of industrial units like rice mills and various

educational institutes. Sultanpur Lodhi town's population profile indicates that during the decades in 1981-91 it registered a growth of 17.34% where as in 1991-2001, the growth of population decreased to 15.86%. Thus town shows decreasing trend of growth and also growth rate of the town is very low as compared to Punjab urban growth rate which is about 37.73%. Although town is important from religious point of view but there is no major economic generator in the town to boost up the economy of the town. The detail of population growth of Sultanpur Lodhi town from 1911 to 2001 is given in table 4 below:

Table 4: Population Growth Rate of Sultanpur Lodhi town: 1911-2001

Years	Population Of Sultanpur Lodhi town	Decadal Growth Rate in (%)
1911	6492	-
1921	8141	25.40
1931	8606	5.71
1941	10168	18.15
1951	7733	-23.95
1961	7661	-0.93
1971	9176	19.78
1981	12766	39.12
1991	14979	17.34
2001	17354	15.86

(Source: Census of India, Punjab, M.C. Sultanpur Lodhi 1901-200)

Figure 9 : Population Growth of Sultanpur Lodhi town 1911-2001

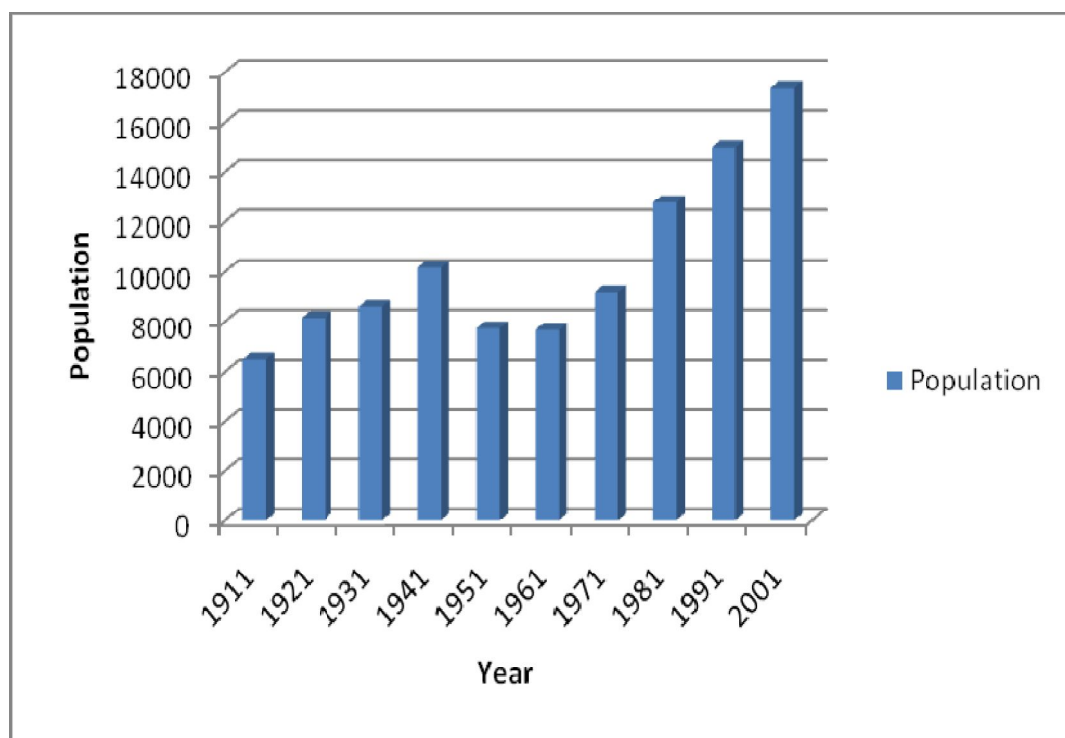
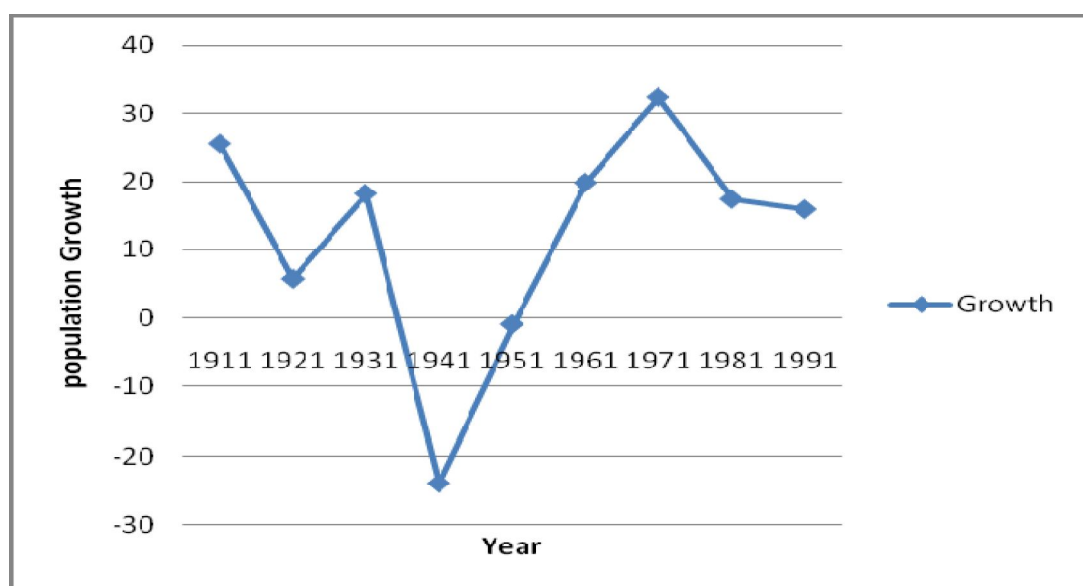


Figure 10 : Population Growth Rate of Sultanpur Lodhi town: 1911-2001



Besides above, growth trends have also been analyzed in terms of share of population of LPA, Sultanpur Lodhi to the State population. As far as the share of total population of LPA, Sultanpur Lodhi to total population of state is concerned it has decreased from 0.10% in 1981 to 0.09 % in 1991 and 2001. Also the share of urban population of LPA, Sultanpur Lodhi showed the decreasing trend from 0.27% in 1981 to 0.25% in 1991 and has further declined to 0.21% in 2001 whereas the share of rural population is 0.03% and it remains same in the year 1981,1991 and 2001 as shown in table 5 below:

Table 5: Share of LPA, Sultanpur Lodhi in Punjab state

YEAR	1981	1991	2001
TOTAL	0.10%	0.09%	0.09%
URBAN	0.27%	0.25%	0.21%
RURAL	0.03%	0.03%	0.03%

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

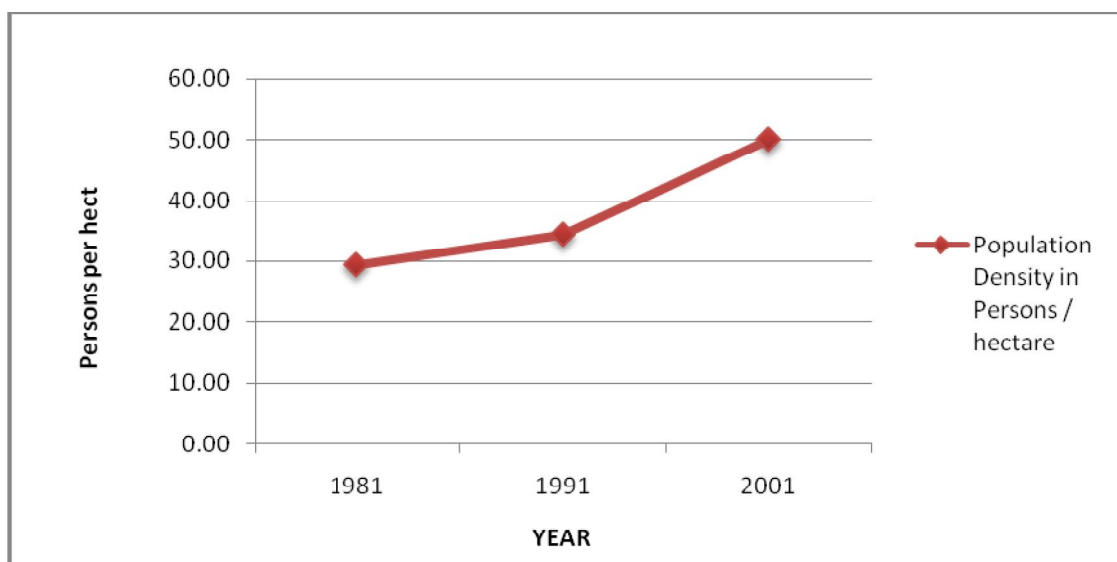
POPULATION DENSITY

- 3.5. The gross population density of Sultanpur Lodhi town has constantly increased during the period of 1981-1991, from 29.35 persons per hectare in 1981 to 34.43 persons per hectare in 1991 and then again increased to 50.01 persons per hectare. Sharp increase in population density is due to decrease in MC limit of Sultanpur Lodhi town. LPA had a gross density of 6.81 persons per hectare in 2001. As per the data regarding area of M.C made available from PRSC, Ludhiana the area of Municipal Council is 3.47 sq.km. (347 hect.) Therefore the analysis of population density is done keeping this area in view.

Table 6 : Population Density (within Municipal Limits)

year	Population	Area (In hectares)	Population Density in Persons / hectare
1981	12,766	435	29.35
1991	14,979	435	34.43
2001	17,354	347	50.01

(Source: Census of India, 1981, 1991, 2001)

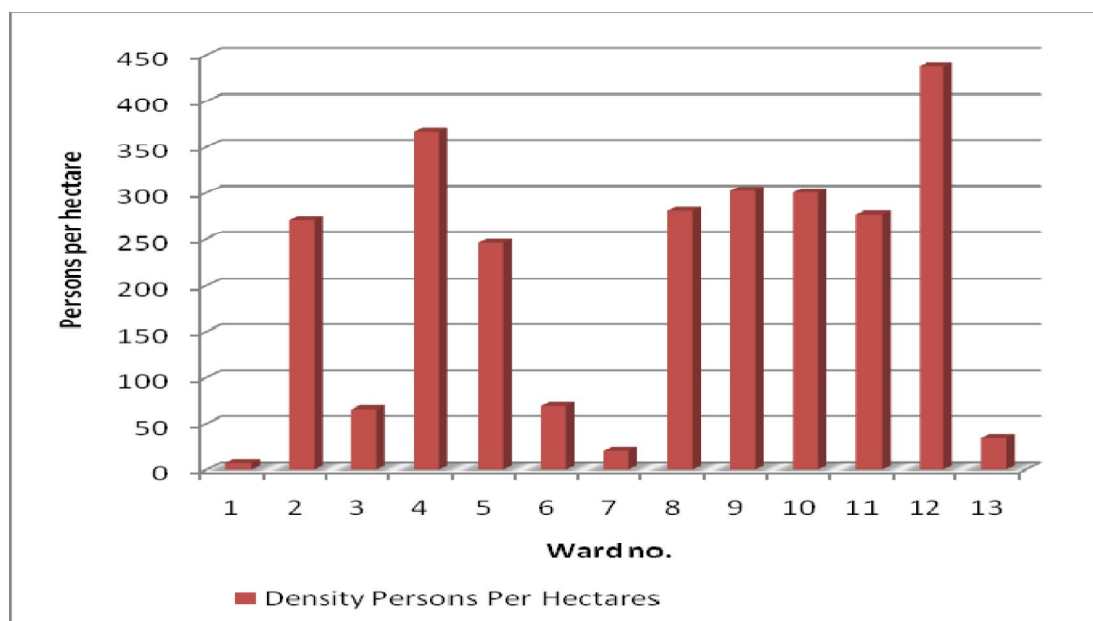
Figure 11: Population Density of Sultanpur Lodhi town (M.C. limits)**Table 7: Ward wise Population Density of Sultanpur Lodhi town: 2001**

Sr. No.	Ward No.	Area in Hect.	Total Population	Density Persons Per Hectares
1	Ward No - 1	180.06	1310	7.28
2	Ward No - 2	5.52	1494	270.65
3	Ward No - 3	16.55	1098	66.34
4	Ward No - 4	3.47	1272	366.57
5	Ward No - 5	5.50	1353	246.00
6	Ward No - 6	19.47	1357	69.70
7	Ward No - 7	62.19	1333	21.43
8	Ward No - 8	4.27	1198	280.56
9	Ward No - 9	5.00	1514	302.80
10	Ward No - 10	4.90	1472	300.41
11	Ward No - 11	5.30	1466	276.60
12	Ward No - 12	3.17	1386	437.22
13	Ward No - 13	31.6	1101	34.84
	Total	347.00	17354	50.01

(Source: Census of India, Punjab, M.C. Sultanpur Lodhi 1901-2001)

Inter census comparison of ward wise density is however not possible as ward boundaries and number of wards have been changing over the years. The density gradient as per 2001 census shows that ward no. 4,9,10 and 12 are having a gross density of more than 300 persons per hectare with the distinction of highest density of 437.22 persons per hectare in ward no. 12. The lowest density is only 7.28 persons per hectare in ward no. 1.

Figure 12: Ward-wise Population Density of Sultanpur Lodhi town



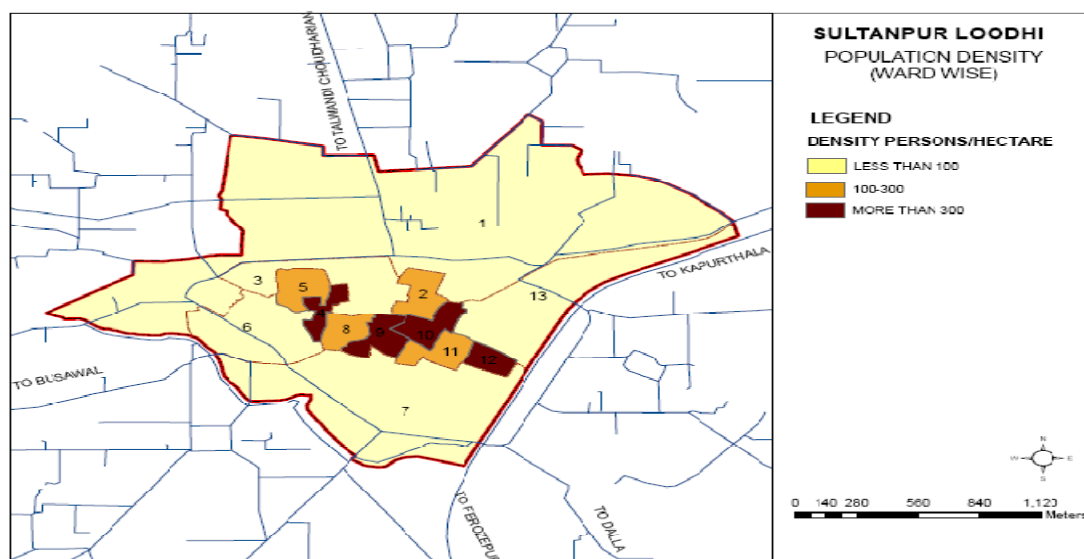
The density has been classified into three groups as shown in table 8 below:

Table 8: Density Gradient of M. C. Sultanpur Lodhi (ward wise): 2001

Sr. No.	Density Slab (Persons/hectare)	ZONE	Ward Numbers
1	More than 300	High density zone	4,9,10,12
2	100 to 300	Medium density zone	2,5,8,11
3	Less than 100	Low density zone	1,3,6,7,13

Almost all the old parts of the town falls in high density zone as these are thickly built up areas with narrow streets. Out of 13, 8 wards having an area of 37.13 hectares (10.70% of total area) 11155 persons (64.28% of total population) with overall density of 300.43 persons per hectare which is on higher side. This means that more than 2/3rd of total population occupies only 10.70% of total area of M.C. Sultanpur Lodhi. In comparison to this low density, 5 wards having an area of 309.87 hectares (89.29% of total area) and about 6199 persons (35.72% of total population) inhabit this area at a density of only 20 persons per hectare. This means that more than 1/3rd of total population occupies only 89.29% of total area of M.C. Sultanpur Lodhi This low density area falls all along on the periphery of the town, which has vast vacant areas, urban estate and agriculture land.

Figure 13 : Map Showing Ward wise Population Density Sultanpur Lodhi



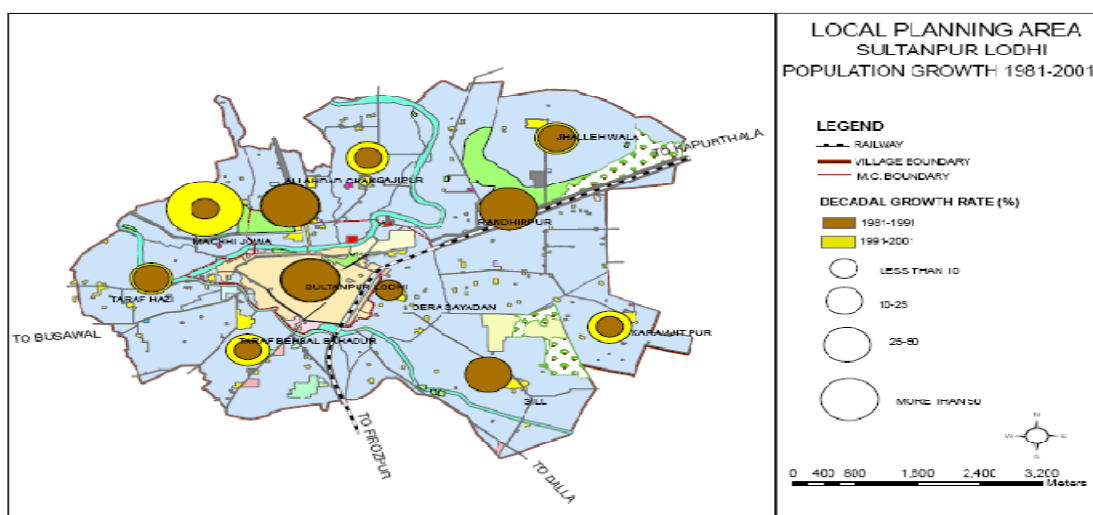
Population Distribution in LPA Sultanpur Lodhi

3.6. Sultanpur Lodhi is the only one urban settlement of L.P.A having a population of 17354 persons, as per census 2001. Randhirpur is the largest village having a population of 612 persons whereas the smallest village is Machhi Jowa having a population of 100 persons only. Two villages in the LPA Sultanpur Lodhi named Randhirpur and Gill have registered a negative growth rate of -7.69 and -17.47%, whereas Macchi Jowa village has grown at very highest growth rate of 733.33% among the villages of LPA Sultanpur Lodhi. The second order highest growth rate 43.30% of village Alahdad Chak. The growth of villages falling in LPA Sultanpur Lodhi is shown in table 9 below:-

Table 9 : Growth Rate of Villages of LPA Sultanpur Lodhi: 1981-2001

S. No	Villages	Population Year wise			Growth Rate of Villages%	
		1981	1991	2001	1981-1991	1991-2001
1	Machhi Jowa	0	12	100	0	733.33
2	Alahdad Chak	262	458	656	74.80	43.30
3	Gajipur	481	531	641	10.39	20.71
4	Randirpur	430	663	612	54.18	-7.69
5	Karamjitpur	355	386	432	8.73	11.91
6	Gill	386	555	548	43.78	-17.47
7	Dera Sayadan	506	545	599	7.70	9.90
8	Tarf Behbal Bahadar	450	472	560	4.88	18.64
9	Tarf Hazi	198	241	286	21.71	18.67
10	Jhallewala	285	352	396	23.50	12.50
Total		3353	4215	4830		

Figure 14 : Map Showing Population Distribution of Villages.



Sex Ratio

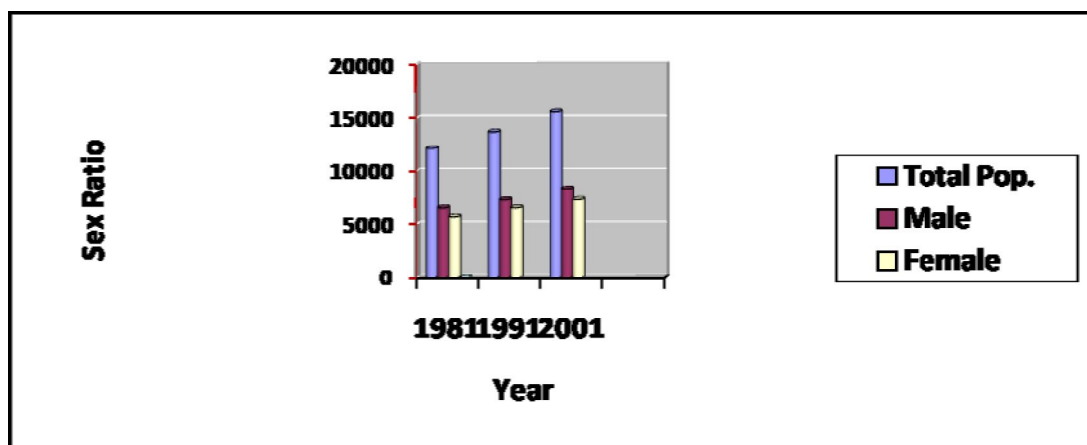
3.7. According to 1981 census, the sex ratio was 882 in LPA Sultanpur Lodhi and in 1991 the sex ratio improved to 898 but in 2001 the sex ratio again declined to 871. In case of Sultanpur Lodhi town also, the sex ratio increased from 874 in 1981 to 889 in 1991 and then declined to 878 in 2001. The sex ratio of Punjab State was 876, which is on higher side as compared to that of LPA, Sultanpur Lodhi. The details of sex ratio are given in table 10 below:

Table 10 : Sex Ratio of LPA Sultanpur Lodhi and Sultanpur Lodhi town 1981-2001

Year	LPA SULTANPUR LODHI				SULTANPUR LODHI TOWN			
	Total Population	Males	Females	Sex Ratio	Total Population	Males	Females	Sex ratio
1981	16119	8566	7553	882	12,766	6824	5942	870
1991	19194	10115	9079	898	14,979	7931	7048	889
2001	22184	11859	10325	871	17,354	9243	8111	878

(Source: District Census handbook 1981, 1991, 2001 Sultanpur Lodhi)

Figure 15 : Sex Ratio of Sultanpur Lodhi town



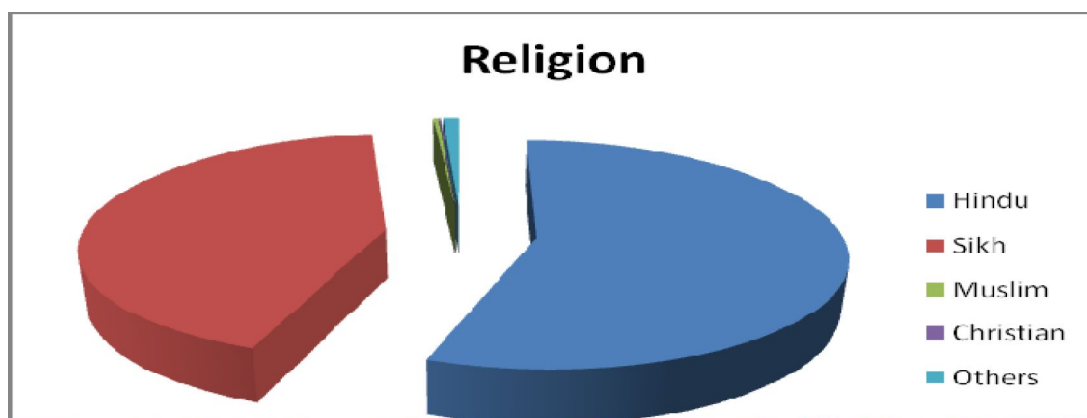
Religious Composition

- 3.8. Hindus constitute 55.54% of population of Sultanpur Lodhi town, while 43.00% are Sikhs, 0.31% is Muslims, and rest of the population belongs to other religions (Janis, Buddhist and Christians) as per 2001 census.

Table 11 : Religious Composition of Sultanpur Lodhi town

Religion	Total	Hindu	Sikh	Muslim	Christian	Others
No. of Persons	17354	9638	7462	54	19	175
% age	100.00	55.54	43.00	0.31	0.11	1.01

Figure 16 : Religious Composition of Sultanpur Lodhi town



Caste composition

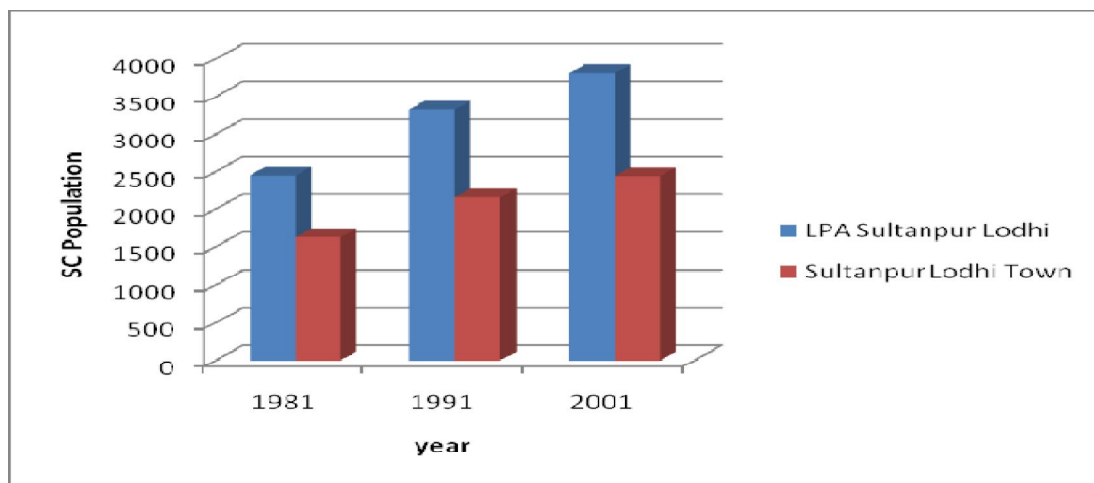
- 3.9. The total Scheduled Caste population in LPA Sultanpur Lodhi is 3808 persons which is 21.94 % of the total population as per 2001 census. SC population of LPA Sultanpur Lodhi is increased from 2451 in 1981 to 3808 in 2001. The percentage of SC population of Sultanpur Lodhi town increased from 12.73% in 1981 to 14.06% in 2001. The average SC population in Punjab State is 28.85%, which shows that percentage of SC population in LPA, Sultanpur Lodhi is less than that of Punjab. The detail of scheduled caste population from 1981 to 2001 is given in table below:

Table 12: Schedule Caste Population & Percentage of S.C Population to Total Population 1981-2001

Sr. No	Year	LPA Sultanpur Lodhi		Sultanpur Lodhi town	
		Schedule caste population	%age of SC Pop. to total Pop.	Schedule caste population	%age of SC Pop. to total Pop.
1.	1981	2451	19.19	1626	12.73
2.	1991	3324	22.19	2155	14.39
3.	2001	3808	21.94	2441	14.06

(Source: Census of India, Punjab- 2001)

Figure 17: Caste Composition of LPA Sultanpur Lodhi and Sultanpur Lodhi town 1981 – 2001



Literacy Level

- 3.10. As per the tables given below the literacy rate is increasing in both in LPA as well as in Sultanpur Lodhi town. According to 2001 Census, the total literacy rate of LPA is 65.22% and of Sultanpur Lodhi town is 67.48%. Out of the total literate population, 36.63% are male and 28.59% are females in LPA and in Sultanpur Lodhi town 37.64% are males and 29.84% are females. As table indicates, in comparison with 1981 and 1991 the female literacy rate is growing. Literacy rate of LPA Sultanpur Lodhi and town is less as compared to the Literacy rate of Punjab state which is 70 % in 2001

Table 13 : Literacy rate of LPA Sultanpur Lodhi 1981-2001

Year	Total Pop	Total Literates	Literacy Rate (%)	Males		Females	
				Number	%age	Number	%age
1981	16119	8061	50.00	4774	29.61	3287	20.39
1991	19194	10525	54.83	5998	31.25	4527	23.58
2001	22184	14469	65.22	8127	36.63	6342	28.59

(Source: District Census, Kapurthala)

Figure 18: Literacy Level of LPA Sultanpur Lodhi

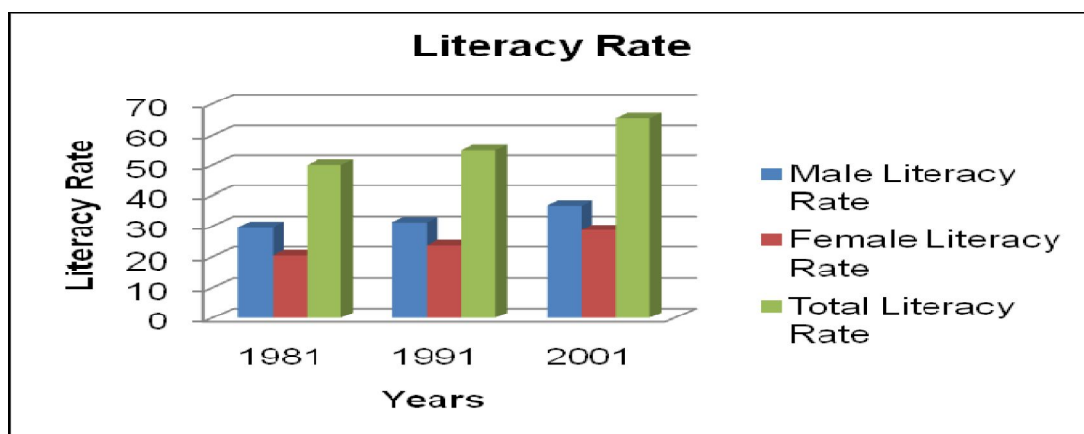
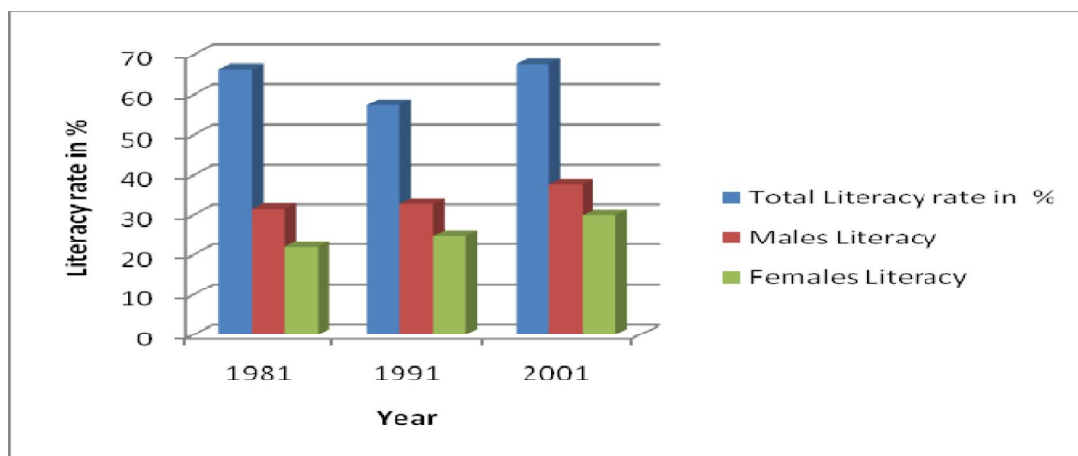


Table 14: Literacy rate of Sultanpur Lodhi town: 1981-2001

Year	Total Population	Total literates	Literacy rate in %	Males Literacy		Females Literacy	
				Number	%age	Number	%age
1981	12,766	6815	66.12	4015	31.45	2800	21.93
1991	14,979	8586	57.32	1887	32.62	3699	24.69
2001	17,354	11711	67.48	6533	37.64	5179	29.84

(Source: District Census, Kapurthala)

Figure 19 : Literacy Level of Sultanpur Lodhi town



Housing and Slums

- 3.11. Housing is one of the basic human needs and ranks after food and clothing in terms of priority. Housing constitutes one of the most important part of the social environment where an individual is nurtured, grows and matures as a human being, part of the society and as a citizen. 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 being. Poor quality of housing or absence of appropriate shelter has considerable impact on the economy and productivity of human beings besides health and social environment. Housing is not merely confined to the four-walls which make a house but also all supporting infrastructure which is required to sustain the human beings in terms of physical and social infrastructure. Accordingly, National Housing Urban Policy laid emphasis not only on providing affordable shelter but also creation of appropriate quantity and quality of essential services etc.

