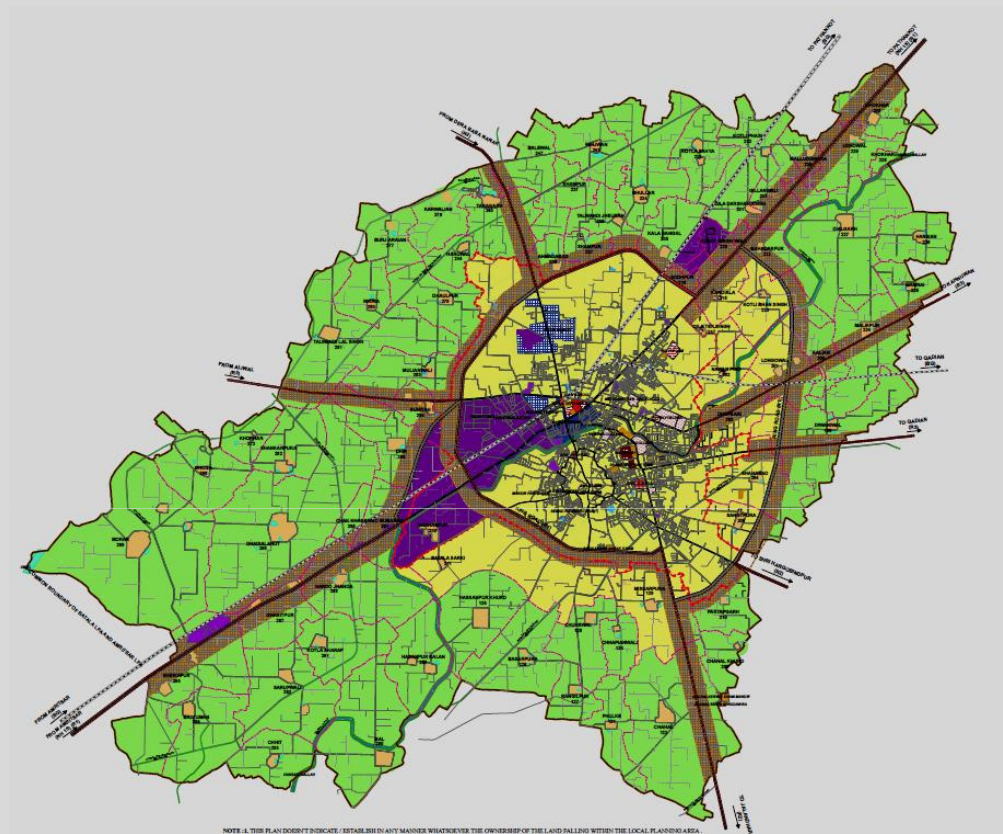


MASTER PLA ATALA LPA 010- 031



CLIENT :
Punjab Urban Planning & Development Authority (PUA)
Mohali, Punjab

CONSULTANT :



SAI Consultants Engineers Pvt Ltd, Ahmedabad
(AN ISO 9001 CERTIFIED COMPANY)

SAI House, Satyam Corporate Square, B/h Rajpath Club, Bodakdev, Ahmedabad- 380059, INDIA.
PHONE +91 9 6614 2600, 6614 2000, +91 183 5014361 AX +91 9 6614 2800
E-mail mail@saiindia.com, punjab@saiindia.com Web www.saiindia.com

PRE ACE

Ba ala, with history spanning over more than 350 years is known to be the second home of first Sikh Guru Nanak Dev ji. City holds the distinction of ranking next to Ludhiana in the state of Punjab in terms of its role and importance in the parlance of industry. Known for its Casting Iron and Machine Tools Industry, city also houses many religious and historical places including gurudwaras related with the marriage of Guru Nanak Dev ji like Gurudwara Dera Sahib and Kandh Sahib, apart from Achaleshwar Temple, Baradari, Shashar Khan Tomb, Vir Hakika Rai Sadeh etc.

Ba ala, the tehsil headquarter of district Gurdaspur, is located along Ari sar-Pa hanko NH 15 and Ari sar-Pa hanko Railway Line. The industrial city has high degree of rail and road accessibility and connectivity with other important urban centres of the state.

Provisional figures of Census 2011 ranks Ba ala as the 7th largest city in the state and first in the district of Gurdaspur with population standing at 1,54,400 persons. The city has the distinction of surpassing the population of Pa hanko, another city of the state while Gurdaspur district, which had more population than Ba ala in Census 2001.

Considering the role and importance of Ba ala in leveraging the economy of the state and need for progressing rational, balanced, orderly, sustainable and state of art development of Ba ala, Punjab Urban Planning and Development Authority (PUDA) entrusted the task of preparing the Master Plan of Ba ala LPA to SAI Consulting Engineers Pvt. Ltd., Ahmedabad. The task was in addition to preparation of Master Plans of Local Planning Areas of five cities/towns of state of Punjab including Ari sar, Kapurthala, Pa hanko, Gurdaspur and Tarn Taran.

SAI Consultants feel privileged to have the honour of being given the opportunity of preparing the Master Plan of Local Planning Area of Ba ala spanning over an area of 15.88 sq. kms., comprising of 1 urban, i.e. Ba ala Municipal Council, and 77 rural settlements. As 10 rural settlements along his fall totally within Ba ala Municipal area, the Local Planning Area in real terms consists of Ba ala Municipality and 7 rural settlements only. Master Plan of Ba ala LPA for the period 2011-2031 has now been prepared after undertaking detailed study and carrying out in-depth analysis of historical, cultural, physical, social and economic development of the town and its environs, bringing out in the process major roadblocks hampering the orderly growth and development of the town. Major recommendations for leveraging the growth and development of Ba ala are the outcome of intensive consultative process involving series of meetings with various stakeholders including parastatal agencies, experts, individuals and various interest groups besides members of the think tank. It is hoped that with the finalization of the Master Plan of Ba ala

LPA, the town and local planning area will be launched on the path of rapid physical and economic development trajectory in the next two decades. With the effective implementation of the Master Plan of Batala LPA, avenues of opportunities for employment and economy shall expand enormously and challenges for public administration shall increase.

On the occasion of finalization of the Master Plan of Batala LPA, we would like to place on record and extend our special thanks and gratitude to Hon'ble Chief Minister, Sardar Parkash Singh Badal and Hon'ble Deputy Chief Minister, Sardar Sukhbir Singh Badal, of the State of Punjab for approving the Master Plan and making it operational to guide the destiny of agro-based, industrial, historical, cultural and spiritual town of the state of Punjab.

Master Plan of Batala LPA is a humble effort to decongest the core city, create self-contained communities, decentralize the economic opportunities, minimize travel & industrial pollution, ensure better quality of life, promote orderly development and leveraging the economy of Batala to launch it on the path of rapid growth curve. The prime objective of the entire exercise of preparing the Master Plan has been to infuse vitality while retaining the vibrant character of the town. In order to create the local ownership of Master Plan, as a document of the people, both intensive and extensive interactions by means of series of Think Tank meetings were organized with the wide spectrum of the society & intelligentsia of the town and region followed by the publication of the draft plan for inviting objections and suggestions from the interested groups, community, stakeholders, parastatal agencies, NGOs and CBOs. The support rendered by the broad spectrum of society in terms of ideas, thoughts and valuable suggestions related to planning, development and management for making Batala as a vibrant and role model of urban development and governance is gratefully acknowledged.

The task assigned for preparing the Master Plan was enormous and challenging. It would not have been completed without the support and guidance of state and local level authorities. SAI Consultants would like to place on record, its gratitude for the valuable guidance and support given by the officials of the State Govt. and Department of Town and Country Planning, Punjab. The valuable guidance and unstinted support of the following officers of the State Govt. is gratefully and humbly acknowledged for making it possible to take the task of preparing the Master Plan of Batala LPA to its logical conclusion:

- 1) Sh. S. K. Sandhu, IAS, Principal Secretary, Housing and Urban Development, Punjab.*
- 2) Sh. S. S. Sandhu, IAS, Former Principal Secretary, Housing and Urban Development, Punjab.*

- 3) *Sh. M. S. Sidhu, Chief Administrator, PUDA and Director, Town and Country Planning, Punjab.*
- 4) *Sh. Rajinder Sharma, Former Advisor, Town Planning, PUDA.*
- 5) *S. Kuldip Singh, Chief Town Planner, Punjab.*
- 6) *S. Harnek Singh, Senior Town Planner, Punjab.*

Our sincere thanks are also due to Dr. Abhinav Trikha, the Deputy Commissioner, Gurdaspur, Shri Sandeep Rishi, Chief Administrator, Amritsar Development Authority, and President, Municipal Council, Batala for their support.

Support given by Madam H. K. Grewal, Senior Town Planner, Shri Pankaj Bawa, S. H. S. Bajwa and S. Jaswinder Singh, District Town Planners, and Shri Amit Minhas and S. Prabhjit Singh Dhillon, Assistant Town Planners is also acknowledged. Acknowledgement is also made to the former Senior Town Planners, Shri M. L. Kaushal and S. Gulzar Singh, and S. Inderjit Singh, former DTP, Gurdaspur for their guidance and support in the preparation of the Master Plan. Thanks are also due to the staff of T&CP Deptt., who helped us in every possible manner to successfully complete the project. We also express our gratitude to the PRSC, Ludhiana, for supplying the Base Map of the Planning Area, based on which the Proposed Landuse Plan of Batala LPA has been prepared. Sincere thanks are also due to all officials/persons who directly or indirectly contributed in giving final shape to the Master Plan.

The team at SAI Consulting Engineers Pvt. Ltd., Ahmedabad and at Project Office, Amritsar has made a humble and sincere attempt to prepare a realistic and futuristic document based on the ground realities. It is hoped that the Master Plan will meet the hopes and aspirations of not only the present but also the future generations of the city in order to usher an era of peace and prosperity through rational and planned growth.

The key professionals involved in the preparation and finalization of Master Plan of Batala Local Planning Area include:

- 1) *Mr. Jit Kumar Gupta, Advisor, Amritsar Project Office, Punjab.*
- 2) *Mr. Manjit Singh, Advisor, Amritsar Project Office, Punjab.*
- 3) *Mr. Nitin Shah, President and COO.*
- 4) *Mr. Xerxes Rao, Assistant General Manager.*
- 5) *Ms. Rita Sharma.*
- 6) *Mr. Virendra Kumar Pal.*
- 7) *Ms. Jaskiran Kaur.*
- 8) *Ms. Ritika Arora.*
- 9) *Mr. Laxman Sharma.*

10) Mr. Neeraj Sharma.

11) Mr. Sukhjit Singh.

12) Mr. Dipak Bhatt, and

Other supporting staff from Headquarter (Ahmedabad) and Project Office (Amritsar).

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ABBREVIATIONS

A. D.	Anno Domini			Info mation System
ASI	A cheological	gpcd		G am Pe Capita
	Su vey of India			Daily
ATM	Automatic Telle	Ha/Hct		Hecta e
	Machine	HHI		Household Indust y
DO	Block Development	IC		Intensive Ca e nit
	Office	IIM		Indian Institute of
IS	Bu eau of Indian			Management
	Standa ds	IIT		Indian Institute of
OD	Biological Oxygen			Technology
	Demand	IRC		Indian Road
CAGR	Compound Annual			Cong ess
	G owth Rate	ISI		Indian Standa d
C O	Community Building			Institute
	O ganisation	IT		Info mation
CI	Casting I on			Technology
CIP	City Investment	ITI		Indust ial T aining
	Plan			Institute
CL	Change of Land se	JNN RM		Jawaha Lal Neh u
COD	Chemical Oxygen			National ban
	Demand			Renewal Mission
D.C.	Deputy	K		Kilo Volt
	Commissione	LIG		Low Income G oup
DCR	Development	LPA		Local Planning A ea
	Cont ol Regulations	lpcd		Lit e Pe Capita Pe
DG Sets	Diesel Gene ato			Day
	Sets	MAH		Maximum Accident
DIC	Dist ict Indust ial			Haza dous
	Cent e			Indust ies)
DO	Dissolved Oxygen	M. CI.		Municipal Council
DPR	Detailed P oject	MDR		Majo Dist ict Road
	Repo t	MINAR		Monito ing of India
DTP	Dist ict Town			National Aquatic
	Planne			Resou ces
ECS	Equivalent Ca	MLD		Million Lit es Daily
	Space	MORTH		Minist y of Road
EDC	Exte nal			T anspo t and
	Development			Highways
	Cha ges	MP		Maste Plan
EWS	Economically	MT		Met ic Ton
	Weake Section	N C		Nation al Building
FAR	Floo A ea Ratio			Code
FGD	Focus G oup	NGO		Non Gove nment
	Discussion			O ganization
FY	Financial Yea	NH		National Highway
GIS	Geog aphic	NIC		National Indust ial

NIMBY	Classification		
NO	Not In My Back yard	ROB	Roads)
NTU	Narrow Oxide	ROW	Roadway Over Bridge
	Nepherometric		Right of Way (of
	Turbidity Unit		Roads)
ODR	Other District Road	SCO	Shop cum Office
OHSR	Over Head Storage	SDO	Sub Divisional Office
	Reservoir	SDM	Sub Divisional
OUVGL	Optimum Utilization		Magistrate
	of Vacant	SH	State Highway
	Government and	SO	Statutory Order
P.P.R.	Punjab Apartment	SO₂	Superfund Oxide
	and Property	SPM	Suspended
	Regulation Act,		Particulate Matter
	1995	SSP	Senior
P.U.	Punjab Agriculture		Superintendent of
	University	STP	Police
pH	Power of Hydrogen		Sewage Treatment
PHC	Primary Health	SWM	Plant
	Centre		Solid Waste
PPCB	Punjab Pollution	SWOT	Management
	Control Board		Strengths,
pph	Persons Per Hectare		Weaknesses,
PPP	Public Private		Opportunities and
	Partnership	TCPO	Threats
PRSC	Punjab Remote		Town and Country
	Sensing Centre		Planning
PRTPD Act	Punjab Regulation and	TDR	Organization
	Town Planning and		Transfer of
	Development Act,	TDS	Development Rights
	1995		Total Dissolved
PRTC	Punjab Road	TP Schemes	Solids
	Transport		Town Planning
	Corporation	U. .	Schemes
PSIEC	Punjab Small		Urban
	Industries and	UBDC	Agglomeration
	Export Corporation		Upper Bar Doab
	limited	UDPFI	Canal
PSP	Public Stand Posts		Urban Development
PUD	Punjab Urban		Plans Formulation
	Planning and	UIDSSMT	and Implementation
	Development		(Guidelines)
	Authority		Urban Infrastructure
PWD (B & R)	Public Works		Development
	Department		Scheme for Small
	(Building and	ULB	and Medium Towns
			Urban Local Body

Executive Summary

- Batala is an important industrial city of Punjab State as well as District Gurdaspur and is known for its foundry industry. At regional level, it also has many important religious and historical centres.
- Being located on Amritsar-Pathankot National Highway 15/Railway Line, it has high degree of road and rail connectivity with neighboring urban centers of districts of Punjab State, Himachal Pradesh and Jammu and Kashmir
- Batala is a class I city with population recorded as 1,47,872 as per 2001 Census. It ranked second among the urban centres of the district after Pathankot. However, in 2011 Census, the city has surpassed the population of Pathankot city. According to Provisional Population Totals of Census 2011, Batala Municipal Council has registered 1,56,400 population, in comparison to 1,48,357 of Pathankot Municipal Council.
- According to Census 2001, the city holds 27.6% of urban population of the Gurdaspur district. City has recorded high degree of population growth (200% approx) during last 50 years (1951-2001). It recorded a growth rate of 43.6 % during the last decade.
- With a view to rationalize the future development and to remove the existing mismatch in the development infrastructure, Government of Punjab decided to prepare a Master Plan for the Batala Local Planning Area under the provision of Punjab Regional and Town Planning and Development Act, 1995 (amended 2006) .
- For the preparation of the Master Plan, Local Planning Area of Batala city was notified under section 56 (i) of the Punjab Regional and Town Planning and Development Act, 1995 (amended 2006) vide notification number 12/5/2007-4HGI/7569, dated 18th September, 2007.
- The Local Planning Area comprises of 1 urban and 77 rural settlements. The total area of Batala LPA is placed at 16,588 hectare, out of which 3,273 hectare falls within the Municipal Council. As per census 2001, the total population of LPA is 2,30,863 persons as against the 1,47,872 persons of Municipal Council.
- In terms of area, Batala city accounts for 22 % of the area of the LPA, whereas it houses 2/3rd (64%) of the LPA population.
- Being an industrial city, work force participation ratio in LPA is 31.16%. Within Batala city, percentage in service sector is towards higher side.
- Industrial growth in Batala is negative. The main reason for this is the high prices of raw iron and Freight Equalisation policy, which was introduced by the government. This has caused many industries to shut down due to the profit margin being dropped. Because of

the shut down, the number of industrial units in Batala decreased to about 22% from year 2004 to 2008.

- Batala shares the maximum number of large-scale industries within the district.
- As per Census 2001, the number of occupied residential houses was placed at 24,025. The household size was found to be 6. Percentage growth rate of residential houses during the last decade was placed at 88%.
- Batala city has high degree of slum population (23%), which means every 5th resident of the city is a slum dweller. There are total eight slums in the city, which constitute 3820 households. Slums in the city are located along NH-15, along railway line, near industrial focal point, and in and around walled city of Batala.
- Only 21% of the total M. Cl. area and 58% of population is covered through water supply system. On the other hand, the area coverage of the water supply network within the developed area of the Municipal Council is 40% approximately. The 42% of the M. Cl. population is served through stand post and independent setup. The per capita water supply is placed at 90 lpcd. Average daily consumption of water is of the order of 8.76 MLD. City has high degree of unaccounted water (43%). There is neither a water treatment plant in the city nor is quality of water checked. The major source of water is the ground water. Due to poor water management, water table is rapidly falling.
- 78% of the population has underground sewerage facility. Out of total area of Municipal Council, 73% is uncovered, whereas in terms of developed area only 27% is not covered through the network. There is no sewage treatment plant in the city, and the sullage is directly disposed off in the Hansali Drain leading to ground water pollution.
- Storm water drainage is absent in the city. There is water logging during the rainy season. Storm water is drained through open drains and natural channels.
- Solid waste management is of poor quality. There is no segregation of waste and disposal of waste is not carried out scientifically. Most of the waste is dumped along the existing roads/railway lines.
- City has lot of traffic and transportation problems due to inadequate road network and haphazard growth of the city. City lacks parking spaces leading to congestion in the commercial area. Majority of road spaces are encroached by informal sectors. Inter and intra city traffic are not segregated, and road geometry and quality of road surface are poor. Location of Bus stand, passing of National Highway and railway line through the city causes major traffic problems. There is no hierarchy of road network. Absence of truck terminal leads to parking of trucks on the road causing congestion/accidents.

- The spatial distribution of education facilities is uneven, unplanned and haphazard. Health facilities are not adequate and unevenly distributed. Number of beds do not confirm to the norms. City also lacks in open spaces and sport facilities.
- City suffers from noise and air pollution. Use of generators in the context of long electricity cuts leads to air and noise pollution.
- Existing land use has predominance of residential area, whereas area under traffic and transportation and open spaces is minimal. Only 45% of the area within the urban limits is developed, whereas rest is yet to develop. City lacks in recreational activities and organized commercial areas indicating poor quality of life in general. Contribution of industries is minimal and the economy is largely based on the foundry industry and agricultural produce.
- Preparation of Master Plan was based on the participatory process involving members of the Think Tank and the District Administration. Detailed studies of the city were carried out physically besides accessing data/studies already available with the parastatal agencies. The demographic data was sourced from Census reports.
- Based on detailed studies, SWOT analysis was carried out to bring out the strength of the city, identify weakness which hamper the growth of the city, taking in to account the opportunities offered by the industrial environment, administrative structure, and historical perspective of the city besides overcoming the emerging threats. The studies made, analysis carried out and interaction held with experts and stakeholders formed the basis of preparation of the Master Plan.
- The objectives of the Master Plan outlining the future orderly growth of the city for next two decades (2011-2031) have been identified in terms of rationalizing future growth and development, rationalizing traffic and transportation network, creating more open spaces, creating self-contained communities and providing adequate physical and social infrastructure, besides bridging gaps in the available services.
- In order to make Batala city a vibrant urban settlement, vision and mission statement for the city has been prepared providing for Batala to be industrial city of the state based on its available strength in terms of quality technical institutions.
- The population estimates made on the basis of 5 different methods place the population of Batala urban area and LPA as under:

Population Projection for Batala PA

Level of settlement	2009	2011	2021	2031
Batala (MCI)	186550	195845	261480	46651
Villages (LPA)	8808	9980	106424	120515
Projected population for LPA	274588	289825	67904	467166

- The Master Plan also details out the infrastructure requirement in respect of water supply, sewerage, solid waste management, storm water drainage, traffic and transportation network, educational institutions, health care facilities, utilities and services, etc.
- Proposed Landuse Plan prepared for 2031 provides for
 - Rationalizing the population distribution and decongesting the core area of the city by including 193.74 hectare as the additional area outside Municipal limits for development.
 - The residential development is further envisioned in 2 broad categories i.e. high density and low density residential development, to cater to different categories of income groups.
 - To provide more area under Industrial Zone taking into consideration its industrial character, to create more options for economic development.
 - To increase the area under road network for improving the capacity of the road network.
 - To create Ring Road in continuation with existing bypass between Jalandhar Road and NH-15 in order to rationalize inter and intra city traffic.
 - To rationalize the development of NH-15 by creating appropriate service roads, footpaths, improving road junctions, etc., thereby easing the flow of traffic within the city.
 - To relocate the Bus Stand on the stretch between the NH-15 and Jalandhar Road as per availability of land.
 - Five Over-Bridges have been proposed in order to minimize the traffic congestion on the railway crossings. A well-defined hierarchy of road network ranging from R1 to R6 has been proposed for the smooth flow of the traffic with minimum road of 12 m width.
 - Seven road junctions have been proposed for improvement falling on Jalandhar Road, Amritsar Road, Pathankot Road, Dera Babanank Road, existing Bypass, etc.
 - Transport Nagar is proposed, which will be part of the proposed Logistic Park or the industrial zone to have better interface in the movement of the goods traffic on NH15.
 - Parking lots have been proposed to be created at the major nodal centres.
- Master Plan proposals are proposed to be implemented through a well defined system of zoning regulations.
- The total investment estimated to implement the Master plan proposals up to 2031 have been placed at Rs.1028.86 crores, which includes Rs. 299.50 crores for the roads, Rs. 64.12 for water supply, Rs. 86.60 crores for Sewerage, Rs. 435 crores for Storm Water Drainage, Rs. 51.99 crores for solid waste management besides Rs. 119.66 crores for the

improvement of electricity. The funds for the city is to be generated through various innovative options including funds made available by Govt. of India, state govt., stakeholders and involving public-private partnership. In addition, operational efficiency and better governance are proposed to be leveraged to generate resources, minimize expenditure and generate more revenues.

CHAPTER 1

INTRODUCTION

1.1 INITIAL STAGES

1.1.1 BACKGROUND

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

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

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

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

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

In this process, PU A has taken up the preparation of the Master Plan for Basala Local Planning Area with the guidance from Government of Punjab to address the infrastructure

and service delivery gaps in Batala LPA and to make the growth and development of Local Planning Area rational. The key objective of the Master Plan is to formulate a long-term vision and strategy to make the Local Planning Area vibrant, livable and creditworthy. Besides rationalizing the land use pattern, the Master Plan will also facilitate the identification of sectoral investments and reform areas needed, to transform the Local Planning Area.

1.1.2 OBJECTIVES

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

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

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

1.1.3 SCOPE OF WORK

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

- (i) Collection and review of available data, documents, reports etc and site visits.
- (ii) Sector studies in terms of demand, availability and identifying gaps in service delivery.
- (iii) Formulating vision and working out manning strategy.
- (iv) Formulation of concept plan and policies for the growth centres, growth corridors etc.
- (v) Preparation of Integrated Infrastructure Plan for all areas constituting designated Local Planning Areas as per projected requirements.

- (vi) Preparation of detailed Zonal Development Plan including approximate location and extent of land uses such as residential, industrial, commercial etc. and Development Control Regulations.
- (vii) Review of ongoing and proposed projects, and other schemes announced by the govt. under JNNURM, UIDSSM, OUVGL schemes etc. and to incorporate them in the plan.
- (viii) Incorporation of all the statutory provisions under the PRTPD Act, 1995 (amended 2006).
- (ix) Formulation of framework for implementation of the Master Plan, Zonal Plan and Development Control Regulations.
- (x) Prioritizing the projects and formulation of Investment Plan.
- (xi) Formulating Investment Plan with appropriate financing strategies.
- (xii) Focus on the reforms to be carried out at the State and District level in consonance with the vision and strategic plan outlined to sustain the planned interventions

1.1.4 EGA FRAMEWORK FOR MASTER PLAN

PREPARATION OF MASTER PLANS UNDER “THE PUNJAB REGIONAL AND TOWN PLANNING AND DEVELOPMENT ACT, 1995 (AMENDED 2006)”

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

Looking at the amended provisions, the procedure of preparing Master Plan under the Punjab Regional and Town Planning and Development Act, 1995 can be defined as:

- (i) Identifying and declaration by the State Government of Local Planning Area of the urban settlement for which Master Plan is to be prepared.
- (ii) Designated Planning Agency to prepare the Master Plan of the Local Planning Area within a period of 1 year of the designation or such time, which may be extended by the State Government from time to time for preparing the Master Plan and submit to the State Government for approval.
- (iii) Designated Planning Agency will prepare a Master Plan which will comprise of:
 - a) Preparing Existing Land Use Map.
 - b) Defining manner in which land shall be used.
 - c) Allocation of land for different purposes.
 - d) Indicating/defining the existing/proposed road networks & other lines of communication.

- e) Defining Zoning Regulations to regulate built environment, open spaces and use of building/structure /land.
 - f) Indicating areas covered under heritage sites and manner of their protection/ preservation/conservation besides regulating and controlling the development of such sites.
 - g) Master Plan will include both maps and write up (report) essential to explain and illustrate the study, analysis and proposals of Master Plan.
- (iv) After the Master Plan is prepared and submitted, the State Government may ask the Planning Agency to make amendments, wherever required in the Master Plan.
 - (v) After approval of the Plan, the Existing Landuse Plan and Master Plan to be notified by the Designated Planning Agency under the direction of the State Government for calling public objections, within 30 days in writing on the Existing Landuse Plan and Master Plan.
 - (vi) Considering the objection received on the Landuse Plan/ Master Plan by the State Govt. and asking the designated Planning Agency to modify the Plan (u/s 70(4))
 - (vii) Designated Planning Agency to carry out amendments as ordained by the State Govt. and resubmit the Master Plan to the State Govt. for approval.
 - (viii) After amendment of the Master Plan and approval of the State Government, designated Planning Agency to publish the Master Plan within 30 days (u/s 70(5)).
 - (ix) Master Plan shall come into force from the date of publication (u/s 70 (5)).
 - (x) The Master Plan will be subject to revision after every 10 years of the operation of the Plan.

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

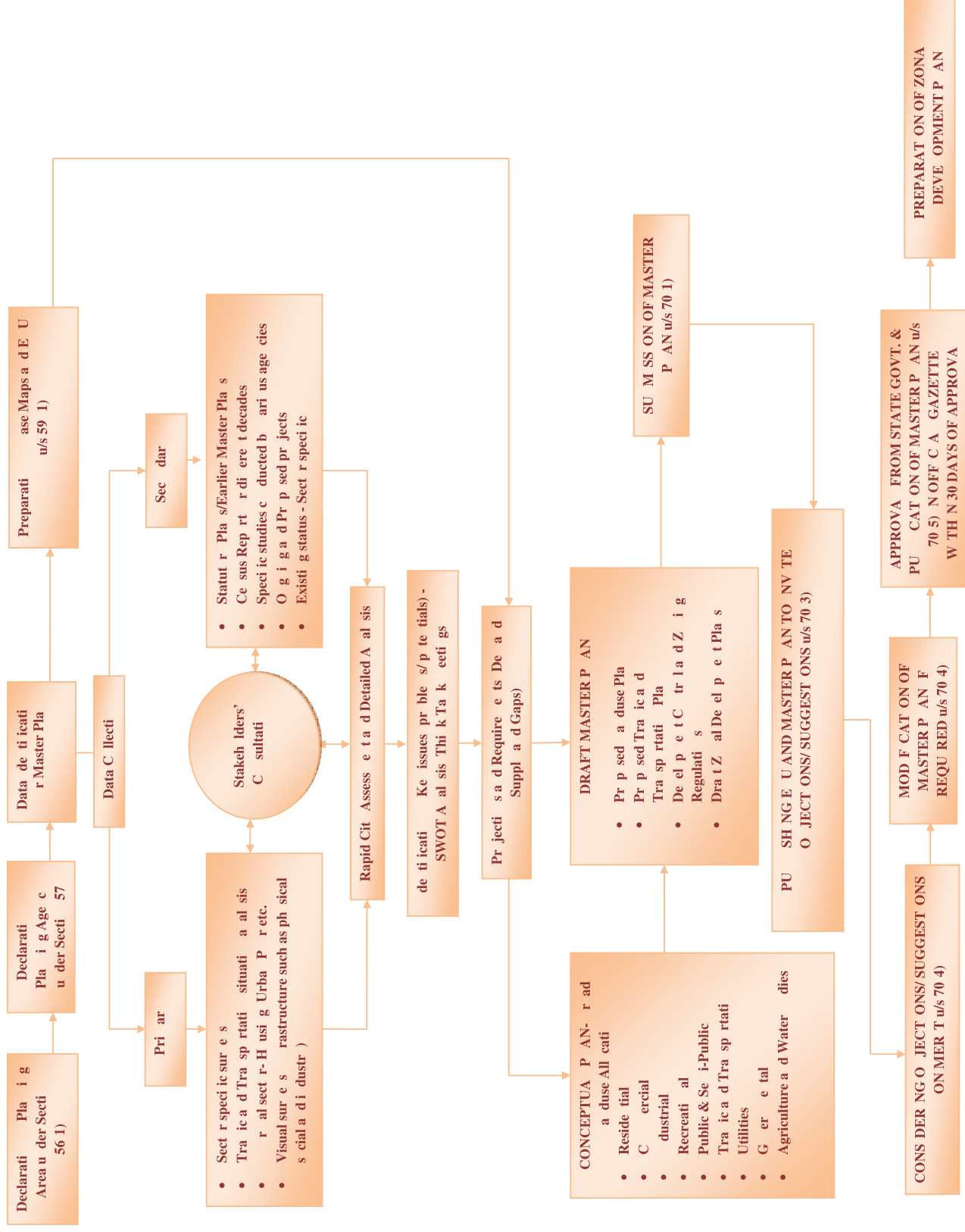
1.1.5 APPROACH TO THE MASTER PLAN

Approach to the preparation of Master Plan would involve outlining the critical issues of town development, undertaking a demand-supply gap analysis and formulating a management framework including outlining strategies and guidelines for future growth and development of Batala LPA. It will also include options for promoting rational development through the introduction of a regulatory mechanism including realistic planning and management interventions within the overall regulatory and institutional framework. A Development Implementation Action Plan comprising of implementation schedule, role of stakeholders, regulation and institutional strengthening mechanism will form integral form of the Master Plan. The Master Plan will take into account the current status of municipal

services - its fiscal status, operational and management procedures, besides putting in place effective monitoring mechanism.

The detailed methodology for the preparation of Master Plan of Batala LPA defining the collection of data, assessment of the town, preparing thematic maps, identifying gaps in service delivery and infrastructure network, identifying strengths, weaknesses, opportunities and threats, preparing Existing Landuse Plan, Development Plans, Zonal Development Plan, etc. has been defined below (refer Fig. 1):

Fig. 1: METHODOLOGY



116 METHODOLOGY FOR MASTER PLAN

The various stages of preparation of Master Plan include :

1. Identification of Local Planning Area as per the Government notification under PRTPD Act, 1995 (amended in 2006).
2. Preparation of Existing Land Use Plan.
 - *Using Satellite Imageries*
 - *Using available plans*
 - *Ground Surveys*
 - *Revenue Plans*
3. Assessment and analysis of Local Planning Area in terms of
 - *Regional Setting*
 - *Historical Evolution*
 - *Demographic Studies*
 - *Socio-Economic Studies*
 - *Physical and Social Infrastructure*
 - *Water Supply, Solid Waste Management, Power Electricity.*
 - *Educational, Medical, Recreational, Miscellaneous facilities.*
 - *Environmental Studies*
 - *Heritage and Tourism*
 - *Growth Pattern*
 - *Landuse Studies*
 - *Available studies and report*
 - *Ongoing and proposed projects*
4. Involving stakeholders (through GDs and personal interviews).
 - *Meeting with experts*
 - *Township Meetings*
 - *NGOs/ Private agencies.*
 - *Public representatives*
5. Gaps and Problem Identification through
 - *Comparison with available norms and standards*
 - *Identification of the critical problems*
 - *Identification of the infrastructure gaps*

6. Carrying out SWOT analysis based upon
 - *Studies made and analysis carried on.*
 - *City assessment*
 - *Stakeholders' perception*
 - *Identified Problems and gaps*
 - *Identifying major social and economic drivers*
7. Working out requirements
 - *Population projections*
 - *Norms and Standards.*
 - *Broad Land use requirements.*
 - *Demand and Supply gap (Infrastructure).*
8. Defining Conceptual Framework through
 - *Defining Vision for future growth and development*
 - *Identifying broad objectives*
 - *Laying down Mission Statements for critical areas*
9. Preparation of Concept Plan.
10. Evolving Proposed Land Use Plan and Traffic/ Transportation Plan along with Development Control Regulations (DCRs)
 - *Based on existing land use plan*
 - *Studies and assessment made*
 - *Gaps and problem identified*
 - *Stakeholders' perception*
 - *Objectives framed*
 - *Future population growth*
 - *Future infrastructure requirements*
 - *Available land for development*
11. Preparing Phasing and Investment Plan
12. Evolving Zonal plans based on Final Land Use

1.1.7 OCA PLANNING AREA

The Local Planning Area of Batala comprises of 78 villages and one urban settlement i.e. Batala Municipal Council. (M. Cl. includes area and population of 10 villages). Apart from these, 11 villages fall partially within the municipal limits. The Local Planning Area was notified under section u/s 56 (i) of the Punjab Regional and Town Planning and Development

Act, 1995 (amended 2006) vide notification number 12/5/2007-4HG1/7569, dated 18th September, 2007. The Chief Town Planner, Punjab has been designated as the Planning Agency u/s 57 of the Punjab Regional and Town Planning and Development Act, 1995 (amended 2006) vide notification number 12/5/2007-4HG1/7575, dated 18th September, 2007 (refer annexure II). The total area of Batala LPA is 16588 hectare, out of which 3276 hectares falls within the Municipal Council, Batala. The total population of Batala LPA is 230863 persons, out of which population of Batala Municipal Council is 1,25,677, while that of Batala Urban Agglomeration is 1,47,872. From hereafter, the population for Batala Municipal Council in report is taken as that mentioned for Batala Urban Agglomeration, i.e. 1,47,872, unless otherwise specified. The LPA list and notification is attached at Annexure I.

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

- Administrative/revenue boundaries of the villages/ urban centre.
- Geographical features of the area like distributaries of UBDC and other physical features like roads and railway lines.
- Present and future growth trends and distribution of the population.
- Preservation of historical and cultural heritage.
- Urban expansion trends and management of peripheral areas for ecological and environment balance.
- Dispersal of economic activities to alleviate pressure on Batala city and balanced development of the area.

It is observed that the Batala Local Planning area is 4.6% of the total area of district and constitutes 11% of the total district population (refer table 1).

Table 1: Area and Population of Batala LPA with respect to Gurdaspur District

S. No.	Settlement	Area (sq. km)	% Area w.r.t. District	Population (2001)	% Population w.r.t. District
1	Batala M. Cl.	32.7	0.92	147872	7.0
2	Village PA	133.12	3.74	82991	3.9
3	Total PA	165.88	4.66	230863	11.0
4	Gurdaspur district	3564	-	2104011	-

Source: Census of India, 2001

1.2 REGIONAL SETTING & LINKAGE

Batala LPA forms a part of Gurdaspur district, which is one of the four border districts of Punjab sharing border with Pakistan. The other three are namely Amritsar, Tarn Taran and Ferozepur. It is surrounded by Kathua district of Jammu & Kashmir in the north, Chamba

and Kangra districts of Himachal Pradesh in the north east, Hoshiarpur district in the south east, Kapurthala district in the south, Amritsar district in the south and south west, and Pakistan in its north west. The Chakki stream separates the Gurdaspur district from the Kangra district (Himachal Pradesh) on the east and the Bas River separates it from the Hoshiarpur district in the south east and Kapurthala district in the south. Gurdaspur district due to its alluvial soil gain revenue mostly because of agro based activities. A Portion of the district is also situated beyond the River Ravi.

Batala is one of the important industrial city of the Gurdaspur district. The city has very good linkages in terms of road and railway. It is situated on Amritsar Pathankot Road (NH 15). This road links the city to metropolis of Amritsar in south west direction, and Gurdaspur and Pathankot in north east direction (refer Fig. 2). Moreover, it is linked with Jalandhar on the south, Fatehgarh Churian on the west, Dera Baba Nanak in the north west, Gurdaspur on north east, Qadian on the east and Sri Hargobindpur on south at a distance of 75 km, 40 km, 64 km, 2 km, 9 km, 145 km, 29 km, 19 km, 20 km, and 2 km, respectively (refer table 2).

Table 2: Distance of Major Urban Settlements from Batala City

Major Towns/Cities	Distance (km)
Jalandhar	75
Amritsar	40
Pathankot	64
Gurdaspur	2
Dina Nagar	9
Chandigarh	145
Delhi	401

Source: District Gazetteer, Batala, 1992

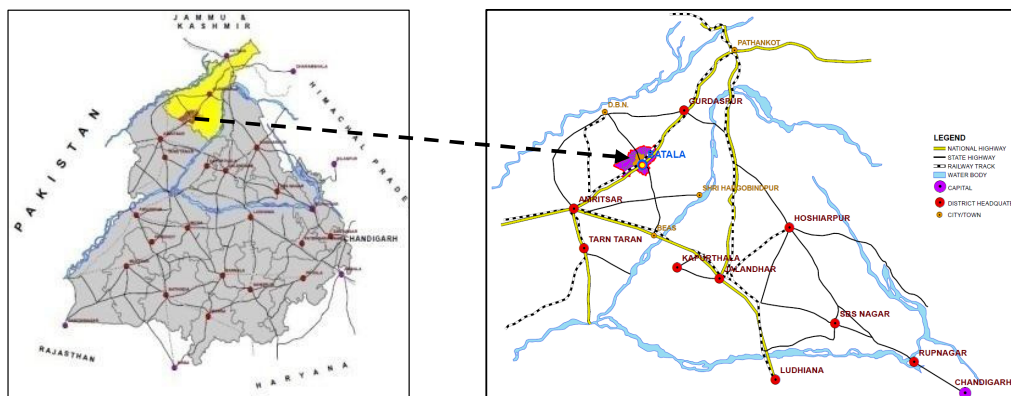


Fig. 2: Location of Batala in Punjab and its surrounding regions

1.3 PHYSIOGRAPHY AND CLIMATE

1.3.1 TOPOGRAPHY

Batala town is, in general, a flat fertile plain, with a local relief about two to six meters. From the human and economic point of view, this is the most important physiographic feature in the district. The Bas and the Ravi are the two main rivers of the district. The Bas

strikes the border of the Gurdaspur district at Mirthal, a place about 19.2 km south of Pathankot. The Chakki Khad is chief tributary of Beas in the Gurdaspur district. River Ravi with its southwest course forms the boundary between the Punjab and the Jammu and Kashmir State for about 40 km. There are local swampy depressions, which are known as Chhambs. The largest of these is the Kahnuwan Chhamb, which stretches along the Beas River in the Gurdaspur district.

Tributaries and Canals:

The Local Planning Area is well irrigated by distributaries, like Batala Distributary, Fateh Nangal Distributary and Aliwal Distributary, of the Upper Bari Doab Canal (UBDC) system of irrigation. The distributaries, which are passing through LPA, take care of the irrigation facilities of the area through many minors. Generally, water does not reach at the tail ends of minors as no distillation is done at proper interval of time. Hansali Nallah, the biggest water body of the LPA, passes through its middle. Another drain called as Bajuman Drain runs along the western boundary of the LPA and finally leaves the LPA from south after crossing Aliwal Distributary.

1.3.2 CLIMATE

(i) Seasons and their Durations:

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

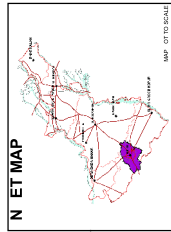
(ii) Temperature:

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

(iii) Rainfall:

The average annual rainfall in the district is 656 mm. The rainfall generally increases from the south-west towards the north-east. About 70% of the annual rainfall is received during

B A T A L A LOCAL PLANN NG AREA DRA NAGE NETWORK



- LEGEND**
- LOCAL PLA I GAREA BOU DAR
 - MU ICIPAL COU CIL BOU DAR
 - VILLAGE BOU DAR
 - MAJOR ROAD
 - OT ER ROAD
 - RAILWA TRACK
 - PO D WATER BOD

NOTE:
This drawing is based upon the Existing Land Use Map supplied by
DTP office, Gurdaspur Drawing a D.T.P. G)2 dated 3-2-

SCALE = : , 3



MAP No. 1

DEPARTMENT OF TOWN AND CO NTRY PLANN NG, P NJAB

CHIEF ENGINEER, P.N.J.A.B. DEPT. OF TOWN AND COUNTRY PLANNING, P.N.J.A.B.

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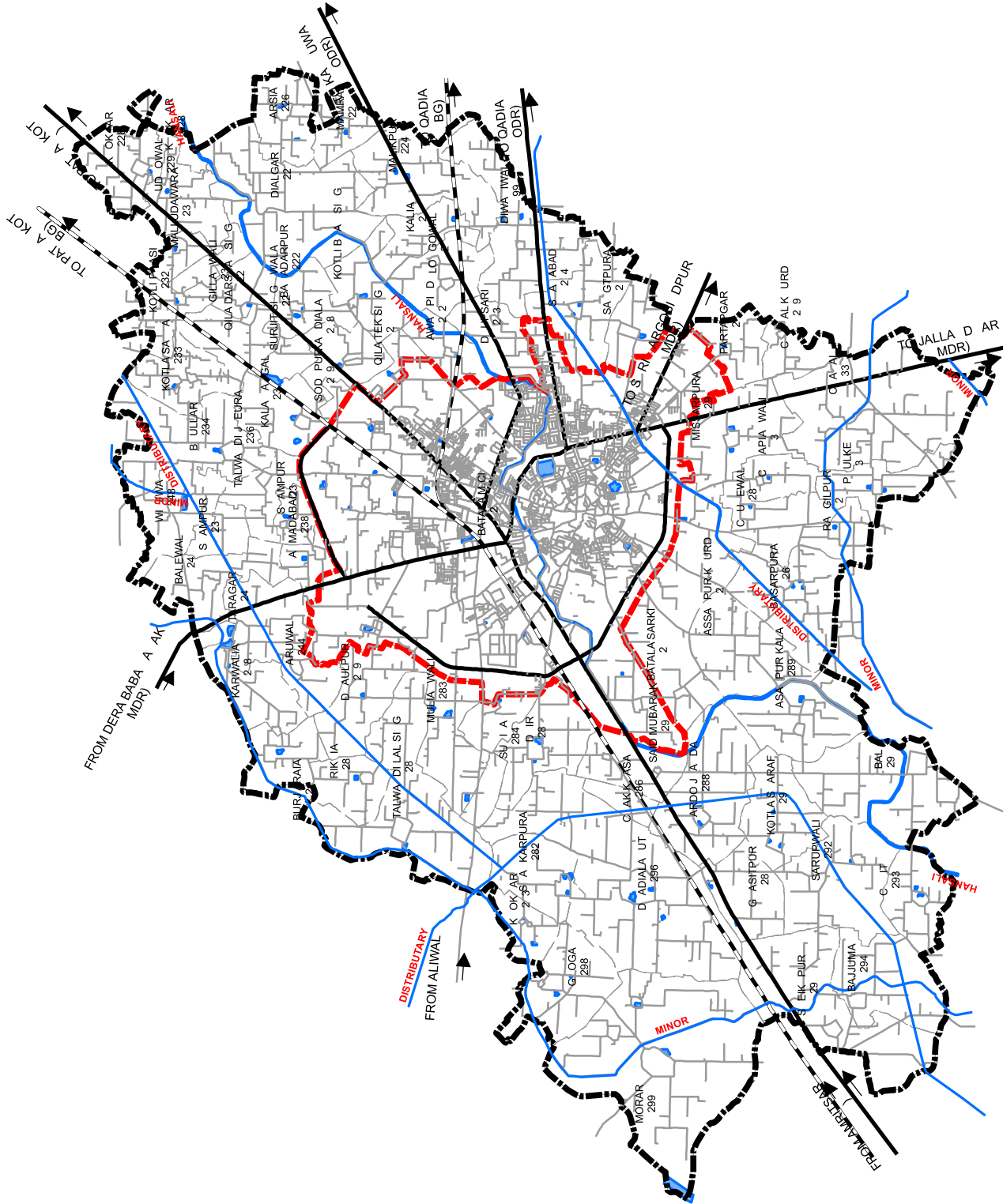
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the monsoon months, i.e. July to September, July being the wettest month. There is also some rainfall during the period from December to March in association with passing western disturbances, and this amounts to about 12% of the annual rainfall.