Growth of Housing in Sultanpur Lodhi

- 3.12. Housing is an activity, which is mainly driven by individuals to provide them with an appropriate shelter. With the rapid increase in population, number of houses has also recorded an increase. PUDA has framed many residential schemes in case of major

cities of Punjab but in case of Sultanpur Lodhi not much work done in this sector. Only two development schemes have been executed by Punjab Urban Development authority (PUDA). Out of these, only one is of residential cum commercial nature (Urban Estate) covering an area of 25.68 hect (approx) offering just 480 residential plots and 7 shops cum flats, 40 shops cum offices, and 63 shops and the other is purely commercial scheme.

- 3.13. As per the table given below the growth of houses during the year 1981-1991 was 33.86%, whereas during the year 1991-2001, the growth rate was 3.42% which indicate sharp decline in the growth of houses. In case of households the growth rate is declined from 22.80% in the year 1981-1991 to 12.45% in the year 1991-2001. Similarly the household size is decreased from 5.7 in 1981 to 5.5 in the year 1991 and then again increased to 5.6 in the year 2001 as shown in table 15 below:-

Table 15 : Growth of Houses and Households in Sultanpur Lodhi town

Year	Occupied Residential House	%age growth rate of Residential houses	No. of Households	%age growth rate of Households	Population	Household Size
1981	2008	-	2237	-	12766	5.7
1991	2688	33.86	2747	22.80	14979	5.5
2001	2780	3.42	3089	12.45	17354	5.6

Housing Characteristics

Pattern of Use of Housing Stock

- 3.14. Looking at the pattern of use of the existing housing stock, it has been observed that majority of houses are being used only as residential houses which comprise 93.34% of the total housing stock. Mixed use of houses has also been observed in large number of cases. About 5% of total houses in the town is being used both for residential and commercial/office purposes. Remaining houses were used for exclusively used for non-residential uses. Details of use of census houses are given in table 16 below:

Table 16: Pattern of use of Census houses category wise in Sultanpur Lodhi town: 2001

S. No.	Category	No. of houses	%Age of total houses
1	Residential/Commercial	2595	93.34
2	Residential cum other use	10	0.36
3	Residential cum shop cum office	106	3.82
4	School/College	12	0.43
5	Hotel/Lodge/Guest House	3	0.11
6	Hospital/Dispensary	6	0.22
7	Factory/Workshop/Work shed	12	0.43
8	Place of Worship	26	0.93
9	Vacant houses	10	0.36
	Total census houses	2780	100.00

(Source: Census of India housing tables 2001)

Type of Housing Structure

- 3.15. As per the 2001 census figures, 2503 of the total houses have permanent and 212 semi permanent structures. Out of 62 temporary structures, 42 are serviceable and only 20 are non-serviceable and rests of the 3 houses are unidentified.

Table 17: Residential Houses by their type of Structure In Sultanpur Lodhi Town: 2001

Type of Structure	Permanent	Semi-permanent	Temporary			Unidentified
			Total	Serviceable	Non-serviceable	
No. Of houses	2,503	212	62	42	20	3
%age of total	90.00	7.63	2.23	1.51	0.72	0.11

(Source: Census of India 2001)

SERVICES TO HOUSEHOLDS

Households by Source of Drinking Water

- 3.16. As per the census 2001 about 80.21% of the total households have source of the drinking water from tap and 17.99% are dependent on hand pump in case of Sultanpur Lodhi town. Thus major portion of the town population 2478 households used tap water and water from hand pump is used by 556 households and 1.58% of the total households are dependent on tube well and only 0.22% is dependent upon other water sources.

Table 18: Households by Source of Drinking Water in Sultanpur Lodhi Town: 2001

Source of Drinking water	Tap	Hand pump	Any other	Tube Well	Total
Households	2,478	556	7	49	3,089
%Age of total	80.21	17.99	0.22	1.58	100

(Source: Census of India 2001)

Households by Source of Lighting

- 3.17. 97.48% of the total households of the Sultanpur Lodhi town get light from the electricity, while 1.61% are dependent on Kerosene oil. Only 0.47% of the total households are not having light and 0.36% households are dependent upon solar energy.

Table 19: Households by source of lighting Sultanpur Lodhi town: 2001

Source of Lighting	Electricity	Kerosene	Any other	No Lighting	Solar Energy	Other oil	Total
Households	3,011	50	1	15	11	1	3,089
%age of total	97.48	1.61	0.03	0.47	0.36	0.03	100

(Source: Census of India 2001)

Housing Demand and Supply

- 3.18. The studies and analysis of housing stock in Sultanpur Lodhi town reflects that the position regarding housing stock is not satisfactory as the number of occupied houses 2780 is less than number of households 3089 in year 2001 and thus there is gap of 309 houses. Out of total houses available in the town about which clearly indicate that majority (90%) of houses are permanent in nature. Future requirement of housing will be discussed while working out the land use requirements of physical infrastructure later on.

Slums in Sultanpur Lodhi

- 3.19. The Census of India (2001) defines slums as, “all areas notified as slums by the state/local government under any Act; and all areas recognized as slums by state/local government, which have not been formally notified as slum under any Act and a compact area of about 300 population or about 60-70 households or poorly-built congested tenements in unhygienic environment, usually with inadequate and lack of any proper sanitary and drinking water facilities.”

General Characteristics of Slums in Sultanpur Lodhi town:

- 3.20. According to Municipal Council Sultanpur Lodhi, 12 localities have been identified as slum areas in the Sultanpur Lodhi town. Sultanpur Lodhi town is one of the Class II towns of the Punjab state, having a population of 17,354. Although Punjab has the highest per capita income in the country, yet one fourth (25%) of the urban population in the state reside in slums. In case of Sultanpur Lodhi, about 7636 persons out of 17,354 persons i.e. 49.03% live in slum areas, which is almost (double) as compared to Punjab State. Emergence of slums is largely due to migration of poor population from rural areas and other smaller towns for

employment purpose and to avail higher level facilities. The other reasons are ever increasing growth of population, inadequate supply of housing stock from the Government agencies and existing very high land prices. The slum wise detail as name of the slum, location, area, population, no. of households, and condition of houses is given in the table 20 below:

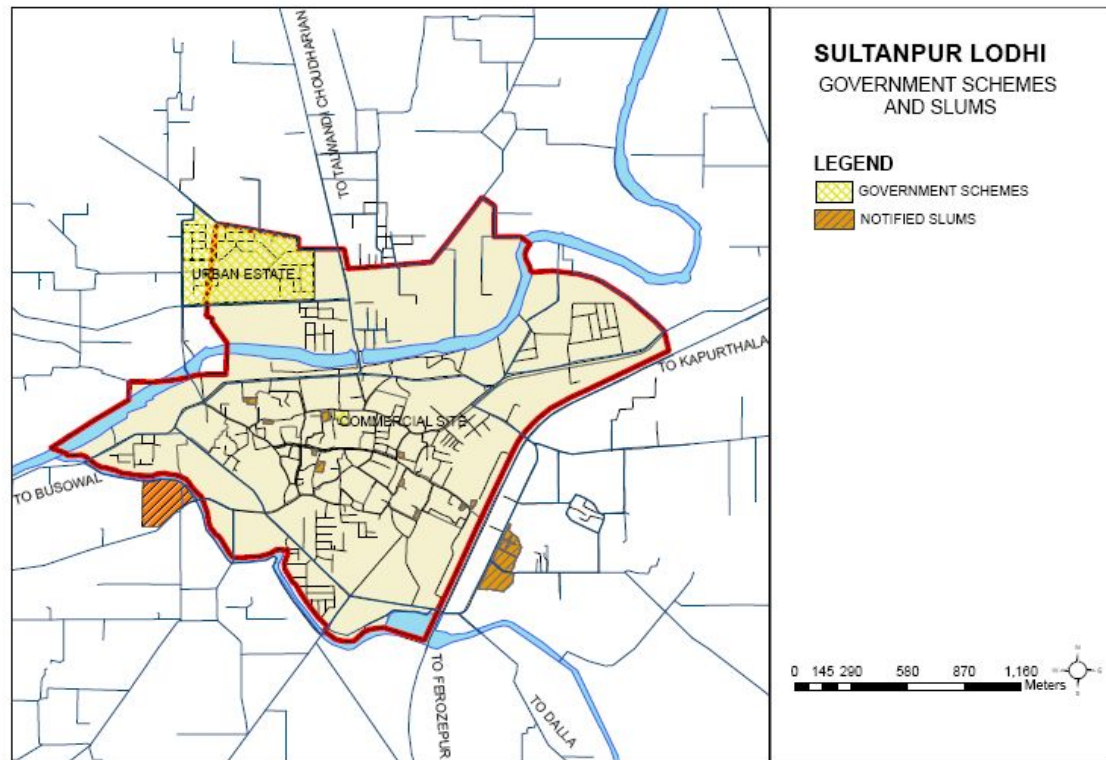
Table 20: Detail of Identified Slum Areas in Sultanpur Lodhi town

Name of Slum Area	Location	Area in Hect.	Total house holds	Population
Mohalla Pandori	Ward No.1	19.76	125	750
Mohalla Arora Raista	Ward No.5	19.76	208	1250
Mohalla Balmiki	Ward No.10 Chowk Cheliya	14.82	83	500
Mohalla Rajputa	Ward No.13 Opp.Railway station	24.70	267	1600
Mohalla Rajputa	Ward No.6	19.76	183	1100
Mohalla Rajputa	Ward No.7	19.76	96	576
Mohalla Mehrian	Ward No.11	7.41	50	300
Mohalla Sadan	Ward No.4	7.41	50	300
Mohalla Rangra	Ward No.8	7.41	54	325
Mohalla Shasultan	Ward No.4	12.35	61	365
Mohalla Kardgan	Ward No.5	7.41	50	300
Mohalla Kaji Bagh	Ward No.4	7.41	45	270
Total		167.96	1272	7636

Distribution and Location of Slum Areas

3.21. The study of location wise pattern of slum areas reveals that these are located all around the town. As per table above, about 7636 persons i.e. 49.03% of total population of Sultanpur Lodhi town resides in slum areas. This slum population comprising of 1272 households i.e. 49.03% of total households resides in 1272 houses which is 45.12%.

Figure 20 : Slum Areas and Planned Areas



Level of Facilities Available in Slum Areas – Sultanpur Lodhi town

3.22. The information regarding level of facilities in slum areas supplied shows that about all the slum areas have both water supply and sewerage facility and have pucca streets. Almost 65% parts of 12 slum areas are being served both water supply and sewerage and 50% of that are having street lights and pucca streets. This information reveals that, most parts of the slum areas are basic infrastructure.

Ownership Pattern

3.23. All slum areas are on the private land and no single slum areas in the town occupy the government land. This can help in finding appropriate solution for the upliftment of these with the involvement of the slum dwellers and also by providing higher incentives, subsidies and by asking them to contribute part of the cost of the structure. On their part, parastatal agencies can be asked to waive off all the charges and fees levied for construction, sanction of the building plans etc.

Economy and Employment

Punjab State

3.24. As India is the land of villages and maximum number of population of India resides in the villages and from those too maximum are dependent on agriculture. Punjab being an agrarian state, agriculture has played a pivotal role in the economic development of the state. Through green revolution in the 60's, Punjab took a major

stride in increasing its productivity of food grains, especially of wheat and rice due to the awareness and use of the new technologies incorporated in the agriculture fields. It contributed significantly towards strengthening India's self-sufficiency by contributing a major share in the central pool over time. However, due to the boost in the agriculture sector, the growth of secondary sector especially of manufacturing sector is not of satisfactory level. Neighboring states got an edge over Punjab in the growth of manufacturing sector due to location advantages and due to more conducive policy regime. Punjab has grown at a rate of 5.08% during 10th Five Year Plan as compared to 7.77% at all India level. Its secondary sector has grown at 8.40% as compared to 9.46% at all India level.

Key economic indicators of Punjab state

Key Economic Indicators				
Item	Unit	2004-05	2005-06	2006-07
Gross State Domestic Product at 1999-2000 prices	Rs.in Crores	81229.39	85729.29	91148.12
Growth Rate of GSDP at 1999-00 Prices	Percent	5.20	5.54	6.32
Per Capita Income at 1999-00 Prices	(Rs)	27851	28872	30158
Percentage Share to Central Pool				
Wheat	%	55	60.9	75.3
Rice	%	36.9	32	31.2
Electricity town Generated	(m.k.w.h)	21296	24642	23695
Per Capita Power consumption	(k.w.h)	871	906	968

(Source: web site of Economic survey of Punjab 2006-07)

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 grow by 6.32% during 2006-07.

The Gross State Domestic Product (GSDP) at constant (1999-2000) prices has increased to Rs. 85729 crores from Rs. 81229 crores during 2004-05 showing a growth rate of 5.54% in 2005-06 as compared to 5.20% in 2004-05. Further GSDP at constant prices for 2006-07 is 91148 crores registering a growth rate of 6.32%.

The Per Capita Income at Constant (1999-2000) prices in Punjab is Rs. 28872 during 2005-06 as against Rs.27851 during 2004-05 registering an increase of 3.67% and further per capita income to increases to Rs. 30158 in 2006-07 showing a growth rate of 4.45%.

The sectoral growth rates are given in table below. As may be seen from this table, secondary and tertiary sectors have grown at rates faster than that of the primary sector. Within the secondary and tertiary sectors, Construction, Transport Storage and Communication and Banking & Insurance have grown significantly faster.

The growth rate of GSDP from primary sector has registered a growth rate of 1.68% in 2005-06 at constant prices as compared to 2.16% in 2004-05 and it will further increase to 4.05% in 2006-07.

Table 21: Sectoral Growth Rates in GSDP at 1999-2000 prices

Percentage change over the previous year							
Item	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
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 town, 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 and Restaurants	7.01	3.47	3.26	5.35	6.22	4.03	5.12
Transport, Storage & Communication	14.9	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	5.2	5.54	6.32

(Source: web site of Economic survey of Punjab 2006-07)

The growth rate of GSDP from the secondary sector, which covers the manufacturing, construction and power sectors, has shown a growth rate of 12.17% at constant prices in 2005-06 as compared to 9.66% in 2004-05, but the growth rate has decreased to 10.28% in 2006-07.

The tertiary sector, which comprises of trade, transport, banking and insurance and public administration etc. recorded a growth rate of 4.95% during 2005-06 against a growth rate of 5.34% in 2004-05. The growth rate during 2006-07 will be 5.74%. Under this sector, transport, storage and communication have shown the growth rate of 10.45% and 9.00% during 2006-07 over the previous year. This growth is mainly due to increase in contribution of transport, storage & communication, trade, hotels & restaurants and banking & insurance sector. It is evident that this structural change in Punjab's economy is the main underlying reason for the sustained urbanization.

LPA, Sultanpur Lodhi

3.25. Economic data as available for the Punjab State is not available at district or the town level. The trends of economic growth have therefore to be judged based on employment data. The economy of LPA, Sultanpur Lodhi is based mainly on trade, tourism, commerce, agriculture and agro based industry. To some extent real estate business, financial and banking services etc. also contribute to the economy of the town.

Work force Participation & Employment`

3.26. Table below depicts that the percentage of workers has decreases from 28.80% in 1981 to 27.50% in 1991 and increases form 27.50% in 1991 to 32.38% in 2001 in Sultanpur Lodhi town. Increase in workers participation means new opportunities in trade & commerce & territory sector within the Sultanpur Lodhi town. In the case of LPA, Sultanpur Lodhi the percentage of workers to the total population has been marginally increases from 29.00% in 1981 to 36.40% in 1991 and then again decreased to 34.40% in 2001. There are 65.60% non-workers in LPA and 67.62% non-workers in Sultanpur Lodhi town as per census 2001. The detail of workers and non-workers is given in table below:

Table 22 : Workers and Non-Workers in LPA Sultanpur Lodhi and Sultanpur Lodhi Town

Year	LPA Sultanpur Lodhi				Sultanpur Lodhi town			
	Total Population	Total workers	%age	Non workers	Total Population	Total workers	%age	Non workers
1981	16,119	4681	29.00	11,438	12,766	3676	28.80	9090
1991	19,194	6982	36.40	12, 212	14,979	4119	27.50	10860
2001	22,184	7635	34.40	14,549	17,354	5619	32.38	11735

(Source: Census of India, Punjab 1981, 1991, 2001)

Occupational Structure

3.27. The change in occupational structure has been noticed to a considerable extent in primary sector i.e. cultivators and agricultural labourers. In cultivators status there have been noticed an increased trend from 13.52% in 1991 to 15.40% in 2001 and on the other hand indicate decrease in the agricultural sector i.e. 9.46% in 1991 to 6.43% in 2001 within LPA, Sultanpur Lodhi. Similarly the number of workers engaged in agricultural laborers and cultivators both the sectors noticed decreased trend from 8.46% in 1991 to 4.25% in 2001 (cultivators) and from 11.30% in 1991 to 6.00% in 2001 (agricultural laborers) for Sultanpur Lodhi town. The percentage of workers working in household sector has recorded an increase from 0.93% in 1991 to 3.15% in 2001 in the LPA Sultanpur Lodhi and increased from 0.78% in 1991 to 3.87% in

2001 in Sultanpur Lodhi town. The notable change during 1991-2001 is seen in the percentage of workers engaged in other activities, which decreased from 76.08% in 1991 to 75.00% in 2001 in the LPA Sultanpur Lodhi and in Sultanpur Lodhi town notice increase trend from 79.40% in 1991 to 85.80% in 2001. The details of occupational structure has been given in table below

Table 23 : Occupational Structure of LPA, Sultanpur Lodhi 1981-2001

Year	Total workers	Cultivators		Agricultural laborers		Household industries		Others	
		No	%age	No	%age	No	%age	No	%age
1981	4681	865	18.48	360	7.70	75	1.60	3381	72.20
1991	6982	944	13.52	661	9.46	65	0.93	5312	76.08
2001	7635	1176	15.40	491	6.43	241	3.15	5727	75.00

(Source: Census of India, Punjab 1981, 1991, 2001)

Figure 21 : Occupational Structure of LPA, Sultanpur Lodhi (1981 – 2001)

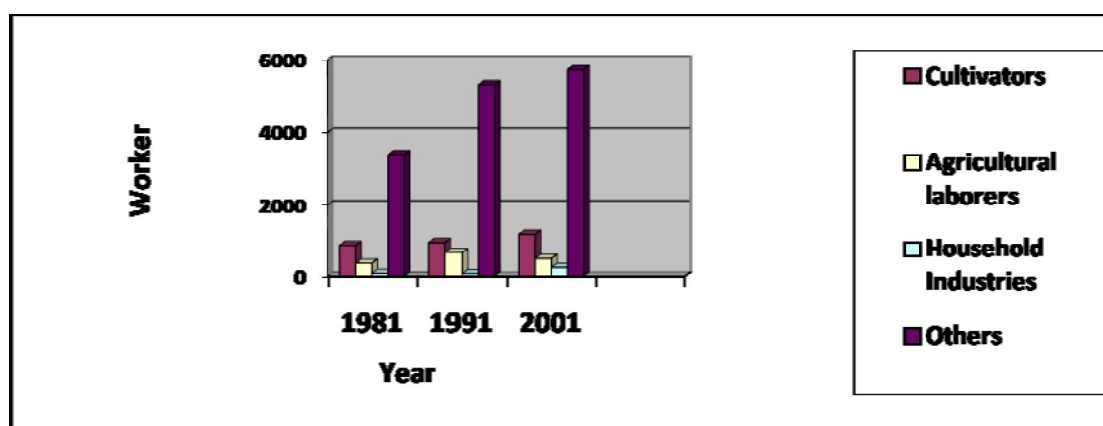
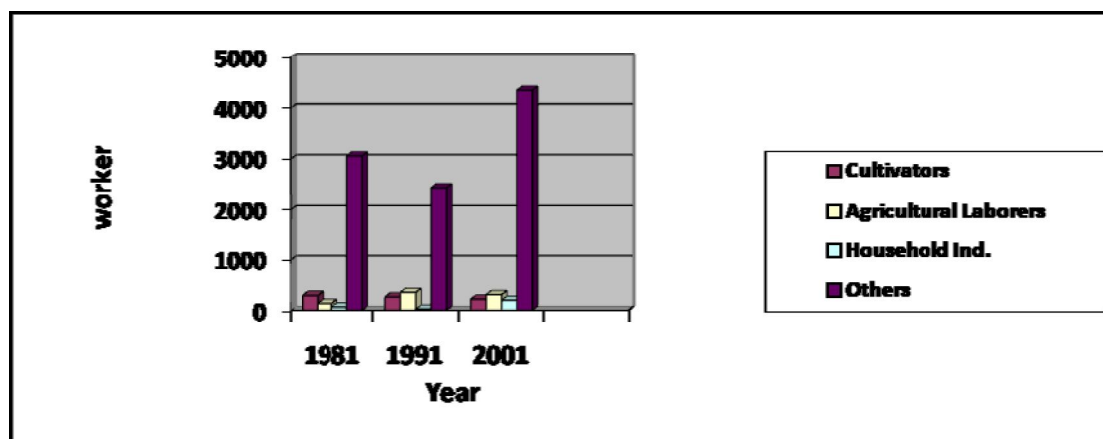


Table 24 : Occupational Structure of Sultanpur Lodhi town: 1981-2001

Year	Total workers	Cultivators		Agricultural laborers		Household industries		Others	
		No	%age	No	%age	No	%age	No	%age
1981	3542	288	8.13	134	3.78	65	1.83	3055	86.25
1991	3073	260	8.46	347	11.30	24	0.78	2442	79.40
2001	5082	216	4.25	305	6.00	197	3.87	4364	85.80

(Source: Census of India, Punjab 1981, 1991, 2001)

Figure 22 : Occupational Structure of Sultanpur Lodhi town (1981 – 2001)



Main economic activities:-

3.28. The occupational structure for LPA Sultanpur Lodhi and Sultanpur Lodhi town is discussed above regarding four main categories for which data is available in the Census data for the cities and town below 1 lakh population. Detailed sectoral occupational structure is not available in the Census 2001. Thus data regarding economic activities like Whole sale and Retail trade/Manufacturing/warehousing /Finance, Banking etc. is collected from other sources and discussed below:-

Manufacturing Industries and Ware Housing :-

3.29. Industries have been found to be the prime mover of the physical and economic growth of urban areas. LPA Sultanpur Lodhi does not show the good number of Industries. The growth in this regard is quite slow and limited to agro based Industries like Rice Sheller .There are 4 Rice Sheller, which are situated near Railway station and 2 Rice Sheller are situated on Vill. Shatabgarh road. There are three manufacturing units of generator diesel in the town. As per figures given in census data of 2001 about 210 workers are engaged in industrial sector and 57 workers are engaged in household industries .One Brick Kiln exists in LPA Sultanpur Lodhi.

Figure 23 : Rice Sheller near Railway Station



Wholesale and Retail Trade:-

- 3.30. Sultanpur Lodhi town is basically a service town which is catering the service needs of the town and adjoining villages as upto 20 km distance no major town exists. As per the survey conducted about 1170 commercial units in the shape of small & medium shops are operating in the town. This shows the dependence of surrounding villages on Sultanpur Lodhi town. Two marriage palaces & five Petrol pump are running in LPA Sultanpur Lodhi.

Finance, Insurance and Banking:-

- 3.31. 20 finance companies, 2 insurance companies and 10 banks are concentrated in LPA Sultanpur Lodhi & Sultanpur Lodhi town, which cater the financial services to the inhabitants of LPA.

Economics Drivers of the LPA:-

- 3.32. Emergency economic drivers of LPA Sultanpur Lodhi are identified as follows:-
1. Religious Pilgrims related to Gurudwaras such as Gurudwara Sant Ghat, Gurudwara Bebe Nanki, Gurudwara Guru ka Bagh, Gurudwara Sehra Sahib, Gurudwara Kothri Sahib, Gurudwara Hutt Sahib related to Guru Nanak Dev Ji. And others
 2. Places of scenic beauty along the Bein which is potential for tourism development.
 3. Existence of Agro based industries (Rice Shellers).
 4. Existing of retail and wholesale trade activities.

All the above-identified economic drivers will boost the economic and physical development of the area, provide employment opportunities and change physical face of the town and the LPA.

4 EXISTING LAND USE AND TRANSPORT NETWORK

Preparation of base map

- 4.1. The work of preparation of base map for the Local Planning Area, Sultanpur Lodhi was assigned to Punjab Remote Sensing Centre, P.A.U., Ludhiana vide memo no. 4827 CTP (Pb) / SP 480 dated 22-10-2007 of Chief town Planner, Punjab . The base map of LPA Sultanpur Lodhi is generated on 1:10,000 scale using Cartosat I data of 2.5 mtr spatial resolutions. The Cadastral maps of the villages falling in LPA were procured from the State Revenue department by the office of Deputy District town Planner, Kapurthala 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 etc. have also delineated 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 Sultanpur Lodhi town (core areas) was prepared on 1:2000 scale using quick bird satellite data of 0.5 mtr. spatial resolution. The quick bird data (satellite imagery) has been received by the PRSC, Ludhiana from National Remote Sensing Agency, Hyderabad.

Enhancement through field surveys-Land use and Road network

- 4.2. The draft base map for the LPA, Sultanpur Lodhi town 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.D.T.P Kapurthala. 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.D.T.P Kapurthala 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.D.T.P Kapurthala office personally assisted the concerned staff of PRSC and a final Existing Land Use map thus was prepared.

Existing Land Use: LPA, Sultanpur Lodhi

- 4.3. The LPA Sultanpur Lodhi town comprises 3270 hectares (32.70 sq.kms) of area as per revenue record whereas as per calculations of P.R.S.C. it works out to 3255.76 hectares, variation of 0.46% only, is very negligible. The area of municipal council Sultanpur Lodhi town is 500 hectare (5.00 sq.km) as per census data where as per the calculation of PRSC it works out to be 347 hectare (3.47 sq. km.) . The areas of LPA Sultanpur Lodhi and M.C. Sultanpur Lodhi as worked out by PRSC Ludhiana have been used for analysis of existing land uses and proposed land use

Table 25 : Existing Land Use LPA Sultanpur Lodhi -2009

Sr. No	LAND USE	Area in hect.	Percentage of total area
1	RESIDENTIAL	166.92	5.13
	Residential (Urban)	107.19	
	Rural Residential	55.53	
	Mixed Land Use (Residential + Commercial)	4.2	
2	COMMERCIAL	49.15	1.51
	Retail Shopping/Marriage places/Cinema	17.21	
	Whole Sales, Godowns, Warehousing.	31.94	
3	INDUSTRIAL	19.86	0.61
	Small scale light & Service Industry	19.86	
4	PUBLIC & SEMI PUBLIC	56.04	1.72
	Govt/ Semi Govt/ Public Offices.	8.04	
	Educational & Research	19.78	
	Medical & Health	2.1	
	Social, Cultural & Religious	19.51	
	Cremation & Burial Grounds	2.28	
	Electric sub-station	4.33	
5	UTILITIES	6.54	0.20
	Water works	0.24	
	Solid waste/ Dumping /Sanitary land filling	1.29	
	Sewerage treatment plant	5.01	
6	RECREATION	3.58	0.11
	Play Ground, Stadium, Sports Complex	2.91	
	Parks & Gardens (Public Open Spaces)	0.67	
7	TRANSPORTATION & COMMUNICATION	95.86	2.94
	Roads	54.46	
	Railway Line & Siding	38.29	
	Bus Terminus	0.48	
	Railway Station	2.63	
8	RURAL & AGRICULTURE	2857.68	87.7
	Agriculture	2570.39	
	Forest	142.82	
	Water Bodies	63.82	
	Plantation & Orchards	9.19	
	Vacant Land	71.46	
9	SPECIAL AREAS	0.13	0.08
	Fort/Heritage Building	0.13	0.08
	TOTAL	3255.76	100.00

(Source: PRSC, PAU, Ludhiana)

LPA Sultanpur Lodhi covers the revenue estates of 10 villages which also include the areas of one urban centre i.e. Sultanpur Lodhi, as given in Annexure 4. About 88% the total area of LPA Sultanpur Lodhi is under rural use. Out of total area of 2857.68 hectares, 2570.39 hectares area is under agricultural use, whereas 142.82 hectares, 71.46 hectares and 63.82 hectares area is under Forest, Vacant land and Water bodies respectively. The detail of breakup of major existing land uses is given in Table above. Existing land use of LPA Sultanpur Lodhi is shown in Drg.No.DDTP(K)05/09 Dated 01-07-09

Existing Land Use: Sultanpur Lodhi town

- 4.4. LPA, Sultanpur Lodhi comprises 3270 hectares (3255.76 hectares as per P.R.S.C) covering the land of 10 villages & one Urban settlement. The total area of Municipal Council of Sultanpur Lodhi in the Year 2009 is 347 hectares as per PRSC. The detail of major existing land uses within the M.C. Limits is given in Table below.

Table 26 : Existing land Use Table of Sultanpur Lodhi town

Sr. No	LAND USE	Area in hect.	Percentage of total area
1	RESIDENTIAL	90.89	26.19
	Residential	87.31	24.16
	Mixed Land Use (Residential + Commercial)	3.58	1.03
2	COMMERCIAL	42.27	12.19
	Retail Shopping/Marriage places/Cinema	14.87	4.29
	Whole Sales, Godowns, Warehousing.	27.4	7.9
	INDUSTRIAL	14.72	4.24
	Small scale light & Service Industry	14.72	4.24
4	PUBLIC & SEMI PUBLIC	36.91	10.64
	Govt/ Semi Govt/ Public Offices.	7.81	2.25
	Educational & Research	10.31	2.97
	Medical & Health	2.10	0.61
	Social, Cultural & Religious	15.57	4.49
	Cremation & Burial Grounds	1.12	0.32
5	UTILITIES	0.24	0.07
	Water works	0.24	0.07
6	RECREATION	3.03	0.87
	Play Ground, Stadium, Sports Complex	2.36	0.68
	Parks & Gardens (Public Open Spaces)	0.67	0.19
7	TRANSPORTATION & COMMUNICATION	33.21	9.57
	Roads	30.1	8.67
	Bus Terminus	0.48	0.14
	Railway Station	2.63	0.76
8	RURAL & AGRICULTURE	125.73	36.23
	Agriculture	82.31	23.72
	Water Bodies	15.56	4.48
	Plantation & Orchards	3.74	1.08
	Vacant Land	24.12	6.95
9	SPECIAL AREAS Heritage Building		
	Total	347.00	100

(Source: PRSC, PAU, Ludhiana)

Residential

It is very much clear from table that the residential use has a larger share of town area. Out of total municipal area of 347 hectares about 90.89 hectares 26.19 % of area is under residential use which includes both planned and unplanned development. Out of total residential use, 1.03% is under mixed land use. The gross density of the town is 50.01 persons/hectare. The population density is high in inner areas (>300 persons/hectare) as compared to outer areas (< 50 persons/hectare). Only two Development schemes i.e. one Urban Estate and other Commercial scheme have been executed by Punjab Urban Development authority (PUDA). Out of these, one is of residential cum commercial nature covering an area of 25.78 hect. (approx) offering just 480 residential plots and 7 shops cum flats, 40 shops cum offices, and 63 shops and there is one purely commercial scheme having an area of 1.07 acres, containing SCO-14, SCF-7 and 17 booths. These planned areas are negligible as compared to unplanned areas. Besides this very small part of planned areas, rest of the town is developed in unplanned and haphazard manner. Much of this area has irregular and zig - zag street pattern.

Commercial

- 4.5. The commercial use is the most important use of the urban areas. It may have lesser share in area but plays an important role in town character. In case of Sultanpur Lodhi town the total area covered under commercial use is 12.19% of the total developed area. Out of total 12.19% of total commercial area 4.29% is under wholesale and retail trade. The main commercial areas in Sultanpur Lodhi are Sadar Bazar, Bazar Hakiman, Bazar Arya Samaj, Bazar Chelian Chowk etc. The commercial areas of the town have inadequate parking and other public amenities. The commercial area of the town is in the form of semi-organized bazars along streets and roads. Apart from formal bazaars, there are informal bazars in the form of temporary shops like Rehri walas, farhi walas and kiosks located in the existing commercial areas and near the bus stand, railway station, grain market, and near other important economic activities. There are more than 100 numbers of rehri / informal shops existing in the various parts of the town. These activities are not of permanent nature and are using the roads therefore areas covered under this use are not shown separately.

Figure 24 : Interior Commercial Areas in Sultanpur Lodhi Town



The Wholesale grain market covering an area of about 18.17 hectares is located in the eastern part of the town along the Kapurthala road which is a planned site marked for above purpose. There is no other planned wholesale trade like timber, iron market etc. This area of commercial use is much more as compared to norms and standards because the grain market and godowns are situated in the MC limits of the town and area of the new planned grain market (18.17 hect.) is very high.

Industrial

- 4.6. As table depicts that the total area under industrial use is 14.72 hectare which is 4.24% of the total municipal area. The area under industrial use is low. Sultanpur Lodhi town does not have good number of industries. The growth of industries is slow and limited to agro based industries. There are four Rice Shellers concentrated near the railway station and 3 manufacturing unit of generator diesel. There is no planned industrial site or focal point available in the town.

Traffic & Transportation

- 4.7. The total area under traffic and transportation is 33.21 hectares which are 9.57% of the total municipal council area. The percentage of use under this head is low as compared to norms and standards. The major problems related to this aspect are narrow width of roads missing road hierarchy, lack of parking places, traffic bottlenecks, encroachment of roads, lack of traffic signals etc. The detailed study of traffic & transportation is also covered in the part related to Physical infrastructure of Chapter 5. However, table depicts that out of this use major share 30.1 hect. i.e

8.67% of total municipal area is covered under main roads followed by railways which cover an area of 2.63 hectares (0.76%). The details of existing road network and other uses relating to traffic transportation are shown in Existing Land Use Plan, Sultanpur Lodhi Drg.No.DDTP(K)05-09 dated 01-07-09.

Public & Semi-Public

- 4.8. This use comprises the areas covered under Govt. /Semi Govt. offices, Govt. lands, Education, Health, Socio-Cultural, cremation grounds etc. The total area covered by this use is about 36.91 hectares which is 10.64% of total municipal area. The most of public and semi-public uses are concentrated in the central part of the town whereas few uses of this category are also seen in the outer parts of the town.

Utilities

- 4.9. Utilities include uses like Water Works, Electric Grid Station, (E.G.S) Sewerage Disposal Works, Solid Waste Dumping site and communication etc. Area under this use covers an about 0.24 hectares which is only 0.07% of total municipal area. Area under this category is low except water works all other utilities (Electric Grid Station, (E.G.S) Sewerage Disposal Works, Solid Waste Dump site and communication etc.) are outside the MC limits of the town.

Rural and Agricultural

- 4.10. There are some chunks of land falling within municipal limits which are still being used for agricultural purposes. The areas on the northern side above the river bein are largely under agriculture. 125.73 hectares are under agricultural use which is 36.23% of total area. Out of this category about 82.31 hectares of land is under purely under agricultural use which is 23.72% of total area. About 7% and 4.48 % of the total area is under vacant land and under water bodies respectively. The Existing Land Use Plan Drg.No.DDTP(K)05-09 dated 01-07-09.shows the spatial distribution of all these uses within the limits of municipal corporation Sultanpur Lodhi.

Existing Road-Rail Network

- 4.11. If urban centres 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.

Road and Rail play a significant role in the transport sector in Sultanpur Lodhi and surrounding areas. The road network is studied in terms of length of roads, cross section of roads (divided and undivided carriageway, foot-path and right of way) etc. and major road intersections. Similar data regarding rail network is also studied.

Road network

There is no National Highways, State highway and district road passing through the town. There are 3 main roads of the town as Sultanpur Lodhi-Kapurthala, Sultanpur Lodhi-Talwandi Chaudhrian and Sultanpur Lodhi-Lohian All the roads passing through LPA, Sultanpur Lodhi have undivided carriageways inside and outside the M.C. limits. The non-existence of main roads like N.H., S.H. in LPA Sultanpur Lodhi shows that this area is away from the main regional corridors of the state. As per table given above the length of major roads is 11.09 km within LPA boundaries out of which about 4.88 Kilometers fall within the limits of Municipal Council of Sultanpur Lodhi. Total area under roads within the M.C limits of Sultanpur Lodhi town is 30.1 hect. This is 8.67% of the total area of M.C which is low as compared to norms and standards. There is good network of rural roads in LPA, Sultanpur Lodhi. The detail of width of Right of way, carriage way and length of major roads falling in LPA Sultanpur Lodhi are given in table below:

Table 27: Detail of Road Cross Sections and Length of Major Roads

Name of Road	Total length in Kms	Within MC			M.C to LPA		
		Road length in Kms.	Right way(mts)	Carriage way(mts)	Road length in	Right of way(mts)	Carriage way(mts)
Sultanpur Lodhi-Kapurthala	5.68	2.13	17-32	6.70	3.55	32	6.70
Sultanpur Lodhi-Talwandi Chaudhrian	1.95	0.71	62.20	6.70	1.24	62.20	6.70
Sultanpur Lodhi-Lohian	3.46	2.04	20.12	5.48	1.42	13.41	5.48
	11.09	4.88			6.21		

(Source: PWD central works, Kapurthala. Field survey 2008)

As per the existing positions of these roads, it becomes clear that, newly developed urban estate of the town has comparatively wide road net work than the other parts of the town. Hierarchy of road is missing in Sultanpur Lodhi town. The inner town road network has irregular alignments, inadequate width and frequent intersections leading to traffic jams.

Road Intersections

4.12. While examining the road network of the town, 8 road intersections have been identified within the limits of Municipal Council, which remains busy throughout the day. These road intersections are listed in the below:

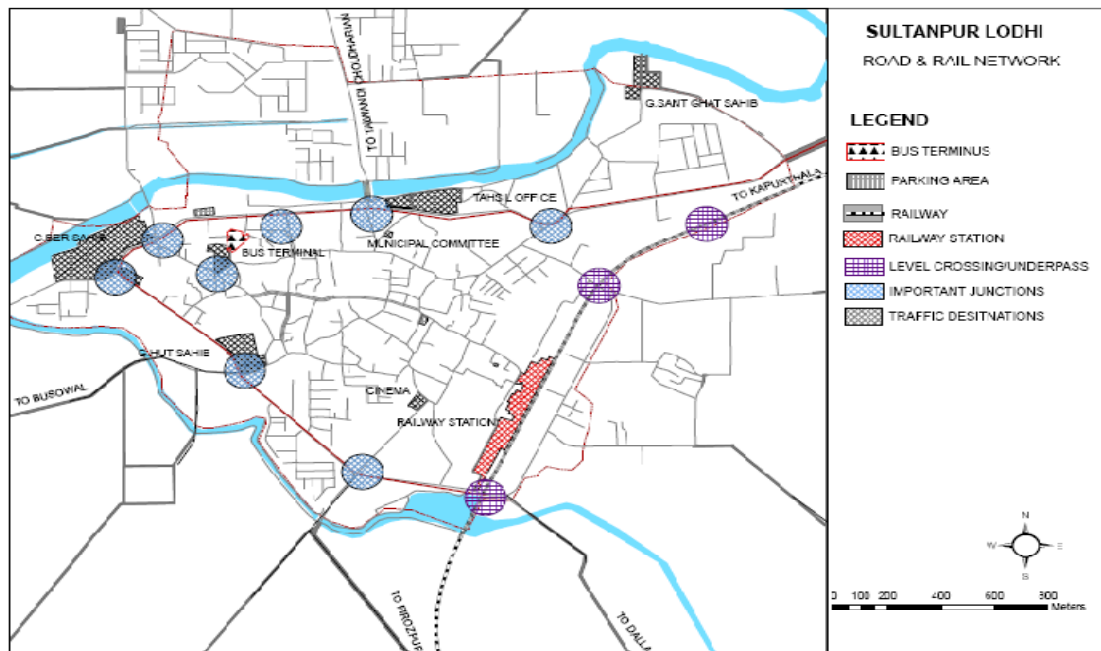
Table 28: Detail of Road Intersections in Sultanpur Lodhi town

Sr.No.	Name of Junction	Type of Junction
1	Kapurthala-Gurudwara Ber Sahib Road -Rly. Station Road chowk	Y-Junction
2	Talwandi Chaudhrian Road - Bus Stand Road - Arya School Road	Cross Junction
3	Sultanpur Lodhi-Lohian - Dalla Road - Cinema Road	Cross Junction
4	Gurudwara Ber sahib Road - Bus Stand	T-Junction
5	Gurudwara Ber Sahib Road - M.C.Office Road	Y-Junction
6	Gurudwara Ber Sahib Road - Gurudwara AnterYamta Road	Y-Junction
7	Gurudwara Ber Sahib Road - Lohian Road -Village Terf Hazi	T-Junction
8	Gurudwara Hutt Sahib chowk	Cross Junction

(Source: Field survey 2000)

As per table given above and figure 25 shows that out of 8 road intersections,3 are cross junctions while remaining are T and Y junctions. Besides these identified road intersections there are many other intersections in the inner part of the town, which have not been listed over here. The position of above listed road intersections has been shown in the figure below:-

Figure 25 : Roads and Rail Network – Sultanpur Lodhi town



Rail Network

- 4.13. Sultanpur Lodhi town has rail network connecting the town with Jalandhar, Ludhiana, Delhi, Mukhu, Ferozepur and Bathinda. There is one railway line entering in the town from Kapurthala side and going towards Lohian side. The existing railway line, railway station and yard cover an area of 2.63 Hectares, which is 0.76% of the total area of the town.

Railway Over-Bridges

- 4.14. It is evident from above the town is divided into two segments by the railway line necessitating railway over bridges. At present there is no railway over bridges (R.O.B.) in the town.

Level Crossing

- 4.15. Because of railway line passing through the center of the town there are three numbers of level crossings of various roads. A total number of 3 level crossings have been identified in Sultanpur Lodhi town which are manned. On some of the railway level crossing there is a need of Railway Over Bridges (R.O.Bs).

Heritage & Conservation

- 4.16. The basic objectives of urban and regional planning are very clearly related to those of conservation of historic towns, area and monuments. Land use plans, Master Plan, Zoning Regulations and building bye-laws etc. help in achieving these objectives. Town planning for existing old areas in cities needs care of the architectural fabric in urban areas. Therefore conservation needs to be an integral part of the town planning process, i.e. of land use plans, building regulations and development policies. The perspective plan of a town must be reviewed to assess its effect on the conservation needs of the town. It must reflect and respect the form of all areas and buildings and precincts must recognize the social needs of community in old days.

Acts / laws

A few of the Central and State Government Acts which mention conservation of built heritage monuments and natural and environmental protection are enumerated as under:-

Central Level Acts

- i) Ancient Monuments Preservation Act, 1904, provide for preservation of ancient monuments and objects of archeological, historical or Artistic interest.
- ii) The concept of a monument of national importance was introduced in the Ancient and Historical Monuments and Archaeological sites and remains (Declaration of National Importance) Act, 1951.

iii) Subsequently Ancient Monuments and Archaeological sites and remains Act, 1958 replaced the earlier Act.

State Level Acts

i) The Punjab Ancient Monuments and Historical Remains Act, 1964

ii) Provisions contained in "The Punjab Regional and town Planning and Development Act, 1995"

Heritage & Conservation in Sultanpur Lodhi

4.17. Sultanpur Lodhi has some places/site of archeological, historical or artistic interest. Under this head it has one site of Hadira along Talwandi chaudrian road and one Quila along Lohian road which is of historical importance needs to be conserved properly. Quila is at present is used by the police department for their operation. Sultanpur Lodhi town at present has no building /area notified under the conservation related act at State and Central level.

4.18. **Sultanpur Lodhi Pilgrim Trail improvements.**^{*1} This Circuit integrates the various Religious and Historical structures of the town of Sultanpur Lodhi into a singular experience for the pilgrims/visitors. The proposal looks at an overall improvement of the trails connecting the structures: Gurudwaras, Quila and Hadira. Listed below are the sites of significances which need to be linked to the trail:

- i. Gurdwara Ber Sahib,
- ii. Gurdwara Sant Sahib,
- iii. Gurdwara Antaryatma Sahib,
- iv. Gurdwara Haat Sahib,
- v. Gurdwara Guru ka Bagh,
- vi. Gurdwara Kothi Sahib,
- vii. Gurdwara Sehra Sahib,
- viii. Bebe Nanki Dharmshala and Bebe Nanki Ancestrol House,
- ix. Quila Sultanpur Lodhi, and
- x. Hujra Hadira.

The following trails are proposed to be improved:

- i. Trail 1: Kapurthala – Ber Sahib;
- ii. Trail 2: Front of Ber Sahib Gurudwara;
- iii. Trail 3: Bebe Nanki Gurudwara – Ber Sahib Gurudwara;
- iv. Trail 4: Road leads to Sant sahib Gurudwara;
- v. Trail 5: Road in front of Antaryamata Gurudwara;
- vi. Trail 6: Road to Hadira;
- vii. Trail 7: Quila road;
- viii. Trail 8: Sadar Bazar road;
- ix. Trail 9: Residential area: area near to Cinema Chowk; and
- x. Trail 10: Sehra Sahib G., Kothai Sahib G., Gurau ka Bagh roads

¹ Environmental Assessment Document:- Infrastructure Development Investment Program for Tourism—Punjab Sikh Heritage Route Subproject :- Prepared by the Government of Punjab, March 2010

Figure 26 : Fort (Quila) at Sultanpur Lodhi Town



Figure 27 : View of Hadira at Sultanpur Lodhi Town



5 INFRASTRUCTURE

Physical Infrastructure

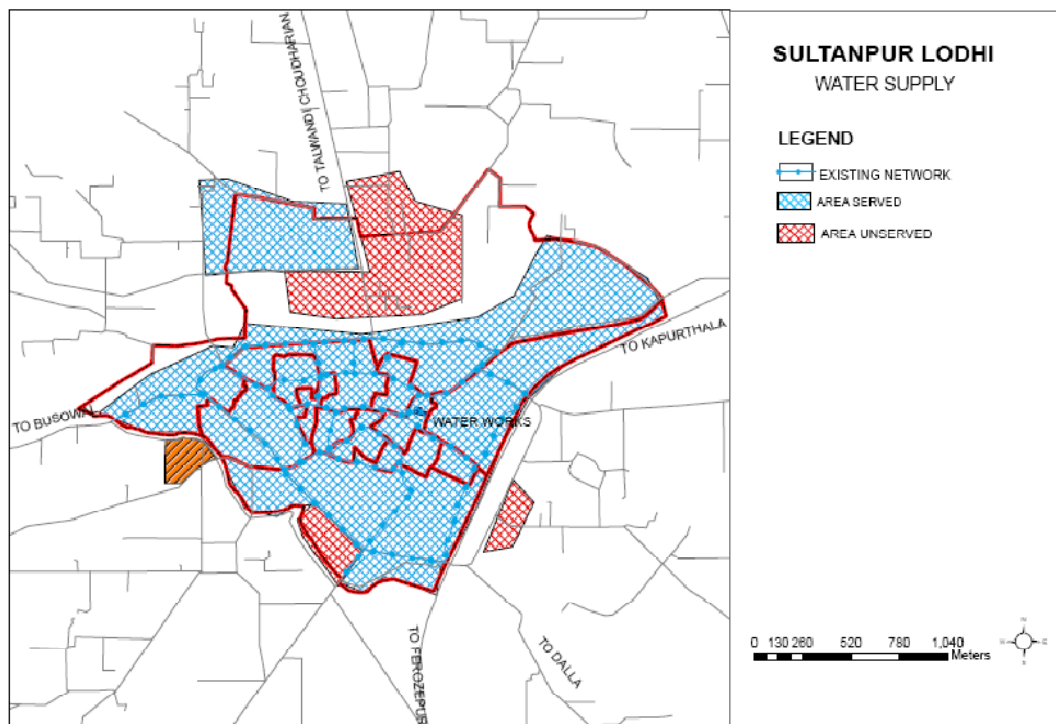
Source of Water supply

- 5.1 Public water supply in Sultanpur Lodhi town was started around 1969 when water works were constructed. The Water supply system of Sultanpur Lodhi town is dependent mainly on tube-wells in Sultanpur Lodhi town. There are four water works which serve the town and the water is supplied directly through tube wells.

Supply operation and maintenance of water:

- 5.2 Supply, operation and maintenance of water are one of the prime and basic services provided by M.C Sultanpur Lodhi town. However, the role of M.C is limited to funding the entire cost of the project for maintenance and making the system operational, besides collecting the revenue from the end users. The entire process of planning, construction and laying the major network and construction of water works & OHSR's is handled by the state level agency i.e. Punjab Water Supply and Sewerage Board (PWSSB). The Board undertakes this work for and on behalf of the municipal council and after completing the system it is handed over to municipal council.

Figure 28 : Water Supply Network Sultanpur Lodhi town.



Tube wells

- 5.3 There are four tube wells, which are situated (i) near M.C office and (ii) Gurudwara Guru Ka Bagh (iii) opposite Telephone exchange and (iv) near Gurudwara Antaryamta Sahib respectively. All the above tube wells are running in good condition. The daily water consumption is 1.77 MLD.

Storage

- 5.4 For storage of water, two OHSR are available in the town. One OHSR has been installed near the M.C office water works and the other is near the Gurudwara Guru Ka Bagh and total storage capacity of these is 10,000 Gls. & 1,00,000 Gls. respectively. Both the OHSR's are not in working condition. But generally the water supply is supplied through tube wells directly. The detail of storage capacity of OHSR's at above two places is given in table below:

Table 29: Storage Capacity of different OHSR Sultanpur Lodhi town

Location	Type of Storage	Capacity in gallon	Height in feet	Remarks
M.C market (near M.C office)	OHSR	10,000	60	Not in use.
Back side of Gurudwara Guru ka Bagh	OHSR	1,00,000	80	Not in use.

(Source: PWSSB, Kapurthala)

Distribution

- 5.5 Specifically for supplying water to the town, there is no clear cut demarcation of zones but as per supply from different tube wells, the town is divided into four zones. The detail of zones is given in table below:-

Table 30 : Detail of zones for water supply distribution

Zone no.	Area Served	Tube well supply
1	Rest house, Tehsil complex, New grain market, Mohalla Hakiman, Mohalla Thakuran and Govt. residential quarters.	Opposite telephone exchange
2	Civil hospital, Mohalla Shah Sultan and Mohalla Kazian etc.	Near M.C office
3	Mohalla Kurlian, Mohalla Dhiran, Mohalla Kamboan, Mohalla Bihiran, Mohalla Julahian, Mohalla Rajputan and Old grain market etc.	Near Gurudwara Guru Ka Bagh.
4	Bus stand, Mohalla Pandori, Area around Gurudwara Hutt Sahib and Guru Nanak Dev stadium.	Near Gurudwara Antaryamta Sahib

(Source: Municipal council Sultanpur Lodhi)

Coverage of water supply

- 5.6 The tube wells supply water to about 76% of total population covering an area of 2.72 sq.km out of 3.47 sq.km.of M.C area. The few areas like Khalsa colony, New Abadi Alahdad chak, New Chandigarh and Abadi opposite Central town have devoid of water supply facility .Total length of water supply laid both main and sub-main is 23.84 kms.Urban Estate located at Sultanpur Lodhi-Talwandi chaudhrian road have its own system of water supply.

Water Connections

- 5.7 The town at present has 2230 registered water connections to different category of users. Out of 2230 registered connections, 2040 are domestic and 190 are the commercial connections in the year 2009 as per data taken from municipal council, Sultanpur Lodhi town. As per census data there are 3089 households in the town .It means thus 859 households in the town does not have water supply connections. Besides the above number of registered connections, many unregistered illegal water connections avail the facility of getting water from the existing network.

Water demand & Supply

- 5.8 The estimated population of the town for the year 2009 is 22500. This gives gross per capita supply of 271 lpcd. As per as the norms prescribed, the amount of water supply should be is 135 lpcd. Accordingly, the amount of water supplied is higher than the prescribed norms. The duration of water supply is 3 times a day

Table 31: Water supply

Area (in Sq. kms)	Amount of Water supplied	Registered connections	Estimated Population served in the year 2009	Water supply in lpcd
3.47	6.10 mld	2230	22500	271

(Source: PWSSB, Kapurthala)

SEWERAGE NETWORK

Introduction:

- 5.9 Municipal Council of Sultanpur Lodhi town with association of Punjab Water Supply & Sewerage Board (PWSSB since 1977) provides the facility of sewerage net work to the areas falling with in the municipal council limits which cover an area of about 2.65sq km. The sewerage includes the waste generated from domestic, industrial, commercial and institutional units etc. operating in the town. Initially, the waste water system in Sultanpur Lodhi town consisted of open surface drains running through irregular narrow lanes of the old part of the town. Municipal council of Sultanpur Lodhi

town came into existence in 1965. The work of laying underground sewerage in the town was first taken up in the year 1992.

Area coverage

- 5.10 During the period of last 17 years, only 74% of the population could be provided the sewerage facility where as the remaining 26% of the population is still to be provided with this facility. Average daily sewer flow is 2.30 MLD. The total length of the sewer is 19.74 km which includes length of the intercepting sewer of 3.13 km and length of lateral / branch sewer is 16.61 km. There is a sewerage treatment plant in the town located towards western side on Bhago Arian road. Untreated sewage is collected through a net work of sewerage from the contributory area and is lifted at the pumping station situated on Sultanpur Lodhi-Bhago Arian road and is disposed off in the nearby fields. Although the population of the town is not increasing at a faster rate, but still many new colonies like New Chandigarh, Navi Abadi Alahdad Chak, Khalsa colony and new colony opposite Central town area have come up without sewerage network. Waste water is being disposed of in open surface drains and septic tanks in these localities.