(iv) **Winds:**

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

1.4 HISTORICAL PERSPECTIVE

Historical Growth

There are two important versions of the establishment of the town. According to the Imperial Gazetteer of India of 1903, Ram Dero, a Bhatti Rajput founded Batala Town in 1645. So the town was called as Bhattiwala, which with the passage of time changed to Batala. Another version given in District Gazetteer of 1914, the town was to be located at a place different from its present location. But, as the location was not found suitable by the astrologers, the choice of the focal point for the town was exchanged with the present one. The word “*batta*” or “*vatta*” in Punjabi stands for exchange and so the town acquired the name of Batala.

Various factors are responsible for the development of Batala. The most important features that remain dominant are Gurudwara Achal Sahib and Kandh Sahib Gurudwara. Batala became the head quarter in 1955 that attracted lot of development and supporting infrastructure. The important Amritsar-Pathankot railway link was inaugurated in the year 1914. It was then that Batala was on the threshold to industrial expansion. With the passage of time, the town expanded into the great countryside and attained some industrial importance. The holocaust of the partition in 1947 caused a great damage to the expansion of the town. The foundry industry, which was totally in the hands of Muslim entrepreneurs, got completely paralyzed. Almost all the Muslims fled to Pakistan. To fill the vacuum many Hindus and Sikhs from the adjoining Shakargarh tehsils settled in the town and made efforts to revive the forsaken foundry industry (refer table 3).

Table 3: Major Events, Planning & Development in Batala

PERIOD	PLANNING AND DEVELOPMENT EVENTS
Time of Mahabharata	Achal Sahib came at a distance of 1 km south-east of Batala
Ram Dero	Took up the project of building Batala town in 1645
After the advent of Guru Nanak to Achal Sahib	- Built a huge Gurudwara near Achal Sahib - Built a holy tank having Shiva Temple amidst in front
During the time of Shamsher Khan	- Built a beautiful tank on the north-east of the town during the reign of Akbar, the Great in 25 Hijri or 1511 A.D. - Developed superb Gardens in the area called Anarkali

	Shamsher Khan Tomb was constructed near the tank after his death
During the reign of Mughal Emperor Aurangzeb	- Mirza Mohammad Khan designed and executed the construction of bazars and shops - Qazi Abdul Haq built the Jama Masjid - Amar Singh Quanungo developed gardens in the vicinity. - Acquired the status of learning and piety
Banda Singh Bahadur (Early 18 th century)	Demolished the important places of reverence and learning of Muslims
In the Middle of 18 th century	Baala was the scene of two warring Sikh f d rations of Ramgarhia Missal and Kanhaya Missal
Early 19 th century	- The balance of power shifted towards Kanhaya Missal - Sh r Singh, son of Maharaj Ranji Singh, developed his palace at Anarkali - Sh r Singh took the responsibility of constructing Gurudwara D r a Sahib - He also gave the present look of Kalidwara Mandir
1855	Gurdaspur was carved out as a district with Baala as one of its hsil
188	- The important Amritsar-Patna railway link was inaugurated. Baala came on the horizon of industrial expansion - The passage of time, own expanded countryside, attained industrial importance
1917	The partition caused heavy damage to the expansion of own. Foundry industry was completely paralyzed. Almost all the Muslims fled to Pakistan. Hindus and Sikhs from the adjoining Shakargarh hsil settled in the town and revived the forsaken foundry industry.
1956	- D r a Sahib and Kandh Sahib Gurudwara - Class I Municipality

Source: District Gazetteer, Gurdaspur 1992

The advancement of various development works in the city, the institutional sector also started contributing towards the growth of the town. The establishment of Baring Union Christian College in 1917, Government Polytechnic Institute in 1961 and DAV College for women in 1969 played a dominant role in the region. The details of institutional and planning milestones are given in the table below:

Table 4: Institutional and Planning Milestones in atala

PRE N EPEN ENCE PER O (e re 1947)		
ESTA	SHMENT YEAR	EVENT
	1857	T hsil Offic
	1861	Sadar Polic S a ion
	188	Municipal Commi
	191	Ci y Polic S a ion
	193	El c rifica ion
	19 1	Th Office of Mark Commi
	19 3	Offic of Insp c or C n ral Excis
	19	Baring Union Chris ian Coll g
POST N EPEN ENCE PER O (A ter 1947)		
	19 8	Dis ric Indus ri s Offic
	1952	Th Block D v lopm n & Panchaya Offic
	1956-57	Th Gov rnm n Quali y Mark ing C n r
	1958	Sub-Divisional Offic (S.D.O.)
	1958	Assis an R gis rar, Coop ra iv Soci i s
	1958	Block Educa ion Offic s I & II
	1958	Th Small Indus ri s S rvic Ins i u
	1960	Sarswa i Sang Sadan (Educa ion in Music)

1960	The Office of the Life Insurance Corporation
1973	First Draft Master Plan prepared for Batala
1960-61	State Excise & Taxation Office
1963	The National Metallurgical Laboratory
1964	Punjab State Electricity Board
1964	Government Polytechnic Institute
1965	DAV College for Women
1968	Labour- cum-Conciliation Office
1969	Class I Municipality
1970	The Food Corporation of India
1974	Improvement Trust Batala
1996	Urban Estate
2009	First ROB

Source: District Gazetteer, Gurdaspur 1992; Special Survey report on selected town Batala (Census of India 1971) and M.CI, Batala

Keeping in view the rapid growth of Batala city, Batala Improvement Trust was established in 1974 in order to check unplanned development. The Improvement Trust prepared first Development Scheme under Punjab Town Improvement Act, 1922. It was known as Dharampura scheme, which came up in 1974. Ultimately, nine Development Schemes were prepared comprising about 200.5 acres of land. But out of 9 schemes, only four are fully developed, two are partially developed and for three schemes, cases are pending in High Court. PUDA notified first Urban Estate in the year 1996 comprising an area of 64.14 acres. The private sector too has started contributing towards planned development of the city. At present, eight colonies approved under Punjab Apartment and Property Regulations Act, 1995 covering an area of 64.06 acres are existing. Out of 8 colonies, 7 falls fully under M. Cl. limit.

CHAPTER 2

DEMOGRAPHIC PROFILE AND ECONOMIC BASE

2.1 DEMOGRAPHIC CHARACTER

In Gurdaspur district, there are total 14 urban settlements. Out of these 14 urban settlements, ten have Municipal Councils, one is Nagar Panchayat and three are Census Towns. Pathankot and Batala are Class I towns, whereas Bharoli Kalan, Daulatpur and Jugial are Census Towns. The population of Batala city was recorded as 27.6% of the district Gurdaspur in the year 2001. It ranks second as compared to Pathankot, which has 31% urban population of the district Gurdaspur (refer table 5). It is observed from the table that Gurdaspur town has only 12% of urban population of the district. These three towns comprise 70% of the urban population of Gurdaspur district.

Table 5: Distribution of Urban Population in Major Urban Settlements Gurdaspur District

Settlement	Population	%age of District Urban Population
Gurdaspur District Urban	535,223	100%
Pathankot	168,485	31%
Batala	147,872	27.6%
Gurdaspur	68,441	12%

Source: Census of India, 2001

In order to determine the hierarchy of settlements, five broad categories are identified as given below in table. Batala M.CI falls in the highest category of population (having population more than 3600), followed by the two settlements namely Morar and Dhadianat in the population category of 2700-3600. Both the villages are located in a direction approaching towards Amritsar. These rural settlements have a potential to develop as important nodal points for the Batala LPA. Ten settlements fall in the category below of 1800-1700, thirty three settlements are within range of 900-1800 and rest twenty two settlements are below 900 (refer table 6). The rural settlements, which are in the highest category of population, mainly fall along Amritsar-Batala route.

Table 6: Population Hierarchy Settlements in Batala PA

Sr. No.	Population Group	No. of Settlements
1	Below 900	22
2	900-1800	
	1800-2700	10
4	2700- 600	2
	> 600	1

Source: Census of India 2001

2.1.1 POPULATION GROWTH

The total population of Batala LPA as per census 2001 is 2,30,863, which is about 11% of the Gurdaspur District. As discussed earlier, Batala is the only urban settlement in Batala LPA and ranks second in urban population of the Gurdaspur district. The population of Municipal Council, Batala and its outgrowth together is 1,47,872 persons as per 2001 census.

Table 7: Population Growth Rate Gurdaspur District and Batala PA

Settlement	1991	1991	2001	Decadal Growth Rate(%age)	
				1991	2001
Gurdaspur District					
Total	15,13,435	17,56,732	21,04,011	16.1	19.8
Urban	3,28,268	3,86,412	5,35,223	17.7	38.5
Rural	11,85,167	13,70,320	15,68,788	15.6	14.5
Batala PA					
Total	1,67,840	1,81,758	2,30,863	8.29	27.01
Urban	1,01,966	1,03,367	1,47,872	1.37	43.06
Rural	65,874	78,391	82,991	19	5.86

Source: Census of India 1991, 2001

The growth rate of Batala LPA has increased from 8.29% in 1991 to 27.01% in 2001, which is higher in comparison to that of the Gurdaspur district. Whereas the growth rate of both urban and rural population in Batala LPA is low as compared to Gurdaspur district (refer table 7), the growth rate of Batala M.C.I. drastically reduced from 33.89% in 1941 to 25.6 % in 1951 due to the partition of 1947. Further, it reduced to -8.15% during 1951-1961. From this, it can be analysed that the insecurity of partition was such that out migration process continued till 1961 and growth rate of the city became negative during 1951-1961. In contrary to this, the growth rate of Pathankot raised in decadal 1941-1951 to 162% and to 69% by 1961. This shows that Pathankot was the right to be more secured and population migrated from Batala to Pathankot. Due to favourable law and order condition, Batala registered a sharp decline in growth rate from 33.31% in 1981 to 1.37% in 1991. Population increased from 1,03,367 in 1991 to 1,47,872 in 2001 with growth rate of 43.06% (refer table 8).

Table 8: Comparative Population Growth Rate Batala and Pathankot M.C.I (1941-2001)

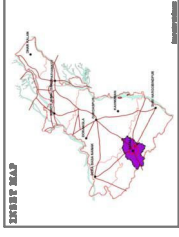
Settlement	Head	1941	1951	1961	1971	1991	1991	2001
Batala M.C.I	Population	44,458	55,850	51,300	76,488	1,01,966 (U. A.)	1,03,367 (U.A.)	1,47,872 (U.A.)
	Decadal Growth Rate (%age)	---	25.62	-8.15	49.10	33.31	1.37	43.06
Pathankot M.C.I	Population	12,334	32,415	54,810	78,192	1,10,039 (U.A.)	1,28,198 (U.A.)	1,68,485 (U.A.)
	Decadal Growth Rate (%age)	---	162.4	69.1	42.7	40.7	16.5	31.43

Source: Census of India 1991, 2001

BATA LA

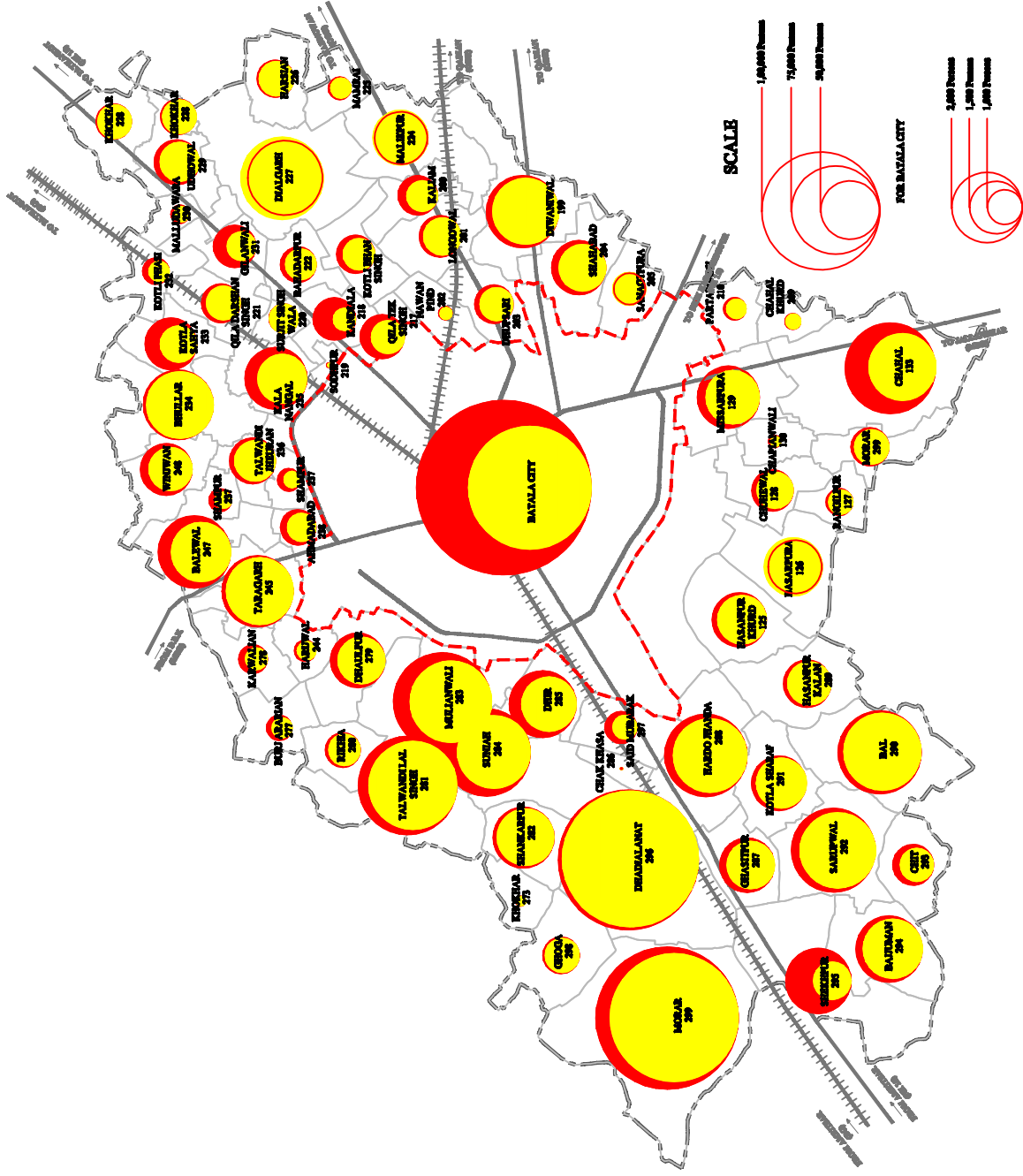
LOCAL PLANNING AREA

GROWTH OF POPULATION 1991-2001



LEGEND

- LOCAL PLANNING AREA BOUNDARY
- MUNICIPAL COUNCIL BOUNDARY
- VILLAGE BOUNDARY
- MADE ROAD
- RAILWAY TRACK
- 2001 POPULATION
- 1991 POPULATION



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SAI House, 2nd Floor, Corporate Square, B-14, Regd. Office, Boudhary, Ambedkar - 381004
E-Mail: sai@saiconsulting.com, Web: www.saiconsulting.com

In case of rural settlements, population growth rate was 19% during 1981-1991, which decreased to 5.86% in 2001. This was the result of migration of rural population to M.C.I. Batala (refer table 7). The population growth of all the rural settlements remained almost same except villages Shikhpur, Chahal and Kandala having population increase of more than 500 persons during 1991-2001.

2.1.2 POPULATION DENSITY

As per the Census 2001, the population density of Batala PA was 1392 persons per sq. km. Urban settlements shown high growth rate and population density as compared to rural settlements. The Population Density for Batala M.C.I. decreased from 11,813 persons per sq. km. to 4514 persons per sq. km. from 1991 to 2001. This is due to the drastic expansion of the Municipal Council limit from 8.75 sq. km. to 32.76 sq. km. in the year 2005 (refer table 9). In case of PA villages, density increased from 499 persons per sq. km. in 1991 to 623 persons per sq. km. in 2001.

Table 9: Population density in Batala PA

Settlement	Population		Area (sq. km.)		Density (Persons/sq. km.)	
	1991	2001	1991	2001*	1991	2001
PA	1,81,758	2,30,863	165.88	165.88	1,096	1,392
Batala (M.C.I.)	1,03,367	1,47,872	8.75	32.76	11,813	4,514
Villages of PA	78,391	82,991	157.13	133.12	499	623

Source: Census of India, 2001

*Figures represent Ar for 2001 were taken from Existing andus prepared by PRSC.

2.1.3 SEX RATIO

According to Census 1991, sex ratio in Batala PA was 885 females out of 1000 males, which improved to 894 in 2001. In case of Batala city, sex ratio declined from 893 to 890 and that of villages of PA has increased from 875 in 1991 to 900 in 2001. This shows that sex ratio in rural areas is better than that in city (refer Fig. 3).

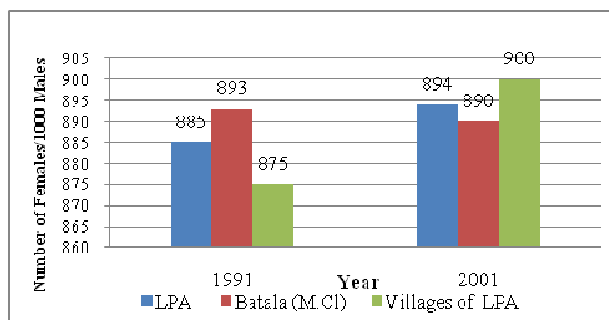


Fig 3: Sex Ratio in Batala PA

2.1.4 LITERACY RATE

Fig. 4 reveals that the literacy rate in general has increased throughout the Batala LPA. The literacy rate in 1991 was 50.9%, which increased to 66.3% in 2001. The literacy rate of Batala M.C. also showed an increase from 57.80% in 1991 to 71.60% in 2001. On the other

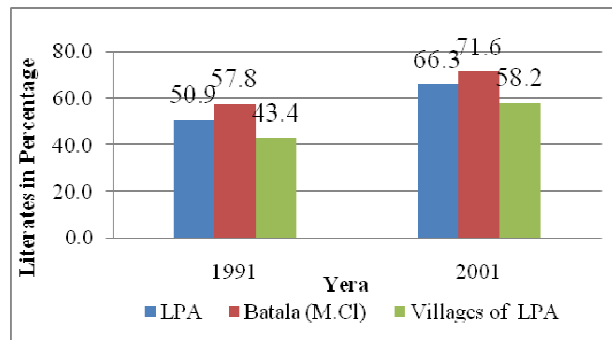


Fig 4: Literacy Rate in Batala PA

hand, the literacy rate in villages of LPA, which was 43.4% in 1991, increased to 58.26% in 2001. This shows that literacy rate has increased in whole of LPA but the increase is more in case of Batala M.C.I than that of LPA Villages. (refer Fig. 4)

2.1.5 SC POPULATION

As per census 2001, share of SC population in villages of LPA (28.27%) is higher as compared to that of Batala Municipal Council (23.70%). The total SC population in Batala LPA is 58,568 persons, which constitutes 25.33% of the total population in 2001 (refer table 10). The percentage of SC population in Batala city is more than that of villages.

Table 10: SC Population in Batala PA, 2001

Settlement	SC Population	% of Total Population
Total LPA	58,568	25.33%
Batala (M.C.I)	35,072	23.70%
Villages of LPA	23,496	28.27%

Source: Census of India 1991, 2001

2.2 ECONOMIC EMPLOYMENT

2.2.1 WORK FORCE PARTICIPATION

It is observed from the table below that the ratio of work force participation in 2001 in LPA of Batala is 31.2%, which is less than that of Gurdaspur district (33.3%) and that of Punjab (37.5%). This indicates heavy pressure on workforce as well as economy. In case of Batala M.C.I., unemployment rate is a little higher of non-workers i.e. from 72.3% in 1991 to 69.6% in 2001 (refer table 11).

Table 11: Male Workers and Non-Workers in Batala PA

Settlement	Year	Total Population	Total Workers (% of Total Population)	Non-Workers (% of Total Population)	Male Workers (% of Total Workers)	Male Non-Workers (% of Total Workers)
Batala M.C.I	1991	1,03,367	28,616 (27.7)	74,749 (72.3)	28,614 (99.9)	2 (0.1)

	2001	1,25,677	38,147 (30.4)	87,530 (69.6)	35,058 (91.9)	3089 (8.1)
Villages PA	2001	82,990	26,874 (32.4)	56,116 (67.6)	22,184 (82.54)	4690 (17.45)
Total PA	2001	2,08,667	65,021 (31.2)	1,43,646 (68.8)	57,242 (88.03)	777 (11.6)

Source: Census of India, 2001

2.2.2 OCCUPATIONAL STRUCTURE

Occupational structure helps to determine the economic status of city. The four categories of main workers include: i) Cultivators, ii) Agricultural Labourers, iii) Household Workers, and iv) Other Workers. Looking at the work force participation ratio in atala LPA, it is observed that within M.Cl., the share of other workers is dominant (refer table 12). atala is a major industrial city, hence share in service sector is on a higher side.

Table 12: Trend & Occupational structure atala, PA

Settlements	Year	Total Workers	Cultivators %	Agricultural labourers %	Household Workers %	Other workers %
atala M.Cl.	2001	38147	468 (1.22 %)	728 (1.90)	1572 (4.12)	3537 (9.27)
	2011	28616	2051 (7.16)	1656 (5.78)	234 (.81)	24673 (86.22)
Villages of LPA	2001	26874	6730 (25.04 %)	4386 (16.32)	1206 (4.48)	14552 (54.18)
Total LPA	2001	65021	718 (11.07 %)	5114 (7.86)	2778 (4.27)	44011 (67.79)

Source: Census of India, 2001

The percentage of cultivators and agricultural labourer is much lower indicating increasing urbanization trend.

Table 13: Category wise Occupational structure atala City (2001)

Classification	Code	Type of Worker	2001	
			No. of Workers	%age
1	A & B	Cultivators	460	1.31
2		Agricultural labourers	577	1.65
3		Plantation, livestock, Forestry, Fishing, Hunting and Allied activities	170	0.48
4	C	Mining and Quarrying	34	0.10
5 (a)		Manufacturing, Processing and Refining Industry (Household Industry)	145	4.16
5 (b)		Manufacturing, Processing and Refining Industry (Non-Household)	6607	18.85
	E	Electricity, Gas and Water supply	462	1.32
6	F	Construction	2303	6.57
7	G	Wholesale and Retail trade	10054	28.68
	H	Hotels and Restaurants	662	1.8
8	I	Transport, Storage and Communication	3155	9.00
9	J & K	Financial Intermediation; Real Estate and Business Activities	1853	5.2
	L	Public Administration and Others	7261	20.71
Total			35058	100.00

Source: Census of India, 1991 and 2001

In 2001, out of total workers of atala City, a major share goes to Wholesale and Retail Trade, which is about 28.68%. It is followed by Manufacturing, Processing and Repair

Industry (including both Household and Non Household Industry) i.e. 23.01%, mainly falling in non-household sector (refer table 13).

Warehousing & Wholesale Trade

As far as this economic activity is concerned, it has been found that the wholesale trade is concentrated in Batala city. Besides the wholesale market of agricultural produce, the city serves as the regional centre for bulk material market. As per data of 2001 census, as many as 10,054 workers are engaged in Wholesale and Retail Trade, accounting for 28.68% of total workers. This is the highest employment provider sector. The economic base of the city is mainly dependent on this sector. The main wholesale trades are of grain and vegetable, bulk material, etc.

Manufacturing Industry

Batala is known as an industrial city having large number of industries. In Batala city, high percentage of workers are engaged in industrial activities. As per Census data of 2001, about 8066 workers were engaged in industrial sector, which is 23.01% of total workers. The household industries have a share of 4.16% only. Workers engaged in other type of industries have a major share, i.e. 18.85%.

Tourism and Hospitality

The Batala Local Planning Area is rich in its cultural and religious heritage. There are many historical and religious sites in the LPA (refer Heritage and Tourism section), which have yet to be explored. There is lack of tourist related infrastructure in the LPA, because of which the share of hotels and restaurants is only 1.89%.

Finance, Insurance and Banking

In Finance, Insurance and Banking sector, most of the facilities are located in the city area. In Batala city, there are 40 banks and two Life Insurance companies. In addition to this, two banks are located in the villages of LPA, namely Diyalgarh and Ghaseetpura. According to Census 2001, 1853 workers are engaged in finance sector, which makes 5.29% of the total workers of the city.

Emerging Economic Drivers

Various economic drivers have been identified within Batala LPA, which are going to influence development of Batala city and LPA. The LPA, which comprises of rich fertile land, gives boost to the economic development of this area. Further, the belt known as 'Riarki' produces quality sugarcane, which is inductive for establishing the sugar industry.

The Batala Cooperative Sugar Mills Ltd. was established in 1956 to help the farmers of sugarcane.

During recent years, there is a boom in real estate activities. This boom prolonged an important role in economic and physical growth of Batala. Recently residential colonies, mostly between Kahnuwan and Qadian Roads, are providing great impetus to the physical growth of the city. For example, Kahnuwan Road witnesses colonies like Basant Vihar, Uttam Nagar and Modern Estate, whereas Qadian Road has White Avenue, Sant Rasila Avenue and Green City along it. Urban Estate, which too is on Qadian Road, is registering development of other colonies like New Greater Kailash around it. Pathankot Road too has Usmanpur City on it, which is working as a catalyst for further development on this stretch. Another important colony is Sun City Enclave on Sangatpura Road. These new residential colonies are contributing a lot towards economic development of city. New commercial establishments have been coming up like Vishal Mega Mart and other malls. The development in residential and commercial sectors will also increase share of construction activities and manufacturing of gates, grills and other parts used in building activity.

Batala is known as an Industrial city. The major industries are forging units. The availability of good earth, which is conducive for pattern making, has developed the forging industry. Although number of units have decreased to some extent from 2004 to 2008 (refer table 15), but investment and production has increased in these years. This shows that if some incentives are given to these industries, the economic base of Batala LPA can be strengthened.

2.2.3 DEPENDENCY RATIO

Dependency ratio refers to the number of non-workers dependent upon workers. Batala Urban Agglomeration (City) has a higher dependency ratio than that of district and the state.

The dependency ratio in case of other villages of the LPA is 209, while the overall LPA has the dependency ratio of 221, which is again higher than the state of Punjab as well as Gurdaspur district (refer table 14).

Table 14: Dependency Ratio in Batala PA and Gurdaspur District

Settlement	Dependency Ratio (per 100 workers)
Punjab	167
Gurdaspur district	211
Batala (M. Cl.)	229
Village of LPA	209
Total LPA	221

Source: Census of India, 2011 and computed values

2.2.4 INDUSTRIES

Batala is considered as an industrially dominated city. It is known for its machinery, manufacturing agricultural implements and machine tools all over India. The origin of Batala cluster can be traced back to the 19th century. In fact, the birth of Batala cluster is also the birth of Indian Machine Tools Industries. Batala cluster enjoys a unique position in India's Machine Tool Industries as it specialises in manufacturing large machines that are not being manufactured at the competing clusters i.e. Rajkot and Bangalore.

INDUSTRIAL GROWTH

The Casting Iron (CI) Industry is an important industry in Batala. Growth of this industry is studied in terms of number of units, employment status and the investment scenario. Within Batala city, majority of industries are of small scale, mainly in Casting Iron (CI) Industries. The number of casting iron units decreased from 2,149 in 2004 to 1,671 in 2008, thus showing a negative growth rate of -22% (refer table 15). The main reason for this is the high prices of raw iron material causing many industries to shut down due to very low profit during the past few years. When Freight Equalisation Policy was introduced in 1990 by the government, the price of raw iron, which was imported in many mills and factories in Batala, have gone up. Big mills and business did survive in the decade but many small business units shut down completely and shifted to other businesses.

Table 15: Yearly registration of CII industries in Batala (2004-2008)

Year	No. of Small Scale Industries			Percentage growth with SS I industries
	Urban	Rural	Total	
2004	1665	484	2149	-
2005	1	44	2150	0.01
2006	1	44	2150	0
2007	1413	477	1990	-12
2008	120	45	171	-22

Source: DIC Batala, 2009

In case of large scale industries, Gurdaspur district has 19 industries. Most of these large scale industries are located in Batala only. Majority of these large scale industries are of engineering nature, which are discussed below:

Engineering Industry: - In the large scale sector, it is the most important industry of the Gurdaspur district, being localised in and around Batala city. It was established long before the partition. In private sector, a large scale Beco Engineering Company Ltd. (formerly the Batala Engineering Company Ltd., and now popularly known as 'BECO') was established in 1933. This unit manufactures machine tools and agricultural implements, and is also running steel rolling mills. These products are supplied to the various parts of the country.

Sugar Industry:- This is one of the most important rural industries of district. The Batala Co-operative Sugar Mill Ltd. was established in 1956 to help the sugarcane product. This is only unit of its kind in the district in the large scale sector. The raw material i.e. sugarcane, is produced by farmers of the Batala and Amritsar districts. The farmers are provided with many facilities to ensure regular production of cane to meet the requirements of the mill. The mill crushes about 800 to 1,000 tons of cane daily during the crushing season, which lasts for three to four months. The sugar produced is stored in the mill's godowns.

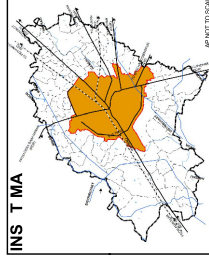
Industries are mostly located in south-eastern direction of the city and mostly the area covered is along NH 15. An Industrial Focal Point and an Industrial Estate too have come up between Aliwal Road and Amritsar-Pathankot Railway Line. Apart from these, industries have developed along all major roads too. If analysed with respect to wind direction which is NW to SE, the industries located are mostly in non-favourable direction. As per the norms, the industrial zone should be in the south eastern direction. Further, industrial units have come up in a haphazard manner. Proper industrial zone, covering all supporting activities, must be provided for the industrial city of Batala.

As far as existing situation is concerned, the different nature of industries along different roads of the city is detailed out in table 16:

Table 16: Major Industrial Areas in Batala City

Industrial Area	Types Industry
Focal Point	Machine Tools, C.I. Casting, Cotton Spinning, Flour & Oil Mills, Plywood, Plastic, Electric Motor Body, Rice Shelling, Net Bullets.
Industrial Estate	Machine Tools, C.I. Casting, Cotton Spinning, Flour & Oil Mills, BIS units, Other Food Products.
Dra Baba Nanak Road	Machine Tools, C.I. Casting, Repair 2/3 wheelers, Rice Shelling, Chemical Products
Amritsar-Pathankot National Highway	Machine Tools, C.I. Casting, Rice Shelling, Cold Storage, Other Food Products, Leather Products, Flour & Oil Mills.
NH Road Simla	Bicycle & Cycle, Lath all types, Drilling Machines, Repairs & Maintenance, Sooters
Guru Nanak Market, Jalandhar Road	Lath all types, Lath Machine, Job Work of Boring, Drill Machine
Jalandhar Road	Machine Tools (Lath), Sooter, Manufacturing, Battery Charging Service
Kahnuwan Road	Lath Machine Products, Lath all types, Copper Wire
Lak Wala Talab	Peti, Saria Sal and Repair, Wooden Pawas

Source: District Industries Centre, Batala



L G ND

- UNICIPAL COUNCIL BOUNDARY

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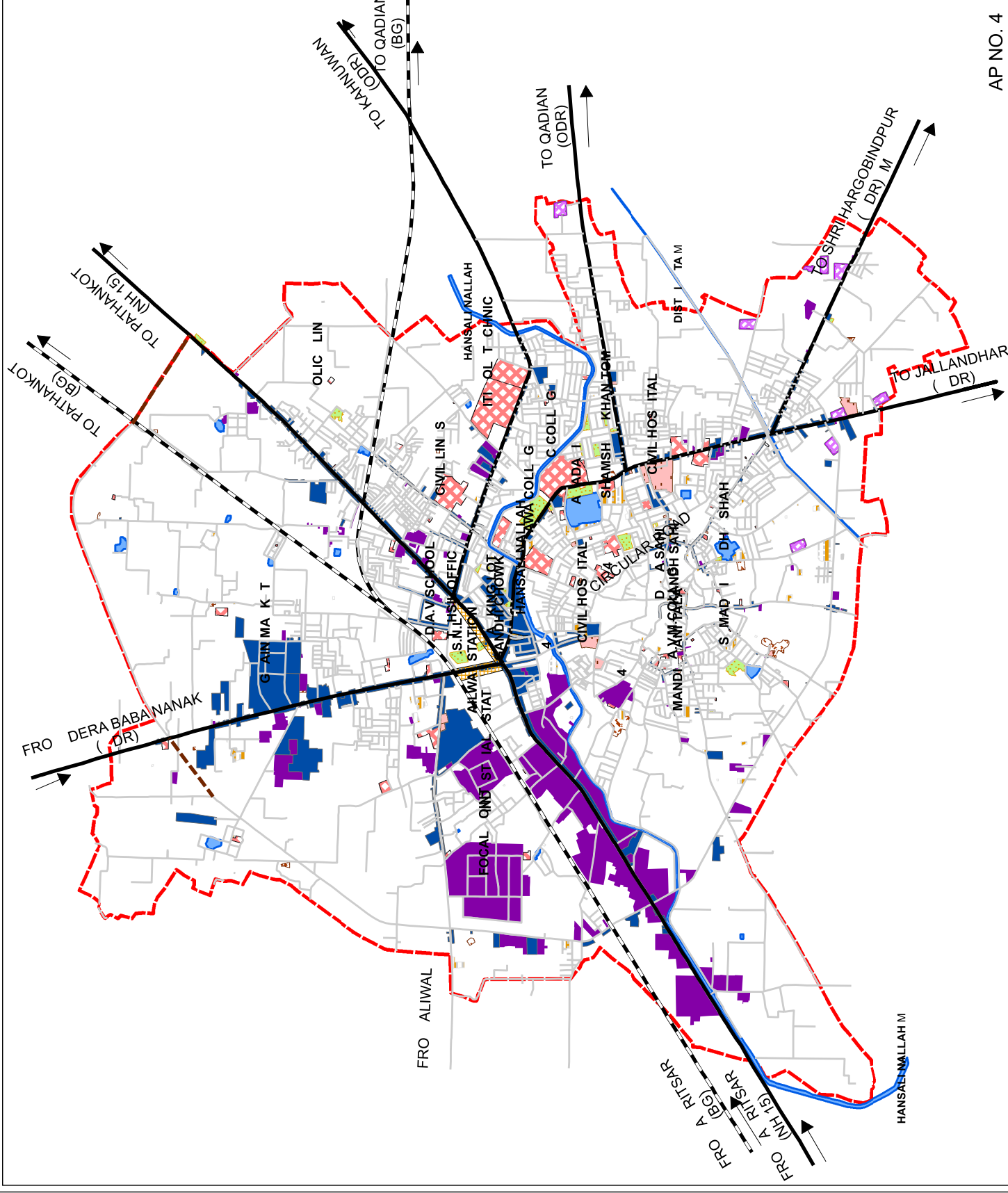
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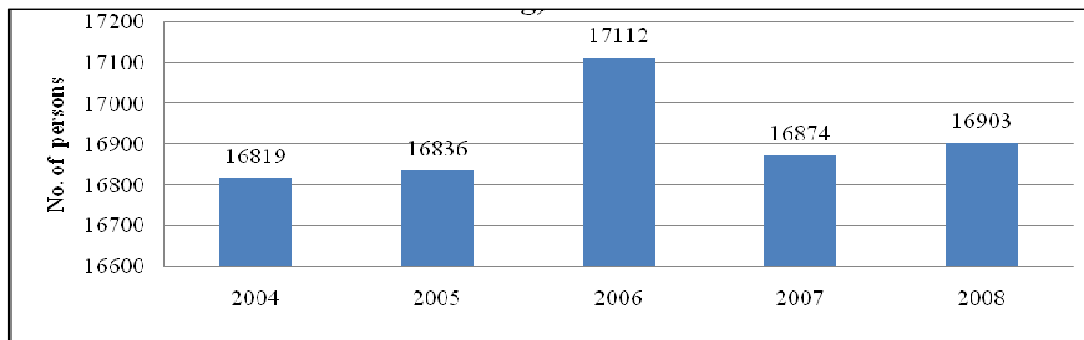
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PHONE : +91 79 6514 2600, 6614 2700, Fax : +91 79 6514 2000.
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Industrial Employment

As analyzed in the industrial growth pattern, the industrial economy of Batala city is based on the small and large scale industries. The negative industrial growth has direct impact on the total employment generated in the industrial sector. The trend of employment has been analysed for the previous five years. It has been analysed that during the year 2005 and 2007, the number of registered workers decreased from its previous year. As a result, a

Fig. 5: Yearwise Employment in CI Industries Sector in Batala (2004-2008)



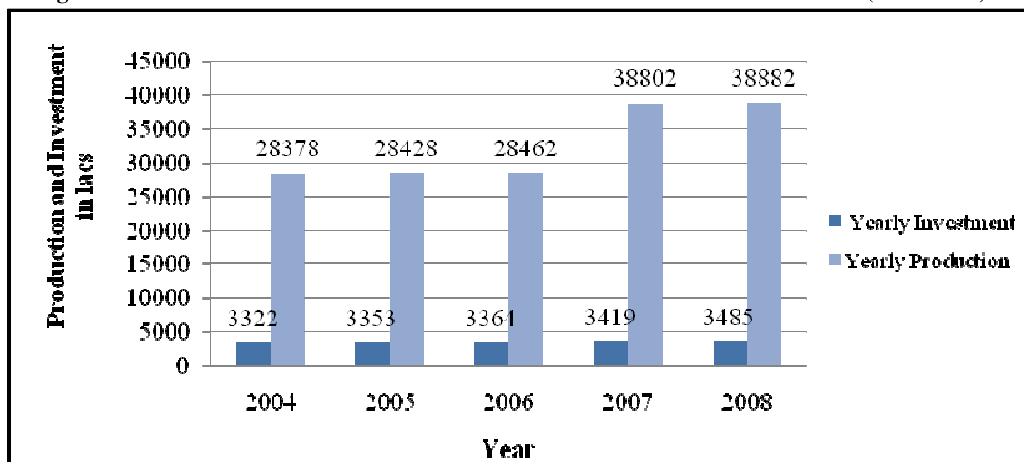
Source: District Industries Centre, Batala

comprehensive integrated industrial area along with proper strategies is considered as an urgent requirement (refer Fig. 5).

Investment and Production

Keeping in view the positive contribution made by small scale industrial units in the employment generation, the similar contribution has been made in investment and production. The total investment raised from 33.22 lakhs in 2004 to 34.85 lakhs in 2008. Ultimately, it is reflected in production which increased from 283.78 lakhs in 2004 to 388.82 lakhs in 2008 (refer Fig. 6).

Fig. 6: Trend of Investment and Production in the CI Industrial Units in Batala (2004-2008)



Industrial Estate Bata

The scheme for the establishment of Industrial Estate to provide sheds for factories was started in the State in 1959. The Industrial Department, Punjab, has set up four industrial estates in the Gurdaspur district at Bata, Soha, Ghuman and Fattehgarh Churian, besides an urban industrial estate at Bata.

The **Industrial Estate, Bata** is located near the railway station. The total area of Industrial Estate is 23.14 acres (refer table 17). The Industrial Estate at Bata with 50 sheds, was set up during 1963-64. The main industrial activities in these sheds are machine tools, sheds furniture and water pumps and other agricultural implements. Besides Industrial Estate, an **Industrial Focal Point** is also located in Bata. The total area of Industrial Focal Point is 104 acres and it contains 142 plots.

Table 17: Detailed Industrial Estate, Bata

	Plots	Roads	Electricity	Water supply	Waste treatment	Total
Area (in Acres)	17.25	3.30	1.70	0.60	0.29	23.14
Area (in %age)	74.5	14.3	7.3	2.6	1.3	100

Source: DIC, Bata

As per ILFS report, out of 50 plots in Industrial Estate and 142 plots of Industrial Focal Point, 40 units of Industrial Estate and 14 units of Focal Points are operational. 10 plots of Industrial Estate and 127 plots of Industrial Focal Points are not yet developed. The Industrial Estate lacks the provision of storm water drainage network that leads to water logging accumulated in the area, specially in rainy season, thus causing damage to roads. This leads to more expenditure on roads. There is need to provide proper storm water drainage network to ensure proper traffic flow. The system of disposal of sewage waste is inadequate and thus needs a strategy for its proper development.

Industry in PA villages

Within LPA villages, small-scale units and one large-scale unit provides employment to the population. There are 209 small-scale industrial units and 1 large-scale industrial unit that provides employment to the residing population. The large-scale industry is Sugar Mills located in Kandiana Village. It has forward and backward linkages with the agricultural crops of the LPA.

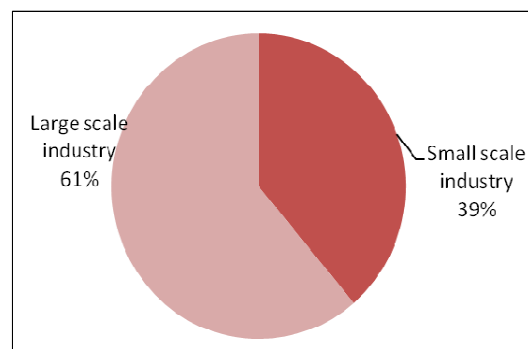


Fig 7: Industries in Emlyet PA Villages

Employment in Industries in PA Villages

Within LPA villages, only small-scale industries provide employment to the population. 209 small-scale industrial units in Batala LPA are providing employment to 495 persons and 1 large-scale unit is providing employment to 780 persons. As a result, if the present employment ratio is seen, it is 1:780 in large-scale industries and approximately 1:2.5 in small scale. Thus, employment generation ratio of large-scale industries is much higher than that of small-scale industries.

Out of total industrial employment of 1275 persons, large-scale industry has share of 61% followed by small-scale industry with 39% (refer Fig.7). There is no Khadi village industry existing in LPA villages therefore no employment exists in this sector.