Management ,Operation, Maintenance of Existing Sewerage System

- 5.11 The management, operation and maintenance of the existing sewerage system are being done by PWSSB although the cost is borne by municipal council. Being a small town, whole of the town is covered under a single zone for operation and maintenance of the sewerage system. It may be mentioned here that in rainy season some areas are water logged like Arya Samaj chowk, near B.D.O office & near Bus Stand, the sewerage system is affected in some localities.

Table 32: Existing Pumping Station in Sultanpur Lodhi town.

Sr. No	Location	Pumps	Motor (HP)	Capacity
1.	SultanpurLodhi-Bhago Arian road	3	2 motors (25 HP) each & 1 motor (30 HP)	3.17 mld

(Source: PWSSB.Kapurthala)

Sewerage Network and Sewerage Treatment Plant

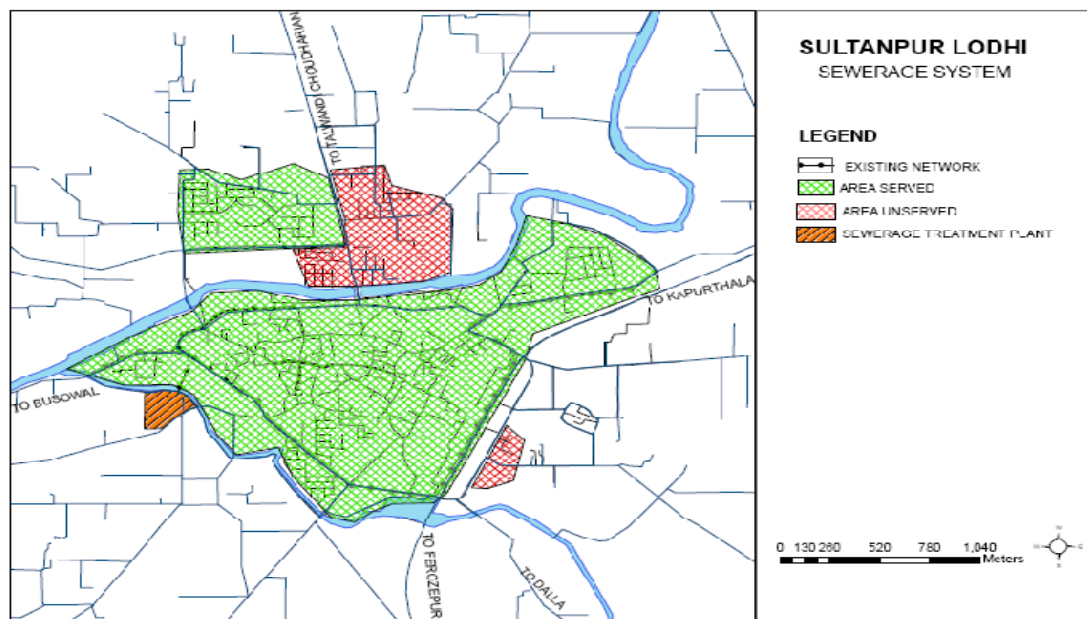
The prevailing gradient/slope of the town is from centre to the South and North, then towards West. Due to the prevailing slope of the town the main sewer lines run along major roads from East to West side which runs towards pumping station/treatment plant.. This site of treatment plant is located on the western side on Bhago Arian road near drain from where it is pumped out with the help of motors (2 motors of 25 HP each & 1 motor of 30 HP) in the open tanks for treatment. The M.C has about 11Acres 4 Kanal 3 Marlas of land where the sewerage treatment plant has constructed

by the concerned agency. Figure 30 below shows the areas served and non- served by sewerage network:

Figure 29 : Site of Sewerage Treatment Plant



Figure 30 : Sewerage Network: Sultanpur Lodhi town



SOLID WASTE MANAGEMENT

Introduction:

- 5.12 Solid waste has emerged as the major problem in urban areas with regard to its effective management. Limited disposal facilities coupled with dumping of the solid waste in a haphazard manner in various parts of town has lead to not only creating environmental problems but also serious health hazards.

Management of Solid Waste

5.13 Solid waste management is the prime responsibility of Sultanpur Lodhi town municipal council within its boundaries. Municipal Council discharges this duty to a private contractor for collection, storage, transportation and disposal. As per data available from M.C, there is a shortage of staff dealing with the responsibility of day to day solid waste collection and disposal. The agency appointed by the municipal council collects solid waste from all the residential areas within its limits and then transports it to the dumping site.

Quantity of Waste Generated:

5.14 There has been no formal study to know the estimated waste generated in the town. It is estimated that the total quantity of waste generated per day is 6 metric tonne which means that about 267 gram waste is generated per person per/day. The amount of garbage generated on per capita per basis is found little less than the pattern of garbage generation in other cities of the state, which ranges between 300 to 450gms per capita per day.

Stages of Solid Waste Management:

5.15 The process of solid waste management can be broadly classified into following stages:-

- (i) Primary and secondary collection
- (ii) Waste Storage & segregation.
- (iii) Waste transportation
- (iv) Disposal of Waste.

First collected from the points where it is generated and taken to the collection centers defined by the municipal council. This process is taken up both at the individual level or by the agency. After the garbage is dumped at the identified places it is transported to the dumping site for final disposal. The detail of primary collection of solid waste in respect of household, road network, industrial and bio-medical waste is given in the following paras.

Solid Waste Collection-Household Waste.

5.16 Collection of garbage of whole of the town is managed as a single zone due to small size of population / area and staff in municipal council. The major share of solid waste is generated at the household level. 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, with the result both the organic and inorganic waste gets mixed up which poses considerable problem in effective disposal of the waste.

The waste generated at individual premises is removed initially by the owner or by the agency. This collected solid waste is then dumped at various collection points identified by the municipal council and at other unauthorized open places by the use of wheel barrows and cycle rickshaws. 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.

Road Side Waste and Road Sweeping

- 5.17 Municipal Council has employed various safai sevaks to sweep the roads daily and collect the solid waste. Each safai sevak is given a particular road/area for sweeping of municipal road/area. They are also given wheel barrows to dump their collected waste to the designated sites.

Bio Medical Solid Waste

- 5.18 The waste generated by the hospitals mostly falls into the category of hazardous /infectious waste which poses danger to human life. The bio-medical waste requires specialized mechanism for its collection, transportation and disposal. As per the report of municipal council there are 4 Govt.hospital including one private and 20 private clinics which have made their own arrangement for disposal of their wastes, but disposal of Bio Medical waste is not done as per the relevant rules required.

Industrial solid waste

- 5.19 The industrial waste generated is due to industrial and manufacturing processes adopted by the industrial units. Most of the industrial units are based on agro raw material. Sultanpur Lodhi town basically is not an industrial town therefore the waste generated from different small and medium industries are not alarming which may create headache to the municipal council.

Dumping site.

- 5.20 The method adopted by the Sultanpur Lodhi town municipal council for disposal of the solid waste is through the mechanism of landfills. At present Sultanpur Lodhi town municipal council uses only one site for dumping the solid waste. The site is located on Lohian Road at a distance of about 1.5 Km from town. The area of dumping site is 2.50 acres. The average depth available at the site varies from 6 to 8ft. for dumping of the solid waste.

The landfill site is not lined and properly defined. Moreover land filling is being done in an unscientific manner. The waste is directly dumped, without any segregation.

There is no compaction of the waste undertaken to compress it since no bulldozer and compacters are available for this purpose. In the absence of scientific disposal of the waste a lot of valuable waste is lost due to absence of recycling. In addition, due to unscientific disposal of the waste, lot of foul smell is generated due to the presence of organic waste polluting the environment. No treatment of the solid waste is undertaken during the dumping process as required in the system of sanitary landfills.

Manpower deployed

5.20.1 There is no Municipal Engineer or Assistant Municipal Engineer deployed to manage the solid waste management system of the town. . In all 42 safai sewaks have been deployed which includes full time and 7 part time workers. The man at the top is not technically trained and also the staff at next level is not professionally trained to manage the work. Moreover, the supporting 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. .Further there is no rational system of deployment of manpower which is usually done on an adhoc manner without any relationship of quantum of waste generated or population served. This reduces the efficiency of the manpower deployed in the system. The details of man power deployed in the solid waste management are detailed in table below:

Table 33: Existing man power deployment solid waste management

Sr. No.	Name of the Official	Number
1.	Assistant municipal engineer	-
2.	Chief Sanitary Officers	-
3.	Sanitary Inspectors	-
4.	Sewadars	4
5.	Sanitary Supervisors	4
6.	Safai Sewaks (Full time)	35
7.	Safai Sewaks (Part time)	7
8.	Drivers	-
	Total	50

(Source M.C Sultanpur Lodhi)

Key issues:

- Absence of scientific management of solid waste.
- Absence of public participation and lack of public awareness.
- Untrained and unqualified manpower deployed and lack of staff.
- Inefficiency in the management of vehicles used for transportation.
- Lack of data on the generation of the solid waste.
- Poor management of dumping sites.
- Absence of segregation of waste at the primary level.
- Absence of scientific system of sanitary landfills.

- Absence of appropriate mechanism for converting waste into generating energy and fertilizers.

Traffic and Transport

5.21 Transportation is an integral part of any town that is totally responsible for the existence and prevailing characteristics of the town. Without transportation the cities could never have developed. First of all transportation forms the circulatory system that connect cities with each other and with the countryside. Without transportation the functional differentiation of the town into areas of specialized land uses could not have occurred and without transportation, the functionality of the town cannot be achieved or in other words it acts as the spinal cord of the town.

Traffic volume Survey

5.22 Due to small size of town traffic problems are not acute as compared to big cities of the state. Sultanpur Lodhi has its importance due to the religious base of the town and as such traffic volume of the main roads is low as compared to norms standards prescribed by IRC. Except the inner areas, where the roads are narrow and zig-zag, the other three main roads of the town are underutilized.

1. Kapurthala - Sultanpur Lodhi.
2. Sultanpur Lodhi - Talwandi Chaudhrian.
3. Sultanpur Lodhi - Lohian-Firozpur road.

Bus Transport

Bus Terminal and Frequency of bus Service

5.23 There is one small Bus Terminal in Sultanpur Lodhi town which is situated on road which starts from Sultanpur Lodhi town – Firozpur road near Gurudwara Ber Sahib and commercial streets, old market and old parts of the town. It takes only 5 to 10 minutes time to reach the main market/ bazaar from bus stand. The Total area of Bus stand is 1.25 acres. It does not have a work shop which is an important component. The area of bus stand is not sufficient to accommodate all the components as per the norms given in UDPFI guidelines. Some buses originate and terminate at the terminal. Few of the buses just passes through the bus stand to stop for few minutes' stoppage. It has been noted that preferred mode of travel of the people of the area for distant stations is also by the buses, accordingly, it attract large volume of the traffic in process. In addition terminal caters to large number of daily commuters who come to work and business places and in process terminal also attracts large number of informal commercial activities. Figure 31 shows the bus-terminal of Sultanpur Lodhi town.

Figure 31: Bus Terminal : Sultanpur Lodhi Town



Bus Routes and Inter town Bus Service

- 5.24 As per data supplied by General Manager PRTC Kapurthala, total numbers of 46 buses and 15 mini buses operate from this bus stand daily. The town is connected by bus service with the important towns and cities of the state like Ludhiana, Chandigarh, Amritsar, Faridkot, Jalandhar, Hoshiarpur, Firozpur and Nakodar etc. The maximum number of 37 buses is found towards Kapurthala side 30 buses via Pajian, 7 buses via Fattu Dyinga. Table further indicates that there are 4 buses operating towards Faridkot and 3 buses towards Hoshiarpur, 2 buses to Nakodar. These figures are outside directions from the town and the same number of buses stands for inward direction of the town thus the figure doubles to be 92 buses .In addition to above 15 mini buses plying from bus stand to the surrounding villages. Table below indicates that over the years, bus traffic has recorded an increase of 3 buses only, it indicate that the growth of town is slow. As informed by General Manager, Pepsu Road Transport Corporation, the average occupancy of buses is considered to be 50 Passengers per bus per trip which shows that 6100 passengers are picked up from Sultanpur Lodhi bus stand daily by buses and mini buses. The detail of routes form Sultanpur Lodhi is given in table 34 below:

Table 34: Daily Bus traffic route-wise in Sultanpur Lodhi 2007-08

Name of Route	2007	2008
Sultanpur Lodhi – Kapurthal(via Pajian)	28	30
Sultanpur Lodhi – Kapurthala (via Fattu Dhinga)	6	7
Sultanpur Lodhi –Hoshiarpur	3	3
Sultanpur Lodhi- Faridkot	4	4
Sultanpur Lodhi – Nakodar	2	2
Total	43	46

(Source: PRTC,Kapurthala)

Intra town movement

- 5.25 Sultanpur Lodhi being a small town and town is spread over a average radius of about 1.60 km only. For intra town trips and to link the various work and living areas mainly cycle rickshaws and 55 peter rahras are used and up to certain extent taxis are used for any distances. However some mini buses going to rural areas from bus stand pick up the passengers and drop at various stops in the town to facilitate the general public hence functioning partly as public transport. Besides this colleges and various schools etc. have their own fleet of buses which carry number of passengers daily. Preferred mode of transport in the town has been witnessed as use of rickshaws and own vehicles which have been found to be highly convenient by the users because of affordable fare and convenience of getting on and getting down at any place in the town. It has been estimated that about 35 cycle rickshaws, 15mini buses, 55 Peter rahras are plying on the town roads. Another 25 Peter rahras are used for transportation of goods town travel cycle rickshaws are the preferred mode of travel whereas for inter town and longer distance bus travel remains the popular mode of travel

Parking demand and availability

- 5.26 Parking remains another critical problem of Cities/towns. Increasing number of vehicle, narrow road network, small old houses in the core areas, and absence of parking space within majority of built up spaces, parking problems are on the rise in the town. In case of Sultanpur Lodhi town, the main Bazaars and roads of the town i.e. Kapurthala road (Talwandi Chaudhrian chowk to Tehsil complex), Railway road, Old mandi etc. are having very inadequate parking spaces. In front of Gurudwara Ber Sahib due to lack of parking space, the vehicles remain parked right on the road thus creating traffic congestion and problems. Also at the time of fair / festivals at the Gurudwra Ber Sahib and other Gurudwaras parking of vehicles of visitors is the major problems.

Terminals

- 5.27 In Sultanpur Lodhi town , no truck terminal is available. Trucks stand on road side in front of Rice Sheller situated in the town. Intermediate modes of transportation are significant in all the urban settlements for the movement of passengers. At present there is no authorized taxi stand in the town. But nearly two unauthorized taxi stand has been identified in the town near M.C. office and inside bus stand. The area that has been occupied by this taxi stand is actually the parking area of M.C. market.

Goods Vehicle Movement

- 5.28 Roads are significant mode of transportation within the settlement and also in the regional context. Three main roads entering the town are Kapurthala road, Talwandi Chaudhrian road and Lohian road. In addition to the flow of passengers on various vehicles there is a flow of inward & outward goods on these roads. The chief incoming goods in Sultanpur Lodhi town are cloth, grocery, milk, vegetables& food grains. Sultanpur Lodhi town itself is also the source of many outgoing goods. Some of the major commodities involved in outgoing goods are rice and rice husk. Trading of these commodities is mainly done through these three main roads entering the town, which means that they need better maintenance.

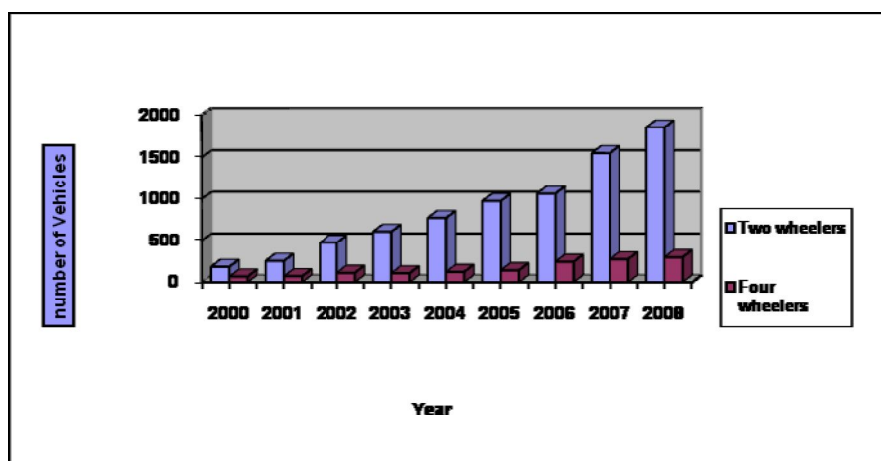
Vehicular Growth

- 5.29 Table 35 shows the number of registered vehicles recorded in the town during 2000-08 periods. The number of vehicles increased from 250 to 2153 during 2000 and 2008, thus registered a growth rate of 761%. Out of the total number of vehicles majority of vehicles are the two wheelers as compared to four wheelers. Out of total 2153 vehicles in the year 2008, about 86% are the two wheelers and 14% are the four wheelers. As per the table given below show that there is growth rate of vehicles ranging from 17% to 80.50% .Table 35 also indicates that growth rate of two wheelers is more than the growth rate of four wheelers vehicles. With the large induction of vehicles in the town, parking of such vehicles is becoming a major problem. With the smaller size of plot in the core areas, the entire parking spills over to the road side. Table 35 below indicates the pattern of growth of registered vehicles category wise in the town on annual basis.

Table 35: Registered vehicles category wise 2000-08

Year	Total registered vehicles	Two wheelers	Four wheelers	Growth rate %
2000	250	183	67	-
2001	323	252	71	29.20
2002	583	471	112	80.50
2003	712	605	107	22.13
2004	893	770	123	25.42
2005	1117	974	143	25.08
2006	1307	1064	243	17.01
2007	1821	1549	272	39.33
2008	2153	1857	296	18.23

Source: District Transport Office, Sultanpur Lodhi

Figure 32 : Vehicular Growth, Sultanpur Lodhi town 2001 – 2008

Road Accidents

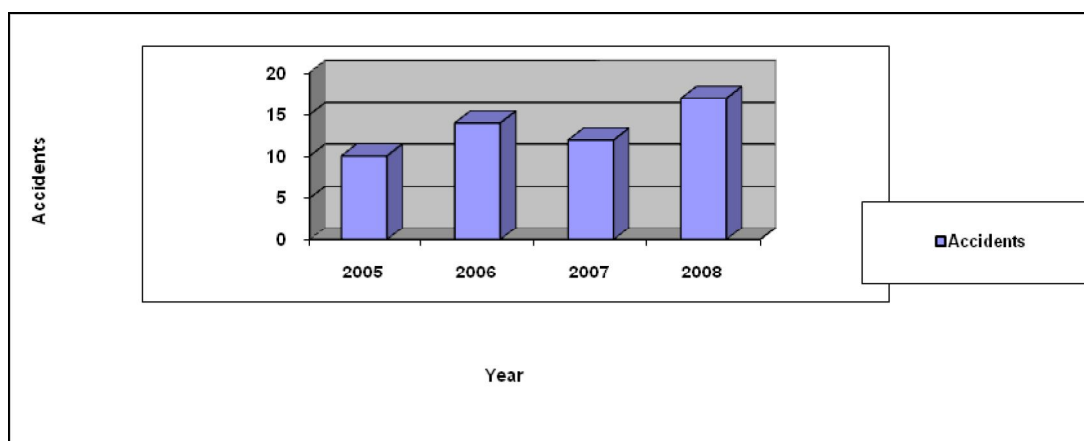
- 5.30 With a view to assess the safety of the road users in Sultanpur Lodhi it is important to study the road accidents in the town. As per the figures made available by the Police department, the total no. of accidents increased from 10 in 2005 to 14 in 2006 and then decreased to 12 in 2007 and increased to 17 in 2008. Table below shows the accidents year wise in the Sultanpur Lodhi town. So despite the rapid increase in vehicular population, the number of accidents have by and large, remained at the same level, which indicates that traffic problems are not much acute as compared to bigger cities of the State.

Table 36: Year wise accidents in Sultanpur Lodhi town 2005-08

Year	Total No. of accidents
2005	10
2006	14
2007	12
2008	17

(Source: Senior Supdt. Police, Sultanpur Lodhi)

Figure 33 : Number of Accidents 2003 - 2008



Rail Based Transport

5.31 In addition to road traffic Sultanpur Lodhi town has small railway station caters to railway traffic. In all 4 pairs of passenger trains pass through the town on daily basis which caters to the traffic on Sultanpur Lodhi – Firozpur, Sultanpur Lodhi-Jalandhar. Railway being the economical and efficient mode of transportation, largely catering to the inter town long distance traffic would continue to attract large volume of passenger traffic.

Table 37: Detail of passenger trains passing through Sultanpur Lodhi town

Name of route	Incoming	Outgoing
Sultanpur Lodhi – Firozpur	4	4
Sultanpur Lodhi- Jalandhar	4	4

(Source: Station Supdtt. Railway, Sultanpur Lodhi)

In addition to 4 pairs of Passenger trains two number of goods trains are also passing through the town for bring transportation of raw material and finished goods. Railway plays an important role in the movement of goods.

Social Infrastructure

Educational Facilities

5.32 Educational facilities include the institutions by which society, through schools, colleges, universities and other institutions accumulates knowledge, values and skills. These facilities help in pacing the economic development and employment of the urban areas and its hinterland. Sultanpur Lodhi town has various types of Educational facilities in the town, which serves not only the Sultanpur Lodhi town but also its surrounding villages/region. Guru Nanak Khalsa College is the most oldest and

famous institute of the town situated at near Gurudwara Hatt Sahib and others are 1 Bebe Nanki College for Women and S.D collage Sultanpur Lodhi are located near Stadium and opposite Gurudwara Guru Ka Bagh respectively. Beside this 3 primary / elementary and 7 High/Higher/Secondary schools are working in Sultanpur Lodhi town. 1 B.Ed. College and 2 numbers of Colleges/Academies are catering to the needs in the fields of higher education located outside the M.C limits of the town and 6 primary / elementary schools and 1 high/higher secondary schools functioning in the rest of LPA Sultanpur Lodhi. These institutes are adequate as compared to the Norms & Standards prescribed in the UDPFI guidelines.

Considering the existing population and norms defined for educational institutions, quantitatively the number of institutions is adequate to cater the needs of the education of the town but qualitatively most of the institutions have been found to be deficient in the basic amenities and facilities. Number of schools does not have adequate open spaces in the vicinity of such institutions. Space occupied by these institutions is also on the lower side when compared with the norms prescribed by various agencies. In terms of areas ,the largest school in the Sultanpur Lodhi town is Govt. Senior Secondary School for boys.

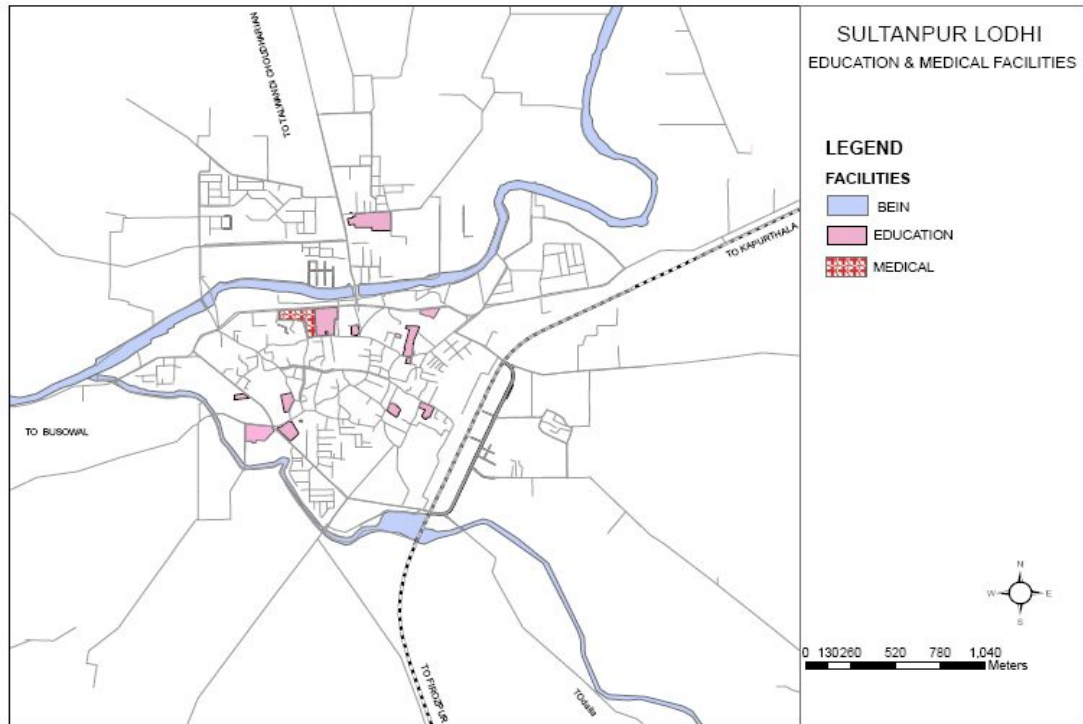
The following table shows the availability of educational institutions at various levels both in the area of technical and non-technical education.

Table 38: Educational facilities in LPA and Sultanpur Lodhi town

Sr. No.	Name of Facility	Existing in Numbers	
		Sultanpur Lodhi town	Rest of LPA Sultanpur Lodhi
1	Primary & Elementary schools	3	6
2	High/Secondary Schools & Senior Secondary Schools	7	1
3	Colleges	3	-
4	B. Ed Colleges	0	1
5	Management College /Academy	0	2
	Total	13	10

(Source: DEO, Kapurthala & Census of India)

Figure 34 : Educational and Medical Facilities



Health Care

- 5.33 A health care provider is an organization that delivers proper care system in a systematic way to an individual in need of health care services. As per information available from census 2001 there are 44 units of medical facilities of different types providing health services to the residents of LPA as well to the persons from outside the LPA. Out of 44 medical units, 5 hospitals (1 Govt, and 4 Private), 1 Ayurvedic hospital, 1 Homeopathic dispensary, 3 Nursing homes and 20 small clinics are operating in the town whereas the only 13 units of sub health centres/primary health centres are serving the population of rest of LPA Sultanpur Lodhi. In order to take care of animals and pets there is one Veterinary Hospital working in Sultanpur Lodhi town.

Parks and Open Spaces

- 5.34 As per the field studies conducted by the Deputy District town Planner, Kapurthala and the data collected from Municipal Council, Sultanpur Lodhi, there are three parks, situated (i) near Gurudwara Antrayamta, (ii) Near railway station and (iii) S. Atma Singh park near stadium. The number of parks, location and area under these parks is shown in tables 35 below:

Table 39: Name, Location and Area under Parks, Sultanpur Lodhi town:

Sr.No.	Name	Location	Area in acres
1	Guru Nanak Dev Ji park	Near Gurudwara Antrayamta sahib	0.06
2	Park	Near Railway station	0.10
3	S.Atma Singh park	Near Stadium	0.25

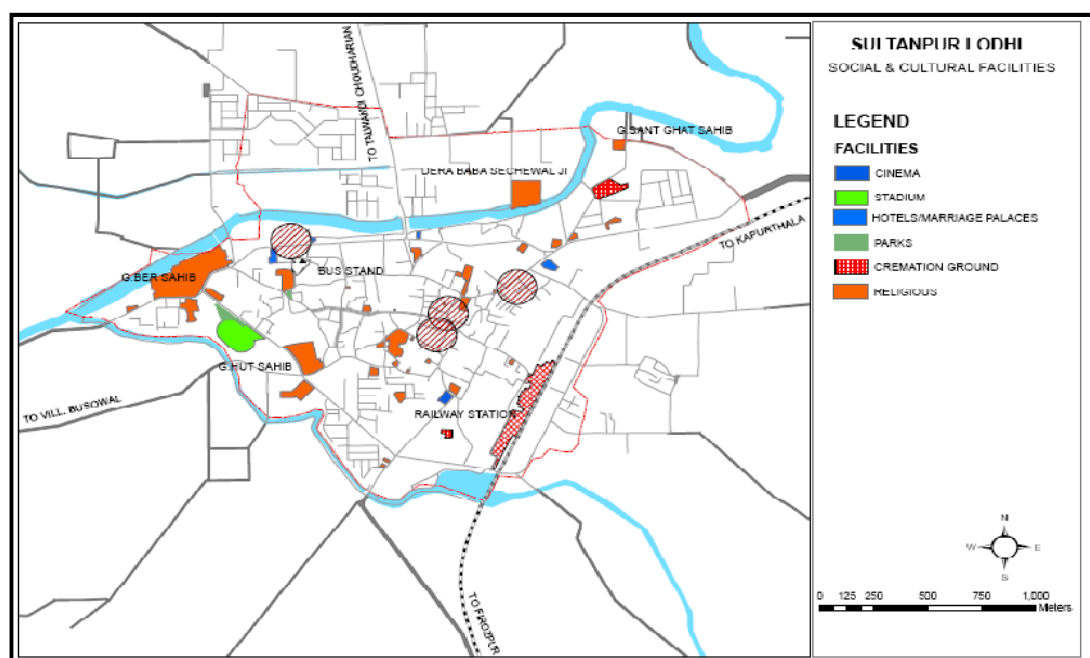
(Sources: M.C Sultanpur Lodhi town.)

All the above parks cover an area of about 0.41 acres. Which is 0.10% of the total M.C area. Major parts of the Sultanpur Lodhi town have been developed in unplanned way, so most of these do not have parks and open spaces. Similarly old parts of the town also lack parks and open spaces. So the existing land for parks and open spaces is inadequate and don't match the planning norms and standards. Thus there is need to create additional parks and properly locating these all over the town.

Other Recreational facilities

5.35 In addition to the above there is 1 library/reading room and one cinema in Sultanpur Lodhi town which provide recreational facilities to the general public. However, any well organized cultural or drama club and multiple is not available in the town thus town is lacking the facility of good theater. There is no museum, no Art Gallery etc. in the town for recreational purposes. Location of Social and Cultural facilities of the town is shown in figure 35 below.

Figure 35 : Social and Cultural facilities in Sultanpur Lodhi town



Sports

5.36 There is only one public stadium known as 'Guru Nanak Stadium' (Private) in Sultanpur Lodhi town, which lies Gurudwara Hatt Sahib. The sports facilities available in town are not according to norms & standards. Although the sports facility exists but only one stadium is not adequate to serve the sports need of the town. In

addition, the existing sports infrastructure should be upgraded and efficiently re-planned to improve the level of sports facilities. The available open spaces within the existing institutions should be considered as the best option to optimize the use of scarce open spaces available within the town. These facilities also should be provided as an integral part of new coming up institutions.

Police Station and Post and Telegraph

- 5.37 In order to maintain law and order in Sultanpur Lodhi town, One Police station is located in the old fort near the Gurudwara Antrayamta Sahib. There are in all 2 post offices operating in the town out of which is 1 branch level and 1 is head post office. Number of such offices are reducing due to availability of better option of communication with are not only faster but also cheaper, but still, these facilities serve considerable proportion of population both at the town level and LPA level. The existing distribution of post offices also needs to be rationalized in order to serve the community in a better manner.

6 VISUALISING THE FUTURE

Population Projections 2031

6.1 The population is the basic human factor for which planning is done. The requirements of different types of infrastructure for Sultanpur Lodhi town and for surrounding villages of LPA, Sultanpur Lodhi in 2031 would be based on the projected population for that year and also migration of population that seeks livelihood in the town. For calculating the population projections of LPA Sultanpur Lodhi, the government policies and the opportunities affecting the growth of Sultanpur Lodhi town and rural areas of LPA, Sultanpur Lodhi has also been kept in mind. For the purpose of population projections, following two methods have been applied:

1. Ratio method or sharing pattern method
2. Extrapolation method: Extrapolation of the past trends and assuming that the trend will continue in future.

Table No.40 gives the detail of decadal growth rate of population of Sultanpur Lodhi town, rural areas and total LPA, as a whole.

Table 40: Growth Rate of Population of Sultanpur Lodhi-Town, Rural Area and LPA

Year	Sultanpur Lodhi town		Rural		LPA Sultanpur Lodhi	
	Population	Growth rate (in percent)	Population	Growth rate (in percent)	Population	Growth rate (in percent)
1981	12,766	-	3353	-	16119	-
1991	14,979	17.34	4215	25.71	19194	19.08
2001	17,354	15.86	4830	14.59	22184	15.58

(Source: Census of India, Punjab, 1981, 1991, 2001)

Method 1: Ratio Method or Sharing Pattern Method

6.1. In order to achieve more realistic picture of projected population it has been decided to follow the share of urban and rural population of LPA, Sultanpur Lodhi to the total urban and rural population of Punjab state. Report of the technical group on Population projections constituted by the National Commission on Population entitled "POPULATION PROJECTIONS FOR INDIA AND STATES 2026" has provided projection of Punjab urban, Punjab rural and their share in the total population of the state up to year 2026 as represented in table below:

Table 41: Projected Population of Punjab (Total, Urban and rural) 2001-2026

Year	2001	2006	2011	2016	2021	2026
Punjab Total	24359	26059	27678	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
Growth rate of Punjab Urban in %	-	14.23	13.16	11.79	10.43	24.81
Punjab Rural	16096	16620	16997	17172	17138	14889
Percentage Rural	66.08	63.78	61.41	58.99	56.52	47.50
Growth rate of Punjab rural in %	-	3.26	2.27	1.03	-0.20	-13.12

(Population in Thousands)

The percentage share of Sultanpur Lodhi town and rural population of LPA, Sultanpur Lodhi to total urban and rural population respectively of Punjab is calculated and is given in table 42 below:

Table 42: Share of Population of Sultanpur Lodhi-Town and Rural to Urban and Rural Population of Punjab

Percentage share of Sultanpur Lodhi town to the Total Urban Population of Punjab			Percentage share of Rural Population of LPA, Sultanpur Lodhi to Total Rural Population of Punjab		
1981	1991	2001	1981	1991	2001
0.27	0.25	0.21	0.03	0.03	0.03

(Source: Census of India 1981, 1991, 2001)

For projecting the urban population i.e. of Sultanpur Lodhi town, the percentage of urban population (Sultanpur Lodhi town) is derived from the total urban population of Punjab in year 2001 which comes out as 0.21%. This figure of 0.21% has been used constantly for projecting the urban population for Sultanpur Lodhi town for the year 2006, 2011, 2016, 2021, and 2026. For calculating the projected population of 2031, the growth rate of previous five years is taken. Besides this, the floating population of about 5% has also been added to the projected population.

Similarly, for projecting the rural population of LPA, Sultanpur Lodhi town, the percentage share of LPA, Sultanpur Lodhi town's rural population has been derived from total rural population of Punjab in the year 2001 which comes out as 0.03% and the same has been used constantly for projecting rural population upto the year 2016. Thereafter growth rate of 2011 – 16 i.e. 1.03% has been taken for calculating the projected population of LPA, Sultanpur Lodhi town rural for the year 2021, 2026 and 2031 because the growth rate of Punjab rural during the year 2016 - 2021 and 2021 – 2026 is negative. The Projected population of Sultanpur Lodhi town and LPA, Sultanpur Lodhi town rural is given in the table 43 below:

Table 43: Projected Population and Growth Rate of Sultanpur Lodhi-Town, Rural Areas and LPA,

Year	Sultanpur Lodhi town			Rural Areas		LPA, Sultanpur Lodhi town	
	Projected Population in persons	Total Projected Population including 5% of total as floating Population (in persons)	Growth Rate (in percent)	Projected Population (in persons)	Growth rate (in percent)	Projected Population (in persons)	Growth Rate (in percent)
2006	19822	20813	14.23	4986	3.26	25799	16.30
2011	22430	23552	13.16	5099	2.27	28651	11.05
2016	25074	26328	11.79	5152	1.03	31479	9.87
2021	27689	29073	10.43	5205	1.03	34278	8.89
2026	34558	36286	24.81	5258	1.03	41544	21.20
2031	43131	45288	24.81	5312	1.03	50600	21.80

Population Projection by Extrapolation Method:

Apart from above method, another method adopted for population projection is based on the trend of growth rate of population of urban and rural areas. Although the existing(1991-2001) population growth rate of Sultanpur Lodhi town is around 16% but taking into account the assumptions given below, the average growth rate of 30% is assumed for calculating the projected population of town. The average rural area growth rate of population for the decade 1981-1991 and 1991-2001 is around 20% .The average growth rate of rural population is assumed as 20% because in future rural areas around Sultanpur Lodhi town will maintain the same growth rate but will not grow at growth rate in comparison to Sultanpur Lodhi town. The projected population of (town, rural areas and LPA) up to year 2031 is given in table 44 below:

Table 44: Projected Population for Sultanpur Lodhi (Town, Rural Areas and LPA)

Year	Sultanpur Lodhi town		Rural Areas		LPA, Sultanpur Lodhi
	Population (in persons)	Growth Rate in % age	Population (in persons)	Growth rate in %age	
2001	17354		4830		22184
2011	22560	30	5796	20	28356
2021	29328	30	6955	20	36283
2031	38127	30	8346	20	46473

(Source: Census of India, Punjab 1971, 1981, 1991, 2001)

Assumptions for Population Projection

Sultanpur Lodhi is the important religious town of Distt. Kapurthala. Sultanpur Lodhi town has a rich agricultural hinterland and its present trend is towards religious tourism and trade and commerce which will further help in the growth of the town. The town would grow faster in the next 20 years because of its improved connectivity, religious background, rich heritage and fertile agriculture land. Town will continue to perform commercial, industrial, educational, medical and administrative function in the surrounding region. Thus it is anticipated that there would an increase in the population due to improved linkages & connectivity.

Table 45 gives the comparative picture of projected population for LPA Sultanpur Lodhi town, urban and rural areas for 2031 by two methods:

Table 45: Comparison of Projected Population by Two Methods

Method	Sultanpur Lodhi town Projected Population (in 000 persons)	Rural Areas Projected Population (in 000 persons)	LPA, Sultanpur Lodhi Projected Population (in 000 persons)
Method 1	45288	5312	50600
Method 2	38127	8346	46473

Out of the above two methods, Population Projected by Method No.1 is adopted for the plan formulation, taking into account the assumptions given above, population characteristics, background and economy of the town. Also taking into account the strength weaknesses opportunities and threats (SWOT), the population projected by method no 1 are more realistic. Despite general trend of reduced population growth rate, Sultanpur Lodhi town is likely to retain their share of urban population. The Projected Population of Sultanpur Lodhi town therefore has been taken as 45288 (say 46000 persons) for the year 2031.

Villages of Urban fringe Sultanpur Lodhi town

It has been felt that some of the villages of LPA, Sultanpur Lodhi town which are situated near the area to the M.C. limits will adopt urban character in near future and will act as an urban fringe around the town. The following villages have been included in this fringe area as shown in table below:

Table 46: Village and population included in urban fringe

Sr.No.	Name of Villages	H.B.No.	Population (2001)
1	Machhi Jowa	138	100
2	Dera Sayadan	133	545
3	Alahdad Chak	134	656
4	Gazipur	136	641
Total Population			1942

(Source: District Census Handbook 2001)

Population projection of above villages have been done separately to assess the urban thrust and have been calculated as per the method adopted for calculating the projections for villages falling in L.P.A Sultanpur Lodhi town. The projected population of these villages is given in table below:

Table 47: Projected Population of Villages included in Urban Fringe

Years	2006	2011	2016	2021	2026	2031
Projected Population	2006	2052	2073	2095	2117	2138

(Sultanpur Lodhi Urban Fringe.)

The consolidated population of Sultanpur Lodhi town and its fringe area are given in table below:

Table 48: Projected Population of Sultanpur Lodhi town and its Urban Fringe

Years	2006	2011	2016	2021	2026	2031
Projected Population in persons	22819	25604	28401	31168	38403	47426 Say 48000

Infrastructure requirements

Water Requirements

- 6.2. In true sense, 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.

Norms and standard for water supply:

The Indian Codal Precisions recommended a minimum water supply of 135 lpcd for cities and the same has been adopted for Sultanpur Lodhi town. 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. Bulk supply 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. As per Central Public Health and Environmental Engineering Organization (COPHEEO) manual, a maximum provision of 15% towards losses, unaccounted water shall be made and gross water demand will be calculated accordingly. Based on the projected population, the net and gross water demand of the town is calculated given in table 49 below:

Estimation of Water Demand

Table 49: Projected Net and Gross water Demand for Sultanpur Lodhi Town 2031

Year	2006	2011	2016	2021	2026	2031
Projected Population in persons	22819	25406	28401	31168	38403	48000
Net water demand in million litre	3.08	3.46	3.83	4.21	5.18	6.48
Gross water demand in million litre	3.54	3.98	4.40	4.84	5.96	7.45

The above water demand excludes the water demand of Large Scale industries. In future, these bulk consumers will continue to manage their own water supply system and they will not depend on Municipal Supply. The water requirements for the rural settlements (village abadis) have not been projected since this aspect is independently handled by the department of Public Health.

Sewerage requirements

Per capita waste water flow

- 6.3. The rate of waste water flow depends upon the rate of water supply to community and the rate of ground water infiltration. The entire spent water of 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 unless there is data available to the contrary. As per PWSSB's practical experience, wastewater flows has been estimated, considering that 85% of water supplied to the consumers will reach the sewers.

Projected waste water flows

Considering 85% of the water supplied to the consumers reaching the sewer the projected waste water flows has been calculated as given in table 50 below:-

Table 50: Projected Gross Waste Water Flows of Sultanpur Lodhi urban fringe 2031

Year	2006	2011	2016	2021	2026	2031
Net waste water flows in ML	2.61	2.94	3.26	3.58	4.40	5.51
Gross Waste Water Flows in ML	3.00	3.38	3.74	4.11	5.07	6.33

The above waste water flow excludes the flows from Large Scale industries.

Solid waste disposal

- 6.4. 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 Sultanpur Lodhi town which is small sized town the waste generation is assumed 1/4 of kilogram per capita and total waste generation will be $1/4 \times 48000 = 12000 \text{ kg} = 12 \text{ metric tons per day}$.

Power

- 6.5. 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 Sultanpur Lodhi town on five yearly basis is calculated in the table below:

Table 51: Power Requirement of Sultanpur Lodhi urban fringe 2006-2031

Year	2006	2011	2016	2021	2026	2031
Projected Population in persons	22819	25604	28401	31168	38403	48000
Household	4564	5121	5680	6233	7680	9600
Power Consumption in KW	9128	10242	11360	12467	15361	19200

For the requirements of electric substation, for the population of 15000 persons one electric substation of 11KV is required as per the UDPFI guidelines. Thus for the projected population of 48,000, 1 electric sub stations of the capacity of 66 KV are required.

Constitution of Think Tank

- 6.6. As per the D O letter dated 2-12-2008 of Chief Secretary addressed to all the Deputy Commissioners of the Punjab state, circulated vide Chief town Planner's Endst. No. 9526-45 CTP (Pb) /CP135 dated 10-12-08 of Chief town Planner Punjab, there is a proposal to set up a 'think tank' under the chairmanship of Deputy Commissioner concerned for each city/town to envisage a vision 2031 for that city/town. Based on the instructions contained in the above referred letter, the '**Think Tank**' for visualizing the future of the Sultanpur Lodhi town (vision 2031) was constituted by Deputy Commissioner Kapurthala.

The Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis

- 6.7. The present strength and opportunities likely to be presented by the town itself and the surrounding region, the present weaknesses and the threats of the town emanating in the region have been outlined and have been discussed in the ‘Think Tank’ meetings. The following Strengths, Weaknesses, Opportunities and Threats for LPA, Sultanpur Lodhi town have been identified on the basis of study of the existing conditions prevailing in the Sultanpur Lodhi town and LPA, Sultanpur Lodhi .

Strength and Opportunities:-

1. Tehsil headquarter acting as major Service Centre of the surrounding region.
2. Good road and Rail linkages to surrounding towns/cities of the state.
3. Religions places (Gurudwara Ber Sahib, Gurudwara Sant Ghat Sahib, Gurudwara Bebe Nanki ji and Gurudwara Hut Sahib) acting as a strong religious base of the town.
4. Agro based industries like Rice Sheller and other small scale industries.
5. Rich cultural heritage sites, Old Qilla and Hadira monument.
6. Kali Bein crossing through the heart of the town acting as major landscape element of the town.
7. Regional level commercial centres like grain market and Sader bazaar etc.
8. Available regional level Educational and Medical institutes for LPA Sultanpur Lodhi.
9. Vast Agricultural tract of land available for expansion of the town.

Weakness and Threats:-

1. Unplanned growth, about more than 80% of area is unplanned. There are 12 slum areas exists in the town.
2. Lack of Tourism related infrastructure.
3. No major road like National highway, State highway and District road passes through the town.
4. Sultanpur Lodhi is an important urban centre of Kapurthala district but Jalandhar which is at a distance of 45km is also functioning as a counter magnet due to its being a Commercial, Educational and Health care centre at regional and state level.
5. About 24% of the total population still lacks the water supply and about 25% of the population does not have sewerage facility.
6. Poor road Geometry, narrow street lack of parking places, lack of truck stand lack of parks and open spaces renders the town unfit for comfortable living.

7. Lack of large scale industrial units which can attract the allied small scale units.

Vision- 2031

6.8. Based on the outcome of discussions held in the meetings of ‘Think Tank’, the Vision Sultanpur Lodhi town 2031 is articulated as follows:

“To transform Sultanpur Lodhi town into Tourist centre from religious point of view and a trade, commerce and service centre of surrounding region by providing high quality physical and social infrastructure to all its citizens in an inclusive and environmentally sustainable manner.”

Strategies to attain Vision 2031

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

Growth management

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

Urban Environment

- Urban environment to be made integral and essential part of town development process.
- Environment to be made integral part of planning and decision making process.
- Effective treatment of all sewage generated within the town.
- Improving solid waste management.
- 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.

Urban Services:

Water supply

- To ensure safe, equitable, reliable, adequate and quality water supply

- To ensure 100% coverage of the town
- To promote rain water harvesting and recycling of water.

Sewerage and Drainage

- Total coverage of the town with sewerage and drainage system including slums.
- To promote eco-friendly decentralized treatment system.
- To minimize sewerage generation through water saving appliances
- To promote recycling of sewage
- To promote protection of natural water bodies
- To promote optimum use of storm water as an alternate source of water supply.

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

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.

Traffic and Transportation

- To improve safety, mobility and efficiency of traffic within and outside the town
- 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 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.

Social Infrastructure

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

7. THE MASTER PLAN

Components of the Master Plan

7.1. The scope of a master plan is limited to the broad proposals and allocation of land for various uses such as residential, industrial, commercial, recreational, public and semi-public etc. It proposes a network of major roads to have better traffic circulation systems for the present and the future. It identifies areas required to be preserved and conserved and development of areas of natural scenery and landscape together with preservation of features, structures or places of historical, architectural interest and environmental value. It will include zoning regulations for regulating development within each zone. Therefore, the 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 of LPA, Sultanpur Lodhi town comprises three main components as follows:

- Proposed Land use and transport network.
- Heritage and Conservation.
- Zoning Regulations.

Master Planning Objectives

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

- To make Sultanpur Lodhi town as the tourist centre from religious point of view.
- To maintain the sanctity of religious places their preservation, provision of public facilities and improvement of surroundings.
- To make land allocation in an environmentally friendly manner.
- To minimize haphazard, unplanned and sub-standard growth and development of the town and to achieve planned growth to create healthy environment.
- To effectively manage the traffic and transportation within the town through the mechanism of rationalizing the land use pattern defined in the Master Plan.

- A well defined system of road hierarchy for the proper movement of the traffic.
- To make land available for public purposes.
- To minimize travel within the town by creating self contained and self sufficient communities and to maintain work and living area relationship.
- Adequate parking spaces to be created in the town as an integral part of commercial, industrial and institutional planning and development process.
- To strengthen the basic infrastructure favourable for Agro based and other industries, this will help in the development of economic base of the town.
- To rationalize the distribution of physical and social infrastructure in the town and ensure appropriate quality of life to all the residents of the town.
- To identify man-made and natural heritage and to make heritage conservation as integral part of the town planning and development process.
- Imposition of zoning and other regulating measures.

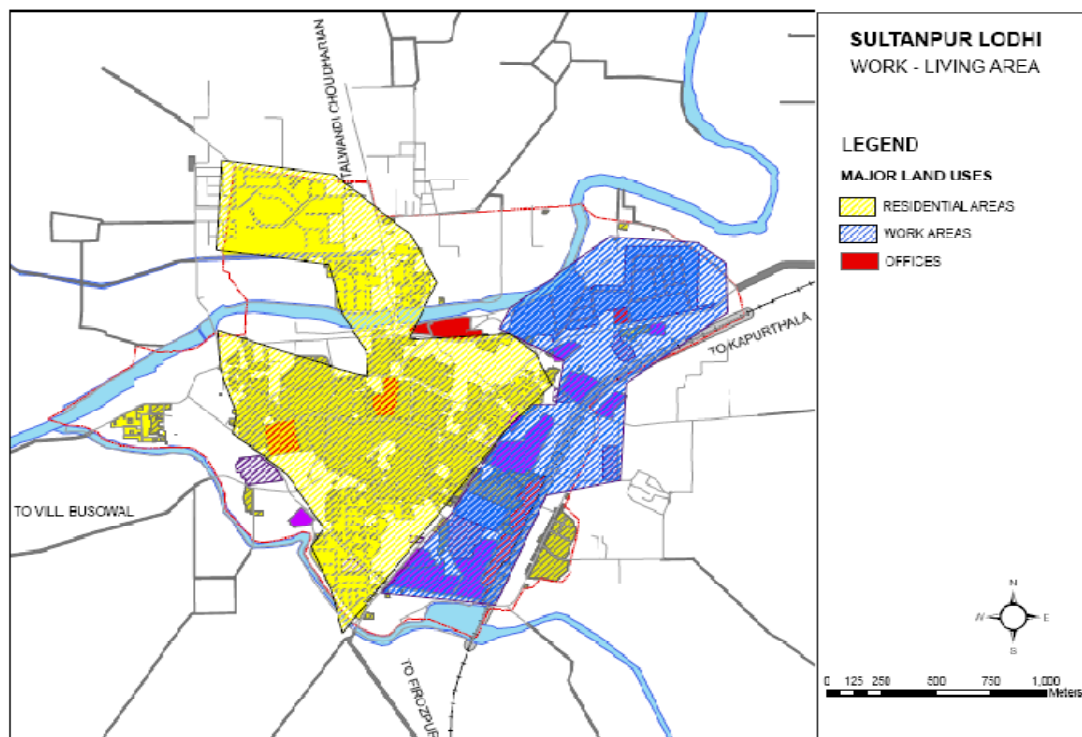
Evaluation of Existing Structure

7.3. Understanding of existing town structure of the town is prerequisite to visualize future structure for accommodating projected growth. The structure of the town can be appreciated by noting the relationship between living and work areas in terms of their connectivity with each other. A thematic map of LPA, Sultanpur Lodhi town at figure 36 shows such a structure as it exists at present. A careful study of this map brings out the following facts of the existing structure:-

- The central part of the town where the main commercial areas are Sadar Bazar , Bazar Arya Samaj , Bazar Jhatkaian, Bazar Chowk Chelian, Bazar Sabzi Mandi road , Bus stand area , Vegetable and Fruit market and offices are located is the main work area of the town where most of the people engaged in trade and commerce activity. The second work area is the grain market toward north side of town, some offices and some shops are located in the Kapurthala side. Other work areas are Industries especially Rice Shellers located towards Eastern and Southern side of the town.
- The main living areas are intermingled with work areas of the central part of town. The newly planned Urban Estate and other residential area on the Talwandi Chaudhrian road is having poor connectivity with main work areas of the town due to existence of Bein which is acting as the barrier between these newly developed areas and the town.

- Railway line passing almost on the eastern side of the town is not much a obstacle in the present situation as not much development has taken place on the other side of the railway line.
- Over all the major development of the town is within the boundaries of Railway lines, Bein river North side and drain on the South-West direction except the some new development on the Talwandi Chaudhrian road. In future the new residential development will come on Talwandi Chaudhrian road and Industrial development will cross the railway line passing through the town as such there is no scope of development across the drain on the south west of the town.

Figure 36 : Work and Living Areas in Sultanpur Lodhi Town



Proposed Town Structure -2031.

7.4. Cities and towns grow organically depending upon the availability of land and potential for growth, sometimes leap frogging the natural as well as manmade barriers. Based on studies conducted by the office of Deputy District town Planner Kapurthala, it is observed most of the development activities around Sultanpur Lodhi town are concentrated in the areas falling in the vicinity of existing developed areas of the town except some very small developments on Talwandi-Chaudhrian road. Keeping in view, the present growth trend and as well as future size of the town, only the following one concept of town structure has been envisaged for the development of future town of Sultanpur Lodhi town:

COMPACT CORE WITH EXPANSION ON THREE SIDES OF ADJOINING THE EXISTING DEVELOPED AREAS

7.5. The pattern of this town structure has the following merits and demerits:

Merits:

- Minimum invasion upon fertile and scarce land resource of the state.
- Compact and integrated development of the town, avoiding sprawl.
- An effective, economic and efficient infrastructure development.
- Close relationship of Work-Place and Residential areas.
- Developing the infrastructure away from the town may be costlier and integration of infrastructure is difficult.

Demerits:

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

Land use Requirements

7.6. 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 UDPFI(Urban Development Plan Formulation and Implementation guidelines).

Land Required for Main Land Uses:

7.7. The land requirements for different uses for the projected population of Sultanpur Lodhi town and the villages falling in fringe area of Sultanpur Lodhi town have been worked out on the basis of norms given in UDPFI. The assessment of the urbanisable area is normally based on the proposed residential area which is considered to be 40% of total proposed urbanisable area of cities. Though the residential area requirements of urban area of LPA, Sultanpur Lodhi as per UDPFI guidelines works to 406 hectares, but the proposed road network would open up many new areas for urban uses because of potentialities due to connectivity's likely to come. Therefore keeping in view the proposed road network particularly the Ring Road, the new proposed areas are required to be put under different uses out of which major share is to be covered by residential use.

Residential use:

7.8. For calculating the housing requirements, following assumptions have been kept in view:

Table 52: Calculation of Average Plot Area in Sultanpur Lodhi town.

Sr.No.	Description	Area in sq.m.
1	Carpet area of average dwelling unit. 1 Living Room,2 Bed Rooms, 1 Kitchen and other sub units etc.	110
2	Built up area inclusive of walls, verandahs etc	137
3	Plot area @ footprint to plot ratio of 0.65	211

Table 53: Stage Wise Residential Area Requirements for Sultanpur Lodhi Urban Fringe (2011-2031)

Year	Projected Population in 000' persons	No. of Families	Net Land Required in Hectares	Gross Land Required in Hectares
2006	22819	4564	96	192
2011	25604	5121	108	216
2016	28401	5680	120	240
2021	31168	6233	132	264
2026	38403	7680	162	324
2031	48000	9600	203	406

Note:

- The number of households in the above table has been calculated on the basis of the assumed family size of 5 members per family for the year of 2031. It is further assumed one family per plot.
- Keeping in view the present character of the town and also future, it is assumed that most of the residential development will be in the shape of plotted development.
- The gross residential area has been calculated by adding 50% more area to net residential area for provision of roads, parks, convenient shopping area, health, educational and utilities etc.

The proposed residential area includes the requirements of the all the sections of the society. It also includes the housing needs of the urban poor.

Commercial Use

- 7.9. As given on page 152 of UDPFI guidelines, the area requirements for commercial activities have been calculated. As per the classification of towns given at page 7 of UDFPI guidelines which indicate that towns' having the population less than 50,000 persons qualifies in category of small size town. The projected population of Sultanpur Lodhi town including fringe area for 2031 has been worked out to be 48,000 which is just close to the category of 50,000 size of town, thus it is quite convincing that Sultanpur Lodhi town would remain a medium size town. Therefore, the norms of medium size town have been taken for calculating area requirements for commercial use as per table below:

Table 54: Area of Commercial Centres

Name of Centre	Area in sq. mts per 1000 persons	Number of shops
Cluster Centre	200	1 for 110 persons
Sector Centre	300	1 for 200 persons
Community Centre	500	1 for 200 persons
District Centre	-	1 for 300 persons
Total	1000	

As per the figures given in the table above, 1000 sq mts. area for different categories of commercial areas has been proposed for 1000 persons thus 1.00 sq mts area is required per person. Therefore keeping in view the projected population of 48,000 persons for Sultanpur Lodhi town and urban fringe, the total area required for commercial activities of the town has been worked out as below:

Table 55: Commercial area requirements of Sultanpur Lodhi town

Sr. No	Name of town	Projected Population	Commercial Area Required@ 1 sq. mtrs. per person
1	Sultanpur Lodhi town	48,000	4.8 hect.