2.3 TRADE AND COMMERCE

In Batala LPA, agriculture is the mainstay of the people and the majority of the population depends directly or indirectly on it for livelihood. Batala is primarily a trade centre for the region's agricultural products, wheat, corn (maize), rice and other crops are grown in the surrounding area. Handloom weaving is one of the important household industries. Paddy is the bumper crop of the whole district and is produced on commercial scale. The major items of exports from the district are industrial mechanic goods (chiefly machine tools and agricultural implements), paddy and timber.

2.3.1 COMMERCIAL AREAS OF CITY

The main areas in Batala city, which are known for their commercial character, are Bada Bazar, Chakari Bazar, Leak Wala Tank, Nehru Gate, City Road, Samadh Road, Cinema Road, NH 15. The city deals mostly in retail and market areas.

Table 18: Commercial Areas in Batala City

S. No.	Commercial Area/ Stretch	Area/ Stretch Length	Type of Goods available
1	Chakri Bazar	400 m	Retail of all kind of mkt. goods
2	Leak Wala Tank	25.35 acres	Fruits, vegetables
3	Bada Bazar	450 m	Retail of all kind of mkt. goods
4	Nehru Gate	250 m	Retail of all kind of mkt. goods
5	City Road	400 m	Wooden, Iron, Cloth, Retail of all kind of mkt. goods
6	Shastri Nagar market	-	Retail of all kind of mkt. goods

Source: Primary Survey, SAI Team, August 2009

These commercial areas are along the roads that are generally of 7 to 12 m width. Even though retail shopping exists in the city, but still the roads are encroached upon by commercial expansions and the traffic generation is bad (refer Table 18). For example, City Road is encroached on both sides by about 3m (refer Fig.8).



Fig. 8: Commercial Area - City Road Batala, Batala

2.3.2 INFORMAL SECTOR

Mushrooming of informal sector is not an exception for Batala city. In addition to these traditional markets, city also has informal market. As per reconnaissance survey and the Municipal Council of Batala, there are about 400 rehri in the city. The informal sector is along Leak Wala Tank Market, Gandhi Chowk, Qadian Road and near Bus Stand. These daily markets become an area of concern for future growth of the city. These informal markets in majority deal with fruits and vegetables. All along inner city roads ROW has been encroached by this sector.

Most of the markets have been located near traffic nodes like Bus Stand in the surroundings and offices like M.C.I., District Courts etc. There is no proper space allocated for these markets. Most of the market is of temporary nature.

2.3.3 MARKET COMMITTEE

To save the cultivator from the evils of unhealthy market practices and to ensure a fair price for his produce, the State Government passed “The Punjab Agricultural Produce Markets Act” in 1939. The Act provides for the regulation of markets through market committees that represent growers, commission agents and traders, local bodies and the State Government.

The market committees standardize various market practices, charges and enforce the use of standard weights, thus ensuring a fair deal to the cultivators. The Market Committee/Mandi Board also takes care of the work of construction, maintenance and upgradation of all village link roads. The regulated markets play an important role in helping the sale of commodities at the most fair and reasonable prices. There are six regulated markets in the district at Gurdaspur, Batala, Dinanagar, Pathankot, Dhariwal and Qadian.

In Batala city there exists only one market committee. The main commodities for which transaction takes place in the Batala city are Paddy, wheat, *gurl/shakkar*, maize and gram. The

hierarchies of distribution/collection centre do exist as the one principal yard, that exists in Batala, is supported by two sub-yard and five purchasing centres.

Grai Market Batala

Grain market covering an area of 64.2 acres exists along Dera Baba Nanak Road and in the north direction of the city. Out of which saleable area comprise of 35%. The components of Grain market include shops, shops cum flats, semi industries booth, vegetable, fruit shops and godowns with few residences in between. The influence area of grain market extends up to 7-8kms. In every Mandi, the season of wheat and paddy is the Peak period for Grain market. In Batala Mandi, on an average 90-100 trolleys come at peak season.



Fig. 9: Grai Market, Batala

Key Issues Ec omy Sect r

- 1) Many industries of the LPA region have closed down in past years owing to reasons like low demand, high cost of production, irregular power supply, non-confirmation of environmental standards, etc.
- 2) Many industries of the city are very old and lie within the city. The pollution caused by them has become menace for the citizens, but still they are running.
- 3) The markets of the walled city are very dense areas. The movement in these areas has been hampered because of the narrow streets and the encroachments. This has affected the trade of the markets and thus their existence.
- 4) Though the water and fertilizer consumption for the farming practices in Punjab in general is high (which in turn gives high production), this has seriously depleted the ground water level and deteriorated the soil quality. This in long term can cause a serious problem for crop production in the LPA villages.

2.4 HERITAGE AND TOURISM

Punjab being famous as ‘the Granary of India’ is also a famous tourist hub. Besides having one of the world’s famous religious site of Golden Temple, it also has many historical, religious, cultural, architectural, archeological and ecological spots, which make it a great asset for the tourism promotion. Tourism plays vital role in the city and its upgradation.

While preparing the Master Plan, the city has required to be identified and the important must be explored to boost the cultural heritage / tourism and the economy of the city. Tourism aspect in the Master Plan is studied with respect to tourist spots, locations, their importance, nature, potential, tourism infrastructure (accommodation, transportation etc.) and related issues.

Batala city has seen its growth and development with respect to religious spots like around Kandh Sahib Gurudwara and Dera Sahib Gurudwara. These spots have contributed a lot to the growth of city economy. For example, functions like “Bab Da Viah”, which is the Marriage Day Celebration of Guru Nanak Dev, attract pilgrims and tourists regionally and nationally.

Recently Punjab Govt. in the “Punjab Tourism Policy 2003” has made four tourist circuits and Gurdaspur district is included in one of the circuits. In this circuit,



Fig. 10: Tourist Circuit Gurdaspur and Amritsar districts

the area covered around Amritsar, Dera Baba Nanak, Kalanaur, Qadian, Gurdaspur and Pathankot. Though Batala is not covered in this circuit, but two sites, which have been proposed by SI, along with many places of historical and religious importance located in the LP can be formed part of this circuit (refer Fig.10).

2.4.1 Cultural, Historical and Natural Resources in Batala city and its surroundings

Gurudwara Kandh Sahib and Dera Sahib – Both of the Gurudwaras are situated in the middle of Batala city. The Kandh Sahib Gurudwara was built in 1956. The most visible object of the Gurudwara is the old wall measuring 180 cm x 150 cm x 60 cm. encased in a glass almirah. Batala does not only have the pride of being the land of parsons in law of Guru Nanak Dev, but it is also the land which gave Guru Har Rai Sahib, the son of Tika Gurdiya, the 10th son of Guru Hargobind Sahib, the Sixth Guru. The most important celebration in this Gurudwara is “Bab Da Viah”, which is explained in the fairs and festivals section. The Dera Sahib Gurudwara is situated behind Gurudwara Shri Kandh Sahib, and this is the place where Guru Nanak Devji and his



Fig. 11 Gurudwara Shri Kandh Sahib

relatives stand at night during marriage. As a result, both the Gurudwaras are interrelated culturally and historically, which are required to be conserved and properly managed.

Shams-ur-Raza's Tomb

The Tomb of Shams-ur-Raza Khan is managed by ASI and repairs are being undertaken. This monument has been declared of national importance under the Ancient Monument and Archaeological Sites and Remains Act, 1958 (24 of 1958). Further, under Rules 2 of Ancient Monument and Archaeological Sites and Remains Rules, 1959 (amended in 1992), an area up to 100 meters from the protected limits and further beyond it up to 200 meters near or adjoining protected monument to be prohibited and regulated areas, respectively for purposes of both mining operation and construction. Any construction within regulated area needs prior approval of Archaeological Survey of India.

Locally known as Hazira, the structure is located near Baring College and was built by Shams-ur-Raza Khan. The tomb stands on a raised platform surrounded by a low wall having bastions in the corners. The tomb is an octagonal structure crowned with a low dome. The spandrels of the arches have geometric designs. As per Google map, the campus of tomb possesses an area of 5.6 Acres. The interior wall as well as the exterior of the tomb is richly adorned with paintings depicting floral, geometric and calligraphic designs. The decoration is intact on the interior but on the exterior only its traces survive. Recently, the ASI had undertaken repairs. Preservation work has been done on its interior as well as exterior walls. The surroundings of this monument too have been beautified. Tomb is surrounded by lush green garden in the Mughal pattern with all the paths leading to the tomb.

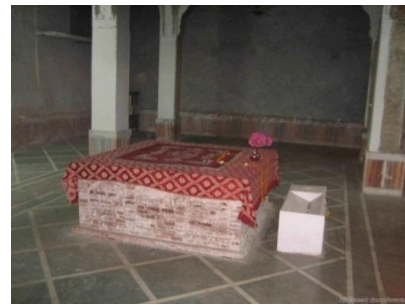


Fig. 12 Gurudawara Shri Dera Sahib



Fig. 13: Shams-ur-Raza Tomb



Fig. 14: Residence of Maharaja Sir Singh

The residence of Shaishir Khan is near to the Tomb, It is not covered under the notification of ASI. The collg authorities are maintaining the residence of Shaishir Khan as it comes under the B.U.C. Collg.

1) Baradari Garde

Baradari Garden is also under the control of the Archaeological Survey of India (ASI) and has been declared of national importance under the Ancient Monument and Archaeological Sites and Remains Act, 1958 (24 of 1958). Further, under Rules 32 of Ancient Monument and Archaeological Sites and Remains Rules, 1959 (amended in 1992), area up to 100 meters for the



Fig. 15: Baradari Garde

protected limits and further beyond it up to 200 meters near or adjoining protected monument to be Prohibited and Regulated Areas, respectively for purposes of both mining operation and construction. Any construction within regulated area needs prior approval of Archaeological Survey of India.

Jal Mahal (Baradari) and the palace of Maharaja Shri Singh are connected through a tunnel. As per FG (Focus Group discussion) with local people, the tank of Jal Mahal used to be filled with water through the tunnel, which was further connected by a long tunnel (canal) to the Basantar Kahnuan. The remnants of the tunnel can be seen near Baring Christian Collg.

Maharaja Shri Singh used to hold meetings of his courtiers in Jal Mahal. The water reservoir was built by Shaishir Khan, while the beautiful Baradari in the center of the tank was constructed by Maharaja Shri Singh. It has a square room in the center of a pavilion with a passage. The entry to the first floor is by a staircase with concave-shaped steps on the north-eastern canal.

Jal Mahal (Baradari Garden) has eight doors in the lower part of the building and four in the upper story. The inner walls contain beautiful art glass carvings and wall paintings. However, major parts of the paintings have been rasped or damaged. The roof of the pavilion has also fallen.

This monument is accessible from Jalandhar Road but lacks the allied infrastructure facilities. The Municipal Council provided a tub well to fill up the tank till the heights. All sides of the reservoir are lined with Nanakshahi bricks. However, with the passage of time the brick lining has been destroyed. Nowadays, on one side of the tank is located a *Vridh*

Ashram (Old Age Home) owned and managed by the Dainik Prarthana Sabha. There also exists Bhadra Kali Mandir and Shivala. The upper portion of Jal Mahal is in a dilapidated condition and the time is not far when this magnificent structure will be forgotten by people.

2) **Baring Church Batala**

Baring is a church founded institution governed by Baring Union Christian College Association, an ecumenical body of churches belonging to different denominations represented by Church of North India and Methodist Church in India. The campus houses Christian Institute for Religious Studies, Baring Collegiate Senior Secondary School and Baring School, all functioning under the same umbrella. This is a

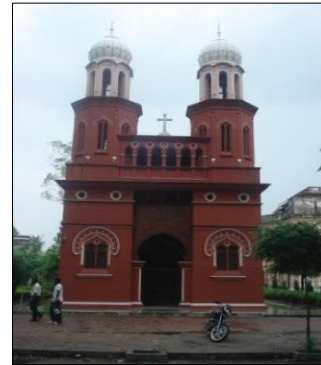


Fig. 16: Baring Church

Governments College, which covers an area of approx. 5 acres. The college came into existence in 1944. All the required facilities like playground, staff quarters, parking spaces, church and Maharaja Sher Singh residence, Library etc. are present in the college premises. The church, which is 77 years old, was established in 1892 and is very well maintained. Sunday prayers are offered and festivals are celebrated here.

The church is well maintained by College authorities and all basic infrastructure facilities have been provided. Administrative complex of the college rests in Maharaja Sher Singh's residence, which was built during the reign of Maharaja Sher Singh (AD 1780- 1839). The college serves the area of 40 km radius around Batala city.

3) **Gates Batala**

According to the information collected from the old citizens of the city, there were 12 gates and one mori (small entry). Outside every gate, there was a tank and a Shamsan Ghat. Starting from Nihru Gate (Sheranwala Gate), the gates in an anti-clockwise direction were Kathari Gate, Bhandari Gate, Ohri Gate, Kaji Mori Gate, Khajuri Gate, Achli Gate, Pahari Gate, Kapoori Gate, Nashirulhaq Gate and Mori Gate.

4) **Cultural Centre (Shiv Batalvi Cultural Centre)**

Shiv Kumar was a born poet, who migrated from the poetic region of Sialkot to Batala at the most miserable moment of human history. It was the Independent of the Sub-Continent in 1947 - the dreadful, painful, horrible, miserable, devastating, slaughtering and marauding phenomenon, which bisected the troubled stricken India.

In his long memory, a cultural centre was opened, which is not yet completed and is ill maintained. It is next to the Baring College with an approximate area of 0.2 acre.

2.4.2 Cultural Historical and Natural Resources in Surroundings outside Batala PA

1) Badar Sahib Dargah

The Dargah is 6 km, east of Batala city (1 km from Sri Hargobindpur Road) in the medieval village of Masanian. The lofty minarets of the tomb are visible from a distance. There are several graves inside Dargah. These may be of the prominent successors of Shah Badar. In his grave, a massive dargah was built by his grandson Shah Abdul Shakoor Gilani Qadiri. It contains four minars, two courtyards and many domes. Its annual festival is held on 12th *Rabi-ul-Awal* and the monthly fair or *nau-chandi* on Thursday at the appearance of new moon. There is no provision of basic infrastructure facility in terms of drinking water, toilets etc.

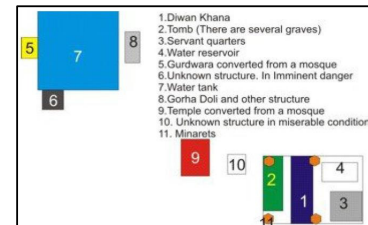


Fig. 17: Plan of Badar Sahib Dargah



Fig. 18: Badar Sahib Dargah

2) Achal Sahib Gurudwara

It is on the Jalandhar Road (MDR, 4 kms from Batala City) and is next to the Achalshwar Temple. During his travels, Guru Nanak Dev stopped here at the centre of the Nathpanthi Yogis. Many people gathered to meet and hear the Guru and this caused jealousy among the Yogis as they felt they were being ignored.



Fig. 19: Achal Sahib Gurudwara

The ill-advised Yogi Bhangar Nath had a long religious debate in which Guru Nanak argued that asceticism and renunciation were not the ways to reach God. Guru Nanak said that the yogis were hypocrites because outwardly, they renounced the world yet they would go to people's houses to beg for food. Yogi Bhangar Nath started performing magic, but was humbled when he lost the ability in front of Guru Nanak. The Guru told Yogi Bhangar Nath that all such tricks and miracles were insignificant compared to the love and grace of God.

3) Achaleshwar Temple

Achaleshwar Temple is also located on Jalandhar Road (MDR) next to Achal Sahib Gurudwara. According to writing on the board of the temple, this temple belongs to Satyug Period and is related to God Kartik, the son of Lord Shiva and Parvati. The temple is having all infrastructure facilities with respect to tourist arrival.



Fig. 20: Achaleshwar Temple

Fairs and Festivals

Fairs and festivals become important part in exploring the tourism potential of the respective tourist spots and also help in generating local economy of the city. This aspect is studied to know the various fairs/festivals organised in the city, nature of festival (religious/recreational), number of visitors and accordingly the infrastructure provisions (parking, drinking water facility, traffic management etc). The fairs in Batala city mainly are Cattle Fair, Basant Fair and Babe Da Viah. In villages of LPA, the major fairs celebrated are Baba Ahlewale-da-Yag at Sangat Pura and Mela Baba Malang Shah at Chhit. But the major fair having regional importance in Batala is Babe Da Viah, which is celebrated as marriage day of Guru Nanak Dev every year. A brief description of Babe Da Viah is as follows:

4) Babe Da Viah

In Batala city, a three day celebration is organized every year to celebrate the marriage of Guru Nanak Dev, the first Guru of the Sikhs. The festival is popularly known as “*Babe Da Viah*”. Various religious organisations remain busy in the preparations for these. Devotees from across the country descend in the city and pay obeisance in Gurudwara, where the marriage ceremony of Guru Nanak Dev with Bibi Sulakhni is said to have taken place five centuries ago. Devotees from various countries like Australia, Italy, Canada, England and Germany came to pay obeisance.

The baraat of Guru Nanak Dev from Ber Sahib Gurudwara of Sultanpur Lodhi reaches in Dera Sahib Gurudawara in the evening every year. The citizens of the city wait for the Baraat at Ammo Nangal village to extend it a traditional welcome. Thousands of devotees visit the city during the festival. Numerous community kitchens used to be organized on this occasion and people regardless of the religion, take part in this procession, accompanied by ballad singers and gurbani kirtans.

According to his story, Guru Nanak Dev married Bibi Sulakhni, daughter of Mul Chand, a Chona Khatri and a revenue officer, in 1487 at Patiala. Guru Nanak Dev and Bibi Sulakhni took four rounds of the sacred fire instead of the seven prescribed.

Route of Nagar Kirtan in the city

The route is as follows: Dera Sahib → Sakaria → Guru Nanak College → Shastri Nagar → Simla Chowk → Bus Stand → City Bazar → outside the Wall of the City → Kandh Sahib Gurudwara (starting point).

The above places, through which Nagar Kirtan is carried out, are historically and religiously very important. Moreover, the procession area covers almost the whole of the Patiala city.



Fig 21: View of Nagar Kirtan in Patiala City

Key Issues in Heritage and Tourism

1. The tourist places of the LPA region are very old and have their own heritage value. But many of the old buildings are not taken care of and are in neglected state. Moreover, the area is not properly preserved through modern technology.
2. Most of the religious sites are generally located in the old city areas and in surroundings. The approach roads of these sites are in majority narrow and generally congested as the problematic areas, since they cannot sustain the heavy vehicular traffic.
3. Though works of many in the region are notified by the Archaeological Survey of India, they are not maintained properly. These works, i.e., Baradari and Shamsher Khan's Tomb, are the only sites, apart from the Takht-e-Akbari at Kalanaur, in the whole Gurdaspur district listed by the ASI. Because of this scarcity, their preservation and conservation become essential.
4. There is no tourist office of Tourism Department / Tourist Information Centre in Patiala city to propagate the tourism potential of the region, which could be a big source of income.

CHAPTER 3

HOUSING AND URBAN POOR

3.1 BATALA A HOUSING SCENARIO

3.1.1 EXISTING HOUSING STOCK

It has been observed that the number of occupied houses have grown by 47.01% during 1991-2001, within the municipal limits of Batala. The high growth rate can be attributed to rural migration to Batala city with high employment opportunities. However, the growth in number of households is not keeping pace with the growth in number of occupied residential houses, which has been only 36.7%. During the same period, the household size has also decreased from 6.3 to 6 (refer table 19). This decrease reveals increasing trend towards nuclear families in the city of Batala due to improved economic status.

Table 19: Growth of Occupied Residential Houses and Households in Batala City (1981-2001)

Year	Occupied Residential Houses	%age Growth Rate of Occupied Residential Houses	Number of Households	%age Growth Rate of Households	Household Size
1981	15176	-	16036	-	6
1991	16342	7.6	16387	20.8	6.3
2001	24,025	47.01	22406	36.7	6

Source: Census of India, 2001

Pattern of House Use

Out of total 39,340 houses listed in Census 2001, share of residential use is 61%. As the city has a multifunctional character, the mixed land use is prevalent, so 4% of houses are used for Residential cum Other Uses (refer table 20). Although, houses are also being used as shops, offices, hospitals, work sheds, places of worship, etc., 8.33% of the houses are lying vacant.

Table 20: Pattern Category Wise Use of Census Houses in Batala City, 2001

Sl. No.	Category	Number of Households	%age of Total Houses
1	Residential	24025	61.1
2	Residential cum Other	1567	4.0
3	Shop, Office	7061	17.9
4	School, College etc.	137	0.3
5	Hotel, Lodging, Guest House etc.	60	0.2
6	Hospital, Dispensary etc.	102	0.3
7	Factory, Workshop, Workshed etc.	1390	3.5
8	Place of Worship	191	0.5
9	Other Non-Residential uses	1559	4.0
10	Vacant Houses	3248	8.3
Total		39340	100

Source: Census of India-2001

Type Housing Structures

According to construction material used and durability of structure, the houses counted in the Census exclusively dedicated to residential category have been classified broadly into 3 categories, namely Permanent, Semi-Permanent and Temporary. The city housing structure, on the whole, is of permanent type. Almost 4/5th of the houses are categorized as permanent structures, while the semi permanent structures constitute 17.70%. Only remaining 3.7% houses are temporary in nature (refer Table 21).

Table 21: Type Housing Structure in Batala City, 2001

Head	Type Structure					
	Permanent	Semi Permanent	Temporary		Unclassifiable	Total Census Houses
			Serviceable	Non Serviceable		
No. of Houses	20115	4521	718	231	0	25585
%age of total	78. 0%	17.70%	2.80%	0.90%	0.00%	100.0 %

Source: Census 2001

Households by Number of Rooms

The total households of Batala city have been studied with respect to number of dwelling rooms as per Census 2001. It has been analysed from the table that almost 3/4th of the households are having two or more than two rooms. Nearly 1/4th of households are having one room. Only 0.90% of the total households are in the category of non exclusive room (refer table 22).

Table 22: Households by Number of Rooms in Batala City, 2001

Head	Non Exclusive Room	One Room	Two Rooms	Three Rooms	Four Rooms	Five Rooms	Six Rooms and Above	Total
Number of Households	22	348	8315	5255	3285	138	147	26282
%age	0.90	24.15	31.3	19.99	12.49	5.27	5.57	100

Source: Census 2001

Housing Condition

Besides the housing stock and growth of residential houses, the condition of the housing stock has also been studied qualitatively to ascertain the condition of the available houses in the city. The housing condition has been assessed based on the predominant use of materials by way of visual survey.

Housing condition varies in different parts of the city as per visual survey. Moderate to poor housing condition has been observed predominantly around bus stand, in wall d city and Mann Nagar area. Areas like Shastri Nagar, Civil Lines, Urban Estate, etc. experience good housing condition as new development in terms of Improved Trust Schemes have been implemented.



Fig. 22: Unplanned Housing in the City (Batala Bazar)



Fig. 23: Planned Housing in Urban Estate

3.1.2 PLANNED EFFORT TO PROVIDE HOUSING STOCK BY VARIOUS GOVERNMENT AGENCY

Various government agencies are providing housing schemes i.e. Improvement Trust, Urban Estate, PUDA, Municipal Council etc. under various acts such as The Punjab Town Improvement Act, 1922, The Municipal Act, 1911 and The Punjab Apartment and Property Regulation Act, 1995. Some efforts have been also made by PUDA under OUVGL (Optimum use of Vacant Government Land) schemes to provide housing stock.

Improvement Trust Schemes

The Punjab Town Improvement Act-1922 provides the procedure for undertaking development, redevelopment, expansion and other improvement schemes. Batala Improvement Trust was constituted under The Punjab Town Improvement Act, 1922, with an aim to develop and provide residential and commercial plots, flats, booths, SCOs etc. in the year 1974. Since then, it is continuously engaged in process of formulating various Improvement Trust Schemes.

Batala Improvement Trust is an active development body in the city. There are nine Improvement Trust Schemes in Batala that cover an area of 200 acres. Out of these nine, seven are developed as residential schemes and remaining two schemes are commercial. Majority of the Batala Improvement Trust Schemes cover 30-60 acres in each (refer table 23).

Regarding the development of these schemes, three schemes namely Dharampura, Radha Krishna and Shastri Nagar have been fully implemented by the trust and have been transferred to M.C.I of Batala whereas two schemes namely Khajuri Gate and Rai Sahib are partially complete and others are in the process of development.

Table 23: Housing Schemes in Batala City

Sector	Scheme	Type	Area (acre)
Improvement Trust	Dharmapura	Residential	35.20
	Radhakrishnan	Residential	8.98
	Shastri Nagar	Residential	74.52
	Mahant Sadhu Ram	Residential	28.34
	Old Mall Mandi	Residential	14.0
	Dhab Basti	Residential	4.40
	Rai sahib	Residential	8.64
	Leak Wala Tank	Commercial	25.35
	Khajuri Gate	Commercial	0.47
PUDA	Urban Estate	Residential	64.14

Source: DTP Office, Gurdaspur

Town Planning Schemes

The Town Planning Schemes are the development initiatives taken by the Municipal Council of the city. There is no Town Planning Scheme developed in Batala city. The Honourable Supreme Court has declared the Section 192 of the Punjab Municipal Act, 1911 as void. So, no new Town Planning Scheme can be prepared under the Act.

PUDA Approved Colonies

Private sector has recently entered into the field of housing in Batala. Eight colonies covering an area of 64.06 acres have been approved under PAPR Act. Out of 8 colonies, 7 falls under M.Cl. limit. One of the new colony (Usmanpur City) is partially covered in the council limits (refer table 24).

Table 24: List of Colonies approved under PAPR Act in Batala City

S. NO.	NAME OF COLONY	AREA (acres)	LOCATION	REMARKS
1	Sant Rasila Avenue	9.83	Qad an Road Batala	within M.Cl. limit
2	Sun City enclave	3.41	Sangatpura Road Batala	within M.Cl. limit
3	New Grater Kallash	9.11	Near Urban stat Batala	within M.Cl. limit
4	Basant Vihar	5.26	Dhupsar Kahnuwan Road Batala	within M.Cl. limit
5	Uttam Nagar	9.49	D.B.N Road Batala	within M.Cl. limit
6	Modern stat	8.55	Batala-Kahnuwan Road	within M.Cl. limit
7	Green City	8.49	Batala-Qad an Road	within M.Cl. limit
8	Usmanpur City	9.93	APK Road Batala	Partially within M.Cl. limit
TOTAL		64.06		

Source: DTP Office, Gurdaspur

Urban Estate

The Urban stat Batala is located near Barng Collg. It is surrounded by Jalandhar-Batala Road on one side and Qad an Road on another. The Hansal Drain marks the boundary of the stat in the north direction. The total area of Urban stat is 66 acres. The Urban stat consists of a total of 288 plots. Out of the total plots 138 plots are in 10 Marla category 80 in one kanal and 70 plots are having an area of 7.5 Marla. The total area under plots is 18.84 acres. The total saleable area of Urban stat is 24.54 acres which constitutes 64.14% of the total area of scheme.

As discussed above, various development initiatives were taken up for planned housing area in Batala city. T.P. Schemes, PUDA approved colonies and planned colonies under PAPRA etc. were developed covering an area of 133 Hectares. This is a very small figure in comparison to the total municipal area of 3270 Hectares. In other words, it can also be said that only 4% of total housing area is planned and rest 96% got developed in unplanned manner giving a poor impression of planned effort.

3.2 URBAN POOR AND SLUMS:

Urban poverty is a multidimensional problem of contemporary development. Poverty and the living condition have far away consequence with the habitable housing conditions. The situation of slums has been analysed in Batala and the overall scenario becomes clear from table below:

Table 25: Demographic Characteristics Slums Batala city

Distributi	Slum P ulati	City P ulati	T tal Area Slums	% t City P ulati
Year	City P ulati	Slum P ulati		
2001	1,47,872	33,604	21 ha	23%
em gra i C ara teristi s	lum areas	atala ity		
Item	Urba	lum	lum P ulati	
Total Hous holds	24,025	5,915	24.6	
Total Population (including Institutional and Hous l ss)	1,25,677	33,604	26.7	
Population in Ag group 0-6	14,908	4,407	29.6	
Sch dul d Cast Population	27,284	13,785	50.5	
Lit rat s	90,030	21,734	24.1	
T tal W rkers	38,147	9,978	26.2	
Mai W rkers	35,058	9,034	25.8	
i) Cultivators	460	37	8	
ii) Agricultural Labour rs	577	111	19.2	
iii) Hous hold Industry Work rs	1,367	206	15.1	
iv) Oth r Work rs	32,654	8,680	26.6	

ur e: Municipal Council, Batala

The total population in slums is 33,604, which is 23% of the city population. The number of houses in slum are 5,915, which are spread over 21 hectares of area. The share of Other Workers (26.6%) is maximum in the Main Workers category (refer table 25). The Cultivators and Agricultural Workers together constitute 27.2%, workers engaged in Household Industry are 15.1%, while Other Workers constitute 26.6% and contribute the major share.

There are 8 slum pockets in Batala M.C.I., and the slum abadies are spread in all directions on private land. There is a post independence legacy of the slum development in various areas, which has transformed over the period into housing colonies. Here the colonization has a far away consequence with the ownership of land of the slum sprawl. The slum,



Fig. 24: Cam Slum area in Batala city

earlier, now is the low cost housing, which is an interesting and unique situation by itself. The slum household gets benefit of the habitation rights and owns the Sale-deed document as an ownership record.

3.2.1 INFRASTRUCTURE STATUS OF SLUM AREAS

Table 26: Demographic, Ownership and Infrastructure Status in Slum Abadies, Batala M.C.I

Name Slum Abadi	Population	No. of Households	Area (ha)	Ownership	Coverage Physical Infrastructure (Housewise)			
					Sewerage	Water Supply	Drainage	Street Lighting
Issa Nagar	795	141	1.2	Private	80%	80%	50%	89%
Ram Nagar	1,648	282	3.1	Private	70%	80%	50%	100%
Daya and Nagar	1,949	271	3	Private	90%	80%	50%	99%
Mehbaba Nagar	159	24	0.29	Private	95%	90%	50%	100%
Guru Naak Nagar	1,414	222	2.1	Private	95%	90%	50%	100%
Faizura	1,405	233	2.8	Private	-	50%	50%	100%
Murgi Mahalla	7,262	1,061	4.2	Private	90%	100%	50%	100%
Refugee Cam	9,422	1,586	4	Private	90%	90%	50%	99%
Total	24,054	3,820	20.69		76.3%	82.5%	50%	98.4%

Source: Municipal Council, Batala, 2009

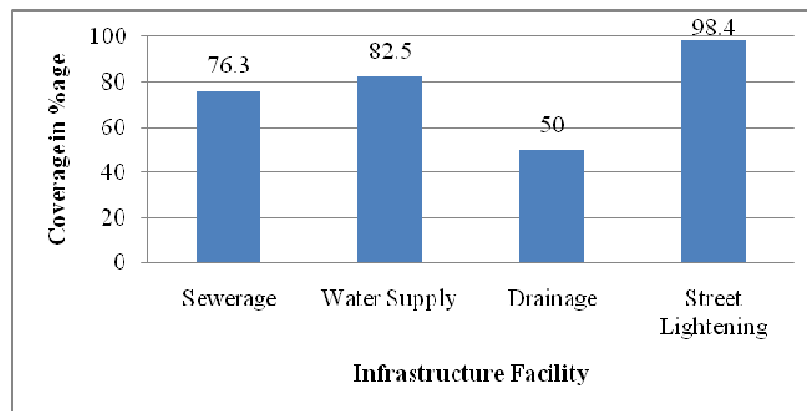


Fig 25: Infrastructure Facilities in Slums, Batala City

Regarding infrastructure in this slum area, the physical infrastructure has not been developed with needed utilities. More than 4/5th houses are facilitated by water supply, 3/4th by sewerage, half of the total by drainage, and almost all houses by streetlights (refer Table 26 and Fig. 25). Besides, there are few drawbacks too like majority of the slums have open drainage leading to poor hygienic condition. Lack of community halls, open spaces and the social infrastructure within slums is the root cause of non-intellectual development.

Key Issues in Slums and Urban Poor

- Increase in slum population leads to unauthorized access to government land.
- All slums are located outside the Wall of City.
- The slum dwellers have low work participation ratio and high marginalization of workforce. Majority of population belongs to SC and have low literacy level.
- No separate funds are available in municipalities for slum welfare.
- Poor implementation mechanism as far as projects related to urban poor are concerned.
- There are no specific Development Schemes for these areas.

CHAPTER 4

EXISTING LAND USE AND TRANSPORTATION NETWORK

4.1 PREPARATION OF BASE MAP

The work of preparation of base map for Batala Local Planning Area, was assigned to Punjab Remote Sensing Centre, P.A.U., Ludhiana. The base map is generated on 1:16,000 scale using Worldview data of 0.5m spatial resolutions. The Cadastral maps of the villages falling in Local Planning Area were procured from the State Revenue Department by the office of District Town Planner, Gurdaspur and maps have been scanned in the office of PRSC, Ludhiana and registered with Worldview data to demarcate village and mustel boundaries. The features like roads, rails, drains, settlements etc. have been captured from satellite image and shown on the draft base map. After editing the map details, the attributes to different features were assigned. The data captured from satellite image was verified by the officials of DTP office and a non-spatial data base was attached to it.

4.2 ENHANCEMENT THROUGH FIELD SURVEYS- LAND USE AND ROAD NETWORK

The draft base map for the Local Planning Area and densely built up areas (i.e. core areas) received from PRSC were updated through ground truthing (field survey) by the office of DTP Gurdaspur. 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, necessary feedback was given to PRSC Ludhiana, which was incorporated and updated base map was prepared by PRSC. The Office of DTP Gurdaspur again conducted second round of field verification (ground truthing). This exercise was repeated number of times and the field staff of DTP personally assisted PRSC to prepare final Land Use map.

4.3 EXISTING LAND USE PLAN

In order to understand the breakup of the developed urban area of the Batala city and area under various uses including Residential, Commercial, Industrial, Traffic and Transportation, Recreational, Utilities, Public and Semi-Public uses, detailed analysis of the city structure has been made based on the existing land use plan prepared by the PRSC, Ludhiana as detailed out in the Batala Local Planning Area, Existing Landuse Plan- 2010, in drawing no. DTP (G) 21/2010, Dated 13.12.10 of the Department of the Town and Country Planning, Punjab. The detailed analysis is shown in the table given below:

Table 27: Existing land use atala M. Cl., 2010

Sr. No.	Type of land use	Area (in Ha)	%age of Total Developed Area within Municipal limits	%age of Total Municipal Area
1	Residential	750.76	50.93	22.92
2	Commercial	130.96	8.88	4.00
3	Industrial	170.86	11.59	5.22
4	Public & Semi Public	89.67	6.08	2.74
5	Government	23.71	1.61	0.72
6	Utilities & Services	8.41	0.57	0.26
7	Recreational	11.96	0.81	0.37
8	Traffic & Transportation	287.86	19.53	8.79
Total Developed Area		1474.19	100	-
9	Agriculture & Waterbodies	1801.67	-	55.00
Total M. Cl. Area		3275.86	-	100

Source: PRSC Drawing no. DTP (G) 21/2010 Dated 13.12.2010

Table 28: Existing land use atala PA, 2010

Sr. No.	Type of land use	Area (in Ha)	%age of Total Developed Area within PA limits	%age of Total PA Area
1	Residential (including Villages)	1464.03	57.38	8.83
2	Commercial	150.79	5.91	0.91
3	Industrial	233.04	9.13	1.40
4	Public & Semi Public	143.30	5.62	0.86
5	Government	23.86	0.94	0.14
6	Utilities & Services	13.53	0.53	0.08
7	Recreational	17.19	0.67	0.10
8	Traffic & Transportation	505.53	19.81	3.05
Total Developed Area		2551.27	100	-
9	Agriculture & Waterbodies	14036.26	-	84.62
Total Area PA		16587.53	-	100

Note: The areas given above for Bala M.Cl. and A are according to the Existing land use plan, 2010 of Bala provided by R.C. As per the list provided by DT Office, area for Bala M. Cl. is 366 ha, while for the A is 1657 ha.

As per Existing Land Use Plan, out of 3275.86 hectares of the municipal area, only 45% is developed, whereas 55% is under agriculture/Vacant. The largest component of Developed area is Residential, which constitutes about 51% of the developed or built up area. An important industrial center of the Gurdaspur District, it has about 11.6% of the Developed area and industrial area. The city has about 19.5% area under the road network that is sufficient for such categories of city. City has also high degree of Commercial area amounting to around 9%. The Public and Semi Public use too forms a major part (6%) of the total Developed area. Lack of recreational area (less than 1%) and categorical quality of life in the city.

Residential

Residential area covers the maximum percentage among different categories, it comprises of 50.93% of council's Developed area and 22.92% of total council area. The city is having a

gross density of 40 pph as per Census 2001 and the density decreases as one moves away from core area. The residential development in the city is all along roads, and colonies have been emerged in between the radial routes. Planned schemes in the city come under only Improvement Trust housing schemes.

Batala Improvement Trust is an active body in the city and the schemes cover an area of 200.5 acres. There are nine Improvement Trust schemes in Batala. Out of these, 3 schemes, namely Dharampura, Radha Krishna and Shastri Nagar have been fully implemented by the trust and have been transferred to Batala M.C.I., whereas two schemes namely Khajuri Gate and Rai Sahib are partially completed, while rest are in the process of development. Private sector has recently come in the field of housing in the Batala. Usmanpur City covering an area of 9.91 acre was developed on Gurdaspur Road. Residential development is less in northern direction than in the southern part.

C mmercial

The commercial area in Batala city comprises of 8.88% of the developed area of the council. It includes bulk material market of Batala Municipal Council. However, within the Local Planning Area, the commercial landuse comes out to be 0.91%. There is no City Centre or District Shopping Centre in the city. The main commercial areas of the city are surroundings of Bus stand, Bada Bazar, Chakari Bazar, Leak Wala Tank, Nehru Gate, City Road, Samadh Road, Cinema Road, NH-15. The city deals mostly in retail business. These commercial areas are along the roads that are generally of 7 to 12 m depth. The informal sector has mushroomed along with the traditional commercial area.. The informal markets are along NH-15, Leak Wala Tank Market, Gandhi Chowk, Qadian Road, near Bus Stand. Besides, grain market is located near Dera Baba Nanak Road and fruits and vegetable market is within the grain market.

I dustrial

The total area under industrial use is 11.59% of the total developed area of the council and 5.22% of the total council area. Being the most important industrial centre of Gurdaspur district, high percentage of developed area is under industrial use. The city has small-scale as well as medium and heavy scale industries. The Casting Iron (CI) Industry is the most important component of the industrial sector of the city. The detailed study of industries has been carried out in the chapter of Demographic Profile and Economic Base.

Public and Semi Public

Public and Semi Public Use comprises of educational, health and socio-cultural facilities. The Public and Semi Public use comprises of 6.08 % of the developed area and 2.74% of total council area. The city is having various educational institutes, which have regional level influence like Baring College, Guru Nanak College, R.R. Bawa College, polytechnic, etc. Apart from these, there are several hospitals spread over the whole city. These aspects have been covered in the Infrastructure and Service Delivery chapter.

Government

The Government use consists of government land and govt. offices of local, state and central level. There are some major district level offices present in the city, i.e. Office of Senior Superintendent of Police, DIC (District Industries Centre), Punjab Pollution Control Board, etc. Besides these, the city also has offices of SDM, Tehsildar, Municipal Council, Improvement Trust, Mandi Board, etc. The offices are mainly concentrated along the NH 15 or the central part of the city. The land use covers a nominal area of 1.61% of the total developed area, as the city has limited Cantonment area within its limits.

Utilities and Services

Utilities and Services comprise of water supply, sewerage system, solid waste management, storm water drainage and electricity. It covers negligible area of 0.57% of the total developed area. The Infrastructure and Service Delivery chapter provides details about all these utilities.

Recreational

The total area under recreational use is about 0.81% of the total developed area. The share of recreational use in the developed area is negligible with respect to the standards prescribed in the UDPFI Guidelines. In terms of green spaces, there are 4 major parks, namely Bada Talab Park, Hazira Park, Subhash Park and Samadh Park. All of them are located on Jalandhar Road and are spread over an area of 16 hectares. However, the city in majority lacks in green areas, particularly in core area.

Traffic and Transportation

The various components of traffic and transportation cover 19.53% of the developed area of council and 8.73% of the total municipal council area. The road condition in the city is moderate to bad, and needs immediate attention. Majority of roads require upgradation, widening and strengthening. A detailed study has been carried out later in the Traffic and Transportation section of this chapter. The transport network hierarchy is shown in the Existing Land use Plan.

Agriculture and Water

As the council area is not fully developed, the area has within it that a land agricultural use. In the LPA, the present village habitation, majority of the area is under agricultural use. Within the municipal council, 1799 hectares come under agricultural use with a round 55% share.

The existing land use pattern requires rationalization in order to bring it to the prescribed norms. Considering the high density in the city, the developed areas need to be increased keeping in view the requirement of the existing and projected population to be accommodated in the city. The area under traffic and transportation needs to be increased by creating additional road network and improving the existing road capacity. Large number of open spaces need to be created in the city in order to improve the quality of life. Industrial component also need to be increased in order to improve the economy of the city. The residential areas need to be scaled down in order to minimize congestion and overcrowding.

4.4 TRAFFIC AND TRANSPORTATION

Traffic and transportation is a major area where inhabitants of the towns/cities of India are facing traffic problems and the difficulties in commuting from one place to other, which becomes the prime concern. For Batala, this aspect is of great importance, so a detailed study has been made with respect to vehicular growth, road cross section, terminal point and parking issues.



Fig. 26: Schematic Road Network

4.4.1 Existing Road Network & Hierarchy

Batala is well connected at regional level through the road network. Amritsar-Pathankot NH 15 connects the city to Amritsar in west and to Pathankot in east. Batala is also connected to Dera Baba Nanak in north-west, Aliwal in west, Jalandhar and Shiha Gobindpur in south-east, Qadian in east and Kahnuwan in north-east. The city has a bypass too, though it is not completed. A hierarchy of the major roads in Batala LPA is shown below in table 29.

National Highway No. 15 passes through Batala city dividing it into almost two parts, i.e. northern and southern. The two MDRs, which connect Batala with Dera Baba Nanak, Shiha Gobindpur and Jalandhar. The ODRs connect the city with Kahnuwan, Qadian and bypass. As per PWD, Batala bypass is also considered as Other District Road (see table

29). Among all these roads, four are Scheduled Roads, namely Amritsar-Pathankot Road (NH 15), Jalandhar Road, Dera Baba Nanak Road, and Shri Hargobind Pur Road. Jalandhar Road and Dera Baba Nanak Road are actually two sections of the Scheduled Road Rayya-Batala-Dera Baba Nanak Road. It is pertinent to note that there is no hierarchy of State Highway existing within Batala LPA.

Table 29: Road Hierarchy in Batala PA

S. No.	Category	Name of Road
1	National Highway	Amritsar-Pathankot Road
2	Major District Roads	Batala-Dera Baba Nanak Road
		Batala-Shri Hargobindpur Road
		Batala to Jalandhar Road
3	Other District Roads	Batala-Kahnuwan Road
		Batala-Qadian Road
		Batala-Bypass Road

Source: PWD B&R Deptt., Gurdaspur

As far as inner city road network is concerned, this is irregular alignment, inadequate width and frequent intersections, causing constraints to the capacity of roads. The major network of the city (within M.C.I.) is spread over 32.7 sq km area. The city has roads ranging from 5 to 20 m width.

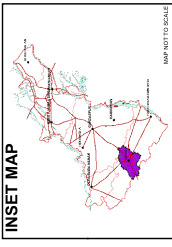
Table 30: Major Roads in Batala city (M.C.I.)