Area calculated for commercial use by above method is too low as the existing area under commercial use excluding wholesale Godown and warehousing is 14.87 hectares, which is 4.29 % of the total M.C area .Another method adopted to calculate the commercial area requirement is land use standards given by UDPFI guidelines at page no.147.As per the standards area under commercial use should be 2-3%of the urbanisable area. As the existing area under retail use is 4.29%.So keeping the percentage 4%of the M.C area requirement are calculated as below:-

Table 56: Commercial area requirement for Sultanpur Lodhi town upto 2031

Year	Gross Residential area in hect.	Urbanisable area in hect.	Commercial area in hect.
2011	216	432	17
2016	240	480	19
2021	264	528	21
2026	324	648	26
2031	406	812	33

Area under commercial use excludes the present area of 27.4 hectare of wholesale grain market, Godowns and warehousing. Thus total commercial area required is 33+27.4 hect.= 60 hect.(say)

Note:

Industrial Use.

For calculating the industrial use requirements the proposed land use structure standards cited in UDPFI guidelines on page no 147 are also considered, given below.

- Total existing industrial area of Sultanpur Lodhi town. 14.72 Hectare
- Existing industrial use as a percentage of town area. 4.24%
- Norms and standards for percentage of (As per UDPFI standards) 10-12%

As the existing industrial use is 4.24% of the total town area. As per UDPFI standards, 10 - 12% of the total urbanisable area is assumed to be required for industrial use in LPA, Sultanpur Lodhi town which needs bigger chunks of industrial areas at potential sites. Irrespective of above facts, the efforts have been made to work out the actual requirements of industrial area for Sultanpur Lodhi town as follows:

Table 56: Projected Urbanisable Area Requirements for Sultanpur Lodhi Town - 2031

Year	Gross Residential Land required	Urbanisable area required*	Industrial use requirement **
2011	216	432	43
2016	240	480	48
2021	264	528	53
2026	324	648	65
2031	406	812	81

Note:

- 1 For calculating the Urbanisable area the residential use (which included facilities & utilities) is assumed as 50% of the total urbanisable area.
- 2 Assumed % age of industrial use is 10% for Sultanpur Lodhi town and urbanisable area as per UDPFI standards.

Recreational facilities

- 7.10. As per PAPR Act 1995, about 45 % of the area of a colony is to be left for non saleable purposes out of which 10 % is to be left for public buildings. It has been found that normally 25-30% area is under circulation i.e. roads, pavements etc. Assuming the figure at 27% for roads, the remaining 8% has been considered for recreational, sports etc. By this formula if we have one hectare area of a colony then 800 sq.mt. are supposed to be provided for this category. Keeping in view the average size of plots as 211 sq.mts., about 26 plots can be adjusted in one hectare area (assuming 55% saleable area), which would accommodate about 25 families taking

average size of one family as 5 members a total of 130 persons are estimated to live in one hectare. Therefore, by this calculation about 6 sq.mt., recreational area works as share of each person. However at town level approx. 2 sq.mt. per capita area is to be added for town level open spaces. Thus total 8 sq.mt. per capita area is required at town level for recreational facilities.

Road Network and Terminal Required

Network required at town level

- 7.11. As it has already been discussed in detail in earlier there are three main roads merging at Sultanpur Lodhi town at different points. At present the traffic problem of this town are not acute as compared to other major cities of Punjab but in future with the increase in population and economic activities of the town and when the town will be developed as tourist spot, from religious point of view, the main roads of the town will be overloaded. On the basis of broad studies conducted and for long term planning there is an urgent need for alternative link in the form Ring road on the north and east side of the town where the potential of residential and industrial development is more. Also there is a need to upgrade the existing road network of the town.

Terminals Required:

For the town like Sultanpur Lodhi town for which 48 thousand populations has been projected for the year 2031, one Bus Stand and one Truck Terminus of adequate size would be sufficient as per the UDPFI standards. Since no space norms have been given in UDPFI guide lines therefore area requirement have not been worked out. However an area of 2 to 3 hectares for Bus Stand and 3.2 hectares for Truck Terminus would be sufficient.

Space Norms and Standards

Social Infrastructure and Public Utilities:

- 7.12. Basically UDPFI norms and standards have been followed for calculating the area requirements for different social infrastructure and public utilities. However the Punjab State Govt. policies issued from time to time have also been adopted wherever these are applicable. There are three different sets of norms and standards taken into consideration, the comparative chart of these is given in table below:

Table 57: Comparative Statement of Norms and Standards for Social Infrastructure.

Aspect	As per zoning regulations and sub-division clauses for Master Plan in Punjab/Govt. Policies	UDPFI Guidelines	Delhi Master Plan
Primary school	Population:3,000-4,000 No. of students: 600 Area a) Old town (over 650 ppha) : 0.2 ha b) Outer areas (less than 650ppha):0.5 ha	Population: 5,000 Number of students :500 Area per school:0.4 ha Covered area:0.20 ha Minimum play field area: 0.20 ha	Population: 10,000 Area:2000-4000 sq m
Senior Secondary School	Population:12,000-20,000 No. of students: 1000 Area a) Old town (over 650 ppha) : 1.00 ha b) Outer areas (less than 650 ppha):2.5 ha	Population: 7,500 Number of students :1000 Area per school:1.60 ha Covered area:0.60 ha Minimum play field area: 1.00 ha	Population: 10,000 Area:6000-8000 sq m.
College	Population:30,000 No. of students: 800 Area a) Old town (over 650 ppha) : 2.50 ha b) Outer areas (less than 650 ppha):5.00 ha	Population: 1,25,000 Number of students :1000-1500 Area per college:4.00 ha Covered area:1.80 ha Play field area:1.80ha Residential/hostel area: 0.40 ha	Population: 5,00,000 Area: As per UGC Norms
University	N.A.	New University Area:60.00ha	sites in urban extension to be provided at town level Area: up to 20.00 ha
Technical Education Centre	N.A.	Population :10,00,00 Area per centre 4.00 ha Area per technical centre:2.10 ha Area per ITI:1.40 ha Area per coaching centre:0.30 ha	Population :5,00,000 Area : 4000 sq m
New Engineering College	Number of students :300 Area a) Old town:(over 650 ppha): 1.00 ha b) Outer areas (less than 650ppha):2.50 ha	2 Number to be provided in urban extension Number of students:1500-1700 Area per college:60.00ha	Population :5,00,000 Area: As per AICTE norms
Medical/Pharmacy College	Area :5 acres(Rural) Area: 2.5 acres (Distt. Headquarter Corporation Limit)	2 site of 15 ha each in urban extension including space for specialized general hospital.	Population: 10,00,00 Area :As per Medical Council of India /Regulatory body
Dispensary	Population :5,000 Area: 0.1ha	Population:15,000 Area :0.08 to 0.12 ha	Population:10,000 Area :800-2000 sq m
Primary Health Center			
Nursing Home	N.A.	Population :45,000-1,00,000 Capacity:25 to 30 beds Area:0.20 to 0.30 ha	Population :50,000 Area:1000-2000sq m
General Hospital	Population :50,000 Area:2.5 ha	Population:2,50,000 Capacity:500 beds Area for hospital :400 ha Area for resi accommodation :2.00ha Total area :6.00ha	Population:5,00,000 Capacity :501 beds and above Area :25,000-45,000sq m.

Aspect	As per zoning regulations and sub-division clauses for Master Plan in Punjab/Govt. Policies	UDPFI Guidelines	Delhi Master Plan
Veterinary Hospital	N.A.	N.A.	Population :5,00,000 Area:2,000sq m
Community Hall and Library	N.A.	Population :15,000 Area: 2,000 sq m	N.A.
Club	N.A.	Population :1,00,000 Area :10,000sq m.	Population:5,00,000 Area:5000sq m
Amusement park	N.A.	N.A.	Up to 10 ha
town level park	N.A.	N.A.	Population :5,00,000 Area 10acres
Neighborhood level park	N.A.	N.A.	Population 10,000 Area:10,000 sq m
Golf Course	N.A.	N.A.	Population :10,00,000 Area :10-30 ha
Sports Centre/Stadium	N.A.	N.A.	Population :5,00,000 Area :3-10 ha
Post and Telegraph Office	Population :10,000 Area :0.1 ha	N.A.	Population :10,00,000 Area :2,500 sq m
Religious Building	Population :15,000 Area :0.1 ha	N.A.	Population :10,00,000 Area :40,000 sq m
Old Age Home	N.A.	N.A.	Population :5,00,000 Area :1,000 sq m
Orphanage/ Children Centre	N.A.	N.A.	Population :5,00,000 Area :1,000 sq m
Multipurpose Ground (Exhibition cum fair Ground)	N.A.	N.A.	Population :1,00,000 Area :20,000 sq m
Burial/ Cremation Centre	N.A.	N.A.	Population :10,00,000 Area :10,000 sq m
Electric sub-station	Population :50,000 Area : 0.4 ha	N.A.	Population :5,00,000 Area :29,600 sq m
Police Post	N.A.	Population :40,000-50,000 Area :0.16 ha (area inclusive of essential residential accommodation)	Population :1,00,000 Area :1000 sq m
Police station/police Division	Population:50,000 Area:0.8 ha	Population:90,000 Area:15 ha Area inclusive of essential residential accommodation 0.05 ha additional to be provided for civil Defense and home guards	Population :2,50,000 Area :10,000 sq m
Police Line	N.A.	Population:20,00,000 Area:4.00 to 6.00 ha	1 for each administrative zone to be provided at town level Area:2.0 ha
District jail	N.A.	Population :10,00,000 Area :10.00 ha	Population :25,00,000 Area :5.0 ha
Fire Station	N.A.	1 fire or sub-station within 1 to 3 km to be provided for 2 lakh population Area for fire station with essential residential accommodation :1.00 ha Area for sub-fire station with essential residential accommodation :0.60 ha	3 Fire Station for 5,00,000 population within radius of 5 to 7 km Area: 10,000 sq m

From the comparative table of norms and space standards as given above, the norms suggested by UDPFI Guidelines have been found more suitable for the preparation of Master Plan Sultanpur Lodhi town because of the following reasons:

- The norms and standards suggested by UDPFI Guidelines are more detailed and cover almost each physical and social infrastructure as compared to Present Master Plan Zoning Regulations /Govt. policies
- Norms and standards suggested by UDPFI Guidelines are more realistic and suit to local conditions such as prevailing development controls, availability of land, land prices etc.
- UDPFI Guidelines suggest different norms and standards for different category of towns like small and medium towns, large cities and hill areas which is not available in other guidelines.
- The Norms and standards of Present Master Plan Zoning regulation are not detailed and do not cover the whole of activities, hence are not being adopted.
- Norms and standards suggested by Delhi Master Plan have not been found suitable for LPA, Sultanpur Lodhi town because these norms are of higher level, formed especially for Mega town like Delhi, where development controls are very tight, population is more than 1.25 crores and the land is scarce and costly.

Note:

The norms and space standards as suggested by Punjab Govt. policies from time to time shall have the overriding effect on the norms and standards of UDPFI Guidelines adopted for the preparation of Master Plan, Sultanpur Lodhi town.

For the aspects which are not covered under UDPFI Guidelines, the norms and standards as suggested by Master Plan zoning Regulations in Punjab shall be adopted and where these zoning regulations are also silent, only in that case, the norms and standards suggested by Delhi Master Plan shall be followed.

Traffic and Transportation

- 7.13. The norms and standards for Traffic and transportation as given in UDPFI Guidelines were discussed with higher authorities, following road categories has been proposed

Road hierarchy

- R-1 200 feet wide
- R-2 100 feet wide
- R-3 80 feet wide
- R-4 60 feet wide

Footpath

The width of footpaths is listed as below;

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

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

Cycle Track

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

Table 58: Norms and Standards of cycle tracks.

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

Passenger Car Units (PCU)

Table 59: Recommended PCU factors for various type of vehicles on Roads

Sr. No.	Vehicles	Equivalent PCU Factors Percentage composition of vehicle type in stream of traffic	
		5%	10%
Fast Vehicle			
1	Two wheeler motor cycle or scooter	0.5	0.75
2	Passenger Car, Pick up van	1.0	1.0
3	Auto rickshaw	1.2	2.0
4	Light commercial vehicle	1.4	2.0
5	Truck or bus	2.2	3.7
6	Agricultural Tractor Trailer	4.0	5.0
Slow Vehicle			
7	Cycle	0.4	0.5
8	Cycle Rickshaw	1.5	2.0
9	Tonga(House Drawn Vehicle	1.5	2.0
10	Hand – Craft	2.0	3.0

Source: IRC Code: 106-1990

The design service volumes for different categories of urban roads are shown in the table given below:

Design Service Volume

Recommended Design Service Volume (PCU's per hour)

Table 60: Design Service Volume for different road categories:

Sr. No.	Type of Carriageway	Total Design Service Volume for different road categories		
		Arterial	Sub-arterial	Collector
1	2-lane (one way)	2400	1900	1400
2	2-lane (Two way)	1500	1200	900
3	3-lane (one way)	3600	2900	2200
4	4-lane undivided(two way)	3000	2400	1800
5	4-lane divided (two way)	3600	2900	-
6	6-un divided (two way)	4800	3800	-
7	6-lane divided (two way)	5400	4300	-
8	8-lane divided (two way)	7200	-	-

(Source: IRC Code: 106-1990)

Parking

- Minimum parking required for commercial projects having no multiplexes, shall be 2 ECS/100 sq.mtr. of covered area (including circulation area).
- For commercial projects having multiplexes/cinemas/theatres, the minimum parking shall be 3ECS/100 sq.mtr. of covered area (in respect of multiplexes/cinemas/theatres + 30 %of total area of that component) and 2 ECS/100 sq.mtr. of covered area (in respect of balance commercial component + circulation area).
- Parking norms within municipal limits shall be the same as notified by the Department of Local Government.
- Institutional/ Hotel/ Hospital/Multi-media 1 ECS per 100 square meters of the covered area (if the project is covered under notification no. 17/171/5-Hg 2/311 dated 11 /01/08, otherwise the parking norms meant for commercial uses i.e. 2 ECS /100sq meters covered area shall apply.)

Note:

The E.C.S shall be counted as below:

- 23 sq. meters for open parking
- 28 sq. meters for parking under stilts on ground floor
- 32 sq. meters for parking in the basement

Strategy for obtaining Land for public purposes

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

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

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

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

No single alternative needs to be used throughout the town. It may vary for example, in core areas vs. outlying areas. Similarly different alternatives may be suitable for different types of public purposes. The possible alternatives for obtaining land for public purposes such as roads, educational, health, parks, water supply, sewerage, social and religious institutes, old age homes, community centers etc with their limitations are listed as below.

Through O.U.V.G.L. Scheme:

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

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

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

Through T.D.R.:

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

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

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

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

Through PAPR Act 1995

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

Through Land Pooling or Town Planning (Development) Schemes:

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

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

Table 61: Strategy for Obtaining Land for Public Purpose

Alternative	Land Acquisition through 1894 Act	TDR	Development of land through PAPR Act 1995, TDS under PRTPD Act 2006 and Development Schemes under PTI Act, 1922	Land Pooling	Govt / Panchayat / Waqf Board lands
Plan Proposal	Land designated for public purposes	Land designated for public purposes	Land designated for public purposes	Land designated for public purposes	Land designated for public purposes
Regulation	No separate regulatory provision necessary	Regulation about use of TDR on receiving plots is necessary	Certain proportion (about 40%) of land is dedicated for public purposes.	This requires a separate legal process to be followed of reconstitution of plots along with evaluation of compensation and betterment as provided in Chapter XII of the 1995 Act.	No separate regulatory provision necessary
Means of securing land	Compulsory acquisition by paying monetary compensation	Monetary compensation substituted by Transfer of Development Rights (TDR)	Availability of land through layout plan provisions		Land can be made available through transfer of ownership from one department to another. No monetary compensation is involved.
Limitations	Lack of finances for compensation	Lack of finances for compensation	This is to be market driven and present response is said to be not so encouraging.	Comprehensive Land Pooling Policy is required to be framed.	Locational disadvantages in certain cases.
	Landowners' resistance	Landowners' resistance		Difficulty in pooling of land of large number of owners.	Minimum area requirement may not be fulfilled

Alternative	Land Acquisition through 1894 Act	TDR	Development of land through PAPR Act 1995, TDS under PRTPD Act 2006 and Development Schemes under PTI Act, 1922	Land Pooling	Govt / Panchayat / Waqf Board lands
	Iniquitous distribution of costs and benefits. Cost borne by those who lose land and benefits enjoyed by surrounding landowners	Iniquitous distribution of costs and benefits. Cost borne by those who lose land and benefits enjoyed by surrounding landowners		Time consuming and complicated process	Source of revenue for Panchayat Bodies / Waqf Board gets depleted.
		But where real estate prices are high particularly where land price is several times the construction cost, chances of success are high.		Equitable distribution of costs and benefits to different share holders.	
		New concept difficult to be implemented.		New concept difficult to be implemented.	
		Could also be used for heritage conservation.			

Given the details included in the Master Plan, it is not possible to specify which of the above techniques will be used for obtaining land for public purpose. This would be addressed in the detailed zonal plan.

Proposed Land Use Plan

- 7.19 After going through the detailed studies conducted by the office of DDTP, Kapurthala pertaining to LPA, Sultanpur Lodhi town and discussions held at different levels i.e. with S.H.U.D, Chief Town Planner and Think Tank and further based on analysis, assumptions and projected population of LPA, Sultanpur Lodhi, the Proposed Land Use Plan 2031 has been prepared, in which different land use zones have been earmarked such as residential, commercial, mixed land use ,industrial, recreational, and rural & agricultural etc.

After examining the various possibilities and taking into account the pattern suggested in Urban Development Plans Formulation & Implementation (UDPFI) Guidelines published by Ministry of Urban Affairs & Employment, Government of India, New

Delhi, the aforesaid land use categories have been adopted for the proposed land use plan. The other concerned aspects of these different land uses have been detailed out in the following sub-heads. The proposals & land use mentioned below may be read with Zoning Regulation specified later in the chapter.

The sites on which various projects have been approved or whose change of land use has already been permitted by competent authority/government, such sites shall be deemed to be adjusted as sanctioned/permitted.

As discussed earlier in the chapter the existing pattern of town structure has been broadly adopted while formulating proposed land use plan and proposed road network of LPA, Sultanpur Lodhi, in which pattern of continuous growth of Sultanpur Lodhi town spreading over adjoining area has been kept in view.

The Master Plan Local planning area, Sultanpur Lodhi 2010-2031, bearing drawing no. DDTP 09/2010 dated 30/ 07/2010 was prepared and published on dated 23.11.2010 in the news papers (Hindustan times & Jag Bani) for public objections under section 70(3) of the Punjab regional & town planning & development(amendment) Act 2006. The publication invited 256 objections which were considered in a meeting of Punjab Regional & Town Planning Development Board held on dated 04/04/2011 headed by Honourable Chief Minister Punjab. After careful consideration of the objection, the master plan Sultanpur Lodhi was approved with minor changes. The proposals of Sultanpur Lodhi have been shown on drawing no. DDTP (K) 05/2010 dated 11-04-2011 which is the amended version of previous drawing no. DDTP 09/2010 dated 30/ 07/2010.

The details of various land uses are as shown in proposed land use plan of LPA, Sultanpur Lodhi Drg. No. DDTP (K) 05/2011 Dated 11/04/2011 and proposed areas are given in table 62 below:

Table 62: Break-up of Major Proposed Land Uses LPA, Sultanpur Lodhi Town-2031

Sr No.	Proposed Land use	Urbanisable Area*		Total LPA, Sultanpur Lodhi town	
		Area in Hect.	%age	Area in Hect.	%age
1	Residential	829.80	59.20	873.95	26.86
2	Commercial	024.60	01.75	24.60	00.75
3	Mixed land use	207.80	14.83	207.80	06.39
4	Industrial	129.95	09.26	129.90	03.98

5	Public & Semi-Public	24.80	01.76	24.60	00.75
6	Utilities	09.30	00.66	13.40	00.41
7	Recreational Areas	73.70	05.25	297.0	09.13
8	Traffic & Transportation	102.35	07.29	133.68	04.10
9	Rural and Agricultural	-	-	1550.83	47.63
	Total	1402.30	100.00	3255.76	100.00

*Urbanisable Area excludes the area proposed to be retained as predominantly 'Rural and Agricultural'

It would be observed that the area requirements calculated earlier is less than the areas allocated in the proposed land use plan. It needs to be appreciated that farmland incrementally acquires potential for physical growth as the road network and other infrastructure develops. Consequently all the fringe areas are neither converted to urban use nor are they developed at the same density at any given point in time. The proposed land use plan apart from the area requirement based on the norms, takes cognizance of this fact. As a result some of the fringe areas may not be converted to urban use till 2031.

Residential :

7.20 The projected population of Sultanpur Lodhi town and the villages falling in urban fringe works to be 48, 000 persons by the year 2031 which is little less than three time than the number of 2001 census figures, therefore the rise in demand for residential areas is inevitable. In order to accommodate the projected population within the limits of proposed urbanisable area of Sultanpur Lodhi town, the proposals have been made on the pockets, which have been identified, as most potential and suitable for residential purpose. Besides this, the rural settlements falling in LPA, Sultanpur Lodhi are proposed to expand around its existing built up areas (Abadis).

The area on northern side of rivulet Bein and along the Talwandi Chaudhrian road has been proposed for the residential area. This area is most suitable for residential development. The total area proposed for different uses is termed as proposed urbanisable area which works to be **1402.30** hectares. The spatial extent of different use zones has been shown in the Proposed Land Use Plan Drg. No. DDTP (K) 05/2011, dated 11-04-2011. The total residential area proposed is 829.80 hectares that is 59.20% of total urbanisable area. However, at LPA, level a total area of 873.95 hectares (including urban and rural) has been proposed for residential use, which is 26.86 % of total LPA, Sultanpur Lodhi town area as given in table no 62.

Proposed Density Gradient LPA, Sultanpur Lodhi town – 2009-2031

7.21 The existing density pattern of Sultanpur Lodhi town (ward wise) is studied earlier in chapter of population growth and characteristics. Before proposing density gradient for different zones, it is essential to analyse the existing density gradient of Sultanpur Lodhi town as given below:

Medium Density Zone: There are 8 wards having density more than 240 persons/hectare, are considered as medium density zone in which the density varies from 437.22 persons/hectare of ward no. 12 to 246 persons per hectare of ward no. 5.

Low Density Zone: There are five wards having population density less than 100 persons per hectare are considered as low-density zone in which density varies lowest 7.28 persons per hectare of ward no. 1 to 69.70 persons per hectare of ward no. 6.

Table 63: Overall net residential density of all the zones of Sultanpur Lodhi town:

	High Density Zone	Low Density Zone	Sultanpur Lodhi town
Total Population	11,155	6199	17354
Number of Wards	8	5	13
Total area (Hectares)	37.73	309.27	347
Gross density (Person/Hectares)	300	20	50

Table 64: Proposed Density Gradient for LPA, Sultanpur Lodhi town 2031

Sr. No.	Zone	Net Density
1.	Residential area medium density.	100 to 200 persons per acre
2.	Residential area low density.	Upto 100 persons per acre

- To encourage flatted residential development and to preserve the valuable agricultural land, residential density @ 60 dwelling units per acre shall be permissible for standalone group housing projects, irrespective of the density of zone.
- In case of high-density zone, it is considered that there will be re- densification of existing inner parts of the town. The low-density zones are sparsely developed and large vacant area available for the development. In lieu of that, it is proposed to increase the density of these zones as compare to existing one.
- 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.
- As decided by the Punjab Regional Town Planning and Development Board in its meeting held on 04-04-2011 a **separate Zonal Plan** for an area back side of Gurudwara Ber Sahib bounded by Talwandi Chaudrian road , 80' wide urban

estate road, proposed ring road and Kali Bein Rivulet shall be prepared in which the details for residential, institutional and area for public purposes be shown separately.

Commercial:

General Business

- 7.22** The studies reveal that the existing commercial area, Guru Ka Bagh market, Bazar Arya Samaj, Bazar Chelian Chowk, Bazaar Jhatkaian, Sabzi mandi road market, Sadar Bazar etc is very congested where lack of parking facilities and inadequate approach etc are the major problems. It has also been kept in view that Sultanpur Lodhi town will continue to function as a larger trading centre and will serve the larger area than its LPA.

However, the existing wholesale grain market will function as such on the present site and sufficient to cater the future needs of the town up to year 2031. Total area under commercial use is 24.6 hectares.

Policy for existing areas

- 7.23** With a view to make informal sector, an integral part of the planning process and keeping in view the National Policy on Urban Street vendors, the following provisions are proposed to be made for the informal sector:

- The location/concentration of present stationary informal units shall be considered on case-to-case basis and steps for relocation/improvement shall be taken. It should be ensured that such activities do not spill over on the road network in the right of way. The Govt. /concerned local agency would coordinate to achieve the objective.
- The areas of informal sector shall have suitable public conveniences and solid waste disposal arrangements.
- Formulation of guidelines for schemes would include 'Hawking' and 'No Hawking' zones. Specific areas would be earmarked for stationary and mobile street vendors by the concerned local authority.
- The local authorities would take up new design of stalls, pushcarts and mobile vans of various sizes and with cleaning facilities, giving due consideration to urban design requirement of specific area, where informal shopping is being permitted.

No informal unit should be permitted along/near the intersection in order to avoid traffic congestion and accidents.

Planning norms for informal trade.

7.24 As already, stated informal sector is proposed to be made an integral part of planning process. Accordingly, the informal sector trade would be incorporated in the planned development 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 given in the table below:

Table 65: Planning Norms for Informal Sectors

Sr. No.	Use zones/use premises	No. of informal shops/units
i	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)
ii	Government and commercial offices	5 to 6 units per 1000 employees
iii	Wholesale trade and freight complex	3 to 4 units per 10 formal shops
iv	Hospital	3 to 4 units per 100 beds
v	Bus terminal	1 unit for 2 bus bay
vi	Schools	
	Primary Secondary/	3 to 4 units
	Senior secondary/integrated	5 to 6 units
vii	Parks	
	District parks	8 to 10 units at each major entry
	Neighborhood parks	2 to 3 units
viii	Residential	5 unit/1000 population
ix	Industrial	5 to 6 units per 1000 employees

7.25 Mixed Land use

The co-existence of residential with commercial and residential with industrial activities is a common character of our cities. This character is more prevalent in inner zone of the city. This character of land use generally called “Mixed Land use” has developed over a period of time necessitated by the socio-economic habits of the people. This juxtaposed character of land uses have compact built form, narrow street circulation and low rise-high density development accommodating a mixture of land uses in a single building. The economic role played by these areas cannot be ignored. Hence an attempt is made in the present Master Plan to make these areas continue to play an active economic role and the strategy is to provide suitable framework for allowing mixed use activities appropriate to the character of the areas with greater flexibility in terms of permitting a variety of uses like commercial (retail shops), household and green category industry or outlets for specialized services etc along with residential use.

As decided by the Punjab Regional And Town Planning & Development Board in the meeting held on dated 04-04-2011 under the chairmanship of Honourable Chief Minister

Punjab, the mixed land use have been proposed in the proposed land use plan along the outer side of Ring road having width of 100mts, along the Talwandi Chaudrian road and area between Kapurthala road, Kali Bein and grain market (near Gurudwara Sant Ghat) as shown on drawing no. . No. DDTP (K) 05/2011 Dated 11/04/2011 . The area near railway station where the rice sheller exists at site is also proposed as Mixed Land use zone.

Industrial

An area measuring 129.90 hectares is proposed for industrial zone on the southern side of the town between Lohian road and Shatabhgarh road. The industrial zone is proposed taking into account the prevalent wind direction of the town and availability of railway line and roads for facilitating the transportation of raw material and finished good.

Strategy

New area is proposed as industrial zones where more industrial units especially of small scale sector would be accommodated.

In this new proposed industrial zone, efforts should be made to provide planned industrial estate to minimize the presence of industrial units in different areas of the Master Plan.

Provide suitable incentives and disincentives and other measures, for shifting and relocation of industrial units not conforming to the land use norms.

Review, and possibly widen, the scope of permissibility of household industrial units subject to adherence to pollution control norms and environment considerations, fire safety regulations and other relevant factors; particularly the aspects of infrastructure services.

Types of industry

In LPA Sultanpur Lodhi, there exists 6 rice sheller and 3 diesel generator manufacturing units.

Note:

- i. No industry in the Master Plan shall be permitted on a road having less than 40'-0" ROW. In case, the existing road is less than 40'-0" width, then it shall be widened to 40'-0" by taking equal strip of land from both sides of the road.
- ii. A minimum buffer of 15 meters of broad leaf trees 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. Existing industrial units located in non- designated industrial areas need to relocate to designated areas themselves within period of 10 yrs from the date of publication of this master plan. However the rice sheller and other agro-based/ service industries existing at the time of final approval of this master plan falling under mixed land use zone may continue to operate at their present location subject to the condition that further expansion/ extension of these units shall only be permissible within the existing premises only and no new area shall be allowed to be added for industrial use.