Name of Road (with stretch)	Length (m)	ROW (m)	Carriageway Width (m)	Divided / Undivided
Main Bazaar Road North (A-A') (Gandhi Chowk to Nehru Gate)	800	13	4+4	Partially Divided
Bada Bazaar Road North (B-B') (till Qadian Rail Line)	578	16	6	Undivided
Circular Road Central (C-C') (around Wall of City)	4343	6/13	6/13	Undivided
Dera Baba Nanak Road North (D-D') (Gandhi Chowk till M. Cl. limit)	3305	20	7+7	Partially Divided
Aliwal Road West (E-E') (Chand foundry and to union between Industrial Focal Point and bypass)	2308	20	9	Undivided
Road from AVM College SW (Circular Road) till M. Cl. Limit (F-F')	1553	6	-	Undivided
Road from Hathi Gate South till MC limit (G-G')	1094	10	-	Undivided
Jalandhar Road SE (H-H') (Bus Stand till M. Cl. limit)	4234	15	5	Undivided
Kahnuwan Road East (I-I') (Simbal Chowk till MC limit)	2374	20	7-10	Undivided
Qadian Road East (J-J') (Qadian Chungi till M Cl. limit)	2246	18	7-10	Undivided
Shri Hargobindpur Road East (K-K') (Circular Road till M. Cl. limit)	2943	12-14	7	Undivided

Source: Pima y Survey, SAI Team, Aug 2009

All the city roads listed above, except Circular Road, start from the corner of the city and run to different directions. The length of the roads ranges from 500 m to 4500 m. The R/W of

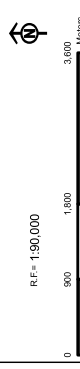
BATALA LOCAL PLANNING AREA ROAD AND RAIL NETWORK 2010



- LEGEND**
- LOCAL PLANNING AREA BOUNDARY
 - MUNICIPAL COUNCIL BOUNDARY
 - VILLAGE BOUNDARY
 - R 1 (NH 15)
 - BYE PASS
 - R 3 (MDR)
 - R 4 (ODR)
 - R 5
 - (BG)
 - RAIL TERMINAL
 - BUS TERMINAL
 - MISSING LINK
 - RAIL ROAD CROSSING
 - WATER BODY
 - BUS FREQUENCY

1 Cm = 800 Buses

NOTE:
This drawing is based upon the Existing Land Use Map supplied by DTP office, Gurdaspur (Drawing No. D.T.P. (G) 21/2010 dated 13-12-10)



DEPARTMENT OF TOWN AND COUNTRY PLANNING, PUNJAB

MAP No. 6

DISTRICT TOWN PLANNER

CHIEF TOWN PLANNER

TOWN AND COUNTRY PLANNING AND DEVELOPMENT AUTHORITY

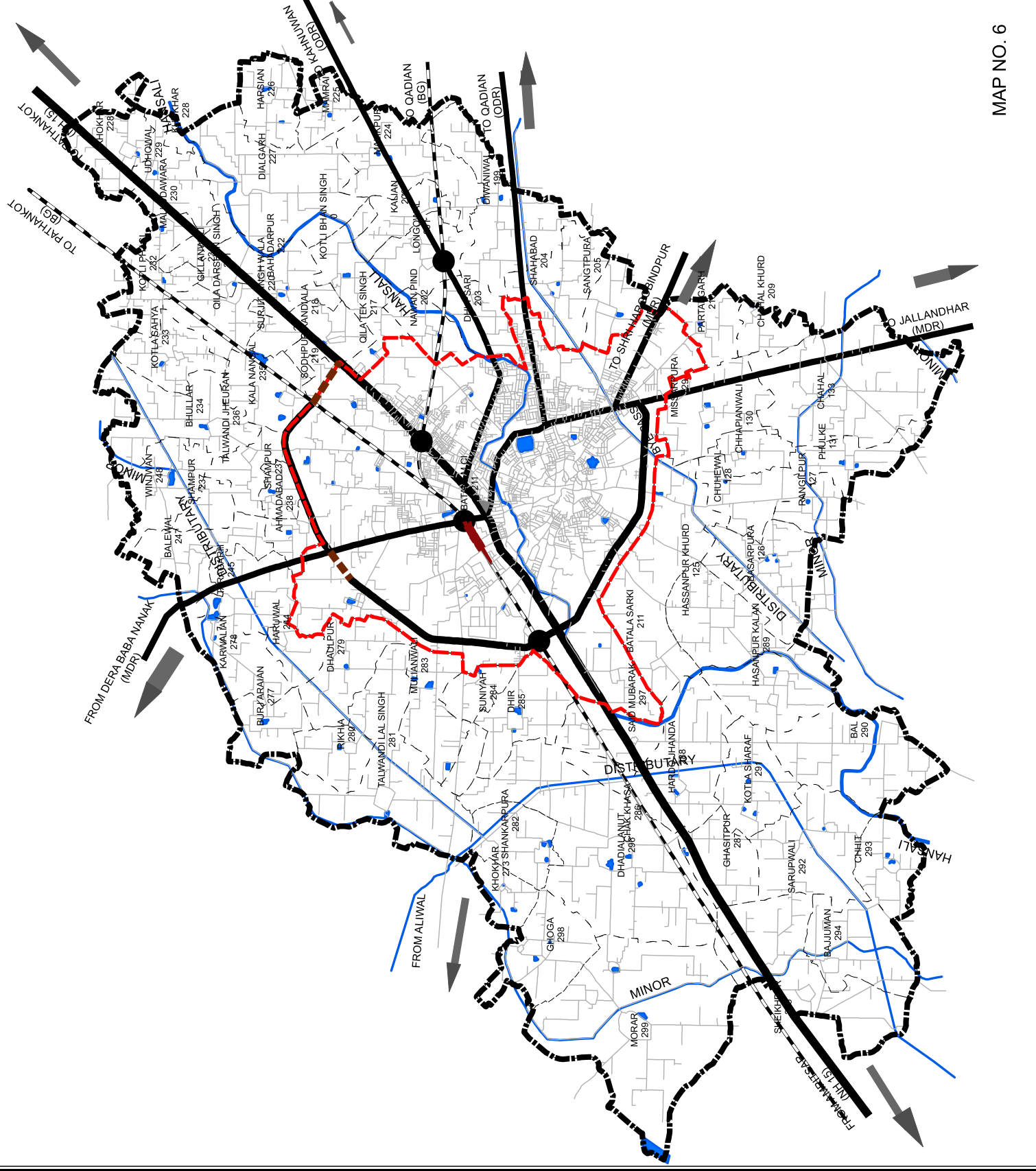
PROJECT: PREPARATION OF MASTER PLAN FOR BATALA LOCAL PLANNING AREA

CONSULTANTS:

SAI Consulting Engineers Pvt. Ltd

An ISO 9001 Certified Company

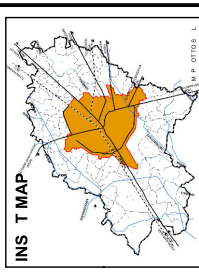
S-11, Gurgaon, Gurgaon, Haryana, India. Phone: +91 78 664 1500, E-mail: info@saiengg.com, Website: www.saiengg.com



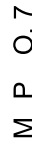
MAP NO. 6

TR FF	TR PORT T O 2010
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TR FF	TR PORT T O 2010
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SAI House, Salyern Corporate Square, B/A, Rajesh Club, Bodoland, Ahmedabad - 380 054
PHONE : +91 79 6514 2600, 6514 2700, Fax : +91 79 6514 2800.
E-MAIL : rajeshclub@vsnl.com



these roads range between 6 to 20 m, and the carriageway is between 5 to 14 m (refer table 30). Most of the roads are without dividers/ medians, except Main Bazar Road and Dera Baba Nanak Road, which have dividers in some part of the whole stretch.

Missing Roads in atala City

The existing bypass is an important road, but not fully completed making the transportation network inefficient. Hence, this road needs to be completed, which is possible as far as along this road is not yet developed (refer table 31).

Table 31: Missing Roads in atala City

Sr. No.	Name Road	Width Road	Reason Missing	Remarks
1	Existing Bypass towards north-west (NH-15 to Dera Baba Nanak Road)	100	Litigation	Very strategic link for city
2	Existing Bypass towards north (Dera Baba Nanak Road to NH-15)	100	Litigation	Very strategic link for city
3	Existing Bypass towards north-east (NH-15 to Jalandhar Road)	100	Trend of development was low in North-eastern direction	Very strategic link for city to reduce the internal city traffic.

Source: PRSC, Drawing no. DTP (G) 21/2010, Dated 13.12.2010

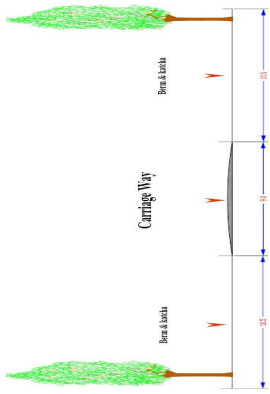
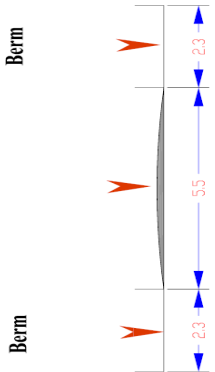
Road Cross sections as per Reconnaissance Survey

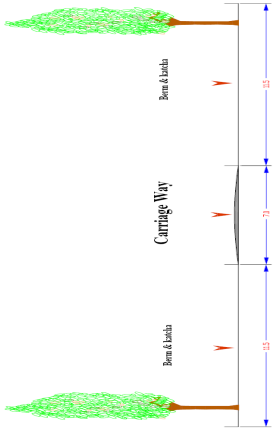
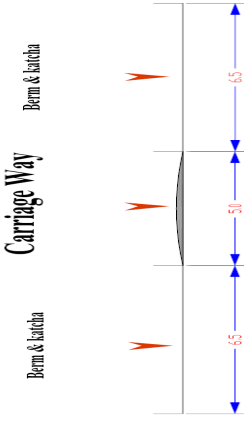
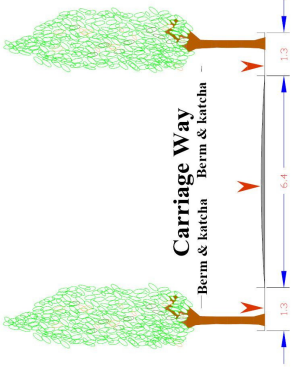
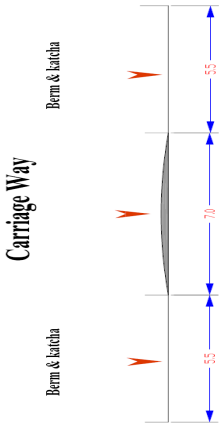
To understand the traffic and transportation network of city, reconnaissance survey was carried out for all aspects. The cross section details of all major roads have been ascertained and encroachment along all roads has been identified. In case of all major roads, the right of way in any place is encroached, which reduces the effective road width. The overall length, land width (ROW), formation width and total width of all important roads are given in table 32.

Table 32: Cross Sectional Details of Major Roads

Type of Road	Typical Road	Width (m)	Metalled Width (m)	Formation Width (m)	Shoulder Width (m)	Total Width (m)
Major Road						
Major Road	Major Road	29.36	7.00	10.00	25.15	
	Major Road	26.38	7.00	10.00	20.12	
	Major Road	14.15	6.70	10.00	30.00	
Total		69.89				
Other Road						
Other Road	Other Road	23.30	10/7	10/13	26.83	
	Other Road	15.55	10/7	10/13	20.12	
	Intermediate	5.50	6.32	8.50	30.00	
Total		45.17				

Source: PW, B&R, Batala

Sl. No.	Road Name	Cross Section	Photograph	Remarks
1	NH 154 Batala Bypass Road			Encroachment by the industrial area on the right side of the road.
2	Near Amritsar-Jalandhar Bypass			This section has heavy plantation on both sides of the road.

3	atala-Dera Na ak R ad	aba			Encroachment by shops, parking spaces and on street parking on both sides. Movement of heavy vehicles is also there.
4	ri Harg bi d ur R ad				On street parking on both sides. Movement of motorized and non-motorized traffic on this route.
5	Aliwal R ad				Commercial street on both sides, along with on street parking and movement of rickshaws.
6	Qadia R ad				Commercial street on both sides along with the residential development.

4.4.2 TERMINALS

Bus Terminal

The Bus Terminal of Batala is located at the heart of the city with an area of 2.5 acres along the National Highway (NH15). Buses move along all directions on local and regional level routes. The location of bus stands is next to important government offices like Court Complex, M.C.I. office, BDO etc. On one



Fig. 27: Bus Stand Batala city

hand, government offices do not have parking provision, on the other hand, buses create traffic problems in the surrounding area. It is important that the existing site of Bus Terminal is critically reviewed and alternate place identified to minimize traffic congestion. The description of the route wise bus traffic is given in the table below:

Table 33: Number and Frequency of Buses in Different Routes

S. No.	Name of the Road	Name of the Route	No. of Buses	Frequency (in minutes)
1	Alwal Road	Fatehgarh Churian	169	5
2	Dera Baba Nanak Road	Kalanaur	175	4
		Dhampur, Shahpur, Kalanaur, Dera Baba Nanak	202	3
3	NH 15 (both Amritsar and Pathankot sides)	Pathankot, Dina Nagar, Gurdaspur, Amritsar	351	5
4	Kahnuwan Road	Kahnuwan, Mukerian via Sathal Pul	86	8
5	Qadian Road	Harchowal	49	7
		Qadian	171	8
6	Shri Hargobindpur Road	Shri Hargobindpur, Tanda, Ghoman, Cheema Khud, Leel Kalan, Gande-Ke-Chone	160	15
7	Jalandhar Road	Mehta, Beas	157	5
		Jalandhar, Ludhiana, Chandigarh, Patiala, Ambala, Delhi	102	12

Source: P.T.C., Batala

Frequent bus services are available on different routes operating from Batala city. Almost 10 major routes are there from Batala, on which buses are moving through 7 major roads daily. The bus frequency varies for these routes from 3-15 minutes. In terms of number of buses plying on a road, Dera Baba Nanak Road has the maximum traffic of 377 buses, while in terms of route, the route of Pathankot, Dina Nagar, Gurdaspur and Amritsar has the maximum buses (351). It is followed by the route of Dhampur, Shahpur, Kalanaur and Dera Baba Nanak with 202 buses running daily. From the above figures, it can be concluded that Batala is well connected to the cities/towns of Amritsar, Pathankot, Dera Baba Nanak, Jalandhar, Kalanaur, Fatehgarh Churian, Qadian and Shri Hargobindpur, leading to more interaction. The villages of LPA are not well connected with the bus service facility. Out of total 67 villages, 54% do not have direct bus facility (refer table 34). They have to travel 2-3 kms to get to bus service.

Table 34: Bus Service in Villages Batala PA

S. No.	Villages	Available	Not Available
		31(4 %)	3 (54%)

Source: Batala Village Directory

Truck Terminal

Although Batala is one of the important industrial cities of the state, there is no truck terminal in the city. The trucks are parked all along the major roads. There is need to have a well planned truck terminal in the city.



Fig. 28: Unauthorized Parking Aliwal Road

Table 35: Open Street Truck Parking

Sr. No.	Road/Section	Road Width
1	N 15 section near Bypass	5 m of road width encroached on both sides
2	Outside the Grain Market and Food Corporation of India on Dera Baba Nanak Road	
3	Industrial Road	

Source: Primary Survey, SAI team, 2009

4.4.3 RA

Rail Terminal

Batala Railway Junction is located on Amritsar-Pathankot Railway Line. It is 400 m away from the N 15, which runs parallel to the Amritsar-Pathankot Railway Line. The city is well connected by broad gauge rail network. Rail links from Batala are towards Amritsar, Pathankot and Qadian.



Fig. 29: Batala Railway Junction

Batala Railway Station has two platforms and all basic facilities like waiting hall, reservation centre, parking facilities, ticket booths, drinking water, toilets, medical facilities etc. About 1 passenger trains operate daily. Enough sitting spaces with sheds are available. Demand of one more platform is proposed to the Ministry of Railways. As per Station Master, Batala, the stretch of 1.5 kms on either side of the railway station is available for the development of the area.

Level Crossing

As the railway lines on different routes pass through the centre of the city and through different parts of LPA, it cuts the road network at 4 level crossings, which act as traffic bottlenecks. To provide smooth traffic flow, there is need for construction of ROBs /underpasses within city and LPA at these crossings.

- At crossing of N 15 and railway line towards Qadian (manned)
- At crossing of Bypass and railway line near Focal Point (manned)

- At crossing of railway line and Kahnuwan Road (manned)

Apart from these crossings, there is one more railway crossing at the junction of railway line and Dera Baba Nanak Road. The construction of an ROB at this junction, initiated by



Fig. 30: ROB at Dera Baba Nanak Road during Construction and after Completion

PWD, has recently completed in 2010 (refer fig. 30). The ROB is helping a lot to reduce the traffic congestion in this road. In spite of the newly constructed ROB, the road marking, signs, signals, safety measures, etc. are totally absent in this area, and to add to this further, people park their vehicle under the bridge. The informal market has also developed here making the area more congested.

4.4.4 PARKING

It is another critical issue of Batala city as there is not even a single parking lot. Absence of parking lots leads to on-street parking. Along the roads, mixed land use is prevalent dominated by commercial activities. Batala Bus Stand is located on the NH 15, having presence of many government offices with inadequate parking facilities for public. As a result, on-street parking is prevalent, which reduces the effective road width and causes traffic congestion.

The main commercial stretches in the city include Chakari Bazar, Bada Bazar, Bazar on Cinema Road. All these roads are encroached by extension of shops and on-street parking (refer table 36). There is no organized parking area for rickshaws in the city, as a result rickshaws stand on road mainly near Bus Stand. The NH 15 section near Bus Stand is encroached on both sides by rickshaws and the vehicles parked by the visitors of different government offices. Lack of city bus service facility adds to use of other modes of transport like auto rickshaws, cycle rickshaws, etc.

Table 36: Unauthorized Parking/Encroachment

Name of Road (On-street Parking)	Type of Vehicles Parked	Days of Parking
Cinema Road	Rickshaw, Truck, Two Wheeler,	all working days
City Road	Cars, Two Wheelers	all working days
Bada Bazar Road	Rickshaws, Cars, Two Wheelers	all working days
Bus Stand Road (on NH 15)	Two Wheelers	all working days
Dera Baba Nanak Road	Two Wheelers	all working days

Source: Primary Survey, SAI Team, 2009.



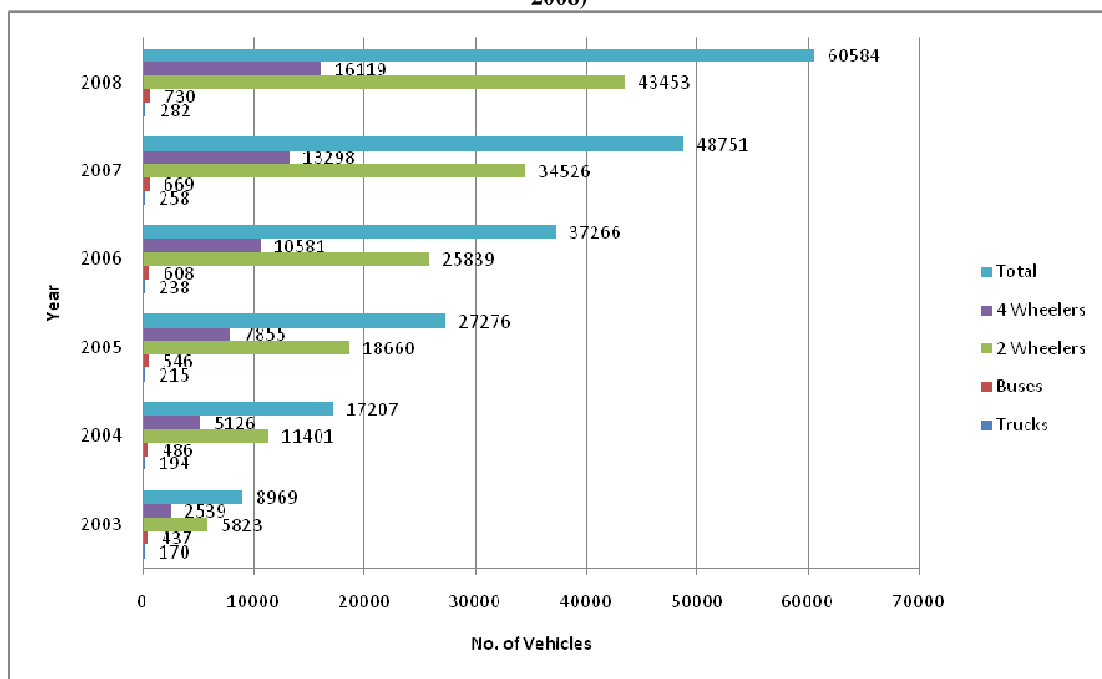
Fig. 31: Parking under Fly over (Near Gandhi Chowk) and along Road (Main Bazaar)

4.4.5 VEHICLE POPULATION GROWTH

The rapid developments in industrial and service sectors, coupled with growth of population and related socio-economic activities have triggered a virtual explosion in vehicle population in the city. Number of registered vehicles in Batala city in the year 2008 was about 60,000.

The number of registered vehicles has recorded growth of more than 6 folds during 2003-

Fig. 32: Number of Registered Vehicles in Batala Tehsil (2003-2008)



Source: SDM Office Batala

2008, when it rose from 8,969 (2003) to 60,584 (2008). Among the total registered vehicles, two wheelers accounted for majority of the portion, i.e. 71.7%, of the total registered vehicles in the year. The next in the number comes four wheelers with 16119 vehicles (26.6%) registered in 2008. Buses and trucks have least number of registrations respectively. Moreover, the share of two wheelers has increased from 64.9% to 71.7% between the year

2003 to 2008, while the share of all other three categories, i.e. four wheelers, buses and trucks, has decreased.

4.4.6 ROAD ACCIDENTS

Road accidents aspect is studied in terms of number of accidents in different years, nature of accidents and the location of black spots, along with the causes.

Road Accidents

To know the safety scenario of cities with respect to increasing vehicular population, statistics of road accidents is required to be studied.

Table 37: Yearwise Total and Fatal Number of Accidents

Year	Number Total Accidents	Number Fatal Accidents	% Fatal Accidents in Total Accidents
2005	80	58	72.5
2006	88	63	71.6
2007	86	63	73.3
2008	73	58	79.5

Source: SSP Office, Batala

The statistics shows the number of accidents in the town as recorded by the traffic department. The number of accidents has comparatively gone down between 2005 and 2008 from 80 to 73, but it is alarming to note that the share of fatal accidents has increased from 72.5 in 2005 to 79.5 in 2007 in 2008. This calls for proper implementation of road safety measures.

Accident Prone Areas

The vehicular growth in city during previous decades, especially in terms of two wheelers and four wheelers, leads to danger of accidents in absence of a proper traffic plan.

Table 38: Accident Prone Areas in Batala PA

S.N	Black spots
1	Gandhi Chowk
2	Simbal Chowk
3	Amritsar Bypass Chowk
4	Qadian Chungi
5	Shastri Nagar Mor
6	Pul Hansali Jalandhar Road, Sukha Singh Chowk
7	Aliwal Bypass Chowk

Source: As per discussion with Traffic Police, Batala

Accident prone areas in the city are mentioned in the above table. The main reasons for accidents in these spots is faulty design of junctions, absence of traffic lights, sharp curves, lack of visibility at night, no proper dividers, absence of traffic islands and lack of traffic sense.

The table below shows the details of major junctions of the city. These details are as per the Primary Survey done. It has been observed that all junctions are devoid of traffic lights. In addition to this, there are no lane markings on any of these junctions. In terms of encroachment, majority of junctions have been encroached upon mainly because of shops, *rehris* and onstreet parking.

Table 39: Ju cti Wise Details

Ju cti r Stretch	Type Ju cti	Tra ic ights	E cr ach e ts	Street ights	a e Marki gs	O street Parki g
Ga dhi Ch wk	X-Junction	No	Yes	Yes	No	Yes
i ble Ch wk	X-Ju ctio	No	Yes	Yes	No	Yes
A ritsar pass Ch wk	X-Ju ctio	No	No	Yes	No	Yes
hastri Nagar M r	T-ju ctio	No	Yes	Yes	No	Yes
Aliwal pass Ch wk	X-Ju ctio	No	No	Yes	No	Yes
hekhupura Ch wk t Ghasitpur Ch wk	Stretch	No	Yes	Yes	No	Yes
Ha sali Pul (ear R R awa C llege)	Y ju ctio	No	Yes	No	No	No
Qadia Chu gi (Kh sla Rai Mill)	Stargazed Ju ctio	No	Yes	Yes	No	Yes

urce: Primary Survey, SAI Team, 2009

4 4 7 KEY I UE

ajority of the reside tial developme t i the city is of u pla ed ature.

There is o specific commercial area i terms of city ce tre. ost of the commercial area has developed alo g with reside tial area.

There is o specific area marked for i dustries except I dustrial Focal Poi t a d I dustrial Estate, so i dustries are located alo g NH 15, Aliwal Road etc.

The perce tage share of recreatio al area is too low as per sta dard i.e. 0.81% of the existi g la duse.

The auxiliary activities related to gover me t offices arou d the bus sta d e croach o the pedestria pathways, he ce creati g problems for pedestria s.

No parki g space is available ear bus sta d for taxis, which creates traffic problems.

No formal parki g spaces have bee provided for the commercial area a d hospital e.g. o Ha sali Road ear the Ha sali Bridge.

Abse ce of traffic sig als creates problems at Ga dhi Chowk a d Ka da Chowk.

There is mixi g of local a d through traffic that causes co gestio i the peak hours.

Almost all city roads have bee e croached i the city by the shopkeepers as they put their commodities o display o the pedestria paths. Ce tral verge or media is abse t o Natio al Highway 15, Qadia Road, Dera Baba Na ak Road, etc., which creates traffic accide ts.

I core city area, maximum of the wholesale shops are o streets. The width of the roads ra ges betwee 4 to 5 feet, which hi ders the vehicular moveme t at peak hours.

Pla ed parki g spaces should be provided i close proximity of all commercial areas to avoid e croachme t o the pedestria path for parki g.

CHAPTER 5

INFRASTRUCTURE AND SERVICE DELIVERY

The sustainability and quality of life in urban centres is closely linked with the efficiency of infrastructure present there. Accordingly, providing better physical and social infrastructure assumes critical importance for their proper development.

5.1 PHYSICAL INFRASTRUCTURE

Infrastructure can be divided into physical and social types on the basis of their nature. Physical Infrastructure majorly covers 5 things: Water Supply, Sewerage, Storm Water Drainage, Solid Waste and Electricity.

5.1.1 WATER SUPPLY

5.1.1.1 Sources Water Supply

The present potable water supply is fully dependent on underground water. Though there are many sources of surface water, like Hansali Nallah, Fateh Nangal Distributary, Batala Distributary, Aliwal Distributary, Bajuman Drain, etc. but the quality of water flowing through them is poor, and cannot be used for drinking purpose.

5.1.1.2 System Water Supply and Area Coverage:

Almost 58% of municipal population is served by municipal water supply system. 16 tube wells are working within the city for water supply, which in total extracts 15.27 MLD of water. But, the supply is almost half of the required amount, as the total supply done is 90 lpcd only against the demand of 170 lpcd (refer table 40).

Table 40: Details Water Supply in Batala M. Cl

Items	Percentage/N s.	Remarks
Population served (M.Cl.)	58%	
Water Demand (per capita per day)	170 lpcd	
Water Supply (per capita per day)	90 lpcd	As per JBIC report, 41% wastage.
Total No. of Tube Wells	16	Depth varying
Total Amount of extracted Ground Water	15.27 MLD	

Source: Municipal Council Batala, 2008

The total area covered by water supply network in the city is only 21%, whereas that within developed area of the council is 40% approximately, which includes the area of walled city, Mann Nagar, Urban Estate, Dharmapura Basti etc. Out of the remaining 79% area, proposal has already been made to cover 15% of the area. The share of population served by water supply is 58% of the municipal population, while remaining 42% of population is served through stand posts and independent set up (refer table 41).

Table 41: Area Coverage Water Supply within Batala M.C.

Item	Area (Ha)	Area (%)
Covered Area	680	21%
Uncovered area	2596	79%
Total Municipal Area	3276	100%

Source: Punjab Water Supply and Sewerage Board, Gurdaspur

Villages in BATALA

The situation of villages within LPA has been analyzed with respect to water supply. It is assessed that only 8 villages out of 67 (11% of the village LPA) are served through tube wells and remaining 59 are served by private agencies. 65 villages out of 67 villages have water supply facility under rural water supply scheme. In rest of the villages there is no piped water supply.

In Batala city, only indirect system (Dual system) of water supply is followed. In this system tube-well has an additional facility to pump water and store it into overhead reservoir attached with it, or it can supply water directly to the water mains via pumping. 16 tube wells are used to pump the water for six overhead reservoirs.

The system of improving quality of water is also studied. Occasionally bacteriological test is carried out, and if any contamination is found, Municipal Council put bleaching powder as a disinfectant before supply. However, water should be disinfected by chlorination method adopted by BIS (ISI-10500, 1991 (clause 3.1)).

5.1.1.3 Metered & Unmetered Connections

In Batala municipal area, total numbers of metered house connection during the year 2008 were 3168. The total number of water connections in the city is 11,132. Remaining population is served by stand post, independent setup or community taps (refer table 42).

Table 42: Water Supply Connections in BATALA M.C.

Head	Number
Total no. of Households	24025
Number of House Connection – Metered	3168
Number of House Connection – Unmetered	7964
Population served by Stand Post and Institutional Independent Setup	80958

Source: Punjab Water Supply and Sewerage Board, Gurdaspur

5.1.1.4 Projects-Ongoing/Proposed

Most of the proposed water supply schemes of council through tube wells and overhead supply reservoir (OHSR) all within the periphery of city and few all in the core city. There are few proposals to cover new areas under water supply scheme. There is also a proposal to renovate the existing abandoned OHSR.

5.1.1.5 Key Issues

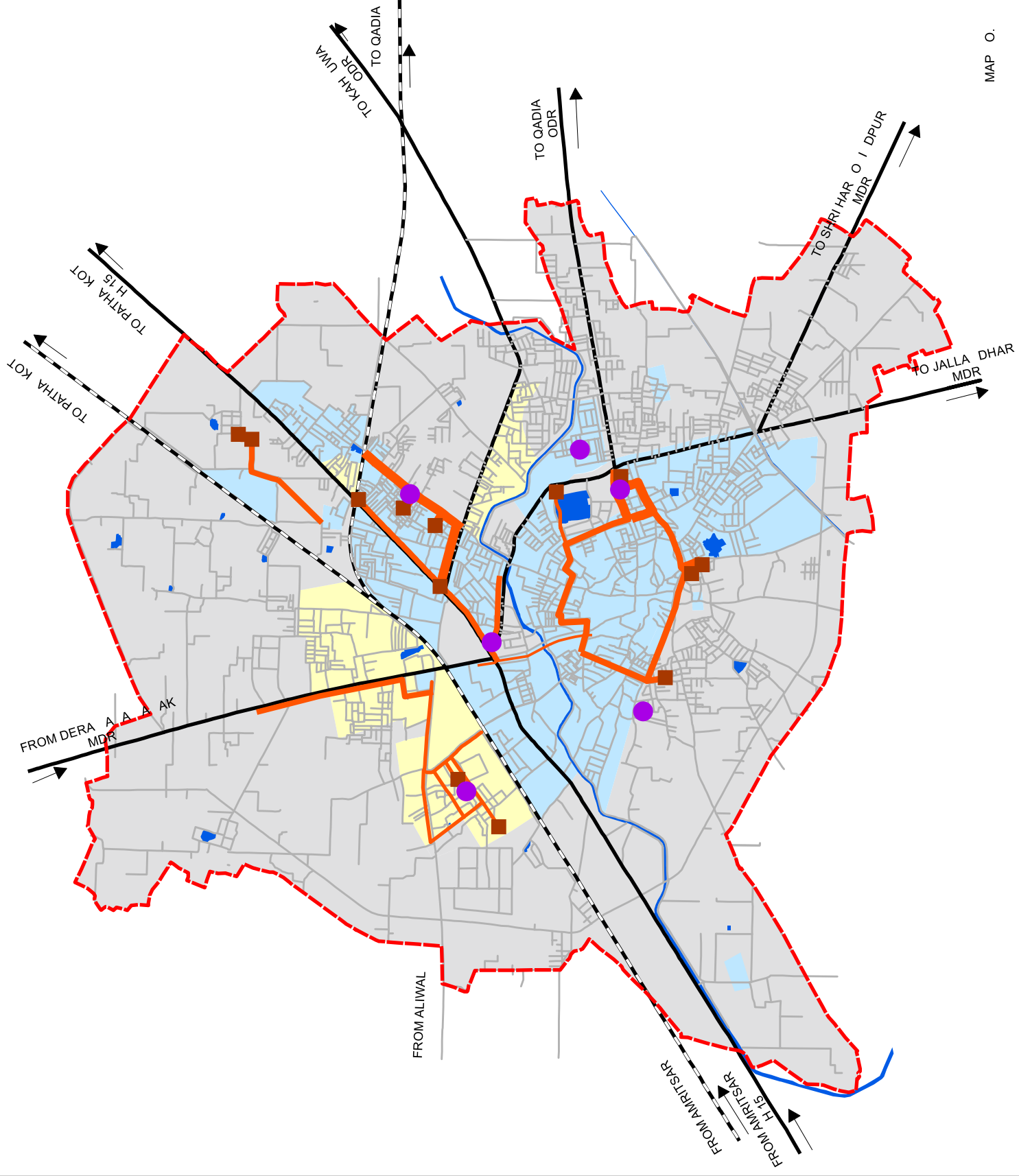
- Majority of distribution system is 30 years old.
- No water treatment plant.
- Water leakage and wastage of water supply.

OTE:
This drawing is based upon the Existing Land Use Map supplied by DTP office. urdaspur Drawing o.D.T.P. 1/10 dated 1 -1 -10

DEPARTMENT OF TOWNSHIP AND COUNTY PLANNING AND PUBLIC UTILITIES	
MAP: 0-	
DESIGNATION: TOWNSHIP	BEFORE TOWNSHIP
	CHECK FOR TOWNSHIP
CITY OF ALABAMA	
FOR THE ALABAMA DEPARTMENT OF TRANSPORTATION	
PROJECT: PREPARATION OF MASTER PLAN FOR ATLANTA LOCAL AREA	

SAI Consulting Engineers Pvt. Ltd.
An ISO 9001 Certified Company

SAI House, Sathyam Corporate Square, B.H. Rajpath Club, Bodasdev, Ahmedabad - 380 054
PHONE : +91 79 6814 2600, 6814 2700, Fax : +91 79 6614 2600.



MAP O

- Underground water table is receding.
- No water harvesting and water recharging schemes.
- Only 58% population and 21% area is covered by piped water supply.
- 41% water is being wasted in distribution system.
- 71.5% connections of water supply are unmetered.

5.1.2 SEWERAGE

Along with the provision of safe drinking water, provision of sewerage facility in the city is another important area of concern. This section deals with the assessment of sewerage system, its network and disposal system in terms of area and population coverage within Batala M.C.I. and LPA.

5.1.2.1 Area and Population Coverage

As far as Batala city is concerned, only 27% of total municipal area is covered with sewerage network. For the remaining 73% area, there is proposal for 19.35% of the area to provide sewerage network (refer table 43). According to the Water supply and sewerage Board, Gurdaspur, 78% of total population of city is served by sewerage system and remaining 22% is served through septic tanks and independent institutional setup (refer table 44).

Table 43: Area under Sewerage Network Coverage

Category	Area (ha)	Area (%)
Covered Area	869	27 %
Un covered area	2407	73%
Total Municipal Area	3276	100%

Source: Punjab Water supply and sewerage board, Gurdaspur

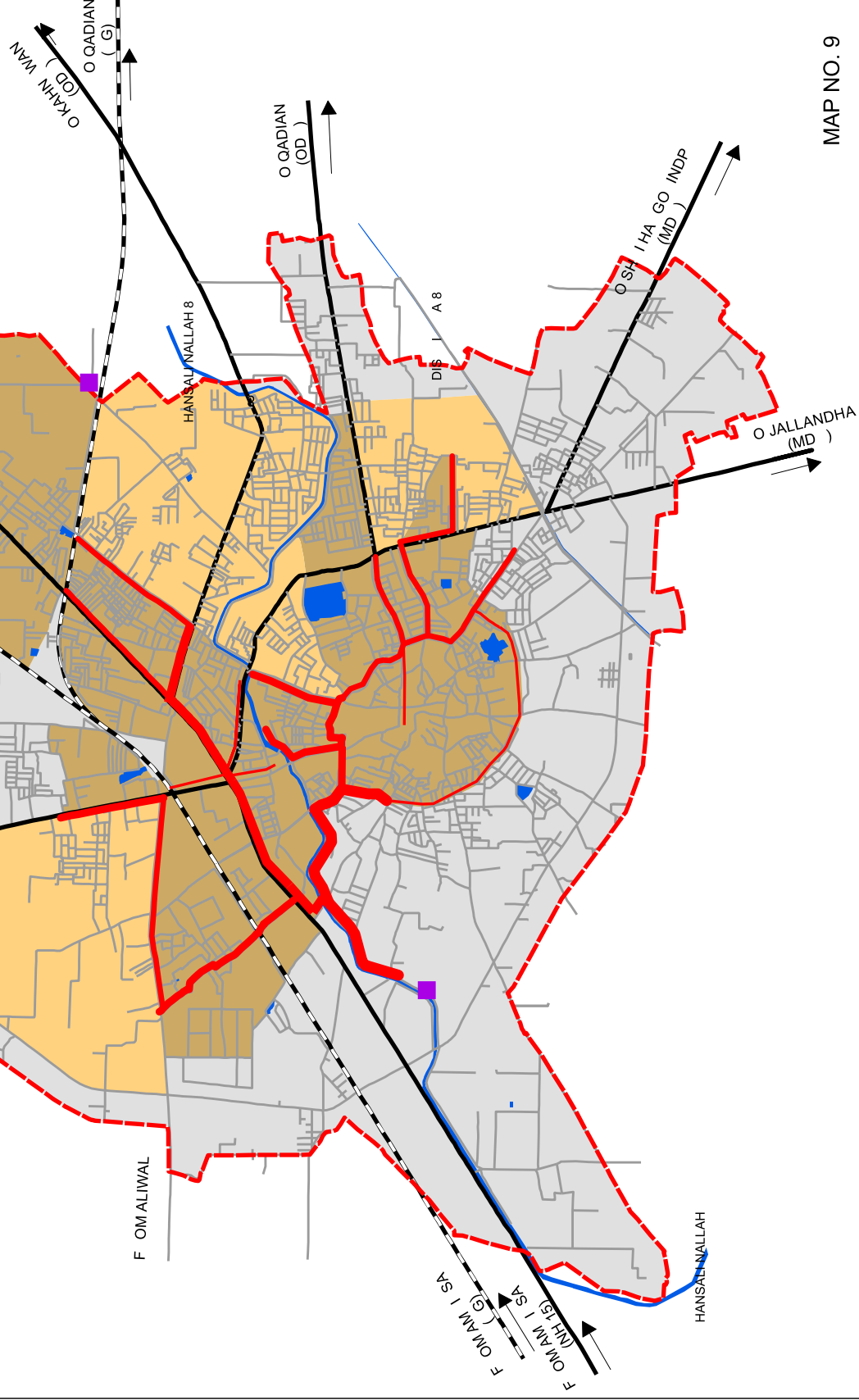
It has been observed that the area south of the railway line including walled city area, new residential development such as Hastri Nagar, Urban Estate Phase I etc. are provided with well-laid sewerage network. On the other hand, area north of the railway line, which includes Grain Market and slum areas like Mann Nagar etc., is completely devoid of sewerage network. Further, within Batala LPA (excluding M.C.I.), there is no sewerage system. The population residing here have independent set ups/ septic tanks/ soak pits.

The sewerage generated from residential, commercial, industrial and institutional is 17 MLD, that is directly disposed off into the Hansali Drain due to absence of a sewage treatment plant (refer table 44). Out of the total population of 1,47,750, almost half is served by the independent institutional setups, while the rest 1/4th each are served through sewer connections and soak pits/septic tanks.

Table 44: Details of Sewerage System in M.C.I.

Head	Number
Total Population	147750
Population served through sewer connection	38,538 (26%)
Population served through soakage pit tank/septic tanks	40,000 (27%)
Population served by independent institutional setup	69,212 (47 %)
Total Generation	17 MLD

Source: Punjab Water supply and sewerage Board, Gurdaspur

 $F_1 = 1:4,000$ 

DEPARTMENT		T	F	T	A	D	C	U	T	R	Y	P	A	I	G	P	J	A	B
MAP.		0 - 9																	
DISE	IC	OVER-PLANE																	
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To ensure a good livable environment, total population must have access to proper sewerage system. Lack of access to sewerage facility leads to unhygienic conditions, degrading the environment of city, spreading various diseases, and thus affects quality of life.

5.1.2.2 Distributive Network

The following table gives details of the sewerage network, including Outfall Sewer, Interconnecting Sewer and Branch Sewer located within Batala Municipal Council area. The total length of sewerage network is 167.45 kms covering 78% of the city population. This length, compared to the existing road network of 115.86 km comes out to be 44% more than the network, which shows a good sign as far as laying down of sewer system is concerned.

Table 45: Detail Sewerage Network in Batala M. Cl. Area

Name	Areaage Daily Sewage Flow (M.D)	Length of all Sewer (in kms)	Length of Intercepting Sewer (in kms)	Length of Branch Sewer (in kms)	Total Length of Sewer Network (in kms)
Batala M. Cl.	17	75	24.7	125	167.45

Source: Water Supply & Sewerage Board, Gurdaspur

5.1.2.3 Sewerage Treatment/Disposal Site

The total amount of sewage generated in the Batala city is 17 MLD. The sewage collected from the city is directly disposed off into the Hansali Nallah passing through the city. This eventually degrades the quality of drain water due to non-availability of treatment plant.

At present, there are only two disposal works in the city, which dump the sewage directly into the nearby watercourse. One of the disposal works is located near the junction of Hansali Nallah and by pass, while the other one is located near the junction where the nallah meets Qadian Railway Line. In addition, large number of industrial units existing in the city also dispose their effluents into the drain without any initial treatment. All industries are required to treat effluent before discharging into the network, which is not followed to this date. This has led to the high degree of water and underground pollution.

It is important to install Sewage Treatment Plant (STP) on priority to treat the sullage generated in order to avoid the pollution. Moreover, Water Supply and Sewerage Board, Batala has estimated the cost for setting up of STP in Batala city to the tune of Rs. 25.2 lakhs and the estimated cost for providing 100% sewerage system is Rs. 4477.92 lakhs.

5.1.2.4 Key Issues Sewerage Site

- 22% of the population has no access to proper sewerage facility.
- Absence of Sewage Treatment Plant.
- No provision for recycling of waste water.
- Lack of sewerage system in the north of the railway line for major industries.
- Manholes and sewerage pipes are opened in most of the areas.

- Lack of proper sewerage disposal work in the city, which makes it choked during the rainy season.

5.1.3 STORM WATER DRAINAGE

Hansali Nallah passing through Batala LPA is the only drain available for storm water in the city. There is no planned effort for storm water drainage system in the city. Batala Municipal Council is completely devoid of storm water drainage. The problem of water-logging during heavy rains is experienced in the whole Batala city (refer fig. 33). During rainy days, city faces flood like situation as majority of the area is low lying and get submerged in water in case of heavy rainfall. At present, storm water drainage is carried out through the system of open drains existing in the walled city area and Hansali Nallah in the municipal council area. But during rainy season, water generally overflows from the open drains due to lack of adequate capacity, while the nallah gets blocked due to dumping of plastic and domestic waste. Therefore, city needs a proper storm water drainage network.



Fig. 33: Water logged areas like Court Complex and M.C.I. Office

The Hansali Nallah, which is passing through the centre of the LPA, is used for disposal of city's sewage and storm water. The drain has not been desilted for a long time.

5.1.3.1 Projects-Ongoing/Proposed

There is no proposal for storm water drains to solve the existing problem of the city.

5.1.3.2 Key Issues

- Absence of storm water drainage in the city.
- Flooding of low lying area in rainy season.
- Choking of drains due to dumping of waste and plastic.

5.1.4 SOLID WASTE MANAGEMENT

Municipalities are vested with the responsibility for providing solid waste management including collection, storage, segregation, transportation and disposal of solid waste generated within the municipal area. Day-to-Day solid waste collection is carried out by council's sanitary branch workers. Sanitary Inspector of the Council has been vested with the overall responsibility for management of the solid waste. Open dumping method for solid waste

disposal results in environmental pollution of surrounding area, causing land degradation, nuisance, etc. and attracts insects, rodents, etc. leading to the spread of diseases. Most of the solid waste is presently disposed of on open land and remains uncovered, resulting in environmental pollution of the surrounding area.

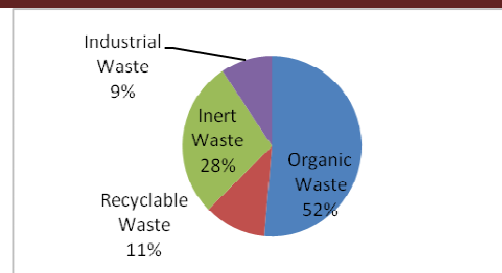


Fig. 34: Composition of Solid Waste

5.1.4.1 Generation

The total generation of the solid waste is estimated to be 36.9 tons per day @ 250 grams per capita per day (As per UDPFI Guidelines) for the population of 147,750 as per census 2001 for Batala urban agglomeration.

5.1.4.2 Composition

Solid waste is generated from different sources such as individuals, households, industries, trade and commerce, hotels and restaurants, health care institutions like dispensaries, hospital, animals and floating populations in terms of tourists, hawkers etc. Solid waste generated can be broadly classified into four categories:

- i) **Organic Waste** which includes kitchen waste (food items, leaves, etc.)
- ii) **Recyclable Waste** which includes paper, plastic, glass, metal, rags, packing materials, twigs, bark, etc.
- iii) **Inert Waste** including bricks, cement, building debris, furniture waste, etc.
- iv) **Industrial Waste** including medical waste, e-waste, etc.

The construction waste creates problems for its disposal due to its volume, weight and bulk. The use of plastics has added a new dimension to the composition of solid waste due to its non-degradable character. In addition, a large amount of hazardous waste is also generated by number of hospitals, dispensaries and other health care institutions, which are operational in the town.

In terms of waste generated in general, Organic Waste normally comprises more than half of the total waste generated (52%), Recyclable is 11%, Inert Waste is 28% and Industrial Waste is 9%. There is no segregation of waste at the point of generation.

5.1.4.3 Collection, Segregation and Transportation

The total amount of solid waste collected in the city is 9 tons per day, which is 24% of the estimated generation of 36.9 tons per day. This reflects poor efforts put in for the waste collection in the Batala city.

Different methods of waste collection are practiced in the city. In some parts of the city, arrangement for house-to-house collection of waste is practiced. For the house to house

collection of waste, council sweepers, *rickshaw/rehris*, wheel barrows, rag pickers and a tricycle having back space as a storage bin are used. The areas where house to house collection system is not provided, community bins are strategically placed for their direct use by the surrounding inhabitants. Since house hold waste has high contents of organic waste, no system of segregation is used at the generation level. In the process, the quality of recyclable material get spoilt due to mixing of the dry and the wet waste.

In public places like Bus Stands, Railway Stations, market places and places visited by the tourist, etc., no organized system of solid waste collection is in practice. In such areas, the normal system is to provide dustbins and community bins for dumping of the waste, before it is collected by the council for disposal. Most of solid waste is collected through community bins by the 238 sanitary workers (*Safai Sevaks*) appointed by the Municipal Council, Batala.

Segregation of Waste

There is no segregation process at the source. Most of the inhabitants of city are habituated to salvage resaleable material from waste such as newspaper, glass bottles, empty tins, plastic bags, old cloths, etc. Rag pickers also play an important role in Batala in the segregation of waste. Rag pickers are self employed and poorest of the poor in the city. They collect the reusable items like plastic bags, empty containers, etc. which people throw away anywhere.

Transportation

For transportation of the solid waste from the community bins to the disposal site, Municipal Council, Batala has put into use 4 tractor trolleys, 40 wheel barrows and 1 dumper placer for primary collection from the bins and then transportation to the designated landfill site (refer table 46).

Table 46: Details of Vehicles Employed for Waste Transportation in Batala

Type of Vehicle used for Collection & Transportation	4 Tractor Trolleys, 1 Dumper Placer, 40 Wheel Barrows.
Capacity of Vehicle	1 ton
Trips per vehicle per day	

Source: Batala Municipal Council

5.1.4.4 Disposal

The Municipal Council carries out open dumping of the collected waste at the landfill site without doing any segregation or pre treatment of waste. For dumping of the waste, council operates two disposal sites, one at Nawanpind and the other is near Hathi Gate. The details of city landfill site, both existing and proposed, are given in the table below:



Fig. 35: Open Dumping of Garbage at Hathi Gate

Table 47: Waste Dumping Sites in Batala M. Cl.

Sr. No.	Name of the site	Area	Distance (City Centre)
Existing dumpsites			
1	Nawanind	1 Acre	6 km
2	Hathi Gate	1.5 Acres	3 km
Proposed dumpsites			
1	Nawanind Hasanpura	-	-
2	Bodhe di Khui Basarpura	20 Acres	-
3	Patti Panj Khandal	20 Acres	-

Source: Municipal Council, Batala

As no scientific method for disposal is used, open dumping has led to air pollution in the surroundings due to bad odour and thus, has created unhygienic conditions.



Fig 36: Unhygienic Dumping Garbage at Disposal site near Hathi Gate

The existing landfill sites are not sufficient and a major portion of the waste is being disposed along roads/ railway lines.

5.1.4.5 Projects - Digging/Proposed

Batala Municipal Council is implementing the Solid Waste Management Project as per Municipal Solid Waste (Management and Handling) Rules 2000, framed as per the directions of the Supreme Court. Under this, three new disposal sites have been identified Nawanind Hasanpura, Bodhe di Khui Basarpura Patti Panj Khandal to meet the present and future needs of the solid waste disposal.

5.1.4.6 Key Issues for Solid Waste Management

- Open dumping along roadside, railway line and in drains/other water bodies.
- Non-segregation of waste at the source or at the time of disposal.
- Inadequate dumping sites.

5.1.5 POWER

The city area is covered by electricity network. Batala city has recorded considerable increase in the demand of electricity connections. Main source of electricity is the Power House at Joginder Nagar Himachal Pradesh and the Hydel Project at Mukerian.

5.1.5.1 Distributive Network

Batala LPA is served through five electric substations. Batala city is served by 66 KV substation near Bus Stand and 132 KV substation at Sangatpura. The electricity supply to LPA villages is through Sangatpura Substation and others located at Achal Sahib, Aliwagh, Focal Point and Wadokay Granthiya (refer table 48).



Fig. 37: 66 KV Sub Station at Focal Point

Table 48: Area Covered by Electric Substations

Substation	Capacity	Area Covered
Batala city Near Bus Stand	66 KV substation	whole city
Sangatpura	132 KV substation	city +30 villages
Achal Sahib	66 KV substation	9 villages
Aliwagh	66 KV substation	5 villages
Focal Point	66 KV substation	18 villages
Wadokay Granthiya	220 KV substation	5 villages

Source: Electricity Department, Batala

The numbers of connection for domestic purpose are 28,058, while commercial connections are to the tune of 4,639. Besides that, the industrial electric connection are 2384 (refer table 49). Duration of power supply for irrigation and industrial purposes is very short, which needs to be prolonged.

Table 49: Electric Connections in Batala city

S. No.	Use	Number of Connections
1	Domestic	28058
2	Industrial	2384
3	Commercial	463
4	Water Works	23

Source: Electricity Department, Batala

5.1.5.2 Street Lights

Providing street lights falls in the domain of Batala Municipality. The Municipal Council takes into account the budget expenditures on street light to be poled along the city roads and streets. The total number of street lights in city is 5,038, including tube lights, sodium/mercury lamp and flood light. But, their maintenance is very poor as about 8 % of points are old and required to be replaced (refer table 50).

Table 50: Details of Streetlights in Batala city

Sr. No.	Type of Light	Number	No. Old Points	No. New Points
1	Tube Light	4500	4000	500
2	Sodium/Mercury Light	500	450	50
3	Metal Head and Flood Light	38	38	Nil
Total		5038	4488	550

Source: M.C.I Batala

There are total 5038 points out of which tube lights cover the maximum percentage.

5.1.5.3 Projects-Ongoing/Proposed

At present there is no proposal in the category of street lighting.

5.2 SOCIAL INFRASTRUCTURE

Social infrastructure refers to provision of facilities both qualitatively and quantitatively in the field related to education health entertainment and community facilities in any settlement. The different components of social infrastructure enables us to have a status report of the city in terms of its capacity to provide desired level of support and quality of life to the residents of the settlement.

5.2.1 EDUCATIONAL FACILITIES

Educational facilities are critical for any settlement to grow in terms of literacy skill upgradation and improving quality of life. Higher level of education facilities have been considered vital for economic growth and development of any community besides improving the quality of life. Education has been found to be major determinant and promoter of growth and development of any settlement. Accordingly providing appropriate level of educational apart from health and other facilities ranks high on the agenda of any government dedicated to the cause of community welfare.

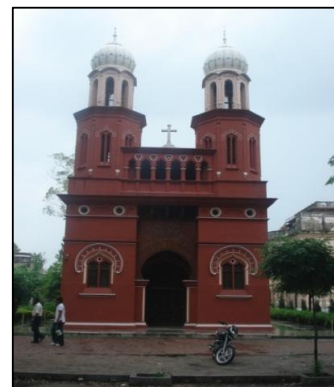


Fig 38: St. Mary's Church
Christiana College

1. Institutional Network

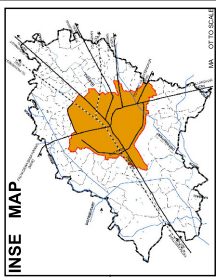
Educational facilities define progress of a society. The educational facilities in Batala LPA are inadequate and unevenly distributed. The villages are not having any college (refer table 51). This on one hand brings inconvenience to students in villages and on other hand overload colleges in Batala city. The city has number of well established primary middle secondary senior secondary schools and technical institutes like polytechnic colleges. However there is no institution for imparting professional courses like medical engineering and law in the city as well as LPA.

Table 51: Detailed Educational Facilities in Batala PA

Level	University	General College	Medical College	Engineering College	Law	Polytechnic	Private College	Technical	Middle	Primary
Batala M.C.I.	0		0	0	0	2	8	17	18	35
Village PA	0	0	0	0	0	0	5	7	17	68
Total PA	0		0	0	0	2	13	2	35	103

Source: Census 2001

A A L A **MUNICIPAL COUNCIL** **SOCIAL INFRASTRUCTURE** **2010**



LEGEND

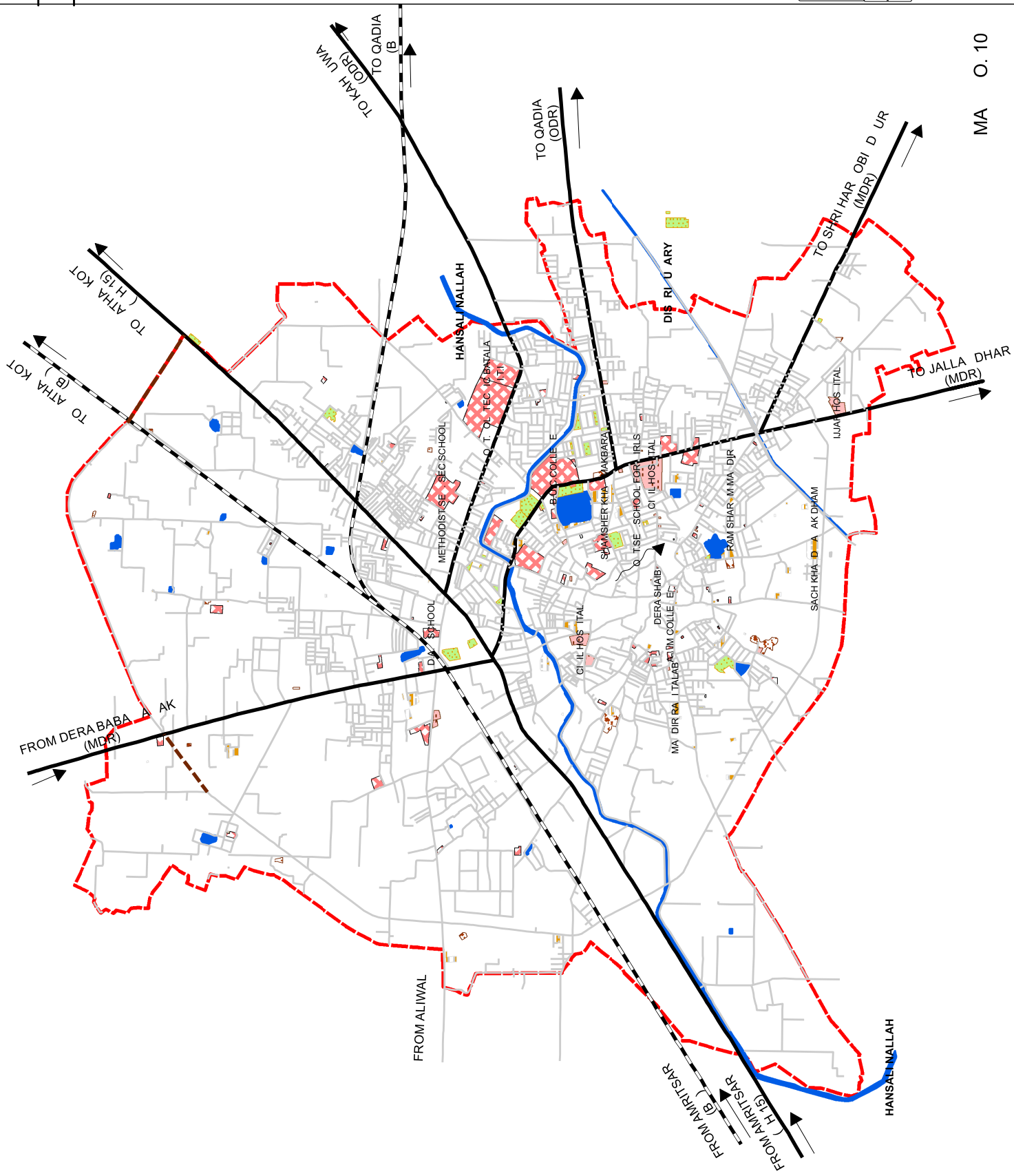
- MU ICI AL COU CIL BOU DAR
- MAJOR ROAD
- OTHER ROAD
- RAILWAY TRACK
- MISSI LI K
- WATER BOD
- PU LIC AND SEM IPU LIC
- HOS ITALIA D HEALTH I STITUTES
- EDUCATIO AL
- SOCIO CULTURALA D RELI IOUS
- CREMATIO BURIAL ROU D
- RECREATIO AL

NO E
 This drawing is based upon the Existing Land Use Map supplied by
 DT office, urdasapur (Drawing o.D.T. - (21110 dated 1 -12-10

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DEPAR MEN OF OWN AND COUN RY PLANNING, PUNJA	
MAP No- 10	
DISTRICT TOW LA ER	SE DISTRICT LA ER
CHIEF TOW LA ER	CHIEF TOW LA ER
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PROJECT RE JANDHAR LA I AREA	
CONSUL AN S	
SAI Consulting Engineers Pvt. Ltd An ISO 9001 Certified Company SAI House, Sector 14, Gurgaon, Haryana E-mail: info@saiengineers.com Web: www.saiengineers.com	



MA O. 10

Spatial Distribution

The distribution of educational facilities is not uniform in the city. These facilities are inadequate and unevenly distributed. The colleges, schools and institutions are located in narrow streets surrounded by mixed land uses. At peak hours, the location of the colleges creates traffic congestion in roads because of non-availability of required parking spaces. Moreover, no play ground is available in existing college.

Key Issues for Education

- The educational facilities are not well distributed over the city area.
- The educational institutes are inadequate. Government share is comparatively less in this respect. Moreover, people have preference for private institutes rather than public educational institutes because of their better management and infrastructure.
- Inadequate playgrounds in the institutions located in the congested areas.
- The educational institutes located within city, colleges as well as schools, are located in narrow streets, creating traffic congestion and parking problems at peak hours.

5.2.2 HEALTH

Human development and improvement in quality of life are the basic aims of any planning process. Health facilities, if provided in prescribed norms and standards within any settlement, help in improving the quality of life of inhabitants. The progress of a city largely depends on the quality of health enjoyed by its citizens, besides its location and accessibility to the community at large.

Institutional Network

Batala city has number of health institutes. A good proportion of specialized hospitals exist in the city. As far as facilities provided by the Government are concerned, Batala is having Civil Hospital as the main Government Hospital. Dispensaries also constitute part of the medical infrastructure. The health facilities exist at different levels in Batala LPA taking into consideration both Govt. and Pvt.



Fig 39: A Private Hospital in Batala

Hospitals. In Batala M.C.I., there is one allopathic hospital, one primary health centre, two allopathic dispensaries, two ayurvedic dispensaries and one homeopathic dispensary. Apart from the Government hospitals, there are almost 5 major private hospitals in the city. Among them have ambulances too. While the Civil Hospital has 50 beds, the numbers of beds for private hospitals are 13. The Civil Hospital also has the ambulance and Intensive Care Unit (ICU) facilities. In villages of LPA, only one primary health centre and six dispensaries are existing.

In total, the LPA has one allopathic hospital, two primary health centre, eight allopathic dispensaries, two ayurvedic dispensaries and one homeopathic dispensary (refer table 52). These facilities are not according to the standards and are not evenly distributed.

Table 52: Medical Infrastructure in Ahmedabad, PA

Level	All pathic		PHCs	Dispensaries	Ayurvedic	Unaided	Homeopathic
	Govt.	Private					
Ahmedabad M. Cl.	1	25	1	2	2	0	1
Villages PA	0	-	1	6	0	0	0
Total PA	1	25	2	8	2	0	1

Source: Census 2001

Spatial Distribution

There is uneven distribution of health related facilities, with majority of them occupying the southern side of the city. The city fringe area is devoid of the medical infrastructure, and these are not evenly distributed. Accordingly, spatial distribution requires rationalization for providing equitable distribution of such infrastructure. In addition, private sector should encourage Super Speciality Services in order to facilitate the services at local level. Existing health services in the government sector require considerable upgradation for improving their capacity to provide desired level of services to the people.

Key Issues for Health

Dispensaries are not as per the population requirement.

Uneven distribution of hospitals in the city.

Stagnation of health related infrastructure.

Poor conditions/absence of infrastructure within the existing health related institutions, including ICU unit.

Hospitals within city, alongside residential uses, create parking problems and land use violation.

Lack of specialized facilities and telemedicine.

5.2.3 PUBLIC SPACE /RECREATIONAL SPACE

5.2.3.1 Parks and Open Spaces

Parks and open spaces have been considered as vital parts of any settlement, for maintaining desired level of quality of life. They are also known as vital “green lungs” providing fresh air to the city on day to day basis, besides supporting leisure and recreation.

The increase in industrial and commercial establishments has its positive effects, but this has also resulted in reduction of green spaces within urban areas, which is a matter of concern. About 1.37% of the developed area in the city is under parks and open spaces. Accordingly, there is a need of more parks and open spaces. The area under parks and open spaces is

decreasing with increasing unauthorized developments and the level of available infrastructure is increasing continuously.

The existing parks and open spaces are given under:

Parks

1. Bada Talab Park
2. Hazira Park
3. Samadh
4. Netaji Subhash Park



Fig. 40: Netaji Subhash Park

Open Spaces

1. Camping Ground
2. Old Dana Mandi
3. New Dana Mandi
4. White Ground



Fig. 41: Aradari Garde

Spatial Distribution

In terms of green spaces, the Bada Talab Park, Hazira Park, Samadh and Subhash Park are serving their surrounding population. The walled city lacks large open spaces and parks, and only have small plots. The development of commercial activities have eaten away the open space parks. The Camping Ground, Old Dana Mandi, New Dana Mandi, and White Ground and Khanda Khila are the large open spaces existing within the city. The parks and open spaces along with small plots have been provided in planned colonies.

Key Issues

- Recreational area is decreasing rapidly.
- Lack of open spaces specially in the old city areas.
- Irrational distribution of open spaces.
- Most of the open spaces locked in the individual institutional holdings.
- Only new planned colonies have provision of some green space.

5.2.4 SOCIO-CULTURAL/RECREATION/ENTERTAINMENT FACILITIES

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

Table 53: Socio-Cultural Facilities in atala cit

S. N .	Facilities	Number
1	Community Halls	1
2	Swimming Pool	1
3	Public Library	2
4	Museum	1
5	Cinema Hall	2

Source: Census, 2001 and Municipal Council, Batala

It is clearly evident from the above table that socio cultural facilities exist in city area in terms of community halls, playgrounds, public libraries, museum, etc. In most of the cases, the city is reflecting deficit in terms of these facilities. A cultural centre exists within the city on the name of the famous Punjabi poet Shiv Kumar Batalvi. As far as religious facilities are concerned, walled city mainly

**Fig. 42: Shiv Kumar Batalvi Cultural Centre**

has two important religious places, which serve the population requirements. There is no recreational club within the rural areas of LPA excluding city to serve recreational purpose of the present population.

Spatial Distribution

Within the city, socio cultural facilities are not keeping pace with the urban expansion of Batala. The distribution of facilities is uneven with most of the facilities situated along the already developed southern portion of the H 15.

5.2.5 COMMUNITIES/SERVICES

The other amenities of the city include Post Offices, Police Stations, Fire Station, Cremation Grounds, etc. Each urban area must have these amenities to serve its growing population, as the city expands and its function increases, so do the requirements for such amenities. The Batala city consists of these amenities distributed over the whole area.

Post Office/Fire Station/Police Station/Ground

In terms of postal facilities, the city has one main post office, while the rest of the LPA has 10 branch post offices located in different villages. The city is having one telegraph office too. A fire station is located within the city at municipal office with three fire tenders serving an area of 40 sq. km. (includes Batala Tehsil, Qadian Tehsil, Fafgarh Churian Tehsil and Hargobindpur Tehsil). One fire jeep is available for walled city. The city police stations are located at different places of the city to serve the citizens of those areas. The city has only one site used as cremation ground.

**Fig. 43: Police SSP**

Spatial Distribution

Inequitable and irrational spatial distribution has been observed in the provision of civic amenities in the absence of any planning framework.

Key Issues

- Shortage of civic amenities in the city.
- Irrational distribution.
- Absence of any new proposal.



Fig. 44: Fire Station

CHAPTER 6

ENVIRONMENTAL STATUS

INTRODUCTION

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

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

6.1 POLLUTION: GENERATION AND CONSEQUENCES

6.1.1 AIR POLLUTION:

One of the major areas of environmental concern within Batala city is air pollution, which is caused by various anthropogenic activities. Narrow streets, huge volume of traffic, frequent jams and large number of vehicles on road due to absence of public transport, use of kerosene as the fuel, etc. leads to air pollution in the atmosphere along the roads / chowks, such as Bus Stand, Church Road, area near municipal council, *lakkhar mandi*, *loha mandi*, grain markets, *sabzi mandi*, etc.

As far as wind direction is concerned various industrial units releases air pollutants into the atmosphere, which affects the environment of the surrounding residential areas. From planning point of view, neither any sufficient buffer zone nor any landscape element is provided there to reduce the impact of air pollutants.



Fig. 45: Poor Road Condition leads to High SPM level in Shastri Nagar

Ambient Air Quality: The existence of large number of units including the polluting industries has adversely affected the quality of air in Batala city. The emissions generated by fuel burnt by industries have also contributed to the lowering of quality of the air. With a view to clearly assess and monitor the status & quality of ambient air (annual average) in Batala, data with regard to quantity of suspended particles, SO₂ and NO_x present in the air is

collected and analyzed by the Punjab Pollution Control Board, Patiala during the year 2002 and 2003 (refer table 54). Concentration of SPM, SO₂ and NO_x in industrial and residential areas was lower than standards prescribed by CPCB, New Delhi 2001. The details of analyzed SPM, SO₂ and NO_x levels are summarized below.

Table 54: Annual Average Concentration of SPM, SO₂ and NO_x (Unit: µg/ m³)

S. No.	Area	Year	Pollutants		
			SPM	SO ₂	NO _x
1	Patiala City (Residential Area)	2002(Annual Average)	197	11	31
Permissible limits			140	60	60
2	Patiala City (Industrial Zone)	2003(Annual Average)	230	10	24
Permissible limits			360	80	60

Source: PPCB, Patiala

6.1.2 SURFACE WATER RESOURCE & WATER POLLUTION

Interiors of surface water resources, the catchment area of two rivers, i.e. Beas and Ravi, covers the Batala LPA. It includes many distributaries, major among which are Batala Distributary, Fateh Nagal Distributary and Aliwal Distributary, allahs, like Harsali Nallah, Bajwah Drain, etc. and several ponds.

Harsali Nallah is the only allah of the city, which carries its total untreated industrial effluents, sewage and also stores water during the rainy season.



Fig. 46: Dumping Solid Waste Causing Pollution in Harsali Nallah

Remarks:- There are two rivers Beas and Ravi flowing in the catchment area of the Batala LPA. The upstream qualities of the river water have been studied by PPCB in Dec 2000 under the GoI scheme MINAR (Monitoring of India National Aquatic Resources). All parameters of surface water quality are within the permissible limits prescribed by BIS (ISI) except BOD and total coliforms (refer table 55). BOD and total coliform level for river Beas is higher than the standards prescribed by BIS for tolerance limit of class A category (surface water).

Table 55: Status of River Water Characteristics of Beas and Ravi

No.	Parameter	Beas	Ravi
1	Temperature °C	16	14
2	pH	7.8	7.8
3	Conductivity (µmho)	342	202
4	Nitrogen (NO ₂ + NO ₃)	1.4	0.04
5	DO (mg/l)	7.8	9.0
6	BOD (mg/l)	4.2	0.4
7	COD (mg/l)	14.4	1.6
8	Cl ⁻ (mg/l)	23.0	10
9	SO ₄	16	8.0
10	Na	14.6	1.8
11	Fecal Coliform	500	0.0
12	Turbidity (NTU)	24	7.0
13	Total Coliform	5000	7.0
14	TDS	302	194

Source: PPCB, Dec 2000

Canal: - In the catchment area of Batala LPA, Upper Bari Doab Canal (UBDC) flows and feeds water supply to various distributaries within the LPA of Batala, to fulfill the irrigational requirements of the farmers. In the past, this canal was used to be a fresh water stream, but it now carries the sewage effluents from upstream, particularly from Dhariwal and Sujanpur town causing water pollution in the stretch and also spreading contamination to downstream. The present status of the canal within the LPA is satisfactory. During rainy season, the channel at every cross section is carrying sufficient quantity of water supply.

Distributary:- The major distributaries flowing through the land of Batala LPA are Batala Distributary, Fateh Nangal Distributary and Aliwal Distributary. While Batala Distributary flows on one side of the NH 15, Fateh Nangal and Aliwal Distributary are on the other side.

Fateh Nangal Distributary: The distributary enters into the LPA boundary from northern direction and joins Aliwal Distributary in Shankarpura village. Along its course, it covers many villages namely Bhullar, Winjwan, Tara Garh, Haruwal, Talwandi Lal Singh, Shankarpura, etc. The present status of distributary is satisfactory. During rainy season, the channel at every cross section within the LPA is carrying sufficient quantity of water supply.



Fig. 47: Fateh Nangal Distributary at Tara Garh



Fig. 48: Aliwal Distributary at Hard Jhanda

Aliwal Distributary: The distributary enters into the LPA from western direction at Talwandi Lal Singh. After meeting Fateh Nangal Distributary at Shankarpura village, it leaves the LPA from south after passing through villages like Dhadianat, Hardo Jhanda, Kotla Sharaf, Sarupwali, Chhit etc.

Batala Distributary: The distributary enters into the LPA boundary from east direction (village Diwaniwal) and leaves at village Basarpura situated in southern side of the LPA. The villages like Dawaniwal, Shahabad, Batala Sarki and Basarpura, and a portion of Batala Municipal Council falls under it. The present status of the distributary is not satisfactory. During rainy season, the channel at every cross section within the LPA is dry. Instead of water, the channel is full of weeds, shrubs, untreated sewage and industrial effluents produced within the city area.



Fig. 49: Back Water in Batala Distributary



Fig. 50: Batala Distributary near Gurudwara (bypass) with Meagre Water

Hansali Nallah: - Hansali Nallah enters into Batala LPA from northeastern side (Khokhar village) and leaves at Chhit village located in south. Along its course, it covers many other villages like Dialgarh, Kotli Bhan Singh, Nawanpind, Said Mubarak, Hardo Jhanda and Hassanpur Kalan, etc. A considerable portion of the nallah falls within the city too. The nallah is flooded with city's untreated sewage and industrial effluents, solid waste, ash from burnt

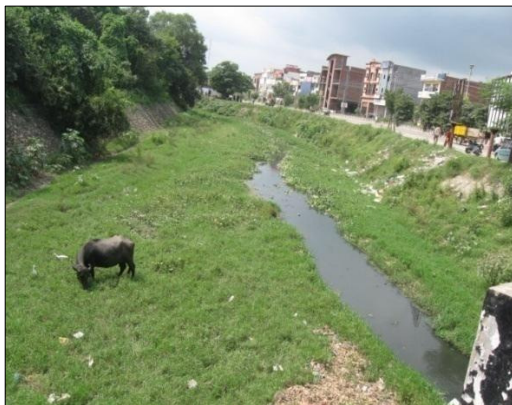


Fig. 51: Higher Pollution in Hansali Nallah near (DAV College)



Fig. 52: Degree of Pollution in the Nallah is extremely high

rice husk, etc. This causes contamination of ground water, gives out foul smell and creates dampness. The nallah also carries storm water during rainy season. The level of pollution in the nallah is extremely high. The residential areas falling along the nallah face objectionable odour and nuisance. Dense Mosquito Zone up to 1000 meter of distance from the nallah is prevailing along the total stretch of the channel.

Within the city limits, just 200 meters away from the nallah, ground water quality of private hand pump is totally deteriorated. The colour, odour, taste and presence of fine suspended particles are the cause of objection for their potable use. The colour of water is yellowish, odour is strong and suspended particles can be seen by naked eyes.

The affected residents also claim that the surrounding colonies along the Nallah suffer from various diseases such as gastroenteritis, jaundice, diarrhea/ dysentery and malaria.

Affected Zones: On the basis of primary survey done, broad observations have been made identifying various affected zones such as Health Affected Zone, Odour Zone and Mosquito Zone, etc. for Hansali Nallah. This is further supported by the Focus Group Discussion (FGD) with the affected villages. Various affected zones, their area and population with respect to the LPA are summarized in table 56.

Table 56: Affected Zones Hansali Nallah

Health Affected Zones			
Health Affected Zone	Distance Source	% Area Affected	% Population Affected
High Affected zone	Up to 000 meters	24.74	24.73
Odour Zones			
Odour Zone	Distance Source	Area Affected	Population Affected
High Odour	75 meter	.26	.26
Moderate Odour	76 to 280 meter	3.43	3.44
Low Odour	28 to 350 meter	.6	.6
Mosquito Zones			
Mosquito Zone	Distance Source	Area Affected	Population Affected
High affected	Up to 50 meters	3.70	3.70
Moderate affected	50 -500 meters	8.63	8.62
Low affected	50 - 000 meters	2.33	2.33

Source: Field Surveys, SAI Team, 2009

Note: Percentage of area and population is based on the total area and population of the PA. Odour Zone is calculated only for those areas, which are affected by effluents downstream from Ongowal to end of the PA.

As a result, there are requirements of establishing a sewage treatment plant and making policy decisions to relocate the industrial zones in appropriate area. Buffer zones and green areas are required to be provided all along the drains.

6.1.3 Ground Water Pollution :

The degradation of ground water, especially in the area along the nallah, is caused due to pollution of Hansali Nallah. The seepage of polluted water from the nallah and the industrial waste has led to the pollution of the ground water sources.

The ground water characteristics within the city are poor. Ground water in most of the industrial estate and in few residential areas has become unfit for drinking. In comparison to deep water aquifer, shallow water is seriously affected. The city accordingly faces a severe ground water problem. Majority of residents of atala city along the nallah and other adjoining villages are forced to consume contaminated vegetables and unsafe water, exposing themselves to the risk of water-borne diseases. Major issues emerging from the ground water pollution have been listed below:

- Excessive pumping has led to contamination of ground water. Residents of *abadies* in close proximity to Hansali Nallah and other adjoining villages have been found to be exposed to water borne diseases due to polluted ground water.

- ii) Considerable level of ground water pollution is found to exist up to a depth of 100 ft. along the 1000 meter belt on either side of Hansali Nallah. The characteristics of water are found to be unsuitable for supporting aquatic life.
- iii) Hand pumps and shallow tube wells drawing water from first aquifer are found susceptible to ground water pollution in areas close to industrial units and Hansali Nallah.
- iv) Pollution of the soil & ground water is caused by the dumping of the industrial wastes (effluents and solid waste) into the open ground leading to stagnation and the generation of the leachate.
- vi) The use of polluted ground water for agricultural purposes has also led to the degradation of the soil and presence of heavy metals into soil and vegetable crops grown in the area.

Ground Water Characteristics: In the villages of LPA, the study of ground water characteristics has been done by “Trade Waste & Effluents Research Unit, P.W.D., Public Health Branch, Patiala” at six different sampling stations within six different villages i.e., Balewal, Kotla Nawab, Qutbi Nangal, Hardo Jhanda, Talwandi Lal Singh and Bhullar.

The ground water characteristics of all sampling stations were within permissible limits prescribed by IS 10500, 1991 (clause 3.1), except calcium hardness and presence of minute suspension, brown suspension and minute particles in few villages (refer table 57). Concentration of calcium hardness in the village Qutbi Nangal and Hardo Jhanda is slightly greater than the standards prescribed by IS 10500, 1991 (clause 3.1) and objectionable water with minute suspension, brown suspension and minute particles was found in the samples of village Qutbi Nangal, Hardo Jhanda and Bhullar.

Table 57: Analysis Report for Physical and Chemical Examination of Ground Water Samples

Test	Acceptable	Causes Rejected	Balewal	Kotla Nawab	Qutbi Nangal	Hard Jhanda	Talwandi Singh	Bhullar
			24 05 02	01 02 02	01 03 02	14 01 02	31 12 01	31 12 01
			Source: /Well	Source: /Well	Source: T/Well	Source: T/Well	Source: T/Well	Source: T/Well
Turbidity (NTU)	2.5	10	Nil	Nil	Nil	Nil	Nil	Nil
Colour (Pt-C scale)	-	-	Colourless	Colourless	Colourless with minute particles	Colourless with Brown suspension	Colourless	Colourless with minute suspension
Taste and Odour (Qualitative)	-	-	Ordinary	Ordinary	Ordinary	Ordinary	Ordinary	Ordinary
pH	7-8.5	6.5-9.2	8.2	7.55	7.3	7.55	7.3	7.3
Conductivity			-	-	-	-	-	-
Total Solids (mg/l)	500	1500	400	220	190	340	280	250
Total Alkalinity (as CaCO ₃) (mg/l)			212	-	-	-	-	-
Total Hardness (as CaCO ₃) (mg/l)	200	600	160	110	144	190	48	96

Calcium (mg/l)	75	200	35	130	216	208	160	170
Magnesium (mg/l)	30	150	30	36	-	8	50	8
Chloride (mg/l)	200	1000	28	10	15	21	9	12
Sulphate (as SO ₄ ⁻²) (mg/l)	200	100	-	16	112	16	10	112
Fluoride (as F ⁻¹) (mg/l)	1.0	1.5	0.15	-	-	-	-	-
Nitrate (NO ₃ ⁻¹) (mg/l)	5	5	-	0.25	0.35	0.25	0.15	0.35
Iron (mg/l)	0.1	1.0	Nil	-	-	-	-	-

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

6.1.4 NOISE POLLUTION

Urbanization, industrialization, increasing, large volume of slow moving mix traffic comprising pedestrians, market goers, concentrated foot wheelers, three wheelers, cars, buses, trucks etc. in Patiala city has resulted in increased noise levels in the environment leading to noise pollution. Construction works also cause noise pollution. Street vendors and shopkeepers along both sides of roads are most vulnerable to this hazard. Besides all these, educational institutes, hospitals, etc., which are part of Silence Zone, are also highly affected. The noise pollution is not limited to the traffic only, but use of loud speakers by the religious institutions during the marriage/festivals also adds to the pollution. The use of generators by the residential, commercial and industrial establishments has also added to the pollution level in the city.

Ambient Noise level during Diwali

Noise level monitoring and analysis has been done by PPCB, Patiala during the Diwali festival in 2003. The findings obtained during the festival were compared with the data generated before and after celebration. Noise levels during celebration and after celebration were 98.0 dB and 68.0 dB, respectively, while the standards prescribed by CPCB for residential areas during day and night time are 55 and 45 dB (A), respectively (refer table 58).

Table 58: Noise level monitoring during Diwali 2003 in Patiala

Monitoring station	Before Celebration		During Celebration		After Celebration	
	dB (AI)	dB (C) Peak	dB (AI)	dB (C) Peak	dB (AI)	dB (C) Peak
Chhitti Ground, Patiala	68.0	73.0	98.0	122.1	68.0	78.0

Source: PPCB, Patiala

Note: dB (AI) - A weighted impulse sound pressure level in decibel; dB (C) peak - C weighted peak sound pressure level in decibel.

Key Issues for Pollution Management

- Insufficient periodic monitoring and assessment of ambient air quality, noise level, surface and groundwater characteristics in industrial, residential and sensitive zones.
- Excessive exhaust from fuel-fired construction equipments and DG sets.

- Excessive vehicular exhausts from traffic and transportation.
- Fugitive dust generated due to shifting of construction materials (cement, sand, bricks and gravel) and from concrete mixing unit while concreting.
- Long term excess withdrawal of ground water has caused depletion of water table, higher mineralization and local hydro geological impacts.
- Minor importance to maintenance of traffic units, industrial units and construction equipments causing noise level above the permissible limits.

6.2 RAIN WATER HARVESTING

However, the groundwater potential is getting reduced due to urbanization, industrialization and intensive agricultural practices. All these activities affect groundwater hydrology due to increase in water demand, more dependence on ground water use, over exploitation of ground water, increase in runoff, decline in well yields and fall in water levels, reduction in open soil surface area, reduction in infiltration and deterioration in water characteristics.

In Punjab, the Department of Soil & Water Conservation started the work of rainwater harvesting in the year 1986-87 on the pattern of famous Sukhomajri Project. The First Earthen Rainwater Harvesting structure was constructed in village Perch in Ropar district having a catchment area of only 8 hectares. Over the time, more than 250 water harvesting structures of different kind have been constructed in Ropar and Nawanshahr. Lot of water bodies are within LPA, which require to be conserved and preserved. Ponds of villages are being filled and encroached, thus further scope of collection/accumulation of water gets reduced. There is an urgent need to use all water bodies/ponds, which could be part of rain water harvesting.

Existing status

Concept of Rain Water Harvesting System has not been adopted satisfactorily due to the lack of vision, negligence and unawareness within the Government system and people. Secondly, the concept of Groundwater Recharge Technology has also not been adopted in the new private building constructions to raise the level of declined water table. As per concerned authorities of Improvement Trust, a few Government Buildings in the city have adopted the Groundwater Recharge Technology, but still this practice is not adopted uniformly in the new building codes till date. It should be made mandatory in large buildings to adopt this technology. Moreover, it should be made a part of Building Bye Laws and Development Control Regulations.

Key Issues

- Discharge of untreated industrial effluents into nallah, ponds and low lying areas.
- Leaching of decomposed liquid from dumped solid waste to the ground water table.

- Unplanned and mismanaged installation of industrial units for the water supply.
- Inadequate rainwater harvesting system in city and recharge pits and check dams.
- Unawareness among the residents regarding water conservation.
- Lack of watershed structures for ground water recharge.
- Falling/encroachment of village ponds.
- Lack of rainwater harvesting and recharge technology.

6.3 DISASTER MITIGATION AND MANAGEMENT ISSUES

Disasters have always co-existed with civilization. With technological advancement, development initiatives resulted in the creation of lot of infrastructure and permanent assets. The progressive increase in loss of life, property and effect on environment due to disaster moved the international community to look at disaster management in a new perspective, which transcends international barriers, anticipates possible threats and enables tackling of



Fig. 53: Narrow Streets and Highrise Buildings in Walled City

disaster from the pre-stage. In context of the present study area, disaster can be classified as natural, industrial and manmade disasters. Natural Disaster includes earthquake, flood, cyclone, landslide, drought, etc. Industrial Disaster includes fire, chemical hazard, etc. Manmade Disaster includes accidents.

Key Issues

Earthquake: The whole of Gurdaspur district falls in Seismic Zone IV and Batala is the second most populated city of the Gurdaspur district. Gurdaspur district falls under high seismic risk zone. The Great Himalayan Boundary Fault Zone, which runs from Assam to Kashmir and has been the scene of some of the great Indian earthquakes, runs to the north of this district. It has also experienced occasionally the fringe effect of the earthquakes originating in the Karakoram and Hindukush region.

Batala region falls in Seismic Zone IV as per Seismic Zone Map of Indian Standard IS 1893. Therefore, the design of buildings should be considered in compliance with IS 1893 with taking due consideration of prevailing housing constructions and development guidelines and National Building Code.

Flood: It is not the major concern for this area. But, the care should be taken in designing storm water drains so that flooding does not occur at the time of cloud burst or heavy cyclonic rain. Rainwater harvesting should be done throughout the city, which will further reduce the risk of local flooding.

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

Fire Hazard: Fast growing cities like Batala are threatened by fire hazards, due to the following main reasons.

- Non-implementation of fire safety norms as part of building byelaws.
- Illegal and loose electric connections.
- Sub-standard wiring and over loading of electricity system.
- Illegal storage and hazardous commercial activities.
- Inadequate availability of special fire fighting equipments.

CHAPTER 7

FINANCIAL STATUS AT A GLANCE

7.1 MUNICIPAL COUNCIL

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

The Revenue Income of Municipal Council has grown to a level of Rs. 1168.32 lakhs in FY 2007-08 from Rs. 636.52 lakhs during FY 2003-04, registering a CAGR of 16.39%, while Revenue Expenditure increased at a CAGR of 20%. It projects weak financial condition of Municipal Council. Municipal Council has consistently maintained a revenue surplus of an average 8% of its revenue income. However, the pressure of capital expenses on the revenue account is increasing year after year. This situation demands expenditure control measures and planned capital investments on the part of Municipal Council (refer table 59).