This exception has been incorporated keeping in view the contribution of rice sheller/ industry to the economy of Sultanpur Lodhi town. This town being a agro based industry/ religious/ mandi town mainly depends on the income generated by agro based industries. Hence the dislocation of these industries from their present location may not be in public interest. But in order to protect the environment from further deterioration. Their expansion/ extension shall not be permissible in the non-designated zones of the Master plan.

Incentives for shifting of existing industries:

If the red – category industries existing within the residential zone, which are in operation as on date of Master Plan notification, shifts 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, EDC or Licence 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 Licence 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 Licence 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 Licence 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 Licence 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 Licence 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.

Rural and Agricultural Zone:

7.26 With the intention of preserving the basic character of agriculture, the remaining of the rural area, which has not been proposed for other uses, will be retained as Rural and Agricultural zone. Out of total area of 3255.76 hectares of LPA, Sultanpur Lodhi 1550.83 hectares have been retained as rural and agriculture, which is 47.63% of total LPA as shown in proposed land use plan Drg. No. DDTP (K) **05/2011 Dated 11/04/2011**

Traffic and Transportation

7.27 Transport network and proposed land use need to be considered in an integrated manner.

For Master Plan of LPA Sultanpur Lodhi, extensive road network has been proposed taking into account the connectivity requirements. The entire network may develop in phases as the traffic demand builds. However, it is emphasized that land use proposals of Master Plan may be reviewed as the road network actually develops.

The concurrent planning of urban and rural growth in LPA, Sultanpur Lodhi town and the Transportation system is required to provide an integrated, safe and efficient system for transportation of people and goods. The system is intended to meet the projected travel demands in that area. The road and rail sector occupy the significant roles in the transport sector in LPA, Sultanpur Lodhi.

Entire LPA, of Sultanpur Lodhi will be served by well structured and well defined road hierarchy in order to cater the traffic needs of the town population and arising from living areas to work areas and vice versa. This would include redefining of existing road network and the network to be created in the areas proposed to be brought under urbanization. Keeping in view the future shape and size of Sultanpur Lodhi urban area, there is a need to create / propose an efficient network in the shape of ring in the urbanisable zone and to link the main roads (Kapurthala road, Lohian road and Talwandi Chaudhrian) to each other. The total area of traffic & transportation is 102.35 hectares which is 7.29% of urbanisable area

Existing roads:

The existing roads like Sultanpur Lodhi- Kapurthala road is 100 feet wide is widened to 150 feet and Lohian road 60 feet wide is widened to 80 feet where required. A few new roads of 80 feet and 60 feet are proposed inside urbanisable area and the existing village link roads has been proposed inside the proposed urbanisable area are widened to minimum of 60'.

Proposed Road Network:

7.28 The proposed road network for LPA, Sultanpur Lodhi has been developed in concurrently with the proposed land use pattern as shown in the Plan, Drg. No. DDTP (K) 05/2011 Dated 11/04/2011. In order to provide relief to the town roads and keeping in view the existing roads and the increased volume of traffic in future, the concept of ring radial road has been proposed. Ring road is proposed to be developed on existing revenue rasta and other roads wherever possible. The existing roads have been adopted as radial roads. Efforts have been made to follow existing roads wherever available. The vast areas falling within the Ring road will free from the heavy traffic passing through the town. The proposals of roads are shown in Drawing No. DDTP (K) 05/2011 Dated 11/04/2011. The following road hierarchy has been proposed.

R-1	200 feet wide
R-2	150 feet wide
R-3	100 feet wide
R-4	80 feet wide
R-5	60 feet wide

However, no construction zone of 5 mts. shall be provided on all the roads of the above said road width.

Ring Road

7.29 Due to the location of Gurudwaras in congested city area traffic becomes a huge problem. During festival days, whole traffic diverts to the other internal roads which causes a chaos like situation. Looking forward for the year 2031 and keeping in view the proposed town structure of LPA, Sultanpur Lodhi, ring road having a right of way 150 feet has been proposed mainly to by-pass the external traffic outside the city area rather than entering the narrow city roads and also provides connectivity among various existing regional roads and proposed roads. This ring road also envisages defining the proposed land use.

150 feet wide ring road has been proposed around Sultanpur Lodhi town. The alignment of ring has been shown on Drg. No. DDTP (K) **05/2011, dated 11-04-2011**. The length of this proposed ring road is approximately 12Kms.

Other Roads:

7.30 The existing road have been proposed to be widened & few new roads are also proposed as 80'(R-4) & 60'(R-5) for the easy moment of the traffic. **The rest of the village link road which do not form the part of proposed road network on the master plan shall also be minimum of 60' wide.** The widening of existing link road shall be from both sides and equal strip of land shall be taken for widening of the road. However where built-up area falls in the alignment of the proposed road, in that case the total widening shall be from the opposite side if area is vacant. The proposed road network as explained above has been shown in proposed Land Use Plan Drg.No.DDTP (K) 05/2011, dated 11-04-2011.

7.31 Tree Plantation

It is proposed that tree plantation along the main roads such as R1, R2, R3, R4 and R5 may be done in consultation with the Landscape Architects, Horticulture department and Forest Department. The selection of trees should be in such a manner that the greenery of trees and blooming of flowers may be seen throughout the year. The list of trees proposed to be planted on main roads is attached at Annexure 5.

Proposals for Urban Roads:

7.32 The study of existing town road network reveals that most of the existing roads are not overcrowded as these are carrying less volume of traffic than their respective capacity. However, in future, some of these roads may become overcrowded due to increase in traffic volume. Although, there is no possibility or scope of widening of Right of Way (R.O.W.) of some of these roads in thickly built up areas of the town, but still some measures of road engineering can be adopted for improving the capacity of these roads, as per the guidelines for capacity enhancement of Urban Roads in plain areas published by the Indian Road Congress. Some of the measures that could be considered for enhancement of capacity of roads are as under:

- Prohibiting on–street parking of vehicles, and simultaneously developing off–street parking facility;
- Segregating the bi-directional traffic flow through central verge/median wherever it is possible;
- Provision of segregation of slow moving vehicles such as animal drawn carts, rickshaws/ tongas etc.
- Imposing restrictions on the movement of animal drawn /other slow moving vehicles, and/ or heavy commercial vehicles on these roads during selected periods, specially the peak hours;

- Reduction of roadside congestion through control of abutting land–use and roadside commercial activity.
- Provision of adequate facilities for pedestrians and cycles wherever it is possible;
- Banning certain conflicting movements at major intersections, particularly during peak hours.
- Controlling the cross traffic and side–street traffic by regulating the gaps in medias; and
- Improving traffic discipline such as proper lane use and correct over taking, through appropriate road markings, education and publicity.

Railway over Bridge (R.O.B's)

7.33 There is at present no Railway Over bridge in the town. In order to ensure the smooth flow of traffic over the existing and proposed road network of LPA, Sultanpur Lodhi town 4 R.O.B's are proposed as shown on the proposed land use plan of LPA Sultanpur Lodhi Drg no. DDTP (K) 5/11 dated 11-4-2011. The list of these in order of priority is given as below:

- | | |
|--|------------|
| • Railway over bridge (R.O.B) on Sultanpur Lodhi –Kapurthala road and railway line near village Randhirpur | (Proposed) |
| • Railway over bridge (R.O.B) near Railway station to village Karamjit Pur road | (Proposed) |
| • Railway over bridge (R.O.B) near railway station to village Dalla road | (Proposed) |
| • Railway over bridge (R.O.B) on Sultanpur Lodhi to Lohian road & railway line near garbage dumping site | (Proposed) |

7.34 Bus terminal:.

The Existing bus stand is located in the centre of the town and at present is sufficient to meet the present requirement of town. If there will be any need to shift the existing bus- stand to any other place may be considered on the recommendation of the committee of officials of different departments. Transport Nagar may also be considered as per the requirement of the town and may be suggested at other suitable location.

Utilities

7.35 The existing utilities like water works, Electric Grid - Stations, Sewerage Treatment Plant etc. which are available within the boundaries of LPA, Sultanpur Lodhi town are proposed to be retained as such. Besides above, lower level utility sites will

also be carved out of the colonies to be approved under PAPRA (amended) act 2006. To accommodate the future needs of the town, the existing Sewerage Treatment Plant on Bhago-Arian road having an area of 7.67 hectare and a new site of 1.59 hectare area is proposed on Chauladha road in village Macchi Jowa.

Public & Semi-public

- 7.36** 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 existing in the Sultanpur Lodhi town and LPA, Sultanpur Lodhi. All these designated areas have been proposed to be retained as such, also Govt land, Govt. and semi Govt. offices existing in the LPA, Sultanpur Lodhi will be retained as such. The area under public and semi public is 24.80 hectares which is 1.76% of the urbanisable area.

Recreational Areas:

- 7.37** Under this category, in the case of Kali Bein rivulet, the green strip along its banks within M.C. limits of Sultanpur Lodhi shall be 5 mts and outside M.C. limit shall be 30 mts. It has been done keeping in view the densely built up areas along the banks of Kali Bein, existing at the time of preparation of the Master plan so as to avoid any inconvenience to the public. All existing building at the time of final approval of this Master Plan falling within the 5mts strip of green belt along Kali Bein shall not be disturbed. Built up areas has been shown on the Existing land use plan drawing no. DDTP (K) 05/09 dated 01/07/09. The proposed green belt is shown in the proposed land use plan Drg. No. DDTP (K) 05/2011 Dated 11/04/2011. However, different trees as notified by Government will be planted on these strips as provisions of the master plan to make the town the tourist centre from religious point of view. Existing parks, open spaces, stadiums and other recreational areas will be retained as such. Total area proposed under recreational use is 73.70 hectares which is 5.25% of the total urbanisable area. In order to protect the town & historical Gurudwaras from flooding of Kali Bein rivulet during rainy season, the embankment along the rivulet from Talwandi Chaudrian road to Gurudwara Ber Sahib should be strengthened.

Heritage Conservation

- 7.38** There is no heritage building or Prescient in LPA, Sultanpur Lodhi declared as protected monument under the “The Punjab Ancient & Historical Monuments and Archaeological sites and Remains Act, 1964”. This act provides for the Preservation of Ancient and Historical Monuments and Archeological sites and Remains other than those of national importance, for the regulations of Archeological excavation

and for the protection of sculpture carvings and other like objects, which are in existence for not less than 100 years. Study regarding identification of such buildings in the town has been conducted but sufficient record regarding this subject could not be found. However one site named Hadira on Talwandi Chaudrian road and Quila located on Lohian road is found to be more than 100 years old and has a historical significance as the history of the town is related to these sites. 50 mts green buffer strip have been proposed all around the Hadira monument .As a part of proposal of Master Plan, Sultanpur Lodhi town and under the legal provisions of Punjab Regional and Town Planning and Development (Amendment) Act, 2006 the above said sites may be considered for conservation.

- Provision of basic amenities, facilities and services in these important monuments.
- Provision for parking spaces around these monuments.
- Beautification of surrounding areas.
- Providing proper linkages.
- Provision for boarding facilities in the form of dharamshala etc.
- Special arrangement during festivals days especially on *amawas* and annual *melas*.

Figure 37 : Rear View of Fort (Quila)



8 DEVELOPMENT CONTROLS AND ZONING REGULATIONS

Section I: Development Controls Regulations

- 8.1.1 The purpose of the Development Control Regulations (DCR) is to assist developers and end – users within the Local Planning Area, Sultanpur Lodhi 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 which have been granted approval by the Competent Authority previously will continue to be honored and shall not be affected by these controls.

Chapter XI of the Punjab Regional and Town Planning and Development Act (amended) 2006 provides for “Control of Development and Use of Land where Master Plan is in Operation”. The Chapter lays down the procedural framework for exercising the development control. “Development” as defined by the Act means the carrying out of building, engineering, mining, quarrying or other operation in, on, over or under land or making of any structural or material changes in any building or land including that which affects the appearance of any heritage site and includes demolition of any part or whole of the building or change in use of any building or land and also includes reclamation, redevelopment, a layout or sub-division of land. Some of the key regulations currently in force are reproduced below.

8.1.2 Residential

Category	Minimum area of colony
	Low Potential Zone III
Residential Plotted	10 Acres
Group Housing	
a) For General	5 Acres independent
b) For EWS	2.5 Acres

1. In Low Potential Zone category III within Municipal Limits any area of land can be developed as a colony as per instructions of Memo No. 17/17/01 - 5HG2/1640 dated 18-06-09 shall also apply. Vide notification no. 17/17/2001-5HG2/PF/ Dt. 22.6.2010 Sultanpur Lodhi area falls in Low Potential Zone IV.
2. Maximum saleable area under residential and commercial - 60% Subject to the condition that commercial component shall not exceed 5% of total area.
3. Minimum area under institutional / public buildings - 10% of total area.
4. Minimum area under parks/open spaces, roads & parking lot - 30% of total area.
5. Minimum road width in residential areas shall not be less than 35' and minimum width of approach road to residential areas should not be less than

45'. The building heights on these roads shall not exceed ground + 2 (G+ 2) storey.

Note: -F.A.R., height and ground coverage for individual residential plots within municipal areas, building byelaws of Municipal Council shall be applicable and outside Municipal Council limit, the building bye-laws of PUDA building rules shall apply.

Parking requirements for commercial plotted developments

Plot size*	Parking requirements
85 sq m and less (100 sq yd and less)	2 scooter parking spaces
86 – 168 sq m (101 – 200 sq yd)	1.5 car parking space within plot area
169 – 425 sq m (201 – 500 sq yd)	2 car parking space within plot area
425 sq m and more(500 sq yd and more)	3 car parking space within plot area

*Deviation of up to 10% of this control is allowed, if it is arising from site conditions / constraints.

Group Housing

1	Minimum Plot size	
	• Within MC limits	4000 square meters
	• Outside MC limits	
	a) For General Category	5 acres
	b) For EWS	2.5 acres
2	Minimum Road width	For group housing stand alone projects, minimum width of approach road is 60' but the promoter is required to leave space from his own land for widening it to 80' and the space so left shall be public space. In the planned colony, group housing shall not be permissible on a road less than 60' wide.
	Minimum Frontage	20 meters
	Permissible FAR	1:1.75
	Permissible Height	There shall be no restriction 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 National Building Code shall be compulsory.

	Parking provisions	For group housing residential developments, the requisite parking provision is 1.5 ECS per 100 sq m of covered area. The maximum provision allowable for group housing projects is 3 ECS per dwelling unit.
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Note

- Construction of residential houses sold by promoters on floor basis shall also be considered as group/flatted housing development and parking requirements shall be as per the norms applicable to group housing.
- Size of front gate on boundary wall and construction of front boundary wall is optional to meet the parking requirements.
- All projects for which CLU has been approved prior to the approval of this master plan shall stand adjusted in the master plan irrespective of the proposed land use in master plan subject to necessary environmental safe guards, road networks etc. proposed in the master plan.

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%

Commercial

8.1.3 Commercial uses in residential zones located within the municipal limits shall be allowable along 80 feet wide roads with minimum frontage of 20 meters however area requirements for such commercial developments shall be as per the Municipal bye-law's rules and regulations. For standalone commercial complexes with height greater than three storeys within as well as outside the Municipal limits, the additional criteria listed in following table shall apply.

Additional criteria for stand-alone commercial complexes (more than three storeys)

1	Minimum area required	As per municipal byelaws(within M.C.limits)1000 sq,mts (outside M.C. limits)
2	Minimum frontage	20 meters
3	Maximum F.A.R.	1:1.75
4	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.
5	Maximum ground coverage	40%
6	Parking	For projects with no multiplexes, the minimum parking shall be 2 ECS per 100 sq m of covered area (including circulation area)
		For projects with 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 component + 30% of the total covered area of that component and b) 2 ECS per 100 sq m of covered area, in respect of balance commercial component and circulation area
		Parking norms within the municipal limits shall be the same as that notified by the Department of Local Government.
7	Basement	Multi level basement will be allowed beneath the building in zoned area except in setbacks provided it is proposed for parking purposes only and satisfy the public health and structural requirements.
8	Minimum approach road width	80 feet
9	Landscape	If the site area is one acre or more minimum 15% of the total area is to be reserved for landscaping purposes.
10	For movement of Fire tender	The minimum setback distance is to comply with the existing norms and standards.

Note:

Total parking requirement shall be provided in the compulsory front set back and within the development site boundary or in the basement.

The E.C.S. shall be counted as below:

- 1) 23 square meters for open parking
- 2) 28 square meters for parking under stilts on ground floor
- 3) 32 square meters for parking in the basement

Commercial at local level

There will be provisions for small scale, single storey commercial facilities at the local level within as well as outside the Municipal limits, subject to these abutting roads with a minimum 6mts setback from road for parking.

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

Institutional:

8.1.4 Minimum area and size shall be as per affiliating authority norms with minimum frontage of 20 mts and road width 60 feet,(except in case of nursery and primary schools) F.A.R. 1:1, and ground coverage 40%. Zoning plan shall be got approved from competent authority. Other building regulations shall be governed by zoning plan approved by competent authority.

8.1.5 **Industrial**

Size of Plot	Site Coverage
For the first 2420 sq yds	50% of the site
For the next 2420 sq yds	33% of the site
In excess of 4840 sq yds	25% of the site
FAR	1:1.0
Parking	1 ECS per 100 sq. mtr. of covered area

Note:

Industrial / I.T. Park shall have minimum 10 acres area. In I.T. park, I.T. component shall have F.A.R. 1: 2 and in industrial park for industrial component , F.A.R shall be 1:1 and other components shall have F.A.R as mentioned for different land uses in Master Plan. In industrial park, only green and orange industries shall be allowable.

- **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.
- **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.
- **Road width:** The minimum road width for industrial unit shall be 40'.

a) **Environmental considerations:**

- All the textile / dyeing and electroplating units in the industrial zone shall set up treatment plants individually or collectively to achieve zero liquid discharge.
- Minimum buffer of 15 meters green belt of broad leaf trees should be provided around the boundary of village abadis falling in industrial zone of Master Plan, also between residential areas and air polluting Industries, boundaries of which are located within 100 mts.
- 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 should be measured from source of pollution / hazard in the industrial premises to the building lines as per zoning plan of the colony / complex. However for specified type of industries such as rice shellers/ sela plant, brick kilns, stone crusher, hot mix plants etc. standard prescribed by PPCB and concerned dept. shall apply.

Other development controls and guidelines required

- Regulation for village abadi Special building regulation shall be prepared for the development and regulation of an area falling within the Lal Dora or phirni of the villages falling in the Local Planning Area.
- The existing high tension lines shall be shifted along the road but outside the right of way to ensure unhindered ROW for traffic and other services for all times.
- The minor drains shall have minimum 10 meters wide green strips on each side. 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 Engineering Department to ensure free flow of storm water
- Contiguous expansion of village's abadi in non-residential zones of master plan is permissible up to the extent shown in the Proposed Land Use Plan. However for the village abadi falling in the residential zone of Master Plan no such limit has been ear marked as the area around these villages is already proposed as residential.

8.1.6 **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.

TDR is recommended because:

- It is relatively simple and straightforward to implement and execute.
- The requisite public infrastructure projects can be implemented quickly, thus facilitating rapid urban development.
- Most importantly, the interests of affected land owners will be protected.

The TDR scheme shall be restricted to development projects for public infrastructure and facilities which shall be announced from time to time. The additional FAR shall not be transferable from one LPA to another.

Detailed policy guidelines on the operation and implementation of TDR Scheme should be prepared and announced by the competent authority in due course of time.

Section II – Zoning Regulations

8.2.1 In view of the above the zoning regulations proposed under this master plan are essentially concerned with the control of land use. The proposed land use plan includes following land use zones:

- Residential
- Mixed land use
- Industrial
- Recreational
- Traffic & transportation
- Rural and Agricultural

In addition specific designations have been shown in respect of proposed arterial road network, existing rail network, transport termini etc.

As explained earlier since sub-division of land and design and construction of buildings is being controlled by well established regulations and concerned

competent authorities, zoning regulations under the Master Plan are seen as the reference point for these agencies to ensure that the development permitted by them is in compliance with the Master Plan.

The zoning regulations proposed for adoption in LPA Sultanpur Lodhi are presented below

LPA Sultanpur Lodhi Master Plan

Zoning Regulations

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.

Chief Town Planner, Punjab being the planning agency designated under section 57 of the Punjab Regional and Town Planning and Development Act (Amended) 2006 for the Local Planning Area, Sultanpur Lodhi declared under section 56 of the said Act, following the requirement under clause (d) of sub section 1 of section 70 of the Punjab Regional and Town Planning and Development Act 1995 hereby makes following Zoning Regulations as a part of the Master Plan prepared for the Local Planning Area, Sultanpur Lodhi.

SHORT TITLE, SCOPE, EXTENT & COMMENCEMENT

● **Title**

These Regulations shall be called the Zoning Regulations for Local Planning Area, Sultanpur Lodhi 2009 (hereinafter referred to as “these 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 “development” in the Local Planning Area, Sultanpur Lodhi declared under section 56 of the Punjab Regional and Town

Planning and Development Act 1995 (Amended 2006) vide notification no.12/17/2007-4HGI/3727 dated 04-06-2008.

- **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 Act 1995 (Amended 2006) .

Till such approval, the Authorities in considering the application for permission for development shall have due regard to the draft proposals including these regulations.

1. 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 Sultanpur Lodhi.
5. **“Existing Land Use Plan”** Means the Plan showing the different land use existing at the time of preparation of the Existing Land Use Plan of Local Planning Area, Sultanpur Lodhi and as indicated on Drawing No. DTTP(K)5/2009 dated 01-07-09.
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. 5 /2007-4HG1/ 3727 dated 04-06-2008.
7. **“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 land use.
8. **“Proposed Land use Plan”** means the plan showing the proposed any admissible uses of different areas and Land use zones covered in the Local

Planning Area, Sultanpur Lodhi and as indicating on Drawing No. DDTP (K) 05/2011 Dated 11/04/2011.

9. **“Sector Plan”** means the detailed plan of a part of Mater Plan as delineated in the master plan and approved by the Chief Town Planner, Punjab showing all or any of the following:-
- a) Layout of Plots, Streets, Roads, Public open spaces, parking areas.
 - b) Area temporarily or permanently prohibited for the building operation.
 - c) Uses Permitted in respect of each or a group of plots into which the land may be shown to be divided.
 - d) Any other detail provided in the Lay-pout plan.
10. **“Zoning Plan”** means the plan of area or part thereof or supplementary layout plan approval by the Chief Town Planner 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 respects of each plot, permitted land use, building lands, height, coverage and restrictions with regard to the use and development of each plot in addition to such other condition as laid down in these regulations hereafter.
11. **“Knowledge Park”**: Such parks in residential land use zones can have only such activities which are absolutely non –polluting, non hazardous Environment friendly, free from noise& vibrations, having no polluting effects on air and water and causing no nuisance whatsoever. Uses in such parks will be determined by Chief Town Planner, Punjab.
12. **“Farm House”** Farm house means a building allowed on a holding of agricultural land for residential and agricultural activity of the land holder. The total floor area of such farm house shall not exceed 2 per cent of the area of holding or 200sq.m.whichever is less.
13. **“Atta Chakki”**: Atta Chakki is categorized as service industry where:
- Grinding of only food grains is carried out through the process of crushing under the load 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 be carried out by the Atta Chakki owner at commercial level.
 - The Atta Chakki shall only be permitted on roads having minimum 13.5 m ROW.
14. **“House Hold Industry”** House Hold Industry means house hold occupation/ Industry conducted only by family members/persons residing in the dwelling 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.
 15. **“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 Environments (Protection) Act 1986
 16. **“Micro, Small and Medium Enterprises engaged in manufacture or production of goods”** have the meaning assigned to them in clause (a) of sub-section (1) of section 7 of Micro, Small and Medium Enterprises Development Act 2006 of Government of India
 17. **Large Industries**: Large Industries are the industries in which the investment in fixed assets in plant and machinery is more than Rupees 10 crores.
 18. **Public and Semi Public activities**: Public and semi public activities means 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 the Act.

2. LAND USE ZONES

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

3 LAND USE CLASSES

For the purposes of these Regulations various land uses are grouped into following land use classes.

Sr.No.	Land Use Class	Use Class Code
1	Housing	A
2	Trade and Commerce	B
3	Manufacturing	C
4	Transport, Storage & Warehousing	D
5	Offices	E
6	Education, Training and Research Institutes	F
7	Healthcare facilities	G
8	Recreation, Entertainment	H
9	Public utilities and services	I
10	Agriculture, forestry and fishing	J

4 USE PROVISIONS IN LAND USE ZONES

Following table describe the land use classes and their further sub-classes permitted in various land use zones. The shaded cells in the table indicate that the use is generally permissible. A number in the cell indicates the conditions listed at the end of table subject to which the use is permissible.

LAND USE ZONES AND PERMISSIBLE LAND USES							
Use class		Land use zones					
Sub code	Description	Residential	Commercial	Industrial	Mixed land use	Recreational	Rural and Agricultural
A	Housing						
A-1	Residential houses in the form of plotted development, group housing, farm houses for customary residence including household industry, EWS Housing			1			
A-2	Old age homes, Orphanages, Hostels for students, working women etc.						
A-3	Service apartments, Hotels including Star Hotels, Motels, Guest Houses, Dharamshalas, Lodging Houses			3			
A-4	Jails, asylums, reformatories and the like						
A-5	Residences for watch and ward staff, residences for industrial workers/ management						
A-6	Housing not classified above						
B	Trade and Commerce						
B-1	Retail trade including markets for fruits and vegetables, meat and fish; super markets						
B-2	Department stores, Malls including super market, retail trade, restaurants and multiplexes						
B-3	Personal and community services like laundry, hair dressing, beauty parlors, tailoring, coaching classes, cyber cafes, Atta Chakki, Repair of Household Appliances, Bank Branches, ATM						
B-4	Wholesale trade with storage of commodities	4					
B-5	Filling Station **						
B-6	Kerosene Storage/Gas Godown						
B-7	Gas Distribution (without storage of cylinders)						
B-8	Trade Fares, Exhibition and Conventional centers						
B-9	Showroom of Mills/ Factory Retail Outlets						
B-10	Trade not classified above						
C	Manufacturing (NIC Section C) *						
C-1	Manufacture of food products (NIC Division 10)				10		
C-2	Manufacture of beverages (NIC Division 11)						
C-3	Manufacture of textiles (NIC Division 13)						
C-4	Manufacture of wearing apparel (NIC Division 14)				10		
C-5	Manufacture of leather and related products (NIC Division 15)						
C-6	Manufacture of wood and products of wood and cork, except furniture; (NIC Division 16)				10		
C-7	Manufacture of paper and paper products (NIC Division 17)						
C-8	Printing and reproduction of recorded media (NIC Division 18)						
C-9	Manufacture of coke and refined petroleum products (NIC Division 19)						
C-10	Manufacture of chemicals and chemical products (NIC Division 20)						
C-11	Manufacture of pharmaceuticals, medicinal chemical and botanical products (NIC Division 21)						
C-12	Manufacture of rubber and plastics products (NIC Division 22)						
C-13	Manufacture of other non-metallic mineral products (NIC Division 23)						5
C-14	Manufacture of basic metals (NIC Division 24)						
C-15	Manufacture of fabricated metal products, except machinery and equipment (NIC Division 25)						
C-16	Manufacture of computer, electronic and optical products (NIC Division 26)						
C-17	Manufacture of electrical equipment (NIC Division 27)						
C-18	Manufacture of machinery and equipment n.e.c.(NIC Division 28)						
C-19	Manufacture of motor vehicles, trailers and semi-trailers (NIC						

	Division 29)						
C-20	Manufacture of other transport equipment (NIC Division 30)						
C-21	Manufacture of furniture (NIC Division 31) (except saw mill)						
C-22	Other manufacturing (NIC 32)						
C-23	Repair of machinery and equipment (NIC Division 33)						
C-24	Milk Chilling(independent plot), Pastuerization plant, Cold Storage	12			13		
C-25	Rice Shellers, Processing of Farm Products, Brick Kilns, Lime/ Charcoal Kilns						
C-26	Cottage Industry, Repair of Household Articles, Cycles and scooters						
C-27	I.T. Parks, Knowledge Park						
C-28	Cement, Sand and Concrete Mixing Plant(Batching plant), Bitumen, Sand, Concrete Mixing Plant(Hot Mix Plant)						
C-29	Manufacturing and Storage of Fire Works	7			13		
D	Transport Storage and Warehousing						
D-1	Warehousing and storage activities for transportation (NIC Division 52) and Loading & unloading yard						6
D-2	Rail and Air Freight Terminals						
D-3	Truck Terminals						
D-4	Bus Terminals, Auto-Rickshaw/ Taxi Stand						
D-5	Warehousing, Logistic Park, Storage & Godowns, Freight complex, Container Yards						
E	Offices						
E-1	Publishing of books, periodicals and other publishing activities (NIC Group 581) Software publishing (NIC Group 582)				10		
E-2	Motion picture, video and television programme production, sound recording and music publishing activities (NIC Division 59)						
E-3	Broadcasting and programming activities (NIC Division 60)						
E-4	Telecommunications (NIC Group 61), Govt/ Semi-Govt / Private Business offices						
E-5	Computer programming, consultancy and related activities (NIC Division 62)						
E-6	Information service activities (NIC Division 63)						
E-7	Finance, Banking and insurance (NIC Section K)						
E-8	Real estate activities (NIC Section L)						
E-9	Professional, scientific and technical activities (NIC Section M)						
E-10	Administrative and support services (NIC Section N)						
E-11	Public administration and defence; compulsory social security (NIC Section O)						
E-12	Professional Services like Lawyers, Accountants, Architects, Chartered engineers						
F	Educational, Training and Research Institutes						
F-1	Pre-Primary Schools, Play schools Kinder Garten						
F-2	Primary Schools,						
F-3	Secondary Schools, Colleges, Vocational Training Institutes,						
F-4	Research and Training Centres, Universities, Centres of Advanced Education and training like IIM or IIT, Medical Institute						
F-5	Educational, Training and Research Institutes not classified above						
G	Health care facilities						
G-1	Medical and Dental Clinics and Dispensaries	8					
G-2	Hospitals (NIC Group 861) and Health Center	8					8
G-3	Nursing care facilities (NIC Group 871)	8					
G-4	Residential care activities for mental retardation, mental health and substance abuse (NIC Group 872)						
G-5	Residential care activities for the elderly and disabled (NIC Group 873)						
G-6	Veterinary services						
G-7	Health care facilities not classified above.						
H	Arts, entertainment, recreation, cultural and religious activities						
H-1	Arts, entertainment and recreation (NIC Section R) and Multimedia						
H-2	Libraries, archives, museums and other cultural activities (NIC Division 91)						
H-3	Gambling and betting activities (NIC Division 92)e.g.Race Course						
H-4	Sports activities and amusement and recreation activities (NIC Division 93) tot-lots, playgrounds, stadia, golf courses etc.						