Table 59: Financial Status of Municipal Council at a Glance, 2003-04 to 2007-08

Ite	Rs. i akhs					CAGR
	2003-04	2004-05	2005-06	2006-07	2007-08	
Reve ue Acc u t						
Opening balance	2 .86	31.75	32. 7	66.6	35.54	
In ome	636.52	755.2	875.32	740.75	1168.32	16.3
Expenditure	423.88	480.01	561.67	477.	875.31	20
Surplus	242.5	307.03	346.62	32 .54	328.55	8
% of Revenue In ome	38.0	41	40	44	28	-7.4
Capital Acc u t						
In ome	166.5	64. 6	671.20	76 . 8	328.22	18.4
Expenditure	210. 3	40 .26	244.46	286.25	312. 7	10.3
Surplus/Defi it	-44.34	-344.3	426.74	483.73	15.25	---
% of Capital In ome	-26.62	-530.02	63.58	62.82	4.65	0.00

Source: M.C.I. annual accounts

The Capital Income of Municipal Council comprises of Loans, Grants and internal transfers from Revenue to Capital account for utilization towards asset creation. It is observed that external sources in form of grants contributing in the Capital Income during the review period. The following sections provide an in depth review of the revenue account, in order to assess the municipal financial status and to provide a base for determining the potential of each of the sources and the ability of Municipal Council to sustain the extent of planned investments identified under the Master Plan.

Revenue Account

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

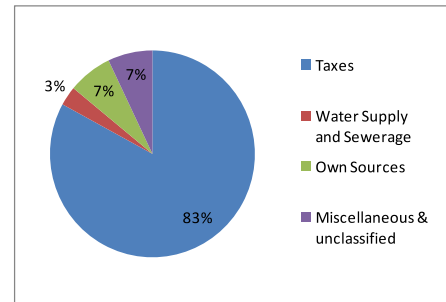


Fig. 54: Revenue Income - M.C.I.

Revenue Income

The revenue sources of Municipal Council can be broadly categorized into Own Sources, Taxes, Water & Sewerage Service Charges, etc. The source-wise income generated during the revenue period is shown in table 60.

Table 60: Source-wise Revenue Income - atala M.C.I.

Item	Rs in lakhs					% share	CAGR
	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008		
Own sources	57.39	51.77	56.31	59.39	60.4	7	9
Taxes	541.79	646.56	639.	601.	610.74	3	17.3
Water supply & sewerage	3.1	40.0	5.0	4.9	44.13	3	17.4
Miscellaneous & Unclassified	14.16	16.	154.19	71.67	16.53	7	4
Total	636.52	755.29	875.32	740.75	1168.32	6.54	16.3

Source: M.C.I. Annual Accounts

Own sources

The own sources income includes income from Revenue Fees (Slaughter house Fees, Copying Fees, etc.), revenue service account, income from License Fees, etc. Income from Own Sources contributes 7% of total Revenue Income, which shows that sources are not sufficient to cover the expenses of council. So, it depends highly on external resources for its operations.

Taxes

The major source of income for M.C.I. is taxes. It is increasing at a rate of 17.34% and contributing about 3% of total Revenue Income (refer table 61).

Table 61: Application of Funds by Head Account (M.C.I.)

Item	Rs in lakhs					CAGR
	2003-04	2004-05	2005-06	2006-07	2007-08	
House Tax	6.	4.99	71.56	51.7	17.5	19.41
Contract	469.30	56.51	539.03	430.54	65.45	-3.
Excise Duty	9.3	34.7	.93	119.3	30.46	1.3
Advertisement Tax	0.9	0.34	0.	0.07	1.6	59.1
VAT	0.00	0.00	0.00	0.00	601.0	0
Total	541.79	646.56	639.	601.	610.74	17.34

Source: M.C.I. Annual Accounts

House Tax

Among taxes House Tax is major source of income for M.CI. In year 2003-2004 the income from House Tax was Rs. 62.88 lakhs which increased to Rs 127.85 lakhs in year 2007-2008 registering a CAGR of 19%.

Octroi

Another source of income for Municipal Council is octroi. It has registered a decreasing of CAGR 38.8%.

Water supply and sewerage services

It is observed that taxes from Water Supply and Sewerage services contribute 3% of total Revenue Income during review period which is very less as compared to other taxes.

Non-Tax Revenue (Miscellaneous & Unclassified)

Non-tax sources include fees and charges levied. These sources include income from Building License Fee Development Charges Trade License Fee Birth and Death Certificate income from municipal properties and other fees and fines. The non-tax income of Municipal Council accounts for about 7% of its revenue income and has registered a CAGR of 4 %.

REVENUE EXPENDITURE

The Revenue Expenditure of Municipal Council has been analyzed based on expenditure heads. These have been broadly classified into two categories i.e. first is Establishment Expenditure and second is Contingency.

The allocation of funds by account head is presented in Table 62 which indicates that the overall Revenue Expenditure registered a CAGR of 19.8% against the CAGR of 16.3% of Revenue Income (refer table 60).

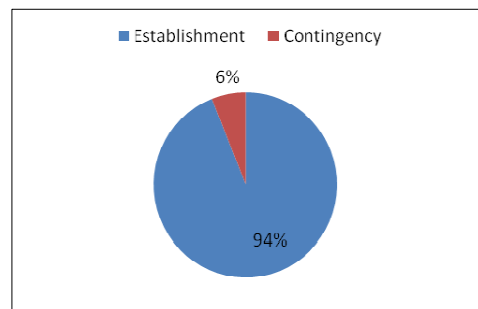


Fig 55: Revenue Expenditure atala MCI

Table 62: Sourcewise Revenue Expenditure (MCI)

Item	Rs in lakhs					% share	CAGR
	2003-04	2004-05	2005-06	2006-07	2007-08		
a) Establishment	394.96	415.97	534.82	458.05	855.37	94.33	21.3
b) Contingency	28.92	64.04	26.85	19.85	19.94	6	-8.87
Total	423.88	480.01	561.67	477.90	875.31	---	19.8

Source: MCI. Annual Accounts

CAPITAL ACCOUNT

In general, the capital income of Municipal Council comprises of loans, grants and contributions and transfers from revenue surplus. Capital grants contributes the major part in Capital Income with 76% of total capital receipts during the review period, loans 21% and sale proceeds for the rest.

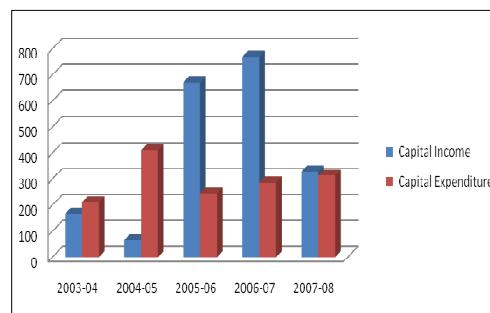


Fig 56: Capital Account (MCI)

Table 63: Details Capital Account (MCI)

Item	Rs in lakhs					% share	CAGR
	2003-04	2004-05	2005-06	2006-07	2007-08		
Capital Income							
Capital Grants	166.59	64.96	252.77	737.93	293.27	76	15.1
Loans	.	.	41.43	.	.	21	
Sale Proceeds	.	.	.	32.5	34.95	3	
Total	166.59	64.96	671.2	769.98	328.22	100	18.4
Capital Expenditure							
WSAS Department	15.69	7.92	1.5	95.14	16.23	31	.12
Development of Roads	15.3	22.29	2.1	.1	5.56	4	-22.3
Environmental	1.36	3.2	.	.	.	.31	-1
Construction of Streets & Drains	33.55	26.9	26.41	44.95	25.5	11	-6.6
Additional Street Lights	42.34	44.97	49.1	56.2	64.46	1	11.
Repayment of Loans	.	24.27	36.31	47.31	65.1	24	
Others	12.69	36.55	4.69	33.4	46.21	12	3.1
Total	210.93	409.26	244.46	286.25	312.97	100	10.36

Source: MCI. Annual Accounts

The figure presented in Table 63 indicates that about 49% of Municipal Council's capital expenditure during the review period is met from its capital receipts. The rest is contributed by the revenue/municipal surpluses.

In overall municipal finance system, it is observed that Municipal Council has generated 3% of total Revenue Income through taxes (Octroi, Excise Duty, etc.) and 76% of total Capital Income comes from Capital Grants during last five years. The maximum Revenue Expenditure, i.e. 94% of total Revenue Expenditure, is incurred in General Administration, while 31.74% of total Capital Expenditure is incurred in Water Supply & Sewerage Department.

7.2 IMPROVEMENT TRUST

The finances of the Improvement Trust of Batala have been reviewed for the last five years, commencing from the financial year 2003-04 to 2007-08. The items of both receipts and expenditure are classified under Revenue and Capital Accounts as per their sources and uses. The Revenue Income of Improvement Trust has increased from a level of Rs. 51.67 lakhs in FY 2003-04 to Rs 79.96 lakhs during FY 2007-08, registering an increasing CAGR of 11.1

percent, while Revenue Expenditure increased at a CAGR of 30.79. Revenue Account is registering increasing revenue surplus at CAGR of 116.68, which projects good financial management of Improvement trust. However, the pressure of Capital Expenses on the Revenue Account is increasing year after year. This situation demands expenditure control measures and planned capital investments.

Table 64: Financial status at a Glance (M Cr)

Ite	Rs i akhs					CAGR
	2003-04	2004-05	2005-06	2006-07	2007-08	
Re e ue Acc u t						
pening balance	4.06	47.16	40.91	68.25	307.46	
Income	51.67	32.2	58.5	1311.3	78.96	11.18
Expenditure	44.05	43.97	55.96	58.31	128.92	30.79
Surplus	11.68	35.39	43.45	1321.24	257.5	116.68
% of Revenue Income	23	110	74	101	326	94.03
Capital Acc u t						
Income	175.78	145.13	235.15	516.02	147.33	-4.31
Expenditure	140.3	136.4	210.34	1529.8	1481.59	80.26
Surplus/ Deficit	35.48	8.73	24.81	-1014	-1334	-84.57
% of Capital Income	20.18	6.02	10.55	-196.50	-905.45	---

Source: Improvement Trust, Batala

The Capital Income of Improvement Trust comprises Loans, Grants and internal transfers from Revenue to Capital Account for utilization towards asset creation. It seems that Capital Income is decreasing at a CAGR of 4.31 (refer table 64).

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

Revenue Account

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

Revenue Income

The revenue sources of Improvement Trust can be broadly categorized into Own Sources, Securities, etc. The source wise income generated during the review period is shown below:

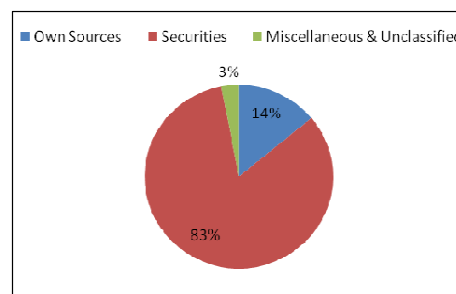


Fig 57: Revenue Income of Improvement Trust

Own Sources

Income from Own Source have registered an increasing CAGR of 11.12% with a contribution of 14% of total Revenue Income (refer table 65).

Table 65: Source Wise Revenue (M.Cl.)

Item	Rs. in lakhs					% Share	CAGR
	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008		
Own Source	43.89	13.10	29.36	66.43	66.92	14	11.12
Securities	5.99	17.57	24.80	1220.68	5.39	83	-2.60
Miscellaneous & Unclassified	1.79	1.53	4.34	24.19	6.65	3	38.83
Total	51.6	32.2	58.5	1311.3	8.96		11.18

Source: Improvement Trust, Batala

Non-Tax Revenue (Miscellaneous & Unclassified)

Non-tax source include fee and charge levied. The source include income from recovery of advance, suspension account, etc. The non-tax income of Improvement Trust contribute 3 percent to total revenue income, but it goes on increasing at a CAGR of 38.83 percent.

Revenue Expenditure

The Revenue Expenditure of Improvement Trust has been analyzed based on expenditure head. It has been broadly classified into Establishment Expenditure and Contingency. The application of fund by account head is presented in Fig. 58, which indicate that the overall Revenue Expenditure register an increasing CAGR of 30.79 percent against a CAGR of 11.18 percent of Revenue Income, which reflect very weak management of revenue account.

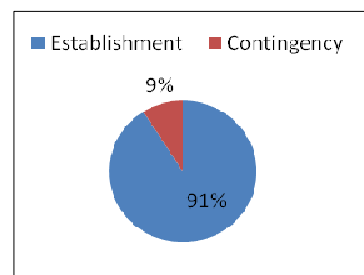


Fig. 58: Revenue Expenditure
pre-est Trust

Capital Account

In general, the Capital Income of Improvement Trust comprise of Loan, Grant, and contribution and transfer from revenue surplus. Sale Proceed contribute the major part in Capital Income with 55 percent of total capital receipt during the review period. The rest 45% part through Loan.

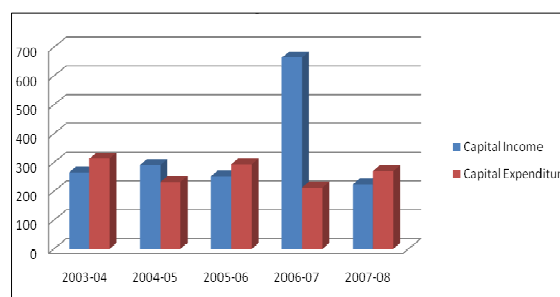


Fig. 59: Capital Account
pre-est Trust

Table 66: Details Capital Account pre-est Trust

Item	Rs. in lakhs					% Share	CAGR
	2003-04	2004-05	2005-06	2006-07	2007-08		
Capital Receipt							
Capital Grant	0.00	0.00	0.00	0.00	0.00	0	-
Loan	0.00	0.00	0.00	193.93	958.93	45	-
Sale Proceed	175.78	145.13	235.15	322.09	517.40	55	30.98
Total	175.78	145.13	235.15	516.02	1476.33		70.23

Capital Expenditure							
Development works	9.9	99.38	123.4	162.60	181.	19	22.85
Sale of Trust Land	1.33	1.22	1.45	2.90	2.1	0.2	19.4
Cost of Land	1.41	0.9	56.36	259.5	0.00	10	146.12
Repayment of Govt. loan	4.69	3.99	3.69	3.55	3.34	1	-8.13
Repayment of Bank Loan	25.00	15.00	10.00	23.5	202.26	8	68.65
Refunds	12.08	12.24	12.0	114.91	108.58	35	208.0
Investment	0.00	0.00	0.00	958.93	1.34	2	-
Others	0.00	3.8	2.40	3.59	2.59	0.35	-
Total	140.3	136.4	210.34	1529.8	1481.59		80.26

Source: Improvement Trust, Batala

The figure shown in Table 66 indicates that the major part of Capital expenditure has been fulfilled by Capital Income during review period. On an average, over the past five years, the majority of Capital expenditure has been directed towards Refunds, which accounted for 35 percent of the total investment. Not much portion, i.e. just 19%, of capital income is directed towards Development Works.

In the overall finance system, it is observed that Improvement Trust has generated 83% of Revenue Income from Sale and Purchase of Securities, while 55% of Capital Income comes from Sale Proceeds of land during the review period, which means pressure of Capital expenses on Revenue Account is increasing year after year. Maximum Revenue expenditure is incurred on General Administration with 91% share, which shows a quite high amount of Revenue Income is spent over establishment. On the other hand, 35% of total Capital expenditure is incurred on refunds, while only 19% of total Capital expenditure is incurred on development works.

CHAPTER 8

VISUALISING THE FUTURE

The study part of Batala Local Planning Area has been detailed out and analysed in the previous pages to assess the current as well as past situation of the planning area. Based upon this one can make assessments and build a platform to visualize the future and formulate proposals and policies for the Proposed Landuse to come up in the Batala LPA till 2031. The first step towards this will be projecting the population for various settlements for the planning period, and accordingly project the physical and social infrastructure required for that much population. The meetings held with various officials and stakeholders come handy in this process. Finally, SWOT Analysis to figure out the strengths, weaknesses, opportunities and threats of the planning area, and thus Vision Statements for different sectors of the urban and regional planning of the LPA provide a base to plan the proposals. All these things have been dealt in detail in the following pages:

8.1 POPULATION PROJECTION

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

For projecting the future population of Batala Local Planning Area, previous decadal trend has been taken in to account. The population projections for LPA have been done by five methods for M.C.I. and LPA villages separately. The methods used for projecting population are:

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

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

Table 67: Population Projection for Batala M. Cl. (2001-2031)

S.N .	Method	2001	2011	2021	2031
1	Arithmetic Progression Method	147872	180063	212253	244444
2	Geometric Progression Method	147872	209978	298169	423400
3	Incremental Increase Method	147872	190422	243330	306598
4	Graphical Projection Method	147872	180000	230000	280000
5	Exponential Method	147872	218765	323647	478811
Average		147872	195846	261480	346651

The average figures of all projections for Batala city present a more balanced picture than that of the others. On the other hand, the population of Batala city, taking into account its existing share of 1.8% population to that of Punjab Urban Population in 2001 and considering the same to remain constant for the future decades, comes out as 372751 in 2031. The urban population for Punjab in this case is extrapolated from the report named as “Population Projection for India and States – 2001-2026” prepared by the Technical Group on Population Projections constituted by the National Commission on Population. The details of this projection are given below:

Table 68: Projected Population of Urban Punjab and Batala M.Cl. 2001-2031

Settlement	Year				
	2001	2011	2021	2026	2031
Urban Punjab	82,62,511	1,06,81,000	1,31,85,000	1,64,56,000	2,07,08,374
Batala M. Cl. @1.8%	1,47,872	1,92,258	2,37,330	2,96,208	3,72,751

Note: The urban population of Punjab state for 2031 is extrapolated from the growth rate found between 2001 and 2026. The population of Batala city has been taken out on the basis of its present 1.8% share in the total urban population of Punjab.

But, this population cannot be considered for Batala city as Punjab Urban Population is constantly decreasing during previous decades from 1971. So, average figures have been taken for the further study and analysis. On the other hand, Exponential Method for villages of LPA has been taken as the growth rate of its figures are closer to that of the previous decades than the growth rates of the figures of other methods.

Table 69: Population Projection for PA Villages (2001-2031)

S. No.	Method	2001	2011	2021	2031
1	Arithmetic Progression Method	82,991	91,550	1,00,108	1,08,667
2	Geometric Progression Method	82,991	1,10,675	1,47,593	1,96,827
3	Incremental Increase Method	82,991	93,850	1,07,008	1,22,467
4	Exponential Method	82,991	93,980	1,06,424	1,20,515

Finally, the average figures for Batala M. Cl. and exponential figures for villages of LPA have been tabled together to get the figures for the whole LPA.

Table 70: Population Projection for Batala PA

Level settlements	2009	2011	2021	2031
Batala M. Cl.	1,86,550	1,95,846	2,61,480	3,46,651
Villages of P	88,038	93,980	1,06,424	1,20,515
Projected Population for PA	274 588	289 82	3 7 904	4 7 1

Based upon the projected population for Batala local Planning Area, the existing conditions in all sectors like social infrastructure, physical infrastructure, traffic and transportation has been studied, and accordingly analyzed. Thus, the future requirements for the Batala P sector wise have been worked out.

Workforce Projections

For calculating the workforce projection, Batala P is divided into two parts, Batala city and Villages. Category wise employment data is available for Batala city and Gurdaspur

district - as Total, Rural and Urban. To estimate category wise employment for the year 2031, certain assumptions have been made as:

- Employment pattern of Batala city will be same in 2031 as observed in 2001.
- Employment pattern of villages falling in LPA will be similar to that of Gurdaspur District total in 2031 (excluding Batala Municipal Council)

Table 71: Employment Forecast for Batala PA

Classified No.	Code	Type Worker	2031			
			Batala M.Cl.		Villages PA	Batala
			No. Workers	%age	No. Workers	%age
1	A &	Cultivators	1077	1.31	9971	31.0
2		Agricultural labourers	1356	1.65	4259	13.2
3		Plumbers, Electrician, Fitter, Fishermen, Hunting and Allied activities	394	0.48	1335	4.1
4	C	Mining and Quarrying	82	0.10	18	0.1
5 (a)	D	Manufacturing and Repairs (Household industry)	3419	4.16	1061	3.3
5 (b)		Manufacturing and Repairs industry (Non-HH)	15492	18.85	2545	7.9
	E	Electricity Gas and Water Supply	1085	1.32	743	2.3
6	F	Construction	5400	6.57	2014	6.3
7	G	Wholesale and Retail trade	23571	28.68	2229	6.9
	H	Hotels and Restaurants	1553	1.89	134	0.4
8		Transport Storage and Communication	7397	9.00	1364	4.2
9	J & K	Financial Intermediaries; Real Estate Renting and Business Activities.	4348	5.29	659	2.0
	L & Q	Public Administration and Others	17012	20.70	5845	18.2
Total			82186	100.00	32178	100.00

In Case of Batala M.Cl., major share of workers will remain to the wholesale, retail and trade, while the minimum share goes to Cultivator, Agriculture Labourer and Mining and Quarrying. Whereas in case of villages of LPA, the major share will remain to the Agriculture Labourers and Cultivators, minimum share goes to Mining and Quarrying, Hotels and Restaurants category.

8.2 PHYSICAL INFRASTRUCTURE REQUIREMENTS

8.2.1 WATER SUPPLY

Regarding water supply, the existing figures have been taken, along with the standards assigned for them. Accordingly the future demand and requirements have been calculated. The per capita water supply of 2009, i.e. 103 liters, has been taken into consideration. The

present supply thus comes out to be 19.21 MLD. According to the standard 135 lpcd the requirement comes out to be 26.4 MLD for 2011, 35.3 MLD and 46.8 MLD for 2031.

Table 72: Projected Standards and Requirements - Water Supply System

Service Head	Indicator/Standard Level		Service Levels and Requirements				
	Indicator	Standard Level	Unit	Existing (2009)	Year 2011	Year 2021	Year 2031
					Requirement	Requirement	Requirement
Daily Supply	Per capita supply (lpcd)	135	MLD	19.21	26.4	35.3	46.8
Treatment	Treatment capacity against supply (%)	100	MLD	0.00	26.4	35.3	46.8
Metering System	Installation of water meters		No.	2530.0	35608	47542	63027

There is no Water Treatment Plant existing in the city. As per standards, the total amount of water supplied has to be treated. Accordingly, all the water required till 2031, i.e. 46.8 MLD, has to be treated. In case of water meters, 2,530 meters are installed till 2009, and according to the projected population of 2031, the total requirement is of 63027 meters.

8.2.2 SEWERAGE

As per UDPFI standards, 80% of the water supply is considered as the sewerage requirement for a particular area. Considering 80% of water supply as wastewater flow by 2031, 37.44 MLD waste water is calculated.

Table 73: Projected Standards and Requirements - Sewerage System

Service Head	Indicator/Standard Level		Service Levels and Requirements				
	Indicator	Standard Level	Unit	Existing (2009)	Year 2011	Year 2021	Year 2031
					Requirement	Requirement	Requirement
Waste Water Flow	80% of the water supply (lpcd)	107	MLD	15.37	21.15	28.24	37.44
Treatment	Treatment capacity against supply (%)	100	MLD	0.00	21.15	28.24	37.44

Since there is no Sewage Treatment Plant (STP) in the city, any STP to be installed has to be of capacity higher than 37.44 MLD.

8.2.3 SOLID WASTE MANAGEMENT

The waste generation in 2031 will be 173.33 metric tons taking the standard of 500 grams per capita per day of solid waste generation. In addition to this, the same amount of solid waste need to be collected for a collection performance of 100%.

Table 74: Projected Standards and Requirements - Solid Waste Management System

Service Head	Indicator/Standard Level		Service Levels and Requirements				
	Indicator	Standard Level	Unit	Existing (2009)	Year 2011	Year 2021	Year 2031
					Requirement	Requirement	Requirement
Waste Generation	Per capita waste generation (gpcd)	500	M	57.80	7.2	130.74	173.33

Waste Collection	Collection performance (%)	100	MT	57.80	97.92	130.74	173.33
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8.2.4 STORM WATER DRAINAGE NETWORK

The city is having no system for storm water drainage network. The demand for such network is calculated till 2031. Since as per standards, total length along roads of the city must be covered with drains, the total length of drain required by 2031 comes out to be 332 KM.

Table 75: Projected Standard Requirements Storm Water Drainage System

Service Head	Indicator/Standard level		Service levels and Requirements				
	Indicator	Standard level	Unit	Existing (2009)	Year 2011	Year 2021	Year 2031
					Requirement	Requirement	Requirement
Network Reach	Road length covered with drains (%)	100	KM	0.00	188	251	332

8.3 SOCIAL INFRASTRUCTURE REQUIREMENTS

8.3.1 EDUCATION

Education sector basically caters to the young age group of the population and the projections made here are based on the norms and standards set up in UDPFI Guidelines, just like the norms of different aspects of physical infrastructure.

In case of Senior Secondary Schools, the requirement comes out to be 46 as per standard of 1 school for 7500 persons. At present 8 senior secondary exists. In case of Specialised Schools, there is no school for handicapped children at present in Batala. Taking standard of one school for 45000 persons, the requirement comes to be 8 till 2031.

As per UDPFI Guidelines, one college per 1,25,000 population is required. The city has 4 colleges and according to standards, no future college is needed till 2031. Further, a polytechnic/Industrial Training Institute (ITI) is assigned for every 10 lakh population. The existing two technical institutes are sufficient for the projected population till 2031.

8.3.2 HEALTH CARE FACILITIES

In case of health institutions, a General Hospital of 300-500 beds capacity would be required by 2021, taking into consideration its standard of serving a population of 2,50,000. There is a Civil Hospital in the city. It is of 50 beds capacity, which needs to be upgraded. Moreover, 3 more hospital of the level of Civil Hospital would be required by 2031 for the city. 2 Intermediate Hospitals of "B" category with 80-100 beds will also be needed by 2031. As far as nursing homes are concerned, the present number is sufficient to serve even the projected population.

8.3.3 SOCIO-CULTURAL FACILITIES

According to the UDPFI standards, 69 Community Rooms would be required by the year 2031. Presently there is no facility of this level in the city. There is 1 Community Hall and 1 library in the city. 23 such halls would be required by 2031. A Recreational Club is required per 1 lakh population, so 3 such Clubs will be required by 2031. As per standards, a Music, Dance and Drama Centre is required for population of 1 lakh, accordingly 3 such centres would be required.

8.3.4 UTILITIES /SERVICES

Police Station

To maintain law and order and to curb crime in the region, a proper and efficient police system is required. Due importance has been given in UDPFI Guidelines to build a good police infrastructure. There are provisions of Police Stations, Police Posts, District Office and Battalion, Police Lines, District Jail and Civil Defence and Home Guards. All these facilities are there in the city. The requirement of Police Stations by the year 2031 is 4 against the existing 1. Apart from these, a Police Lines exists within city and is adequate to cater the projected population of city.

Fire Station

A Fire Station or Sub Fire Station is required per 2 lakh population within a distance of 1-3 km from the other one as per UDPFI. There is requirement of one more fire station till 2031 to serve the projected population.

8.4 PARTICIPATORY APPROACH/THINK TANK MEETINGS

8.4.1 CONSULTATIVE MEETINGS

Though the data has been collected from different departments, but to understand the spatial planning and development of Batala at ground level, meetings with different experts/stakeholders have been conducted. Think Tank established under the Chairmanship of Deputy Commissioner, having representatives from different departments, also became an important part for understanding the problems and potentials.

Meeting held on January 15, 2009 at Gurdaspur. Think Tank constituted for preparatory Master Plan for Batala PA under the Chairmanship of DC

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

- Discussion of Master Plan methodology for 3 towns namely Pathankot, Batala and Gurdaspur.
- Defense authorities must be part of think tank for Gurdaspur and Pathankot.
- Public participation must be taken as keen interest.
- Heritage aspect is never thought of till now, which must be a part of Master Plan.

- Master Plan should cover the things in broad manner, highlighting the issues and providing long term solutions.
- Traffic situation is critical and accordingly Transportation Plan must take care of the congested area, encroachments, etc.
- Strategies for proper development of social infrastructure as medical, recreational facilities, etc. must be framed out while preparing the Master Plan.

Thi k Ta k Meeti g held July 9, 2009 at Gurdaspur u der the DC

The stakeholders meeting were held at Institute of Hotel Management and Catering, Gurdaspur, under the Chairmanship of the Deputy Commissioner Gurdaspur. In



Fig. 60: Thi k Ta k Meeti g u der Chair a ship DC

the meeting all stakeholders from different departments were invited, who provided their valuable suggestions to be incorporated in the Master Plans. In case of Batala, the main suggestion given was to create recreational area along Hansali Nallah after cleaning it. This recreational belt along the Hansali Nallah will help to cater the recreational requirement of the residents of Batala city.



Fig. 61: Meeti g regardi g C ept Pla at DTP O ice Gurdaspur

Meeti g held July 29, 2009 with DTP Gurdaspur

The meeting was held with DTP Gurdaspur on the Concept Plan of Batala LPA. The suggestions incorporated in the revised Concept Plan were discussed at the meeting with DTP and accordingly all suggestion were incorporated in the Final Concept Plan.

8.5 SWOT ANALYSIS

Historically, settlements located in Gurdaspur district of Punjab invariably suffer from perpetual neglect and lower level of investment and development. From a central location in North West India, Punjab became a border state. Partition of the country caused enormous damage to this historical city of promise. With its role as industrial capital of Punjab state getting diluted, city gradually lost its premier position to Ludhiana where major industrialized growth got localized.

Based on analytical study of the journey made in the realm of growth and development during last four centuries of its existence, a SWOT analysis has been carried out for the city of Batala illustrating its inherent strengths and weaknesses, opportunities offered and threats faced by

the city both from within and outside, which have been used as a framework for redefining the agenda for future growth and development of the city.

TRENGTH

The strength of Batala industrial city can be defined in terms of:

- Premier urban centre of the district with 1 lakh plus population since 1981.
- Municipal Council as well as Tehsil Headquarter.
- Industrial hub of the district with majority of food and industries. High degree of workforce employed in manufacturing and trade & commerce.
- Tourist destination for local, regional and national visitors. Historical and religious significance with sites like Gurdwara Sri Kandh Sahib, Achaleshwar Temple, Shrine of Brave Haqiqat Rai, etc.
- Strategic location in terms of road and rail linkages, as it is located on NH 15 (Amritsar–Pathankot Road) and Amritsar-Pathankot Broad Gauge Rail Line.
- Proximity to two major cities, i.e. Amritsar and Jalandhar, provides it the chances to share their development benefits.

WEAKNESSES

The city of Batala has also number of weaknesses, which can be enumerated in terms of:

- Border settlement with perpetual threat from neighbour.
- Haphazard, unplanned and unauthorized growth in absence of any statutory development plan & low investment.
- Overlapping of work of and incoordination among various development agencies.
- Acute shortage of housing, along with mushrooming of slums and unplanned colonies.
- Poor road geometry and capacity. Crossings with rail line are causing traffic congestion.
- In the city, 42% population and 60% of the developed area is not served by the water supply network.
- 22% of the population and 27% of the developed area of council is not served through sewerage network. No Sewage Treatment Plant in the city despite the generation of 17 MLD sewage.
- Absence of storm water drainage.
- Absence of solid waste management strategies despite the generation of 36.9 tons waste daily.
- High degree of environmental pollution, in terms of air, water, noise and soil, specially because of industrial concentration.

- Absence of tourist related infrastructure such as approach roads, public toilets, drinking water, etc.
- Lack of appreciation on conserving and preserving the valuable heritage for their maintenance and implementation.
- Large scale unauthorized and unplanned sub-division of land and buildings within walled city, in absence of clear policy for the development of Walled City. Delay in decongesting the city core (walled city) and rationalizing policy for its growth and development.
- Existence of non-conforming land uses on a large scale due to mix of industrial and residential areas, besides undesirable location of hospitals and educational institutions.
- Proximity to two most populated cities of Punjab, i.e. Amritsar and Jalandhar, restricts its chances of independent growth as industrial and commercial city.

OPPORTUNITIES

- Major manufacturing and industrial trade and commodity export centre. Linked both by road and rail locally and regionally in the state, and internationally with Pakistan.
- Regaining premier position and becoming the industrial capital of the state of Punjab, through rapid population growth.
- Attracting large investment and generating considerable employment.
- A major tourist destination with increased flow of tourists, both locally and nationally.
- Rapid physical growth and expansion on the outskirts of city in radial directions particularly along the NH-15 Road towards Pathankot and Amritsar.
- Widening and four laning of NH 15.
- Strengthening and widening of major roads of LPA.
- Already existing bypass in west direction.
- Leading educational institute in the city like Baring College, etc. provide a promising academic future.
- Existing Focal Point with many vacant plots provides a good base for further extension of industries.
- Major growth in demand for quality infrastructure in terms of education, health, tourism, trade & commerce, entertainment, housing, etc.

THREATS

Despite inherent strengths, existing weaknesses and available opportunities, city faces numerous threats, which can be identified in terms of:

- Change in the existing geo-political goodwill scenario leading to emergence of a hostile threat perception from the neighbouring countries.

- Low level of investment by State and parastatal agencies in basic infrastructure.
- Absence of enabling environment for leveraging the involvement of private sector.
- Delay in putting in place an effective and efficient mechanism of urban governance and eliminating multiplicity of agencies to check unauthorized, unplanned and haphazard development within and outside the city.
- Delay in placing appropriate framework for proper, preservation and conservation of valuable built heritage.
- Non-rationalization of inter and intra-town traffic and improving/upgrading transportation network.
- Litigations under progress against the construction of bypass and some other roads.
- Ignorance that the pollution caused to Hansali Nallah can be a threat in relation to healthy living environment for the citizens.
- Delay in creating appropriate infrastructures related to tourism, trade & commerce.
- Delay in bridging existing gaps in basic infrastructure and services in and around the city.
- Negligence in addressing issues related to slums, environment and urban poverty.
- Lack of efforts towards implementation of new state and central government schemes, such as UIDSSMT schemes.

8.6 VISION

Based on the outcome of discussions held with various stakeholders, intellectuals, non-government organizations, community based organizations, professionals, elected members and officials of the urban local body, professionals from the Town and Country Planning department, detailed study and analysis made of the past and present growth and development mechanism, it has been observed that Batala as an industrial city has enormous potential for rapid economic and physical growth. Considering the basic creativity of Punjabi Entrepreneurship coupled with availability of high order of technical and professional manpower in and around the city, Batala has high degree of potential to emerge as industrial centre provided required level of support systems, quality infrastructure, user friendly policy options, state of art developmental and institutional mechanisms, etc. are put in place. In order to make Batala grow and emerge as humane, productive, sustainable, eco-friendly, pollution free and vibrant urban centre, the future of the town is envisioned as:

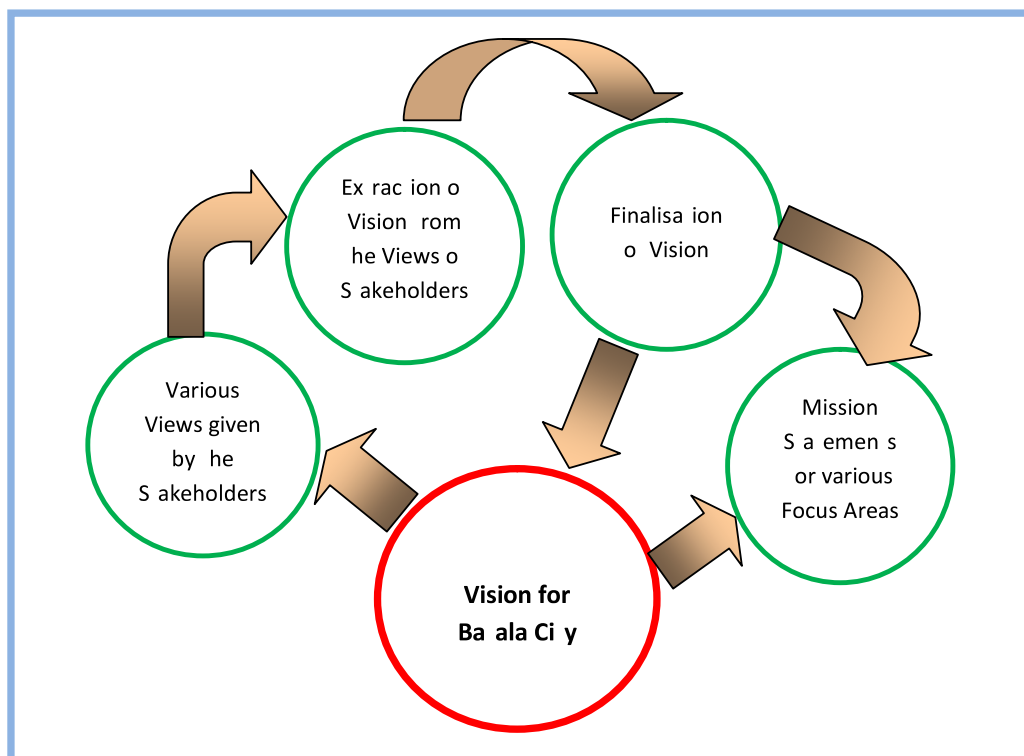


Fig. 62: Vision and Mission

VISION:

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

- Where each community is self-contained and self-sustained.

MISSION STATEMENT FOR FOCUSED AREAS:

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

a) Growth Management

- Promoting planned development through effective city planning.
- Rationalizing land use pattern for effective traffic management and provision of basic services and amenities.
- To rationalize the periurban development.
- To minimize haphazard, unplanned and sub standard growth.
- Making Effective Plan Implementation and Enforcement as integral part of City Planning and Development process.
- Conserving the cultural fabric.
- Making growth management process more participatory.
- Review of Development Plan on regular basis.
- Improving system of building plan approvals through use of IT and GIS.
- Making urban development self sustaining.
- Leveraging growth management process for resource generation.

b) Urban Environment

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

c) Urban Services:

i) Water Supply

- Ensure safe, equitable, reliable, adequate and quality water supply.
- Ensure 100% coverage of the town.
- Improve operational efficiency of water supply system by minimizing wastage.
- Remove illegal water connection and Public Stand Posts (PSP).
- To minimize the ground water consumption by promoting water conservation.

- To promote rainwater harvesting and recycling of water.

ii) Sewerage and Drainage

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

iii) Solid Waste Management

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

iv) Storm Water Disposal

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

v) Traffic and Transportation

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

vi) Urban Poor

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

vii) Social Infrastructure

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

viii) Urban Governance

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

CHAPTER 9 THE MASTER PLAN

9.1 COMPONENTS OF THE MASTER PLAN

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

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

9.2 MASTER PLAN OBJECTIVES

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

- To make Batala city as the most vibrant economic centre to promote balanced regional growth.
- To make land allocation in an environmentally benign fashion.
- To minimize haphazard, unplanned and sub-standard growth and development of the city and to achieve planned growth to create healthy environment.

- To effectively manage the traffic and transportation within the city through the mechanism of rationalizing the land use pattern defined in the Master Plan.
- To make land available for public purposes.
- To minimize travel within the city by creating self contained and self sufficient communities.
- Adequate parking spaces to be created in the town as an integral part of commercial, industrial and institutional planning and development process.
- To rationalize the distribution of physical and social infrastructure in order to ensure appropriate quality of life to all the residents of the city.
- To identify man-made and natural heritage and to make heritage conservation as integral part of the city planning and development process.
- Rationalizing and redefining existing land use and development pattern of the city.
- Rationalizing the existing land use pattern through a well defined system of land uses, zoning regulations and development controls.
- Minimizing haphazard and unplanned growth through a well defined land use pattern.
- Promoting future growth of the city based on the principle of allocation of land uses and principle of clustering.
- Adopting a strategy of compact development based on phasing in order to optimize the available land resource and minimizing the cost of infrastructure.
- Adopting well defined and stratified density pattern for different residential areas with highest density allocated in the core and minimum density in the periphery of the city.
- Leveraging the potential of existing and proposed industrial zones.
- Rationalizing the traffic and transportation network within the planning area in order to minimize the conflict between inter and intra city traffic.
- Minimizing concentration of public amenities and services, and promoting equitable distribution in the planning area through well defined norms.

9.3 BASIC CONSIDERATIONS FOR PROPOSAL

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

- Integrating the development of urban and rural settlements in order to minimize migration and promote economic and physical development of the rural settlements
- Leveraging the potential of available regional road and rail linkages/ networks with Amritsar, Pathankot, Jalandhar, Jammu and Himachal Pradesh.
- Rationalizing the growth and development along N.H-15 and roads leading to Jalandhar, Shri Hargobindpur, Dera Baba Nanak, Qadian, Kahnuwan
- Decongesting the core area of the city by selective dispersal of activities.
- Rationalizing the land use pattern in order to promote better relationship between living, working and circulation.
- Promoting self contained communities based on prescribed infrastructure norm for better social interaction and minimizing traffic
- Preserving valuable agricultural land by promoting compact development.
- Creating a well defined hierarchy of traffic and transportation network besides rationalizing the inter and intra-city traffic.
- Providing adequate land for different urban uses including residential, commercial, industrial, public/semi public, etc. for projected population to be housed.
- Providing state of art socio economic infrastructure on well defined norms for promoting quality of life.
- To rationalize the industrial growth and development including spatial distribution.
- Leveraging tourism and administrative status for making Batala as the regional hub.
- Enhancing the ambience of Gurudwara Kandh Sahib and Dera Sahib, Shamsher Khan Tomb and Baradari Garden in terms of regulating development around these sites and providing a well defined approach road with elements of urban design.
- Creating adequate open spaces, parks and places for leisure.

9.4 PROPOSALS

9.4.1 PROPOSED LAND USE PLAN 2010-2031

The Draft Master Plan of Batala LPA bearing drawing no. DTP (G) 22/2010 Dated 14.12.2010 was published on 17/02/2011 for inviting public objections/suggestions. The objections/suggestions received were discussed in detail by the PRTPD Board in its meeting held on 9th October, 2012. Based on the decision of the Board, the Master Plan of Batala LPA was approved with following modifications in the Draft Master Plan:

- 1) Deletion of Logistic Hub from Draft Proposed Landuse Plan and its provision in the Development Control Regulations (DCR). The area has been earmarked for industry, as per existing use, and mixed landuse.

- 2) Reduction of 30 m green buffer along both sides of Hansli Nallah to 5 m in the portion falling within municipal limits and 10 m in the portion falling outside municipal limits.
- 3) Addition of industries adjusted after discussion on the objections received on the Draft Master Plan.

The broad landuses in the Proposed Landuse Plan of Batala LPA, based on the decisions taken at various meetings, are as under:

Table 76: Proposed Landuse Distribution in Batala PA, 2031 (based on Drawing No. DTP(G) 15/2012 dated 23.10.2012)

Sr. No.	Landuse	Proposed Area (Ha)	%age Urbanisable Area	%age PA
A)	Urbanisable Area			
1	Residential	3464.92	47.91	20.84
2	Commercial	108.93	1.51	0.66
3	Mixed Landuse	1904.23	26.33	11.45
4	Industrial	556.69	7.70	3.35
5	Recreational	258.24	3.57	1.55
6	Government	17.84	0.25	0.11
7	Public & Semi Public	61.57	0.85	0.37
8	Utilities & Services	0.44	0.01	0.00
9	Traffic & Transportation	860.01	11.89	5.17
Total Urbanisable Area		7232.87	100.00	43.51
B)	Unurbanisable Area			
10	Agriculture	9239.66		55.58
11	Water Bodies	152.47		0.92
Total Unurbanisable Area		9392.13		56.49
Total PA (A + B)		16625		100.00

The Master Plan provides for 43.51% of the notified LPA area proposed under urbanization, whereas, Agriculture and Water Bodies constitute the balance 56.49% left over as unurbanised. Thus, it can be said that the Unurbanisable Area is larger than the Urbanisable Area. Because of this, the area under the Agriculture use is largest and covers more than half of the LPA, i.e. 55.58%. The general view for leaving over this much amount of land is the need for preserving precious land resource and minimizing its use under urbanization. Residential component is the second largest and constitutes almost 1/5th of LPA (20.84%), followed by Mixed landuse (11.45%), Traffic and Transportation (5.17%), Industrial (3.35%), Recreational (1.55%), Commercial (0.66%), Public and Semi Public (0.37%) and Government (0.11%). Water bodies, such as Hansli Nallah, constitute 0.92% area of LPA.