H-5	Places of worship							
H-6	Marriage Palaces							
H-7	Arts, entertainment and recreation activities not classified above							
I	Public Utilities and Services							
I-1	Electricity, gas, steam and air conditioning supply (NIC Section D)							
I-2	Water collection, treatment and supply (NIC Division 36)							
I-3	Sewerage (NIC Division 37)							
I-4	Waste collection, treatment and disposal activities; materials recovery (NIC Division 38) and Carcass Disposal Site	7						
I-5	Postal and courier activities (NIC Division 53)							
I-6	Police station							
I-7	Fire Station							
I-8	Public utilities and Services not classified above							
I-9	Cemeteries, Graveyards, Cremation grounds							
I-10	Telecommunication Towers / Antenna							
J	Agriculture, forestry and fishing (NIC Section A)							
J-1	Crop and animal production, hunting and related service activities (NIC Division 01)	14						
J-2	Land Conservation and Preservation measures such as Storage, Check Dams and other water harvesting measures							
J-3	Fishing and aquaculture (NIC Division 03)							
J-4	Quarrying of stone, sand and clay (NIC Group 081)							
J-5	Plant Nursery and Greenhouses related to Nursery, Floriculture							

Notes:

Notes:								
NIC	National Industrial Classification (All Economic Activities) 2008, Central Statistical Organization, Ministry of Statistics and Programme Implementation, Government of India, www.mospi.nic.in							
A	Shaded areas indicate that the use class is permissible in the zone							
B	Shaded area with number / notation indicates the conditions attached							
	EWS Housing only							1
	Only farm houses permissible							2
	Guest Houses and Star hotels only							3
	Wholesale trade in agricultural commodities only provided it is minimum 200 m away from village abadies / residential areas							4
	Only Manufacture of bricks, earthen pots, country tiles etc.							5
	Warehousing for agricultural commodities only.							6
	Permissible till time the residential or any other activity compatible to residential zone occurs within a radius of 500 metres from the site, after which NOC / permission issued to the applicant shall cease to exist and the activity shall relocate itself to another suitable site / zone.							7
	Subject to fulfillment of conditions of Pb. Govt. Notification No. 17/17/5-Hg2/311 dated 11.01.08 and instructions issued from time to time							8
	Only Knowledge Parks as defined at Sr. No. 1							9
	Only Green Industries							10
	Only bakery							11
	Only in low density zone with the condition that it is located minimum 100 mtr away from the lal lakir/phimi or a village abadi. In case, a cold store is to be set up within a distance of 100 mtr from already approved residential area (other than being a village abadi) or an approved residential colony is to be set within 100 mtr of an existing cold store, then the owner of land use which comes later shall be bound to provide a minimum of 15mtr wide green buffer of broad leaves trees to the site in which approved residential area or cold store is located.							12
	Only in industrial mix							13
	Except animal production.							14
	* All types of industries permitted in the designated land use zone are subject to the fulfillment of requirements of different departments							
	** The siting of petrol pumps shall be subject to instruction / guidelines of IRC/ MORTH/TCPO/Punjab govt. issued from time to time.							
C	Minimum area required for Educational and Health care facilities shall be as prescribed by government or the accrediting authorities from time to time							
	All developments will be subject to Environmental Clearance wherever required.							
	Minimum width of the access road for all public places and involving "Assembly" occupancy shall be 18 m.							

5 DESIGNATED AREAS

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

- Traffic and Transportation
- Utilities
- Public & semi public

- Parks and Play Grounds
- Protected Monuments/Conservation Sites
- Other Special Areas
- Prohibited Areas
- Forest Areas

USE PROVISIONS IN DESIGNATED AREAS

Following uses are permissible in the designated areas mentioned above.

5.1 Traffic & Transportation: Permissible uses

Rail yards, Railway station & sidings, Transport Nagar (including, Post & Telegraph offices & Telephone exchange, Dhabas, Labour yards, Areas for loading and unloading, Stores, Depots, and Offices of goods booking agencies, Petrol Filling Station & Service garages, Parking spaces, public utilities and buildings) Bus Terminus & depot, Bus stop shelter, Taxi/ Tonga/ Rickshaw/Scooter Stands, parking spaces.

5.2 Utilities: Permissible uses

Water supply, drainage, storm water, wastes processing, and disposal, electricity, communication systems and related installations etc.

5.3 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.

5.4 Parks and Play Grounds :Permissible Uses :

Regional Park, Local Parks, Green Belts, Play Grounds, Sports Stadium/Complex, Cricket Stadium, Sports Training Centre, Open Air Cinemas/ Auditoria, Shooting Range, Holidays Resorts with ground coverage not exceeding 2%, Public Institutional Libraries, Swimming Pools with built up areas not exceeding 2%.

5.5 Protected/ Conservation Sites: Permissible uses

Only protected monument/ Heritage Building or conservation sites as notified by the concerned authority and the related activities are allowed. All other uses are prohibited

5.6 Others Special Areas: Permissible uses

All the uses related to Defense Services and any other use as decided by the Ministry of Defense. No other uses are permitted.

5.7 **Prohibited Areas: Permissible uses**

The areas around the Protected Monument of ‘Sultanpur Lodhi Fort’ up to the distance of 100 meters from the protected limits as described in the notification no. S.O.1764 Dated 16th June, 1992 issued by the Department of Culture, Archaeological Survey of India are to be prohibited areas and beyond it up to 200 meters regulated areas for the purposes of both mining operation and construction.

5.8 **Forest Areas: Permissible uses**

This area indicates all Reserved Forests as notified by the Forest Department. No activity other than Forest is permitted in this area unless expressly allowed by the Forest Department

6. **SPECIAL CONDITIONS**

- 6.1. The sitting of Petrol Pump / Filling Stations shall be subject to instructions/guidelines of IRC/MORTH/TCPO /Punjab Govt. issued from time to time.
- 6.2. Minimum width of access road for warehousing uses shall be 80 feet.

7. **EXCEPTIONS**

- 7.1. Any use not listed above under a specific zone will not be permissible in the respective zone
- 7.2. Notwithstanding the above, the uses specifically provided for in the Sector Zoning Plans shall be permissible or as may be allowed by the Chief Town Planner, Punjab.
- 7.3. Uses determined by the Chief Town Planner, Punjab as compatible with uses permissible shall be allowed in respective zones.
- 7.4. Uses of land covered under Optimum Utilization of Vacant Government Land (OUVGL) Scheme of the State Government shall be determined by the Government at any appropriate time notwithstanding the provisions of these Regulations.
- 7.5. Development Projects approved prior to coming into force of these Regulations shall be deemed to be in compliance with these Regulations.
- 7.6. In case of any ambiguity/clarification regarding the interpretation of the Land Use Plan, the Master copy of drawing based on GIS shall be referred.

8. **RESIDENTIAL DENSITIES**

Residential zone is divided into two sub zones viz. Medium Density Zone and Low Density Zone and are shown on the Proposed Land Use Plan Drg. No. DDTP (K)

05/2011, dated 11-04-2011. The maximum permissible net plot density in these zones shall be as shown in Table below:

Sr. No.	Zone	Net Density
1.	Residential area medium density.	100 to 200 persons per acre.
2.	Residential area low density.	Upto 100 persons per acre

To encourage flatted residential development and to preserve the valuable agricultural land, residential density @ 60 dwelling units per acre shall be permissible for standalone group housing projects, irrespective of the density of zone.

9. IMPLEMENTATION OF THESE REGULATIONS

- 9.1. 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.
- 9.2. Land owners desirous of developing their land can obtain, by applying to the designated authority in writing and giving details of their land along with necessary maps, a list of permissible uses.
- 9.3. Similarly land owners proposing development of certain uses on their land can obtain a certificate of “Compliance with Master Plan” from a designated authority.

Annexure 1 : Notification Regarding Declaration of LPA, Sultanpur Lodhi

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT (HOUSING BRANCH - I)

No. H.C./2007/5025
To regulate the development in and around the town of "Sultanpur Lodhi", Distt. Kapurthala, State Government hereby declare the Local Planning area within the meaning of sub section 1 of Section 56 of the Punjab Regional and Town Planning and Development Act, 1995 (Amended-2006). The total area proposed for Local Planning area is 2912 hectares which includes town Sultanpur Lodhi and 9 villages. The schedule of boundaries of Local Planning Area Sultanpur Lodhi is given below:

SCHEDULE OF BOUNDARIES

- NORTH:** Starting from Point 'A' which is the meeting point of western boundary of village Machhi Jowa (H.B. No.141) and northern boundary of Kafi Bein. Then moving towards north along the western boundary of village Machhi Jowa (H.B. No.141) and then northern boundary of village Machhi Jowa (H.B.No. 141) and village Alladad Chak(H.B.No. 138) crossing Sultanpur Lodhi - Talwandi Chaudhrian Road and moving along the Northern boundary of Village Alladad Chak (H.B.No.138), village Gazi Pur (H.B.No.133) and village Randhir Pur H.B.No.28) upto the point 'B' Which is the meeting point of village Randhir Pur(H.B.No.28)and northern Side of Kapurthala -Sultanpur Lodhi Road.
- EAST:** Starting from point 'B' moving towards south then crossing the Kapurthala-Sultanpur Lodhi Road and Railway line and moving along the eastern boundaries of village, Randhir Pur (H.B.No.28) and village Karamjit Pur (H.B.No. 26) upto the point 'C' which is the Trihadda of village Mokha (H.B.No.27) village Karamjit Pur (H.B.No. 26) and village Amarjit Pur (H.B.No.22).
- SOUTH:** Then starting from point 'C' moving towards west along the Southern boundary of village Karamjit Pur (H.B.No.26), village Gill (H.B.No.25) and village Taraf Behbal Bahadur (H.B. No. 136) and then crossing the Kapurthala -Sultanpur Lodhi Railway line and road and moving along the southern boundary of village Taraf Behbal Bahadur (H.B.No.136) upto the point 'D' which is the meeting point of western Boundary of village Taraf Behbal Bahadur (H.B.No.136) and northern side of Kapurthala - Ferozepur Road.
- WEST:** Starting from point 'D' moving towards north along the western Boundary of village Taraf Hazi (H.B.No.137) and village Machhi Jowa (H.B. No. 141) then crossing the Sultanpur Lodhi Busowal Road and Kafi Bein upto the point 'A' which is the point of start.

The boundaries of Local Planning Area around Sultanpur Lodhi town are specifically shown on the Drawing No. DDTP (K) 07/2007 Dated 02-05-2007. All the provision laid down under section 56 (2) of the Punjab Regional & Town Planning and Development (Amendment) Act, 2006 and all the concerned rules framed under this act have taken into consideration.

PLACE: CHANDIGARH.

DATE: 3-7-2007.

(Atina Goel) I.A.S.
Secretary to Govt. of Punjab
Housing & Urban Development Department

Endst. No. 12/17/2007-4HG17

Dated: Chandigarh, the

A copy along with [unclear] is forwarded to the Controller Printing & Stationery, Punjab (Chandigarh) with the request that this notification may be published in the official gazette (extra ordinary) and 100 copies of the printed notification may be sent to the Government for record.

Special Secretary

Department of Housing & Urban Development

Endst. No. 12/17/2007-4HG17

Dated: Chandigarh, the 5/7/07

A copy is forwarded to the Chief Town Planner, Punjab, Chandigarh for information & necessary action.

Special Secretary

Department of Housing & Urban Development

Endst. No. 12/17/2007-4HG17

Dated: Chandigarh, the

A copy is forwarded to the Chief Administrator, PUDA, Mohali for information & necessary action.

Special Secretary

Department of Housing & Urban Development

Endst. No. 12/17/2007-4HG17

Dated: Chandigarh, the

A copy is forwarded to the Deputy Commissioner, Kapurthala for information & necessary action.

Special Secretary

Department of Housing & Urban Development

ਨਗਰ ਅਤੇ ਕੁਰਾਹ ਪੇਸ਼ਕਾਰੀ ਵਿਭਾਗ, ਪੰਜਾਬ

ਪਿੰ: ਅੰ: 2492-93 ਸੀਟੀਪੀ(ਪਬ)/ਐਸ. ਐਸ-57

ਮਿਤੀ: 10/7/07

ਇਸਦਾ ਉਤਾਰਾ ਹੇਠ ਲਿਖਿਆ ਨੂੰ ਸੂਚਨਾ ਅਤੇ ਟੈਕੀਟੀ ਕਾਰਵਾਈ ਵਿੱਚ ਭੇਜਿਆ ਜਾਂਦਾ ਹੈ:-

- 1. ਸੀਟੀਪੀ ਨਗਰ ਪੇਸ਼ਕਾਰ, ਸਿਠੌਰ।
- 2. ਸਿਨਾ ਨਗਰ ਪੇਸ਼ਕਾਰ, ਕਪੂਰਥਲਾ।

(Signature)
ਸੀਟੀਪੀ ਨਗਰ ਪੇਸ਼ਕਾਰ(ਸਪ)
ਵਾ: ਮੁੱਖ ਨਗਰ ਪੇਸ਼ਕਾਰ,
ਪੰਜਾਬ, ਚੰਡੀਗੜ੍ਹ।

Annexure 2 : Alteration of Limits of LPA, Sultanpur Lodhi

GOVERNMENT OF PUNJAB
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
(HOUSING BRANCH I)

NOTIFICATION

No. 12/17/2007-4HG1/5025/3727

Dated 4-6-08.

Local Planning Area for Sultanpur Lodhi city was declared vide Notification No. 12/17/2007-4HG1/5025 dated 5.7.2007 under section 56 (1) of Punjab Regional and Town Planning and Development (Amendment) Act, 2006. Now, it is considered essential to include 1 more village potential for development in local planning area already notified on 5.7.2007

Now exercising the powers vested under section 56(7) of the Punjab Regional and Town Planning and Development Act 1995(amended 2006), the Governor of Punjab is pleased to alter the limits of Local Planning Area, Sultanpur Lodhi notified vide Notification No. 12/17/2007-4HG1/5025 dated 5.7.2007 and declare the Local Planning Area of Sultanpur Lodhi within the meaning of sub section (1) of section 56 of the Punjab Regional and Town Planning and Development (amendment) Act 2006. The Total Area proposed for local Planning area is now 3270 hectares including Sultanpur Lodhi and 10 villages. The schedule of boundary of Local Planning Area is given below .

SCHEDULE OF BOUNDARIES

NORTH: Starting from Point 'A' which is the meeting point of western boundary of village Maehhi Jowa (H.B.No. 141) and northern boundary of Kali Bein then moving towards north along the western boundary of village Maehhi Jowa (H.B.No. 141) and then northern boundary of village Maehhi Jowa (H.B. No. 141) and village Alladad Chak (H.B. No. 138) crossing Sultanpur Lodhi- Talwandi Chaudhrian Road and moving along the Northern boundary of Village Alladad Chak (H.B. No. 138), village Gazi Pur (H.B.No. 133) and village Randhir Pur (H.B. No. 28) and village Jhaken Wala (H.B. No. 29) upto the point 'B' which is the meeting point of village Randhir Pur (H.B.No.28) and northern side of Kapurthala- Sultanpur Lodhi Road.

EAST: Starting from point 'B' moving towards south then crossing the Kapurthala - Sultanpur Lodhi road and Railway line and moving along the eastern Boundaries of village Randhir Pur (H.B. No. 28) and village Karamjit Pur (H.B.No. 26) upto the point "C" which is the Sarhadda of village Mokha (H.B.No. 27) village Karamjit Pur (H.B. No. 26) and village Amarjit Pur (H.B. No. 22).

SOUTH: Then starting from point 'C' moving towards west along the southern boundary of village Karanjai Pur (H.B.No. 26), village Gull (H.B. No. 25) and village Taraf Behbal Bhadur (H.B. No. 136) and then crossing the Kaparthaka- Sultanpur Lodhi Railway line and road and moving along the southern boundary of village Taraf Behbal Bahadur (H.B. No. 136) upto the point 'D' which is the meeting point of western boundary of village Taraf Behbal Bahadur (H.B. No. 136) and northern side of Kaparthaka- Ferozepur Road.

WEST: Starting from point 'D' moving towards north along the western boundary of village Taraf Hazi (H.B.No. 137) and village Mera di Jowa (H.B. No. 141) then crossing the Sultanpur Lodhi Busover Road and Kafi Bein upto the point 'A' which is the point of start.

The boundaries of Local Planning Area around Sultanpur Lodhi town are specifically shown on the Drawing No. DDTP(K) 15/2007 Dated 20.09.2007. All the provision laid down under section 56(2) of the Punjab Regional & Town Planning and Development (Amendment) Act, 2006 and all the concerned rules framed under this act have taken into consideration.

Place: Chandigarh
Dated: 2-6-2008.

(Arun Goel) I.A.S.
Secretary to Govt. of Punjab
Housing & Urban Development Department



Endst. No. 12/17/2007-4HG1/

Dated Chandigarh, the

A copy along with spare copy is forwarded to the Controller, Printing & Stationary, Punjab Chandigarh with the request that this notification may be published in the official gazette (Extra ordinary) and 100 copies of the printed notification may be sent to the Government for record.

[Signature]
Additional Secretary
Department of Housing & Urban Development

Endst. No. 12/17/2007-4HG1/ 3729

Dated. Chandigarh, the: 4-6-08

A copy is forwarded to the Chief Town Planner, Punjab, Chandigarh w.r.t his letter No. 4666-CTP (PB)/SS-57 dated 16-05-2008 for information & necessary action.

[Signature]
Additional Secretary
Department of Housing & Urban Development

Endst. No. 12/17/2007-4HG1/

Dated Chandigarh the:

A copy is forwarded to the Chief Administrator, PUDA, Mohali for information & necessary action.

[Signature]
Additional Secretary
Department of Housing & Urban Development

Endst. No. 12/17/2007-4HG1/

Dated. Chandigarh, the:

A copy is forwarded to the Deputy Commissioner, Kapurthala for information & necessary action.

[Signature]
Additional Secretary
Department of Housing & Urban Development

Endst. No. 12/17/2007-4HG1/

Dated, Chandigarh, the:

A copy is forwarded to the Director Information Technology, Punjab with a request that this notification may kindly be published on the website of Government of Punjab.

[Signature]
Additional Secretary
Department of Housing & Urban Development

ਨਗਰ ਅਤੇ ਰਸਾਮ ਖੋਜਨਾਕਾਰੀ ਵਿਭਾਗ, ਪੰਜਾਬ।

ਪਿਠ ਖਿੱਚ ਨੰ: 5505-06 -ਸੀਟੀਪੀ(ਪਬ)/SS-57 ਮਿਤੀ: 2/7/08

ਇਸ ਦਾ ਵਿੱਕ ਉਤਾਰਾ:

1. ਤਿਪਟੀ ਜ਼ਿਲਾ ਨਗਰ ਖੋਜਨਾਕਾਰ, ਕੂਰਬਨਾ,
2. ਸੀਨੀਅਰ ਨਗਰ ਖੋਜਨਾਕਾਰ, ਜਲੰਧਰ

ਕੁੰ ਸੂਚਨਾ ਅਤੇ ਖੋਜ ਕਾਰਵਾਈ ਵਿੱਚ ਭੇਜਿਆ ਜਾਂਦਾ ਹੈ।

[Signature]
ਸੀਨੀਅਰ ਨਗਰ ਖੋਜਨਾਕਾਰ,
ਮੁੱਖ ਨਗਰ ਖੋਜਨਾਕਾਰ, ਪੰਜਾਬ,
ਚੰਡੀਗੜ੍ਹ।

Annexure 3 : Notification Regarding Declaration of Planning Agency of LPA Sultanpur Lodhi

PUNJAB GOVERNMENT
DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
(HOUSING BRANCH-1)

NOTIFICATION

DATED: 14/8/07

No. 12/17/2007-4HG1/ 6520 Whereas the Governor of Punjab was pleased to declare the Local Planning Area of Sultanpur Lodhi and its surrounding area u/s 56(1) of "The Punjab Regional and Town Planning and Development Act, 1995" vide notification No. 12/17/2007-4HG1/5025 dated 05-07-2007.

Further the Governor of Punjab is pleased to designate the Chief Town Planner, Punjab as Planning agency for the above Local Planning area under Section 57 of "The Punjab Regional and Town Planning and Development Act, 1995".

03-08-2007

Arun Goel
Secretary to Government of Punjab
Department of Housing & Urban Development

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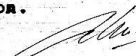
DEPARTMENT OF TOWN & COUNTRY PLANNING, PUNJAB.

Endst. No. 3674-76 -CTP(Pb)/SS-57 Dated :22-8-07

A copy of the above is forwarded to the:

1. Senior Town Planner, Jalandhar.
2. Distt. Town Planner, Jalandhar/ Deputy Distt. Town Planner, Kapurthala.

for information and necessary action.


Chief Town Planner,
Punjab, Chandigarh.

Annexure 4 : List of towns and villages included in LPA, Sultanpur Lodhi

Sr.No	Name of Village	H.B.No	District	Area (in Hectares)	Population according to census 2001	Remark
1	Machhi Jowa	141	Kapurthala	182	100	
2	Alahdad Chak	138	Kapurthala	186	656	Partially area falls in M.C.Limit Sulanpur Lodhi
3	Gajipur	133	Kapurthala	225	641	Partially area falls in M.C.Limit Sulanpur Lodhi
4	Randhirpur	28	Kapurthala	766	612	Partially area falls in M.C.Limit Sulanpur Lodhi
5	Karmjit Pur	26	Kapurthala	154	432	
6	Gill	25	Kapurthala	477	548	
7	Dera Sayadan	134	Kapurthala	233	599	Partially area falls in M.C.Limit Sulanpur Lodhi
8	Tarf Behbal Bahadar	136	Kapurthala	444	560	Partially area falls in M.C.Limit
9	Tarf Hazi	137	Kapurthala	245	286	Partially area falls in M.C.Limit Sulanpur Lodhi
10	Jhallewala	29	Kapurthala	252	396	
11	Sultanpur Lodhi	135	Kapurthala	106	17354	Population of M.C & Sultanpur Lodhi Rural
			TOTAL	3270	22184	

Note: Total area of Local Planning Area within Sultanput Lodhi(2007-2027) is 3270 Hectare , out of which 347.0 Hectare area falls in M.C limit of Sultanpur Lodhi

Harjeet Singh

Deputy District Town Planner,
Kapurthala.

Annexure 5 : Recommended Trees for Plantation on the Main Roads

Sr. No.	Name of tree (Botanical/ common)	Description
1.	<i>Alstonia scholaris</i> (Chhatim)	Tall tree with columnar shape, Evergreen, very ornamental, bears greenish-white flowers in October- December.
2.	<i>Barringtonia acuitangula</i> (Smudar Phal)	Medium tree with spreading habits, deciduous from April to May. Ornamental foliage and flowers in pendulous branches. Bears crimson flowers in April and September.
3.	<i>Bauhinia blackiana</i> (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.	<i>Bauhinia purpurea</i> (Kachnar)	Medium tree, with columnar form, evergreen, bears purple coloured flowers in November.
5.	<i>Bauhinia variegata</i> (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.	<i>Cassia fistula</i> (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.	<i>Cassia grandis</i> (Pink Mohur)	Medium in height, with spreading habit. Highly ornamental tree. Bears deep carmine flowers in November, December.
8.	<i>Cassia javanica</i> (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.	<i>Cassia Marginata</i> (Pink Mohur)	Medium in height, spreading and graceful tree, bears deep pink flowers in May and June.
10.	<i>Cedrela tuna</i> (Tun)	Tall columnar shaped tree, leafless in Dec.-January. fairly fast growing and hardy tree with creamy white flowers in March-April.
11.	<i>Chakarassia Tabularis</i>	Tall spreading tree, evergreen and hardy. Excellent for shade. Flowers are greenish, white in April-May.
12.	<i>Chorisia speciosa</i> (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.	<i>Delonix Regia</i> (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.	<i>Ficus religiosa</i> (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, ever green, flowers are of pale, yellow brown colour in March.
17.	Jacranda mimosaefolia (Jakaranada or Neely-Gulmohar)	Medium in height, leafless when in bloom, good for parks and houses, fern like bipinnate leaves, bears flowers of violet-blue colour in April-May.
18.	Kigelia pinnata(Jhar Phanoos)	Tall and spreading tree, evergreen hardy and fast growing flowers are of crimson, yellow and brown colour in April-May.
19.	Lagerstroemia fros-reginae (Queen's flower)	Medium sized tree, columnar shape, very pretty, leafless in winter (December-February). Purple and pinkish blooms in April-May and July-August.
20.	Lagerstroemia thorelli (Pride of India)	Medium in height, columnar in shape, beautiful tree, leafless from Dec-Feb, flowers of mauve colour from June to December
21.	Lagerstroemia rosea	Medium in height, columnar tree, very pretty. Leafless in winter (December-Feb.) with deep pink flowers from April to September
22.	Pongamia Glabra(Karanj)	Tall spreading and fast growing tree, leafless in March. Bears mauve coloured flowers in April, May.
23.	Pterospermum acerifolium (Kanak Champa)	Tall columnar tree, ever green, handsome, bears sweet scented flowers of creamy white colour in March-April.
24.	Putranjaniva Roxburghii (Jiva Pota)	Medium in height, pyramidal shaped, ever green, handsome and very graceful tree, good for shade and beautiful form. Flowers are of pale yellowish colour in March-April.
25.	Saraca Indica(Sita Ashok)	Height medium, spreading tree, ever green, very hardy, foliage glossy and ornamental. Highly flow growing takes 30 years to become a good tree. Bears highly attractive scarlet coloured flowers in large compact clusters in Feb. – March.
26.	Schleichera Frijuga(Kusum)	Tall columnar shaped tree, evergreen, good for shade, leaves become red in March, April and again in July,-Sept. Flowers are of green colour in Feb-March.
27.	Sweitnia (Mahogany)	Evergreen, shady, attractive foliage, very hardy, tall tree with columnar shape, blooms in April, tree is slow growing and very good for avenues.
28.	Tabeuia Rosea	Small in height, golumnar in shape, dedciduous from December to February,Scanty foliage, flower colour is purple pink in Februar-March.
29.	Terminalia Arjuna(Arjan)	Tall, columnar shaped tree, sheds leves in March. Very Hardy tree, flowers of pale-yellowish white colour appear in September-October.
30.	Terminalia Chebula(Bahera)	Tall, Columnar shaped tree, leafless in March, Pale-yellow flowers all the year round.