Looking at the Urbanisable Area provided in the Proposed Landuse Plan, majority of landuse is under Residential component (47.91%), followed by Mixed landuse (26.33%), Traffic and Transportation (11.89%), Industrial (7.7%), Recreational (3.57%), Commercial (1.51%),

Public and Semi Public (0.85%), Government (0.25%), and Utilities and Services (0.01%). However, these areas of land use are scheduled to undergo numerical changes, when the detailed planning of the different areas shall be taken up while framing schemes for implementing the Master Plan. The area under Residential/Industrial/Mixed use shall be considerably reduced with area under Commercial, Traffic and Transportation, Recreational, Public and Semi Public, and Utilities and Services increasing proportionately. The planning of the Residential, Industrial and Mixed land use areas shall be based on the planning norms and standards, and the land use pattern defined for such uses in the Development Control Regulations and the provisions of legal framework governing the planning of these uses. Accordingly, the exact percentages under different land uses shall be available after the entire planning of the urbanisable area is carried out.

The Urban Estate developed by PUDA, the sites provided in Focal Points and the Mandi Townships developed by Punjab Mandi Board have been retained as integral part of the proposals besides projects already approved by the State Government. In addition, sites which have already been approved for a particular use on designated areas, have also been included in the proposed land use plan.

Urbanisable Area 2031

The Batala LPA extends to an area of 16625 hectare, out of which municipal area is 3273 hectare. Thus, municipal area constitutes 19.69% of the LPA. As per the data available from the Existing Land Use Plan, only 1474 ha (45%) of the municipal area is developed, thus leaving behind almost 1800 ha or 18 sq. km. area. Since, the municipal area of Batala already has more land left as undeveloped than developed, the proposed urbanisable area for the year 2031 first covers this remaining undeveloped area. That is why, the urbanisable area for the target year 2031 worked out as 7232.87 hectares to accommodate the projected population of 3,46,651 persons, is only 43.51% of the total LPA. The Urbanisable Area proposed would also take care of the physical growth, which is likely to take place by the year 2031 due to the potential generated by the new road network, economic opportunities generated in the city, specially in the field of industries, and its close proximity with Amritsar metropolis.

The urbanisable area has been extended taking into consideration the pattern and direction of development along major transport corridors while proposing the land use. The proposed urbanisable area extends beyond the municipal council limits to accommodate the future development. While preparing the Proposed Land Use Plan for the Local Planning Area, care has been taken to redefine the land uses in terms of residential, commercial, institutional, etc. A detailed description of the proposals identified and envisioned for each of the land use for the planning year 2031 is as follows:

RESIDENTIAL

The Residential Zone proposed in the Master Plan includes the existing residential areas as well as new area for accommodating the future population. Accordingly, the residential area extends beyond the existing developed area. In order to accommodate the additional population, residential area proposed is of the order 3464.92 ha. The existing residential area is to the tune of 751 ha, thus around 2710 ha additional area is proposed. Thus, land use under residential category in the Master Plan has been kept on higher side considering the pattern of growth, need for decongesting the core area, compatibility of land uses and compactness of development, besides meeting the demand of unforeseen development. Moreover, as mentioned earlier the area under Residential use shall be considerably reduced with area under Commercial, Traffic and Transportation, Recreational, Public and Semi Public, and Utilities and Services increasing proportionately, when the detailed planning of the different areas shall be taken up while framing schemes for implementing the Master Plan. Accordingly, the exact percentages under different land uses shall be available after the entire planning of the urbanisable area is carried out.

Residential Densities

In the Proposed Land Use Plan, care has been taken to accommodate already existing residential area within the Batala LPA. However, residential area has been rationalized keeping in view the existing distribution of population in the city and the density pattern to be achieved in the Master Plan. The entire residential component in the LPA is proposed to be developed on two distinct density patterns i.e. residential area within the existing municipal limits, and residential area between existing municipal limits and proposed urbanisable limits. The residential area within the urbanisable limit shall be confined to residential zone defined in the proposed land use Plan. The permissible residential density in the residential zone within the existing Municipal Council limit shall be not exceeding 300 persons per acre, whereas residential density between existing municipal limits and proposed urbanisable limit shall be not exceeding 200 persons per acre as defined below:

Table 77: Density in Residential Zones

Sr. No.	Residential Zone	Density
1	Residential area falling within existing municipal limits	300 Persons Per Acre
2	Residential area falling between existing municipal limits and proposed urbanisable limits within the LPA	200 Persons Per Acre

Residential component outside the LPA shall be restricted to the area around the existing rural settlements and upto a distance of 100 meters around the village *phirnis* in order to accommodate the natural growth of population in the rural settlements. It is also proposed that

all the villages falling outside the proposed urbanisable limit and within LPA boundary shall be developed in a planned manner.

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

Considering the acute shortage of agricultural land in the state of Punjab and to preserve the valuable agricultural land, the two level density pattern of not exceeding 300 and 200 persons per acre has been adopted for the residential component depending upon their location. However, in order to achieve this density, different strategies have been proposed in the Master Plan. The town core area, which is highly congested and has high population density, is proposed to be decongested. This decongestion is proposed to be achieved by providing different affordable options of housing the population shifted out of the core area. In addition, core area will be decongested by shifting trade and commerce of the higher order taking place within the residential area. The area available shall be used for widening the road network and for creating open spaces.

The area outside the existing municipal limits, presently developed as low density area, shall be upgraded to achieve the defined density pattern of not exceeding 200 persons per acre outside the existing municipal limits but within the proposed urbanisable limits. All the residential areas shall be provided with socio-economic and physical infrastructure based on the norms defined in the Master Plan. All these areas shall also have basic amenities and adequate open spaces to ensure appropriate quality of life. The areas that are deficient in terms of infrastructure and services shall be upgraded to the desired level by framing development schemes and undertaking detailed planned development of the areas.

However, in order to preserve the basic rural character of the area outside urbanizable limits, it is proposed to permit the residential component within 100 meter belt defined outside the village *phirni* in order to meet the land requirement of housing of the population going to be added in next two decades in these rural settlements. All rural settlements forming part of the proposed urbanisable area shall be integrated with the proposed landuse and developed on the pattern defined for such landuses in the Development Control Regulations and Zoning Regulations.

While achieving the target of affordable housing for all, the housing needs for all income groups have been assessed. Further, the existing spatial distribution of housing areas and the housing profile has also been critically looked into. Since the town has been growing horizontally, most of the residential development shall be in the category of plotted development. In order to protect the valuable agricultural land, it is proposed to promote compact development in the shape of flatted development.

The housing strategy worked out to provide affordable housing to all include the active participation of public, private and cooperative sectors. For development of new residential areas, it is proposed to actively involve private and cooperative sector in the residential activities by granting liberal permissions and by adopting single window clearing system. In order to provide affordable shelter to economically weaker section of the society, it is suggested to increase the quantum of reservations already existing in the PAPRA. The reservation for EWS housing should be available in all residential development undertaken/permitted by the state government.

Looking at the pattern of residential development, it has been observed that most of the development is haphazard and unplanned. The area available under roads is minimal with no open spaces available in such development. Even the sites for basic amenities are missing. This has resulted in high degree of congestion and absence of basic amenities in the residential zones. In order to rationalize the growth and minimize the mushrooming of unauthorized colonies in the LPA, care will have to be taken to provide sufficient land at affordable cost to all categories of present and future residents of the town. The existing unauthorized colonies need to be reviewed based on a well defined policy, which should consider provision of basic essentials to the residents and ensuring adequate quality of life. Further, all the residential colonies shall be developed on the principle of self contained and self sufficient in basic day to day needs of the residents with provision of all basic amenities, services, infrastructure, etc. on the prescribed norms.

Housing for Economically Weaker Section

While proposing new residential area, housing for the Economically Weaker Section (EWS) has been included as an essential ingredient of the Master Plan. Considering that more than 90% of the housing shortage falls in the category of LIG and EWS housing, it will be critical to provide adequate land for them at the most affordable price. In addition to providing majority of plots in this category, it is essential that certain percentage of land/plots/ flats are provided for LIG/EWS housing in all housing projects sanctioned by the State Government. In addition, existing slums would also require detailed study and analysis before taking

decision with regard to their upgradation, relocation or redevelopment. The strategies for ensuring adequate supply of land have been detailed out separately in the Master Plan.

COMMERCIAL

Despite the fact that Batala is a Class I city, it does not have a well defined pattern of exclusive/dedicated commercial development. Existing pattern of development is in the shape of mixed land use with commercial shop located at the ground floor and residential area located on higher floor. All major streets have been converted into the linear commercial development in the shape of *bazars*. These *bazars* are highly congested without any provision of parking and footpaths. Existing day to day needs of the population are being met by the commercial activities located as part of the residential areas. Since most of the commercial activity at present is concentrated in the core area of the city and along the major road network passing through the city, existing pattern of development of the city in the shape of mixed land use is proposed to be retained and further developed in the Proposed Landuse Plan. This pattern would help not only in dispersal of the economic activities from the various parts of the city leading to better living and working relationship, but will also help in rational development of commercial area. The commercial area is proposed to be developed through a well defined system of Zoning Regulations and Development Control Regulations provided in the Master Plan, which takes care of the needs of commercial area development including parking, etc. The commercial activities are proposed to be created based on the well defined norms as integral part of residential area development. The hierarchy of commercial areas shall be defined in the Zonal Plans prepared for different zones delineated in the Proposed Landuse Plan. The area proposed under commercial use in the Proposed Landuse Plan is amounting to 108.93 ha, which will increase when the planning at the local level will take place.

MIXED LANDUSE

Looking at the existing pattern of growth and development, it has been observed that the major road network existing in the Local Planning Area has attracted lot of haphazard, unplanned and unregulated growth in the shape of ribbon development. This pattern of development has been observed along the roads both within the municipal area as well as area outside the municipal limits. Despite the availability of legal framework prohibiting/restricting the growth and development along the major road network, such developments have become an integral part of Indian urban growth and development scenario. This pattern of development has promoted numerous problems in terms of infrastructure, quality of development, etc. and for the smooth movement of the traffic and transportation. In order to rationalize the growth and to ensure provision of adequate parking and other supportive

infrastructure, it is proposed to permit mixed landuse development along the major road network applicable within as well as outside the municipal limits as shown on the Proposed Land Use Plan and detailed below:

1. **NH-15, Ring Road (R1):** A 300 m deep mixed landuse zone has been proposed on both sides of the NH-15, and the outer side of the existing and proposed portions of the Ring Road falling within the Batala LPA.
2. A 200 m deep mixed landuse zone has been proposed on the either side of the entire length of the following roads falling within the Batala LPA outside the municipal limits:
 - (i) Batala-Kahnuwan Road.
 - (ii) Batala-Qadian Road.
 - (iii) Batala-Sri Hargobindpur Road.
 - (iv) Batala-Jalandhar Road.
 - (v) Batala-Aliwal Road.
 - (vi) Batala-Dera Baba Nanak Road.

The position of mixed landuse zones defined above has been indicated on the Proposed Landuse Plan of Batala Master Plan. The area carved out by these mixed landuse zones 1904.23 ha, thus covering more than 1/4th of the Urbanisable Area and making it the second largest landuse after residential. The development within these zones shall be governed by the Development Control Regulations/ Detailed Schemes prepared for the zone. However, in order to maintain the character and continuity of the belt, mixed landuse shall continue to be permitted along these roads in the portion falling within the Municipal Council limits.

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

INDUSTRIA

Batala is one of the important industrial city of Punjab state, which is apparent from share of industrial use in existing landuse. The industrial use constitutes about 556.69 ha, i.e. 7.7%, of the developed area. Therefore, in order to retain its character and to provide more economic

opportunities to the existing and future population of the city, more area is proposed to be added to the already existing area in the city. Accordingly, industrial area in Batala is proposed keeping in consideration the existing situation.

Two pockets of industrial areas have been proposed as shown on the Proposed Landuse Plan. First pocket of the industrial area is proposed as an extension and integral part of existing industrial area along Focal Point on NH15. This pocket is located in the direction of Amritsar and is divided into two parts by the Ring Road. The second pocket of industrial area is also proposed on NH15 towards Gurdaspur in the village Surjit Singh Wala as an extension of the Batala Sugar Mills.

In addition, all the existing industrial clusters identified in the city are proposed to be retained as such in the Master Plan. Accordingly, existing industrial areas on Kahnuwan Road, Bhullar Road, Viswakarma Road, NH-15(Amritsar-Pathankot Road), Railway Road, Dera Baba Nanak road, cluster outside Ohri Gate and opp. 132 KV Substation, have been retained as such in the Proposed Land Use Plan. It has been also observed that large number of manufacturer of machinery, agriculture implements and machine tools are spread over the entire city. As these industries does not fall in orange and/or red category, so such type of existing industries will be allowed to continue at the existing site subject to the fulfillment of the norms and conditions prescribed by the PPCB. However their future upgradation/enhancement, if any, shall be permitted only within the existing premises, subject to the prior clearance of the competent authority, and no further extension of these industries will be allowed.

Since the economy of Batala is largely based on Industrial and agriculture sector, industrial zone has been provided to enhance this character. This zone will promote the establishment of new small/medium/large scale industrial units by providing developed plots supported by required infrastructure. Planning of the industrial area will be governed by the guidelines defined in the master plan. On the other hand, the growth and development of existing industries shall be governed by the regulations as detailed out in Development Control Regulations.

The pattern of industrial zone would help in promoting industrial clusters supported by well defined infrastructure and to provide space for attracting future industries and to regulate the clustering of industries in this area. However, it has been observed that in the existing land use some stretches have been shown as Industrial mix landuse, meaning industrial units are working thereby at ground floor, while the first/higher floors are being used for residential purpose. Considering the non conformity of the residential and industrial landuses, they are proposed to be rationalized.

RECREATION

Batala suffers from lack of open spaces and recreational areas. In order to bridge this gap, well planned hierarchy of open spaces/recreational areas is proposed to be developed within the LPA. An area of 258.24 ha has been left over for this use in the Proposed Landuse Plan. The norms and standards for such facilities have been defined in the master plan. These facilities at the local level shall be developed as integral part of the planning of residential, commercial and industrial land uses.

Creation of Leisure Valley

Considering the large scale deficiency of open spaces, it is proposed to develop a leisure valley along the Hansali Nallah on both sides passing through the centre of the city. Considering the existing status of development along the Hansali drain, width of green belt shall be 5 m within the municipal limit and 10 m outside the municipal limit. Further, a 10 m belt/buffer is also proposed along all the remaining canals, distributaries and drains for the portion falling outside municipal limits, while it will be 5 m for the portion falling within the municipal limits. The belt will include well defined system of landscaping, footpaths and other recreational activities. No commercial activities shall be permitted in this zone. The portion of Hansali Nallah passing through the urbanisable area shall be converted into a *pucca* drain carrying clean water. No industrial and residential discharges shall be permitted in the drain. Apart from the provision of green belt along the water bodies, a 15 m green buffer is also provided between the Industrial Focal Point and the adjoining residential area.

Development of Aliwal

Aliwal, which is just outside the planning area, is suggested to be developed as a major recreational area on the pattern of Madhopur (near Pathankot). Due to its scenic beauty and existence of large number of water channels, the area has the potential to be developed as the major tourist and recreational centre. Already the area is visited by large number of people due to its close proximity to Batala.

Heritage and Tourism

Development of Achal Sahib

Achal Sahib, which is an established tourist centre because of its historicity and religious centre for both Hindus and Sikhs, is proposed to be developed as one of the major tourist/religious centre, considering its close historic connection with the city of Batala. The area has important religious buildings, like Achal Sahib Gurudwara and Achaleshwar Temple, besides large water bodies, and is visited by large number of people on daily basis. *Melas*/festivals are organized on regular basis when the attendance is much larger. The area suffers from basic amenities and haphazard development. Considering its importance, a detailed scheme for the

development of this area needs to be prepared in order to leverage its potential as the major tourist/ religious centre.

Moreover, two historical sites in the Batala city including Samsher Khan Tomb and Baradari Garden lying on the Jalandhar Road has been declared as Protected Monument by the Government of India, Department of Culture, and Archaeological Survey of India. These monuments have been declared of national importance under the Ancient Monument and Archaeological Sites and Remains Act, 1958.

Shamsher Khan's Tomb

The Samsher Khan's Tomb stands on a raised platform surrounded by a low wall having bastions in the corners. The tomb is an octagonal structure crowned with a low dome. The spandrels of the arches have geometrical designs. It is housed in an area of 5.36 Acres. The interior walls as well as the exterior of the tomb are richly adorned with paintings depicting floral, geometrical and calligraphic designs. The decoration is intact on the interior, but only its traces have remained on the exterior.



Fig.63: Shamsher Khan Tomb

Keeping in view the historical, aesthetic and architectural values of this site, there is immediate need to pay serious attention for the conservation. Recently, the ASI had undertaken repairs to restore its old glory. Preservation work has been done on its interior as well as exterior walls. The surroundings of this monument too have been beautified. Tomb is surrounded by the lush green garden on the Mughal pattern with all the paths leading to the tomb. The tomb has the potential to be developed as major tourist and recreational centre for the city as well as the region.

Baradari Garden

Baradari Garden was the residential palace of Maharaja Sher Singh. It had the distinction of being located in a water body having an area of 16 acres. The palace was connected through a tunnel to another palace of Sher Singh, which is now in the possession of the BCC College. Maharaja Sher Singh used to hold meetings of his courtiers in the garden. Its water reservoir was built



Fig. 64: Baradari Garden

by Samsher Khan, while the beautiful Baradari in the centre of the tank was constructed by Maharaja Sher Singh. The palace is a square room in the centre of a pavilion with a passage. The entry to the first floor is through a staircase with

concave-shaped steps on the north-eastern canal. Jal Mahal (Baradari Garden) has eight doors in the lower part of the building and four in the upper storey. The inner wall contained beautiful art glass carvings and wall paintings. However, major parts of the paintings have been erased or damaged. The roof of the pavilion has also fallen. The water body has ceased to exist and the area is now occupied by wild growth. Despite the fact that the building has been declared as the Protected Monument, no step has been taken to restore its old glory. The building has a great potential of being developed as the major recreational and tourist centre. Accordingly, it is suggested that a detailed schemes for its preservation, conservation and development needs to be prepared on priority. The growth and development is proposed to be integrated with the development of the city.

As per the recent amendments, an area up to 300 meters around the protected site have been declared as the “Regulated Zone”, out of which first 100 meter belt is declared as the ‘Prohibited Zone’, where no new construction is permitted. Whereas, remaining 200 meter belt is designated as “Regulated Zone”, where all construction/development are required to be regulated through a well defined system of development. Accordingly, it is proposed to develop a detailed development of the area including the 300 meter belt on priority.

Strategies for Development of Walled City

Walled City is the heart and soul of Batala, housing majority of population and majority of economic and social activities. It is also container of religious heritage involving Gurudwara Kandh Sahib and Dera Sahib, which have connection with the first Sikh Guru Shri Guru Nanak Dev. The Walled City has 12 Gates with pattern of circulation defined by narrow roads and streets. The growth and development of Walled City is marked by dualities and contradiction with high degree of congestion, obsolescence, haphazard and unplanned development. The area suffers from lack of amenities and open spaces. Quality of life prevailing in the walled city is of lower order. Majority of the commercial activities are located along the congested and narrow *Main Bazaar*, including *Chakari Bazaar and Tibba Bazar*, etc., which run north to south of the city providing connectivity with NH 15 and other important roads at Gandhi Chowk. This bazaars needs to be taken up for redevelopment as the major project of development for minimizing majority of problems prevailing within the walled city and to give a new direction and theme of development to the city of Batala. These bazaars have already been proposed to be widened while retaining their basic character. The need to be developed on the pattern of approach road to Golden Temple.

Keeping in view the special character of the Walled City and its pattern of development, special regulations for the development of area falling within it needs to be formulated on priority, in order to ensure decongestion of population and decongestion of activities, for

creating more open spaces and improving the quality of life by making available land for physical and social infrastructure. Strategies would also include pedestrianisation of the congested area of Walled City, minimizing change of land use, minimizing sub-division of land, preserving and enhancing the ambience of buildings of historical, cultural and religious importance, besides rationalizing the traffic and transportation. Wholesale trade located within the Walled City needs to be shifted to the defined locations. The Circular Road existing around the Walled City needs to be widened to divert traffic from the core of the city. In addition, parking spaces need to be created outside the Walled City for making the core area free from parking/ problems of congestions.

The area around Chauraha Chowk, where Gurudwara Kandh Sahib is located, needs to be taken up for redevelopment, considering the historicity of the place being connected with the marriage of Guru Nanak Dev. The development will also include not only Main Bazar, but also the Bazaar connecting Achali Gate-Thathiari Gate. Area around Gurudwara Dera Sahib also needs to be taken up for development on the similar pattern.

GOVERNMENT

Batala town is a sub division of Gurdaspur district too, so it witnesses many government offices. Most of them have been retained in the Proposed Landuse Plan, with area amounting to 17.84 ha. The area will further increase with planning at local level.

PU IC/SEMI-PU IC

This landuse is primarily meant for accommodating educational, health related institutions, etc. meant for public use. The area for such is proposed to be provided as integral part of planning of the residential areas. The norms and standards, based on which these uses will be provided, have been defined in the Norms and Standards section. It is proposed to provide a well defined hierarchy of such facilities within the city in order to meet the basic requirements of the residents.

Batala is known as an established centre of education serving not only the local population but also of the region. It has institutions, which hold regional level significance like Baring Union Christian College, R. R. Bawa College, Guru Nanak College, etc. besides an ITI and a polytechnic. It is proposed to leverage this potential by making Batala as a knowledge hub. In total, 61.57 ha area has been earmarked for Public and Semi Public use, which will further increase while planning at local level.

9.4.2 PROPOSED TRAFFIC AND TRANSPORTATION PLAN, 2010-2031

Effective integration of various land uses through a well planned road network with an efficient transport network is the basic need of a realistic Master Plan. The traffic and transportation proposals need to be framed in a manner that it leads to rational growth and

development of town. Various proposals of traffic and transportation described in the chapter, aims at rationalizing the existing road network, creating a well defined hierarchy of roads, redesigning critical areas including road junctions, creating over-bridges, rationalizing the inter and intra city traffic, creating adequate parking spaces, developing well defined interface between different land uses, minimizing delays, etc. This would lead to overall improvement of operational efficiency and minimizing vehicular pollution.

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

Road Hierarchy

The Traffic and Transportation proposals for Batala LPA revolve around defining a hierarchy ranging from R1 to R8 of road pattern catering to various needs and landuses of the Master Plan. The existing pattern of road development has been found to be radial and concentric. The future pattern proposed is based on strengthening of the existing radial pattern by widening the existing roads. This pattern is further supplemented with a pattern of rings in order to rationalize the traffic movement on the radial roads. Accordingly, 8 radial roads have been superimposed by a ring road. This includes the existing incomplete bypass, which runs from the western direction connecting NH 15 on the southern side and the Batala-Jalandhar Road.

The proposed circulation or transportation network covers 860.01 ha of the area, thus covering more than 1/10th of the urbanisable area of the LPA. All roads mentioned in the proposed road hierarchy will be upgraded as indicated on the Proposed Traffic and Transportation Plan. The proposed hierarchy of roads is defined in the table given below:

Table 78: Proposed Road Hierarchy Batala PA (based on Drawing No. DTP (G) 16/2012 dated 23.10.2012)

Category Road	Description	Right Way	Remarks
R1	- Ring Road - NH 15 (Amritsar-Pathankot Road)	60	- High speed and high capacity road. - Dual carriage way - Catering to intercity/regional traffic - Minimum openings - Controlled access. - Service lane & cycle tracks - No Building Zone of 5 m to be provided on either side of the road reservation.

R2	- Batala-Jalandhar Road - Batala-Dera Baba Nanak Road (portion up to Gandhi Chowk) - Batala-Shri Hargobindpur Road	45	- High speed and high capacity road. - Dual carriage way - Inter and intra city traffic - Highly controlled accesses by providing service road - Minimum openings - Well defined road junctions - Service lanes & cycle tracks - No Building Zone of 5 m to be provided on either side of the road reservation.
R3	- Batala-Qadian Road - Batala-Kahnuwan Road - Batala-Aliwal Road	30	- Medium speed and medium capacity road. - Road will carry both inter and intra city traffic - Dual carriage way - Well defined road junctions - Cycle tracks - No Building Zone of 5 m to be provided on either side of the road reservation.
R4	- Circular road around walled city - Main Bazar Road from Gandhi Chowk towards Hathi Gate up to existing Ring Road	25	- Road will carry both intra-city traffic - Footpaths. - Provision of adequate parking where road frontage used for urbanisation.
R5	Roads other than R4 carrying city traffic within residential areas and Other Roads proposed to be upgraded	18	Distributor roads carrying intra-city traffic provided with footpaths
R6	Roads providing access to individual houses	12	Providing accessibility at the local level
R7	Cycle Tracks	2-5	Specially catering to cyclists
R8	Pavement/ Footpath for Pedestrian Movement	1.5-4.5	Exclusive for pedestrian movement

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

** No Building Zone along the Scheduled Roads, as defined above, shall be subject to the notification issued by the State Govt. under the PRTPDA, 1995 (amended 2006) from time to time.

*** No Building Zone provided above for all roads falling in the category of R1, R2, R3 and the roads subsequently notified as Scheduled Roads under the PRTPDA, 1995 shall be calculated beyond the proposed ROW defined above, and not from the existing ROW.

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 79: Norms and Standards for Cycle Tracks

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

Proposed Ring Road

The existing Bypass in the city runs from NH 15 on one side to Aliwal Road and to Jalandhar Road on the other side. The Aliwal Road portion ends before Dera Baba Nanak Road. It again starts from Dera Baba Nanak Road and runs on the other side till Amritsar-Pathankot Railway Line. The portion further between the railway line and the NH 15 too is missing. The existing length of the bypass is 11.5 km.

In order to utilize the full potential of the existing bypass and to rationalize the movement of heavy intercity/goods traffic between Amritsar and Pathankot, the two above mentioned missing links, i.e. between Aliwal Road and Dera Baba Nanak Road, and Amritsar-Pathankot Railway Line and NH 15, need to be covered. Moreover, it is proposed to extend the bypass from Jalandhar Road till NH15 towards Pathankot side crossing Shri Hargobindpur Road, Qadian Road and Railway Line and Kahnuwan Road. The bypass then, along with the completion of missing links, will become a full Ring Road running all around the Batala city. The Ring Road so completed will distribute the traffic plying between the major radial roads, thereby decongesting the city core and reducing the traffic therein. It will also help in development to flourish evenly throughout the city periphery. Length of the additional portion to be constructed will be of the order of 10.1 kms, including the 1.4 km length of missing links. When completed, Ring Road will have a total length of 23.2 kms, including the combined 1.55 km stretch of a portion of Pathankot side of NH 15 as well as Jalandhar Road.

Upgradation of NH 15

The entire Traffic and Transportation of Batala LPA revolves around NH15 (Amritsar-Pathankot Road), which passes through the centre of the town. It is the major road, which connects the city to adjoining urban areas. As per the survey carried out at the local level, right of way of NH 15 has been largely encroached on both sides. The road condition of NH 15 ranges from moderate to bad. In order to improve its capacity and efficiency, it is proposed to upgrade the road. The proposed upgradation of NH 15 includes removing encroachment, improving the existing road condition by metalling, providing signals and street furniture and provision of street lights. It also provides for creating a service lane on either side of the road in order to rationalize the traffic movement on the NH15. The proposed cross section details out the upgradation of the road in terms of carriageway, service lane, parking and landscaping. The plantation of trees will be encouraged all along roads. While coming from Amritsar, NH

NH 15 has been realigned near village Said Mubarak from the point just opposite the diversion of Hansali Nallah to meet the existing bypass at Aliwal Chowk. The alignment will facilitate the shifting of inter city traffic on the proposed Ring Road without entering the municipal (city) area. The proposed alignment envisaged by National Highway Authority of India (NHAI) has been included in the Proposed Landuse Plan.

Priority Proposed Rail Over Bridges (ROBs)

The two railway lines, i.e. Amritsar-Pathankot and Batala-Qadian, passing through the city have emerged as major bottlenecks in the movement of the traffic, both within and outside the urban areas. The existing bypass is intersected by the Amritsar-Pathankot Railway Line at two places. In addition, the road leading to Dera Baba Nanak carrying large volume of traffic also crosses Amritsar-Pathankot Railway Line near Batala Railway Station. Further, Batala-Qadian Railway Line also crosses the NH 15. All these crossings create lot of problems causing huge traffic blockages on these roads. At present, there is only one ROB, which has been constructed on Batala-Dera Baba Nanak Road in order to ensure the smooth and uninterrupted flow of inter and intra city traffic. Further, 5 ROB's have been proposed, three on the Amritsar-Pathankot Railway Line and two on Batala-Qadian Railway Line, as shown on the proposed Traffic and Transportation Plan.

Priority Proposed Railway Over Bridges

Since construction of railway over bridges involves lot of capital expenditure, construction of 5 Rail Over Bridges (ROBs) has been prioritized keeping in view the importance of the road, volume of the traffic and traffic congestion in LPA. The most critical crossing at present in city is between NH 15 and Batala-Qadian Railway Line. The railway crossing faces maximum problem of traffic jams. Accordingly, this ROB is placed on the first priority to be taken up immediately. The next in priority shall be the over bridge on the Amritsar-Pathankot Rail Line, where new alignment of the NH 15 will cross the railway line. An ROB is proposed on the intersection of existing bypass and the Amritsar-Pathankot Railway Line too. Next in priority shall be the railway over bridge, which is proposed on the intersection with the remaining portion of the Proposed Ring Road, which is yet to be completed. The ROB along with the proposed portion of the Ring Road will provide a major link between the Dera Baba Nanak Road and NH 15, and thus will reduce the traffic on the portion of these roads falling within the city. The last priority of ROB shall be the intersection of Kahnuwan Road and Batala-Qadian Railway Line. The priority of construction of railway over-bridges has been indicated below:

Table 80: Phasing Road Schemes

S. No.	Proposed RO	Phase	Period
1	At Junction of NH 15 and Batala-Qadian Railway Line	I	(2010-2017)
2	At Junction of new alignment of NH 15 and Amritsar-Pathankot Railway Line	I	(2010-2017)
3	At Junction of existing Bypass and Amritsar-Pathankot Railway Line (Amritsar side) near Focal point	II	(2017-2024)
4	At Junction of Amritsar-Pathankot Railway Line (Pathankot side) and existing Bypass near village Kala Angal	II	(2017-2024)
5	At Junction of Batala-Qadian Railway Line and Kahnuwan Road	III	(2024-2031)

Junction Improvement

In addition to inadequate road network in the Batala city, it is observed that majority of road junctions have not been properly planned, designed and constructed. This has led to creation of traffic bottlenecks at major junctions of the city, besides causing undue delays and inconvenience to the road users. Delay in movement leads to creation of considerable pollution, due to emission of smoke by the vehicles adversely impacting the quality of life in the city. The congestion at few junctions has also led to large number of accidents. In order to rationalize the flow of traffic and minimize conflicts at the junctions carrying large volume of traffic, it is proposed to improve the road geometry at seven junctions, which have recorded high rate of accidents. Some of the junctions are located on the existing bypass on the southern and eastern part of the city. One is situated on NH 15 in proximity with Railway Station, Bus Stand and Court Complex of the city. The junctions proposed for immediate improvement include

1. Junction of NH 15 (Amritsar side) and the existing bypass.
2. Junction of Jalandhar Road and existing bypass.
3. Junction of Dera Balaanak Road and existing bypass.
4. Junction of NH 15 and Jalandhar Road (within city in proximity to Railway Station, Bus Stand and Court Complex)
5. Junction of proposed alignment of NH 15 and existing Amritsar-Pathankot Road
6. Junction of Aliwal Road and existing Ring Road
7. Junction of Batala- Jalandhar Road and Batala-Sri Hargobindpur Road.

Proposed Bus Terminal

As per study made and analysis carried out of the existing Bus Stand in Batala on NH 15, it has been observed that location of Bus Stand at core of the city is largely responsible for creating traffic congestion in the central area. Thus, considering the future growth of the city and increase in the volume of the traffic on NH 15 because of its widening, it has been proposed to shift the existing Bus Stand on the stretch between the NH 15 and Jalandhar Road as per availability of land. The relocation of the Bus Stand will help in minimizing traffic

congestion in the core areas, since regional/intercity buses will cross the city without disturbing inner vehicular movement. The exact location of the bus stand shall be decided in consultation with the Transport Department based on the recommendations of the Site Selection Committee constituted by the Govt./Transport Department. The area of the present site can be then used as per the provision of the Master Plan for raising resources for the city.

9.5 SPACE NORMS AND STANDARDS

9.5.1 EDUCATIONAL INSTITUTIONS

For ascertaining the need and requirement of various levels and categories of educational institutions in the context of the town, planning norms have been worked on the basis of population in order to ensure that educational facilities of desired quantity and quality are available uniformly to the entire population including their spatial distribution. Further, the norms have been defined in terms of area provided under each unit. The level of facilities to be provided have been categorized into general education at the school level, undergraduate and post graduate level besides technical and professional institutions and universities. Based on above, the norms for educational institutions have been detailed as under:

Table 81: Norms and Standards for Educational Facilities

S. N .	Categr ry	P pulati	U its	Stre gt h Stude t	Area i Hects.			Re arks
					uilt up	Play Field Area	T tal	
A. GENERA EDUCAT ON-T 10 2								
i	Pre-Pri ar Nurser Sch l	2 00	1	-	-	-	0.08	Location close to park ith minimum of vehicular traffic
ii	Pri ar Sch l (Class 1-5)	000	1	00	0.20	0.20	0.40	Location close to park ith minimum of vehicular traffic. Minimum play area of 18 m x 36m to be ensured.
iii	Nurser -cu - Pri ar Sch l (up t Class 5)	000	1	7 0	0.2	0.2	0. 0	As above
i	Se i r Sec dar Sch l (Class 6-12)	7 00	1	1000	0.60	1.00	1.60	Minimum play field area of 68 m x 126 m to be ensured.
	tegrated Sch l with ut H stel acilit (Class 1-12)	90,000-1,00,000	1	1 00	0.70+ 0.40 as hostel area	2. 0+ parking area of 0.30	3.90	Minimum play field area of 68 m x 126 m to be ensured.
i	tegrated Sch l with H stel acilit (Class 1-12)	90,000-1,00,000	1	1000	0.70	2. 0+ parking area of 0.30	3. 0	Minimum play field area of 68 m x 126 m to be ensured.

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

Notes:

One creche for a population of 25,000 in an area of 0.05 hectare shall be provided. This could be made integral part of any category of educational institutions with addition of the area of the crèche.

Number of units in each category shall be based on the population prescribed above. In case the population for the area works out to be merely 50% norms specified above, in such cases individual sites in that category shall be provided. Additional sites shall be provided in case balance population exceeds 50% of the standards prescribed above.

In case of higher student capacity, the built up and open area shall be increased proportionately.

In order to economize on the land and optimize the infrastructure, educational institutions could be run on double shift basis.

The open space shall be designed in order to ensure that they are also made available to the community as play area in the time when it is not being used by the institution.

Adequate area for plantation shall also be earmarked in order to improve the quality of environment and area under tree cover.

Adequate arrangement for parking of buses and vehicles of students/staff shall be made.

Unless specified in the zoning plan and building bye-laws, the ground coverage, height and FAR for various categories of buildings shall be as under:

Table 82: Development Criteria for Educational Facilities

Category	Maximum Ground Coverage	Maximum permissible height ()	FAR
i) Nursery School	40%	8	0.75
ii) Primary School	40%	8	0.75
iii) Higher Sec. School	33%	15	1
iv) College	33%	15	1
v) Uni/Tech/Prof. Inst.	25%	20	1

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

In case of large institution, area for academic, residential, sport and cultural activities, parking and landscape shall be clearly defined. The area under academic shall not exceed 45%, residential 25%, sport and cultural activities 15% and parking and landscape 15%.

9.5.2 HEALTH CARE FACILITIES

Health care facilities shall be provided and distributed in such a manner that it covers the entire area and the population, in order to make the facility available to every resident of the town irrespective of his location or place of residence. It must cover all the activity area including commercial, industrial, institutional etc. A well defined hierarchy will be essential to meet both the basic and specialized need of the health care. Adequate arrangement would be critical to provide for greater role of private sector in healthcare by making available required proportion of site for the sector. The healthcare facility of various grade to be provided in the town/city shall be based on the following norm :

Table 83: Norms and Standards for Health Facilities

S. No.	Category	Population	Unit	Area (Hectares)	Remarks
1	Nursing Home	7,500	1	0.10	Capacity of 5-10 bed
2	Dispensary	15,000	1	0.12-0.15	For outdoor treatment only
3	Health Centre	50,000	1	0.4	Capacity of 25-30 bed
4	Primary Clinic	1,00,000	1	0.4	with some observation bed
5	Intermediate Hospital (Category I)	1,00,000	1	0.1 i) for hospital 0.6 ii) for residential 0.4	Capacity of 80 bed with initial provision of 50 including 20 maternity bed
6	Intermediate Hospital (Category A)	1,00,000	1	3.70 i) for hospital 2.70 ii) for residential 1.0	Capacity of 200 bed with initial provision of 100 bed
7	General Hospital	2,50,000	1	6.00 i) for hospital 4.00 ii) for residential 2.00	Capacity of 500 bed with initial provision of 300 bed

8	Multi Specialty Hospital	1,00,000	1	9.00 i) for hospital 6.00 ii) for residential 3.00	capacity of 200 bed with initial provision of 100 bed
9	Specialty Hospital	1,00,000	1	3.70 i) for hospital 2.70 ii) for residential 1.00	capacity of 200 bed with initial provision of 100 bed

Note:

- In case of specific requirement for medical facilities other than those indicated above, additional site may be provided for catering to specialized need of healthcare.
- All Medical college shall also include provision of medical hospital of 500 bed as integral part of the complex.
- Additional site may be provided in case of Regional/National level healthcare institutions which are to be located apart of the town.

The height, ground coverage, FAR, setback for various site shall be as defined in the building bye-law, zoning plan and development control regulation.

9.3 FIRE STATION**Table 84: Norms and Standards for Fire Station**

S. No.	Category	Population Per Unit	Minimum Area
1	Fire station with essential residential accommodation	1 for every 2,00,000	1 Hectare
2	Sub-Fire station with essential residential accommodation	1 for every 2,00,000	0.6 Hectare

- One Fire Station/Sub-Fire station to be provided within distance of 1-3 km covering a population of 2,00,000.
- Fire Station need to be in coordination with water supply system to provide for fire hydrant /water tank.
- Fire service to be fully equipped to deal with fire accident in the multi storied building.

9.4 SECURITY - POLICE CIVIL DEFENCE AND HOME GUARD**Table 8 : Norms and Standards for Security**

S. No.	Category	Population Per Unit	Minimum Area	Remarks
1	Police Station	90,000	1.50 Hectare	* In case of civil defence and home guard, additional area of 0.05 hectare to be provided. ** Area include essential residential accommodation
2	Police Post	40,000-50,000	0.16 Hectare	*Area include essential residential accommodation ** To be provided where area is not served by Police Station
3	District Office and Attali	10,00,000	4.80 Hectare *(for District Office =0.80 for Battalion =4.00 Hect.)	
4	Police Lines	20,00,000	4.00-6.00 Hectare	
	District Jail	10,00,000	10.00 Hectare	
6	Civil Defence & Home Guards	10,00,000	2.00 Hectare	

9.5.5 SOCIAL CULTURAL FACILITIES

Table 86: Norms and Standards for Social-Cultural Facilities

S. No.	Category	Population Per Unit	Minimum Area
1	Cemetery	5,000	1000 sq. m (0.1 Hct)
2	Cemetery	15,000	2500 sq. m (0.25 Hct).
3	Recreational Club	1,00,000	10000 sq. m. (1.0 Hct)
4	Music Dance Drama Centre	1,00,000	1500 sq. m. (0.15 Hct)
5	Meditation & Spiritual Centre	1,00,000	5000 sq. m. (0.5 Hct)
6	Social Cultural Centre	10,00,000	150000 sq. m. (15.00 Hct)
7	Religious Sites (Masjid Gurudwaras & Churches)	15,000 (3 sites provided in each sector)	1000 sq. m. (0.10 Hct)

9.5.6 SPORTS ACTIVITIES

Table 87: Norms and Standards for Sports Facilities

S. No.	Category	Population Per Unit	Minimum Area
1	Residential Unit Plot Area	5,000	0.5 Hct
2	Neighborhood Plot Area	15,000	1.50 Hcts
3	District Sports Centre	1,00,000	8.0 Hcts
4	Divisional Sports Centre/City Sports Centre	10,00,000	20.00 Hcts.

9.5.7 POSTAL FACILITIES

Table 88: Norms and Standards for Postal Facilities

S. No.	Category	Population Per Unit	Minimum Area	Remarks
1	Post office counter with utility delivery	15,000	85 sq. m.	To be provided in Shopping Centre
2	Head Post Office with delivery office	2,50,000	750 sq. m.	
3	Head Post Office & Administrative Office	5,00,000	2500 sq. m.	

9.5.8 TELEPHONE & TELEGRAPH

Table 89: Norms and Standards for Telephone and Telegraph

S. No.	Category	Population Per Unit	Minimum Area	Remarks
1	Telephone Exchange for 40,000 lines	4,00,000	4.00 Hcts.	
2	Telegraph keying counter	1,00,000	200 sq. m.	To be provided as part of the commercial area
3	Telegraph keying & Delivery Office	5,00,000	1700 sq. m.	To be provided as part of the commercial area

9.5.9 COMMERCIAL AREAS

Table 90: Norms and Standards for Commercial Area

Sl. No.	Category	Population	Unit	Area (sq. ft.)	No. of Units	No. of Shops	Area/ 1000 Persons (sq. ft.)
1	Central Shopping	5,000	1	1500	37	1 for 110 Persons	220
2	Local Shopping	15,000	1	4600	77	1 for 200 Persons	300
3	Cemetery	1,00,000	1	50,000	475	1 for 200 Persons	500

4	District Centre	5,00,000	1	75,000	1,620 (Both Informal)	1 for 300 Persons	880
5	Local Wholesale Market	10,00,000	1	1,00,000	--	--	--
6	Weekly Markets	1,00,000	1-2	4,000	300-400 Shops	--	--
7	Organized Retail Eating Space	1,00,000	1	2,000			

Hierarchy of Commercial Centres

- Formal Shopping
- Convenient Shopping to be provided at Cluster Level
- Local shopping to be provided at Sector Level
- Community Centre to be provided for a group of Sectors
- District Centre to be provided at the level of group of Community Centres
- Sub City Centre to be provided at the level of Sub City
- City Centre to be provided at City Level
- Local Wholesale Market to be provided at City Level
- Informal Shopping
- Weekly Markets to be provided for group of Sectors
- Organized informal eating space to be provided at the traffic nodes.

NOTE:

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

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

9.6 STRATEGY FOR LAND ACQUISITION AND FOR PUBLIC PURPOSES

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

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

	Specific	Flexible
Positive Impact Arterial Road Network	AA Arterial Road Network	A Parks, Playgrounds, Schools etc.
Negative Price Sewage Pumping Stations and Treatment Plants	A Sewage Pumping Stations and Treatment Plants	A Solid waste disposal sites

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

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

9.6.1 THROUGH O.U.V.G. . SCHEME:

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

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 city is common example. But, this requires public land at other location.

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

9.6.2 THROUGH T.D.R.:

An 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: The 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. The 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: Land required for parks and playgrounds or exclusive uses like secondary school, fire station etc. can receive TDRs in lieu of compensation. The 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.

9.6.3 THROUGH PAPR ACT, 1995

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

9.6.4 THROUGH AND POO ING OR TOWN P ANNING (DEVE OPMENT) SCHEMES:

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

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

Table 91: Strategy for Obtaining Land for Public Purpose

Alternative	Land Acquisition through 1894 Act	TDR	Development Land through PAPR Act 1995, TDS under PRTPD Act 2006 and Development Schemes under PTI Act, 1922	Land Pooling	Govt./ Panchayat / Waqf Board
Proposed	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
Measures Security and	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.
Initiatives	Lack of finances for compensation	Lack of finances for compensation	This is the method currently relied upon where minimum area for colony is set at 10 acres, as in case of PAPRA.	Comprehensive Land Pooling Policy is required to be framed.	Locational disadvantages in certain cases.
	Landowners' resistance	Landowners' resistance	This is to be market driven and present response is said to be not so encouraging.	Difficulty in pooling of land of large number of owners.	Minimum area requirement may not be fulfilled.
	Iniquitous distribution of costs and benefits. Cost borne by those who lose land and benefits enjoyed by surrounding	Iniquitous distribution of costs and benefits. Cost borne by those who lose land and benefits enjoyed by surrounding		Time consuming and a complicated process.	Source of revenue for Panchayat Boards / Waqf Board gets depleted.

	landowners	landowners			
		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 shareholders.	
		Could also be used for heritage conservation.		New concept difficult to be implemented.	
		New concept difficult to be implemented.			

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

CHAPTER 10

DEVELOPMENT CONTROLS AND ZONING REGULATIONS

10.1 ZONING REGULATIONS

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

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

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

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

As explained earlier, the sub-division of land, and the design and construction of buildings are being controlled through well established building byelaws/regulations by the concerned authorities. The zoning regulations under the Master Plan are seen as the guiding parameters for these agencies to ensure that the development permitted by them is in conformity with the Master Plan.

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

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

After coming into operation of this Master Plan, no person shall use or permit to be used any land or carry out any development in any area otherwise than in conformity with such Master Plan, provided that the Competent Authority may allow the continuance of any use of any land, for a period not exceeding ten years, upon such terms and conditions as may

be provided by Regulations made in this behalf, for the purpose and to the extent, for and to, which it was being used on the date on which such a Master Plan came into operation.

10.1.2 SHORT TITLE, SCOPE, EXTENT & COMMENCEMENT

1. Title

These Regulations shall be called the Zoning Regulations for Batala Local Planning Area, 2010 (herein after referred to as “Regulations”).

2. Scope of the Regulations

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

3. Jurisdiction

These Regulations shall apply to all “development” in the Batala Local Planning Area declared under section 56 of the Punjab Regional and Town Planning and Development Act 1995 *vide* notification no **12/4/2007 – 4 HG1/6784** dated 22nd August 2007

4. Date of Coming into Force

These Regulations shall come into force on the day on which the designated Planning Agency publishes the Final Master Plan and the Regulations in the **Official Gazette** after obtaining the approval of the State Government under sub-section (5) of Section 70 of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006.

10.1.3 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) as amended from time to time.
2. **“Atta Chakki”** is categorized as service industry where:
 - Grinding of only food grains is carried out through the process of crushing under the load and rotational movement of two plates or blocks.
 - The maximum electric load does not exceed 20 kW.

- The Atta Chakki shall be used for grinding food grains supplied by the consumers only and no sale/purchase of food grains/flour shall be carried out by the Atta Chakki owner at commercial level.
 - The Atta Chakki shall only be permitted on roads having minimum 40 feet ROW.
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. **“Competent Authority”** means any person or authority appointed by the State Government by notification to exercise and perform all or any of the powers and functions of the competent authority as per section 2 (m) of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006.
 5. **“ Cottage Industry”** means industrial units employing less than 10 workers, not creating excessive traffic and not emitting fumes, noise and effluents injurious to the existing sewers and not contrary to the provisions of the Water Pollution (Prevention and Control) Act, 1974, Air Pollution (Prevention and Control) Act, 1981, and Environment (Protection) Act, 1986.
 6. **“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 Batala Local Planning Area and as indicated on Drawing No. DTP (G) 21/2010 Dated 13.12.2010.
 7. **“Farmland Use”** means a building allowed on a minimum holding of 2.5 acre of agricultural land for residential and agricultural related activity of the land holder.
 8. **“Fashion Technology Park”** means where knowledge based infrastructure to inspire the global fashion community catching all segments of designing, manufacturing, marketing, R & D, logistics, broad forecasting, etc. are all under one roof.
 9. **“Government”** means the Government of the State of Punjab.
 10. **“High Technology Park/IT Park”** will largely be high technology, value added kind of industrial development in the form of Science Park, Business Park and R & D Park. The target industries include IT Park and biotechnology industries.
 11. **“Household Industry”** means household 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.
 12. **“Industry”** means a specific branch of manufacture and trade, which includes green, orange and red category industries as categorized by PPCB/Department of Industries or as amended from time to time. It excludes mining and quarrying.

13. “Knowledge Park” means a platform for interaction and provision of clustering opportunities to all the organizations, institutions, hotels, restaurants, hospitals, real estate agency clubs, business parks, etc. with main objective of facilitation of better technology for public and private sector.

14. “Logistic Park” means an area within which all activities related to transport, logistics and distribution of goods for both national and international transits are carried out by various operators on a commercial basis.

15. “Local Planning Area” means the Local Planning Area declared under section 56 (1) of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 (Punjab Act No. 11 of 1995) vide notification no. 12/9/2008-4HGI/2736 dated 16/10/09.

16. “Mixed Use” means the multiple use of land (except orange & red category industries), which is allowed to co-exist subject to fulfillment of environmental safeguards.

17. “Non-Complying 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 in the Master Plan and its zoning regulations.

18. “Planning Agency” means the Chief Town Planner, Punjab designated as such under Section 57 of the Punjab Regional and Town Planning and Development (Amendment) Act, 2006 (Punjab Act No. 11 of 1995) for Batala Local Planning Area.

19. “Proposed Use Plan” means the plan showing the proposed admissible uses of different areas and land use zones covered in the Batala Local Planning Area.

20. “Public and Semi Public Activities” means government/ semi government offices, educational, cultural, religious, medical and health institutions, community centers, etc.

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

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

10.1.4 LAND USE ZONES

The Proposed Landuse Plan incorporated in the Master Plan of Batala LPA depicts the following land use Zones:

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

Besides this, the following designated landuses have also been depicted on the Proposed Landuse Plan:

- Transport and Transit
- Utilities
- Government
- Public and Semi Public

10.1.5 LAND USE CLASSES

For the purposes of these Regulations, the above landuses have been grouped into various landuse classes. Each class of landuse has been given a specific code. The Landuse Classes and Landuse Codes are detailed below:

Table 92: Landuse Classes with Use Class Codes

Sr. No.	Landuse Class	Use Class Code
1	Housing	A
2	Trade and Commerce	B
3	Manufacturing	C
4	Transport, Storage & Warehousing	D
5	Offices	E
6	Education, Training and Research Institutes	F
7	Healthcare Facilities	G
8	Recreational, Entertainment, Cultural and Religious	H
9	Public Utilities and Services	I
10	Agriculture, Forestry and Fishing	J

10.1.6 USE PROVISIONS IN LAND USE ZONES

The following table describes the landuse classes and their sub-classes along with the uses permitted in various landuse zones. The **shaded cells** in the table indicate that the use is generally permissible. A **number** in the cell indicates the conditions, subject to which the use is permissible. The conditions have been listed at the end of the table.

Table 93: Land Use Zones and Permissible Land Uses

CLASS CODE/ SU CODE	AND USE CLASS/SU CLASS	AND USE ZONES					
		Residential	Commercial	Mixed Use	Industrial	Recreational	Rural and Agricultural
A	Housing						
A1	Residential houses in the form of Plotted Development, Group Housing, Farm Houses for Customary Residence including Household Industries, EWS Housing				1		2
A2	Old Age Homes, Orphanages, Hostels for Students, Working Women						
A3	Service Apartments, Hotels including Star Hotels, Motels, Guest Houses, Dharamshalas, Lodging Houses, Sarai, Ran Basera				3		
A4	Asylums, Reformatories and the like						
A5	Residences for Watch and Ward Staff, Residences for Industrial Workers Management						
A6	Housing not classified above						
	Trade and Commerce						
B1	Retail Trade including Markets for Fruits and Vegetables, Meat and Fish; Super Markets, Informal Shopping, Rehr Market						
B2	Department Stores, Cash-n-Carry Stores, Malls including Super Market, Restaurants and Multiplexes						
B3	Personal and Community Services like Laundry, Hair Dressing, Beauty Parlours, Tailoring, Coaching Classes, Cyber Cafes, Bank Branches, ATM, Boutiques, Phone Booths, Pan Shop, Chemist Shop, Sweet Shop, Tea Stall, Electrical & Electronic Shop with Repair Facilities, Photo Studio, Property Dealer Shop, Dairy Products, Cable TV, Readymade Garments, Stationery Shop, etc.						
B4	Wholesale trade with storage of commodities	4		4			4
B5	Filling Station (Petrol Pump) *						
B6	Kerosene Storage Gas Godown						
B7	Gas Distribution (without Storage of Cylinders)						
B8	Trade Fairs, Exhibition and Convention Centres						
B9	Showroom of Mills Factory Retail Outlets						
B10	Trade Not Classified Above						
C	Manufacturing (NIC Divisions 10)**						
C1	Manufacture of Food Products (NIC Divisions 10)	5	5	6			

C ASS CODE/ SU CODE	AND USE C ASS/SU C ASS	AND USE ZONES					
		Residential	Commercial	Mixed a duse	Industrial	Recreational	Rural and Agricultural
C2	Manufacture of Beverages (NIC Division 11)						
C3	Manufacture of Textiles (NIC Division 13)						
C4	Manufacture of Wearing Apparel (NIC Division 14)			6			
C5	Manufacture of Leather and Related Products (NIC Division 15)						
C6	Manufacture of Wood and Products of Wood and Cork; Except Manufacture of Furniture (NIC Division 16)			6			
C	Manufacture of Paper and Paper Products (NIC Division 17)						
C8	Printing and Reproduction of Recorded Media (NIC Division 18)						
C9	Manufacture of Coke and Refined Petroleum Products (NIC Division 19)						
C10	Manufacture of Chemicals and Chemical Products (NIC Division 20)						
C11	Manufacture of Pharmaceuticals, Medicinal, Chemical and Botanical Products (NIC Division 21)						
C12	Manufacture of Rubber and Plastics Products (NIC Division 22)						
C13	Manufacture of Other Non-Metalliferous Mineral Products (NIC Division 23)						8
C14	Manufacture of Basic Metals (NIC Division 24)						
C15	Manufacture of Fabricated Metal Products, except Machinery and Equipment (NIC Division 25)						
C16	Manufacture of Computer, Electronic and Optical Products (NIC Division 26)						
C17	Manufacture of Electrical Equipment (NIC Division 27)						
C18	Manufacture of Machinery and Equipment n.e.c. (not elsewhere classified) (NIC Division 28)						
C19	Manufacture of Motor Vehicles, Trailers and Semi-Trailers (NIC Division 29)						
C20	Manufacture of Other Transport Equipment (NIC Division 30)						
C21	Manufacture of Furniture (NIC Division 31) including Saw Mill	9					
C22	Other Manufacturing (NIC 32)						
C23	Repair of Machinery and Equipment (NIC Division 33)						

C ASS CODE/ SU CODE	AND USE C ASS/SU C ASS	AND USE ZONES					
		Residential	Commercial	Mixed use	Industrial	Recreational	Rural and Agricultural
	33)						
C24	Milk Chilling (Independent Plot), Pasteurization Plant, Cold Storage, Fruit Ripening Centre, Ice Factory	10					
C25	Refrigerators, Processing of Farm Products, Brick Kilns, Lime/Charcoal Kilns						
C26	Cottage Industry, Repair of Household Articles, Cycles and scooters repair, Household Industry, Atta Chakk						
C27	Leisure Park, Knowledge Park, Industrial park, Super Mega Mixed Use Integrated Park, Fashion & Technology Park and Film City	11					
C28	Cement, Sand and Concrete Manufacturing Plant (Batching plant), Bitumen, Sand, Concrete Manufacturing Plant (Hot Mix Plant)						
C29	Manufacture and Storage of Fire Works						
D	Transport Storage and Warehousing						
D1	Warehousing and Storage Activities for transportation (NIC Division 52) and Loading & Unloading Yard						12
D2	Rail and Air Freight terminals						
D3	Road terminals						
D4	Bus terminals, Auto-Rickshaw/ rickshaw / two Wheeler/Cycle Stand						
D5	Warehousing, Logistic Park, Storage & Godowns, Freight Complex, Container Yards						
E	Offices						
E1	Publishing of Books, Periodicals and Other Publishing Activities (NIC Group 581) Software Publishing (NIC Group 582)			6			
E2	Motion Picture, Video and television Programme Production, Sound Recording and Music Publishing Activities (NIC Division 59)						
E3	Broadcasting and Programming Activities (NIC Division 60)						
E4	Telecommunications (NIC Group 61), Govt./ Semi-Govt. / Private Business Offices						
E5	Computer Programming, Consultancy and Related Activities (NIC Division 62)						

C ASS CODE/ SU CODE	AND USE C ASS/SU C ASS	AND USE ZONES					
		Reside tial	C ercial	Mixed a duse	dustrial	Recreati al	Rural a d Agricultural
E6	Info mation Se vice Activities (NIC Division 63)						
E7	Finance, Banking and Insu ance (NIC Section K)						
E8	Real Estate Activities (NIC Section L)						
E9	P ofessional, Scientific and Technical Activities (NIC Section M)						
E10	Administ ative and Su o t Se vices (NIC Section N)						
E11	Public Administ ation and Defence Com ulso y Social Secu ity (NIC Section O)						
E12	P ofessional Se vices like Lawye s, Cha te ed Accountants, A chitects, Enginee s, Town Planne s, etc.						
F	Educational Trai i g a d Research stitutes						
F1	P e-P ima y Schools, Play Schools, Kinde ga tens						
F2	P ima y Schools						
F3	Seconda y Schools, Colleges, Vocational T aining Institutes						
F4	Resea ch and T aining Cente s, Unive sities, Cente s of Advanced Education and T aining like IIM o IIT, Medical Institutes						
F5	Educational, T aining and Resea ch Institutes not classified above						
G	Healthcare Facilities						
G1	Medical and Dental Clinics, Dis ensa lies	13	13	13	13		
G2	Hos itals (NIC G ou 861) including Gene al and Su e S eciality Hos itals, and Health Cent e	13	13	13	13		13
G3	Nu sing Ca e Facilities (NIC G ou 871)	13	13	13			
G4	Residential Ca e Activities fo Mental Reta dation, Mental Health and Substance Abuse (NIC G ou 872)						
G5	Residential Ca e Activities fo the Elde ly and Disabled (NIC G ou 873)						
G6	Vete ina y Se vices						
G7	Health Ca e Facilities not classified above.						
H	Recreati al E tertai e t Cultural a d Religi us Acti ities						
H1	C eative, A ts and Ente tainment Activities (NIC Division 90) and Multimedia						
H2	Lib a ies, A chives, Museums and Othe Cultu al Activities (NIC Division 91)						

CLASS CODE/ SU CODE	AND USE CLASS/SU CLASS	AND USE ZONES					
		Residential	Commercial	Mixed use	Industrial	Recreational	Rural and Agricultural
H3	Gambling and Betting Activities (NIC Division 92) e.g. Race Course						
H4	Sports Activities and Amusement and Recreational Activities (NIC Division 93), Tot-lots, Playgrounds, Stadiums, Golf Courses, Swimming Pool, etc.						
H5	Places of Worship						
H6	Arranged Palaces						
H7	Arts, Entertainment and Recreational Activities not classified above						
Public Utilities and Services							
I-1	Electricity, Gas, Steam and Air Conditioning Supply (NIC Section D) including Power Stations and Network						
I-2	Water Collection, Treatment and Supply (NIC Division 36)						
I-3	Sewerage (NIC Division 37)						
I-4	Waste Collection, Treatment and Disposal Activities; Water Reclamation (NIC Division 38) and Carcass Disposal Site	14					
I-5	Postal and Courier Activities (NIC Division 53)						
I-6	Police Station						
I-7	Fire Station						
I-8	Cemeteries, Graveyards, Crematorium Grounds						
I-9	Telephone Exchange, Telecommunication Towers/Antenna						
I-10	Public Utilities and Services not classified above						
J Agriculture Restricted Fishing (NIC Section A)							
J1	Crop and Animal Production, Hunting and Related Service Activities (NIC Division 01)	15					
J2	Land Conservation and Preservation measures such as Storage, Check Dams and other Water Harvesting measures						
J3	Fishing and Aquaculture (NIC Division 03), Dairies, Piggery, Poultry farming, Greenhouse Growing Centres and Slaughtering Houses						
J4	Quarrying of Stone, Sand and Clay (NIC Group 081)						
J5	Plant Nursery and Greenhouses related to Nursery, Floriculture						
Notes:							

C ASS CODE/ SU CODE	AND USE C ASS/SU C ASS	AND USE ZONES					
		Reside tial	C ercial	Mixed a duse	dustrial	Recreati al	Rural a d Agricultural
N C	National Industrial Classification (All Economic Activities) 2008, Central Statistical Organisation, Ministry of Statistics and Programme mplementation, Government of ndia, www.mospi.nic.in						
A	Shaded areas indicate that the use class is permissible in the zone						
	Shaded area with number/notation indicates the conditions attached						
	Only EWS Housing						1
	Only Farm Houses						2
	Only Star Hotels and Guest Houses						3
	Wholesale trade in agricultural commodities only, provided it is minimum 200 m away from village abadies/residential areas						4
	Only akery						
	Only Green ndustries						6
	Provided that the site abuts on at least 60 feet wide existing/proposed road of Master Plan						7
	Only manufacture of bricks, earthen pots, country tiles, etc.						8
	Independent saw mill activity is permissible till the time residential or any other activity compatible to residential zone occurs within a radius of 100 m from the site, after which NOC/permission issued to the applicant shall cease to exist and activity shall relocate itself to another suitable site/zone						9
	Outside M. Cl. limits with the condition that it is located minimum 100 m away from the <i>lal lakir/phirmi</i> of a village <i>abadi</i> . In case, a cold storage is to be set up within a distance of 100 m from already approved residential area (other than being a village <i>abadi</i>) or an approved residential colony is to be set within 100 m of an existing cold storage, then the owner of the landuse, which comes later, shall be bound to provide a minimum of 15 m wide green buffer of broad leaf trees to the site in which approved residential area or cold storage is located.						10
	Only .T. Park and Knowledge Park						11
	Only warehousing of agricultural commodities						12
	Subject to fulfillment of conditions of Pb. Govt. Notification No. 17/17/5-Hg2/311 dated 11.01.08 and instructions issued from time to time						13
	Permissible till the time residential or any other activity compatible to residential zone occurs within a radius of 500 m 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						14
	Except Animal Production						1
* The siting of petrol pumps shall be subject to instruction/guidelines of RC/ MORTH/TCPO/Punjab Govt. issued from time to time.							
** All types of industries permitted in the designated landuse zone are subject to the fulfillment of reuirements of different departments							

CLASS CODE/ U CODE	AND U E C A / U C A	AND U E ZONE					
		Residential	Commercial	Mixed use	Industrial	Recreational	Rural and Agricultural
C	Minimum area required for Educational and Health care facilities shall be as defined above or as prescribed by government or the accrediting authorities from time to time.						
	All developments will be subject to Environmental Clearance wherever required.						
	Minimum width of the access road for all public places involving "Assembly/Occupancy" shall be 18 m.						

Note: The activities/uses not mentioned in the table above but found compatible for particular land use zone shall be permissible with the approval of Competent Authority.

In addition to the land uses permitted above, the following conditions shall be required to be completed:

- Mixed use**

- 1) All land uses, which are compatible including industries, except the orange and red category industries, shall be permitted in the mixed land use zone.
- 2) In case of the standalone projects having depth more than the prescribed depth of the mixed land use in the Proposed Land Use Plan, such projects shall be considered for approval irrespective of the prescribed depth of the mixed land use.

10.1 DESIGNATED AREA

The following uses have been specifically designated in the Proposed Land Use Plan.

- Traffic and Transportation**
- Utilities**
- General**
- Public and Semi Public**

10.1.1 Use Prescribed in Designated Areas

Following uses are permissible in the designated Areas mentioned above

- Traffic & Transportation : Uses Permissible**

All types of road, railway and air networks, Rail Yards, Railway Station & Sidings, Airport, Cargo Terminal, Transport Nagar including Post & Telegraph Offices & Telephone Exchange, Sheds, Labour Yards, Areas for Loading and Unloading, Stores, Depots and Offices of Goods Handling Agencies, Petrol Filling Station & Service stations, Parking Spaces, Public Utilities and buildings), Bus Terminal & Depot, Bus Stop Shelter, Taxi/Tonga/ Rickshaw/Scooter Stands, Parking Spaces and other support infrastructure/facilities.

- Utilities: Uses Permissible**

Water Supply, Sewerage System (including main pumping station and Sewage Treatment Plant (STP)), Drainage, Storm Water, Solid Waste processing and disposal, Electricity, Communication Systems and Related Installations, etc.

- **Government: Uses Permissible**

Government and Semi Government Offices, Government Administrative Centres/Secretariat, other Projects/Activities undertaken from time to time to meet the operational/administrative needs of the govt. etc.

The land use of all central/state govt. lands shall be as determined by the respective governments from time to time.

In case of land belonging to the Development Authorities/Improvement Trusts/Local Bodies or any parastatal agencies, its use shall be as determined by such agencies subject to the prior approval of the Department of Housing and Urban Development and the State Government.

The use of land covered under Optimum Utilization of Vacant Government Land (OUVGL) Scheme of the State Government shall be as determined by the Government at any appropriate time notwithstanding the provisions of these regulations.

In case of Defence Land, the uses permitted shall be as determined by the Ministry of Defence from time to time with prior consultation to the competent authority.

- **Public and Semi-Public: Uses Permissible**

Educational including Schools, Colleges, Universities, Vocational Training Institutes, Technical Institutes, etc., **Healthcare** including Dispensaries, Hospitals, Nursing Homes, Super Speciality Hospitals, etc., **Cultural and Religious Institutions** including Theatre, Auditorium, Community Center, Club, Orphanage, Old Age Home, Temples/Gurudwaras/Churches/Masjids, etc., Police Stations, Fire Stations, Cremation Ground, Playground, Stadium, etc.

- **Other Uses**

- Forest Areas: Uses Permissible**

The use of the land notified under the Indian Forest Act, 1927 and the Punjab Land Preservation Act, 1900 shall be subject to the provisions of the said Acts as amended from time to time, irrespective of the land use of such land shown on the Proposed Land Use Plan. No construction/activity shall be permitted in this area unless expressly allowed by the Forest Department/State Govt.

- Restricted Area: Uses Permissible**

In case of Government (Defence) Land, the extent of Restricted Area (No Construction Zone) around such lands shall be as notified by the Central Government from time to time under the Works of Defence Act, 1903. Irrespective of the land use shown, if any, in the

Proposed Landuse Plan, no construction shall be permitted in such zones without the permission of the Ministry of Defence, Govt. of India. Use, if any, indicated on the Proposed Landuse Plan shall be governed by and subject to the provisions of the Works of Defence Act, 1903.

iii) Protected Monuments/Sites: Uses Permissible

In case of protected monument/heritage building or conservation site notified by the competent authority, i.e. (Archeological Survey of India/State Govt.), only the activities related to the promotion, preservation and conservation are allowed. All other uses are prohibited.

All Protected Monuments/Sites declared under The Ancient Monuments and Archeological Sites and Remains Act, 1958 shall have a 100m of Prohibited Area and another 200m as Regulated Area around the limits of Protected Monument/Site as declared vide notification no. S.O. 1764 dated 16th June 1992 of Department of Culture (Archeological Survey of India) for purposes of both mining and construction. Irrespective of the landuse shown, if any, in the Proposed Landuse Plan, no construction is allowed within the Prohibited Area of 100 m. The construction in the next 200 m shall only be permitted with the prior approval of the competent authority/ASI.

Notes:

- In case of uses not listed above, the decision to allow/disallow them shall be vested with the Competent Authority, keeping in view the broad nature and requirement of the landuse.*
- 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.*
- The siting and location of major traffic nodes including Bus Terminus, Truck Stand, etc. and physical infrastructure including STP, Electric Grid Station, Solid Waste Dumping Site, Water Works, etc. shall be as decided by the Govt. from time to time.*
- The siting of petrol pumps shall be subjected to instruction/guidelines of IRC/MORTH/TCPO/Punjab govt. issued from time to time.*
- The Proposed Landuse Plan does not indicate in any manner the ownership pattern of land falling within the LPA. The Proposed Landuse Plan defines broadly the landuse pattern proposed for the land falling within the LPA.*
- Minimum width of Access Road for Warehousing uses shall be 60 feet.*
- All public and semi public uses in residential zone shall be located on independent plots with minimum access of 60 feet road.*

8. All types of industries permitted in the industrial/mixed land use zone are subject to the fulfillment of conditions issued by the Industry Department/Punjab Pollution Control Board (PPCB) from time to time.

10.1.8 RESIDENTIAL DENSITIES

The entire Residential zone for Batala LPA has been defined in the Proposed Land Use Plan drawing no. DTP (G) 15/2012 Dated 23.10.2012 has been divided into 2 distinct sub zones on the basis of their densities. Zone 1 includes area falling within the existing municipal council limits while Zone 2 comprises of area falling outside existing municipal council limits but within the proposed urbanisable limit. The maximum average permissible density in these zones shall be as shown below:

Zone	Extent Zone	Residential Density
Zone 1	Area within the existing municipal limits	Not exceeding 300 persons per acre
Zone 2	Area outside the existing municipal and within proposed the urbanisable limits	Not exceeding 200 persons per acre

To encourage flatted residential development and to preserve the valuable agricultural land, maximum average residential density @ 60 dwelling units per acre shall be permissible for standalone group housing projects/sites reserved for group housing purpose, irrespective of the density of zone. The areas zoned for residential use are not derived from affordable densities but are based on potential for growth. A large proportion of the areas of these density zones, particularly on the periphery, may remain undeveloped by 2031.

10.2 DEVELOPMENT CONTROL REGULATIONS

The purpose of the Development Control Regulations (DCR) is to assist all stakeholders including developers and end-users within the Batala Local Planning Area to strive for a sustainable, quality and environment-friendly development.

These Development Control Regulations are applicable to the all new and future developments and developers shall have to abide by the zoning and planning intentions of the Master Plan. However, Development Projects including C.U., which have already been approved by the Competent Authority before the coming into operation of these regulations, shall continue to be allowed/permitted, subject to the terms and conditions approved shall not be affected by these controls.

The F.A.R., height, ground coverage, parking area, set back, width road, drainage site, etc. regarding residential, commercial, institutional, industrial and other use areas existing within M.C. limits shall be governed by Municipal bye-laws.

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

10.2.1 RESIDENTIA

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

10.2.1.1 Minimum Plot Size

Table 94: Plot Sizes for Residential Colonies

Category	Minimum Plot Size
Residential Plotted	5 acres
Group Housing	
a) General	2 acres independent
b) EWS	2.5 acres

Notes:

- (i) Minimum area of colony within .Cl. limits shall be as per Local Govt. norms.
- (ii) The lowest hierarchy street within residential zone of Master Plan shall be minimum 35 feet wide or as prescribed in the guidelines issued by govt. from time to time.
- (iii) The saleable area of any plotted residential colony shall be as per the provisions of PAPR Act, 1995 or as amended from time to time.

10.2.1.2 Group Housing - outside Municipal limits

Provision of Group Housing within the residential zone provided in the Proposed Landuse Plan of the Batala Local Planning Area outside existing municipal areas shall be subjected to following norms:

Table 95: Norms for Group Housing outside Municipal limits

Item	Permissible Norms/Standards
Minimum Plot Size	
a) for General Category	2 acres
b) for EWS	2.5 acres
Minimum Road Width	For group housing standalone projects, minimum width of approach road shall be 30 feet. However, the promoter is required to leave space from his own land for widening the road to 80 feet and the space so left shall be public space. In case of planned colonies, no group housing shall be permitted on a road width less than 30 feet.
Minimum Setback	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 Authorities and fulfillment of other rules, including setbacks, distance between buildings, etc. However, structural safety and fire safety requirements as per the National Building Code shall be compulsory.
Parking Provisions	For group housing, parking norms shall not be less than 1.5 ECS per 100 sqm of covered area subject to maximum of 3 ECS per dwelling unit.

Notes:

- i. Construction of residential houses sold by promoters on floor basis shall also be

considered as Group/Flatted Housing developments and parking requirements shall be as per the norms applicable to the Group Housing.

- ii. For Group Housing within M. Cl. limits, norms of local government shall be applicable.

10.2.1.3 Far H use

Provision of farm houses shall be governed by following area and coverage norms:

Table 96: Norms for Far H uses

Item	Permissible Norms / Standards
Minimum area	2.5 acres
FAR	0.04
Ground Coverage	2%
Number of storeys	2
Height	In case of Single Storey building not to exceed 18 feet. In case of Double Storey building not to exceed 28 feet.
Hard Surface	Not to exceed 10%

10.2.2 COMMERCIAL

At local level

There shall be provision for small scale, double storey commercial subject to the condition that abutting road shall have a minimum width of 60 feet with minimum 20 feet front setback from road for parking purposes. However, the area requirements for low rise commercial developments within the existing municipal limits shall be as per the local body/Municipal Council's rules and Regulations.

Stand alone Commercial Complexes

For standalone commercial complexes with number of storeys more than two, the additional criteria listed in following table shall apply:

Table 97: Additional Criteria for Stand alone Commercial Complexes (more than double storeys)

Item	Permissible Norms / Standards
Minimum Plot Size	1000 sq.m.
Minimum Road width	80 feet
Minimum Frontage	20 m
FAR	1:1.75
Maximum Ground Coverage	40%
Parking	For projects without multiplexes the minimum parking requirement shall be 2 ECS per 100 sq m of total 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 the said component and

	b) 2 ECS per 100 sq m of covered area, in respect of the balance commercial component including circulation area
	Total parking requirement shall be provided in the compulsory front setback and within the development site boundary or in the basement.
Basement	Multi level basement will be allowed below the building in zoned area except in setbacks provided it is provided for parking purposes only and shall satisfy the public health and structural requirements.
Landscaping	If the site area is one acre or above, minimum 15% of the total area is to be reserved for landscaping purposes.
Setback	The minimum setback distance is to comply with the existing norms and standards.

Note:

- 1) If the project is located within M.C. limit, the provision related to ground coverage, FAR, height of the building and parking norms shall be as provided in the municipal building byelaws.
- 2) The parking norms per ECS shall be as below
 - 23 sq. m. for open parking.
 - 28 sq. m. for parking under stilts on ground floor.
 - 32 sq. m. for parking in the basement.

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

10.2.3 Non-Commercial Residential Zones and Major Roads

All properties within the jurisdiction of Batala PA that abuts major roads of 1, 2 and 3 category shall have Construction line from the proposed Open as mentioned below, irrespective of the landuse shown in the Proposed Landuse Plan.

Table 98: Non-Construction Zone along Major Roads

Sr. No.	Name and Hierarchical Road	Proposed RW (m) outside M. Cl. limits	Non-Construction Zone (m) both sides after Proposed RW
1	Proposed Ring Road (1)	60	5
2	H-15(Amritsar-Gurdaspur Road) (1)	60	5
3	Batala-Jalandhar Road (2)	45	5
4	Batala-Dera Baba Nanak Road (2)	45	5
5	Batala-Shri Hargobind Pur Road (2)	45	5
6	Batala-Qadian Road (3)	30	5
7	Batala-Kahnuwan Road (3)	30	5
8	Batala-Aliwal Road (3)	30	5

Note: Where widening of existing road is proposed, the land shall be taken proportionately equally from both sides of existing roads.

10.2.4 Non-Utilization

The Development Controls applicable to the institutional buildings shall be as follows

Table 99: Norms for Institutional Buildings

Item	Permissible Norms / Standards
Plot size	Area and size shall be as per the affiliation authority norms or 5000 sq. m. as prescribed by the Punjab Government Policy, whichever is more.
Frontage	200 feet
FAR	1:1
Ground	40%
Minimum Road width	60 feet or as proposed in the Master Plan. The only exceptions are nursery and primary schools.
Parking provisions	The requisite parking norm shall be 1 E.S per 100 sq m of covered area, if the project is covered under notification no. 17/17/5-Hg2/311 dated 11.01.08.

Note: Other building regulations shall be governed by the Zoning Plan approved by the competent authority.

10.2.5 INDUSTRIAL

Permissible ground coverage, floor area ratio, height, parking etc. shall be as under:

Table 100: Norms for Industrial Sites

Item	Permissible Norms / Standards
Size Plot	For the first 2420 sq. ds
	For the next 2420 sq. ds
	excess 4840 sq. ds
FAR	1:1.0
Parking	1 E.S per 100 sq. m. of covered area
Road width	The minimum road width for industrial unit shall be 40 feet.
Height	There shall be no restriction on the height of building subject to clearance from Air Force Authorities and fulfillment of other rules, including setbacks, distance between buildings, etc. However, structural safety and fire safety requirements will be as per the National Building Code and shall be mandatory.

Note:

1. Residential component in the industrial plot premises shall not exceed 5% of the area of the site, and shall be within the minimum permissible covered area.
2. No new industry in the Master Plan shall be permitted on a road having less than 40 feet ROW or as specified in the Master Plan. However, in case the existing road width is less than the minimum specified width as per Master Plan or 40 feet wide, then the proportionate land on both sides shall be safeguarded for widening to comply with the minimum requirement. In case, where habitation settlement or other physical feature comes in the alignment, the widening shall be on the other side of habitation settlement or other physical feature. In case of industries existing before the final notification of the Master Plan.

Plan, if the road width is less than 40 feet, then the owner of the site/industry shall give a self-declaration for leaving the required strip of land from his ownership as and when required by the concerned authority.

3. *Industrial/IT Park shall have minimum 10 acres area. In IT Park, IT component shall have FAR 2. In Industrial Park, for an industry component FAR shall be 1 and other components shall have FAR as mentioned under different uses in the Master Plan.*

10.2.5.1 Existing Industries:

The existing industries falling within non-conforming uses shall be governed by following Regulations:

- i) All industries existing in clusters, located in non-industrial areas on the date of notification of Master Plan and shown on the Proposed Landuse Plan, shall stand adjusted, but shall be permitted to expand within existing premises only subject to the norms and conditions specified by the Punjab Pollution Control Board.
- ii) Industries falling in the red and orange categories, other than those falling in clusters as mentioned above, shall not be permitted to operate within the residential/commercial zone and would be required to shift to the designated industrial zone within a period of 10 years from date of publication of Master Plan.
- iii) All industrial units falling in non-industrial areas shall be permitted to change the nature of industries to that are knowledge based and involve the use of IT and ITES, for which permission shall be granted liberally subject to the condition that location does not cause any congestion and traffic problems.
- iv) All the existing focal points/industrial estates set up the state govt. etc. have been retained as such in the Master Plan.

- **Incentives for shifting of existing industries falling within non-conforming zones (whether located individually or falling under the clusters as earmarked on the Proposed Landuse Plan)**

In case of industries falling in the red category which are in operation as on the date of notification of Master Plan and are located in the non-conforming landuse zones, if such industries shift outside this zone to any of the designated industrial zone within the Master Plan of Amritsar L.P.A within the state of Punjab and generate at least the same number of jobs at the new location, will be provided with following benefits:

- 1) No C.L.U., E.D.C or Licence Fee on the existing industrial site shall be charged 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 for which the prescribed C.L.U., E.D.C and Licence Fee are higher, then the difference between C.L.U., E.D.C and Licence Fee of the proposed land use and plotted residential has to be paid. In case that particular land is put to a land use for which C.L.U., E.D.C 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.
- 2) If the industry shifts in the subsequent two years of the above mentioned period of three years, it will enjoy only 50% reduction on C.L.U., E.D.C 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 C.L.U., E.D.C 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 C.L.U., E.D.C 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 C.L.U., E.D.C or Licence fee on the new industrial site shall be payable if the industry shifts within five years of the notification of the Master Plan.

However, considering the role and importance of local craft and cottage industries, the decision for re-location/shifting shall be based on detailed study of such industries including assessment of their value, issues faced by them and threats they impose on the city environment subject to the condition that no such polluting industry shall be permitted to operate from the residential areas.

10.2.6 ENVIRONMENTAL CONSIDERATIONS

- i) Minimum buffer of 15 meters green belt of broad leaf trees should be provided around the boundary of village *abadis* falling in the industrial zone of Master Plan. A buffer strip of 15 meters of broad leaf trees shall also be provided between residential areas and red category industries falling in the industrial zone of Master Plan, boundaries of which are located within 100 m from the boundary of such areas. It is clarified that 15 meter buffer shall be provided by the owner of the project who comes later.
- ii) All residential colonies, commercial establishments like shopping malls, multiplexes, etc. shall maintain a minimum distance of 250 m from the hazardous (Maximum Accident Hazardous or MAH) industries notified by the competent authority. The distance shall be measured from source of pollution/hazard in the industrial premises to the building lines as per zoning plan of the colony/complex. However, for specified type of industry like rice sheller/sella plants, stone crushers, hot mix plants, brick kilns, etc., standards prescribed by PPCB or any other agency shall apply.
- iii) Gap of at least 100 feet should be left between the railway boundary and the nearest private buildings, so as to avoid smoke and noise nuisance to these adjacent buildings. Wherever it is not possible to leave, a road width of minimum 20 feet may be left between the railway boundary and the nearest adjacent buildings, as per the standards prescribed by the Railway Board conveyed by Divisional Superintendent, Northern Railway, Ferozepur to the Secretary, Local Self Government, Punjab vide their letter dated 22.09.1971.

10.2.7 OTHER DEVELOPMENT CONTROLS AND GUIDELINES REQUIRED

- i) **Expansion of Village *Abadis*:** Contiguous expansion of village *abadis* falling in the non-residential zones of Master Plan is permissible up to a distance of 100 m from the existing *abadi deh* to accommodate the natural growth of villages. However, for the village *abadis* falling in residential zone of Master Plan, the development shall be regulated by the norms and standards defined for the development of the residential areas.
- ii) **Regulation for Village *Abadi*:** Special building regulation shall be prepared for the development and regulation of an area falling within the *lal dora/phirni* of the villages, and the area proposed for expansion of the villages in the non residential zones falling in the Local Planning Area, in order to regulate the rational growth and development of the villages.
- iii) 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.
- iv) Minimum 5 m wide green strips on each side of minor water bodies like minor/drain, etc. shall be maintained in the portion falling within the existing municipal limits and 10 m in the portion falling outside the existing municipal limits. On the other hand, the major water bodies like river/major canals, etc. shall have minimum 30 meters green strips on each side. Realignment of water bodies shall be permissible wherever feasible, subject to the certification by the Drainage/Engineering Department to ensure free flow of storm water. After any such realignment, the river mouth, the river bed and the green strip/buffer on either side shall be maintained at least to the minimum prescribed level. In these green strips, golf course, sports and recreational activities shall be permissible, but no construction would be allowed. The supporting activities for these activities shall be constructed outside the green strips.

- v) All commercial/public/industrial or other buildings of public use shall be made friendly for the physically challenged persons as per the norms and standards specified by the Government/competent authority from time to time.
- vi) Provision for Rainwater Harvesting shall be made compulsory in all buildings subject to the guidelines issued by the Competent Authority from time to time.
- vii) All new buildings to be constructed shall be made energy efficient based on design and use of energy efficient electrical appliances. Retrofitting of all existing buildings to make them energy efficient shall be taken up on priority.
- viii) Trees shall be planted within and outside all residential areas and public/industrial buildings. Landscaping shall be made integral part of the building design.
- ix) All buildings shall be made structurally safe in order to mitigate the damage caused by the natural and man made disasters, including earthquake, fire, etc. and shall conform to the guidelines and the stipulations made in the building byelaws and the NBC. It shall be duty and responsibility of the owner of the building to make the building safe against these disasters. Retrofitting of all existing buildings to make them safe against disasters shall be taken on priority.

10.2.8 TRANSFERABLE DEVELOPMENT RIGHTS

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

- Cash compensation can be made to affected land owners whose land is to be acquired.
- A government approved land pooling scheme can be implemented.
- Transferable Development Rights (TDR).

Under the TDR scheme, the affected land owner(s) shall be entitled to additional FAR for the development of the balance land parcel at a rate of 1:1. The additional FAR will not be subjected to any CLU, EDC or license/permission fees. The land owner(s) also has/have the option to sell it in total or in parts to a third party.

All the records of transactions administered under the TDR scheme shall be maintained by the state and/or relevant authority(s), based on the precedence set in Mumbai, Maharashtra. The TDR scheme shall be restricted to development projects for public infrastructure and facilities, which shall be announced from time to time. The additional FAR shall not be

transferable from one LPA to another one.

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

10.2.9 EXCEPTIONS

- i) Uses determined by the Chief Town Planner, Punjab as compatible with uses permissible shall be allowed in respective zones.
- ii) Development/projects approved prior to coming in to force of these regulations shall be deemed to be in compliance with these Regulations.
- iii) The site on which various projects have been approved or whose change of landuse has already been permitted by the competent authority/Govt., such site shall be deemed to be adjusted as sanctioned/permitted.
- iv) Use of land covered under Optimum Utilization of Vacant Government Land (OUVGL) Scheme or any other project of the State / Central Government shall be determined by the Government at any appropriate time notwithstanding the provisions of this Master Plan.
- v) In the event of conflict in interpretation of data within the study area, the information in the GIS format will be deemed as the accurate version and will prevail.
- vi) In case the area of a project falls partially under no construction zone along a water body, relaxation of maximum up to 5% on the total area of the project shall be allowed towards calculation of saleable area in lieu of the area falling under the no construction zone. In case, the area falling under no construction zone is less than 5% of the total area of the project, then the relaxation shall be proportionately less.
- vii) The buildings/premises, for which the existing (present) land use has been retained as such in the Master Plan, may continue to operate without time limit. However, in case the present use of the buildings/premises is discontinued (partially or wholly), these buildings/premises, or part thereof, may be put to any compatible use (except industry) with the surrounding use zone in the Master Plan, provided it fulfills the other development regulations/controls as laid down in the Master Plan or as prescribed by the Govt./Local Body from time to time.
- viii) Within the existing M. Cl. limits, the building rules notified by the Local Govt. shall be applicable, i.e. FAR, height, ground coverage, parking requirements, setbacks, width of and frontage of site, etc. regarding residential, commercial, institutional, industrial or any other use for areas existing within the M. Cl. limits shall be governed by municipal rules/bye-laws.
- ix) Any change in the above said development controls notified or to be notified in future by the concerned development authority shall have overriding effect on the development

controls mentioned above.

10.2.10 IMPLEMENTATION OF THE ZONING REGULATIONS/DEVELOPMENT CONTROL REGULATIONS

- i) All authorities competent to grant permission for layout or sub-division of land or construction of building or development of land in any other form shall ensure that the permitted development is in accordance and compliance with these Regulations.
- ii) Land owners desirous of developing their land can obtain a list of permissible uses, by applying to the designated authority in writing and giving details of their land along with necessary maps.
- iii) The land owners proposing development of certain uses on their land shall obtain a certificate of “Compliance with Master Plan” from the designated authority.

CHAPTER 11

INVESTMENT PLAN

City Investment Plan has been prepared through a comprehensive process of gap assessment in physical and social infrastructure sector in alignment with identified vision for Batala town. This assessment has also led to the identification of sector-specific strategies, implementation actions and associated reforms with specific inputs from stakeholders. The strategies adopted primarily have three dimensions - improving service delivery by efficiency measures; improving service delivery by creating infrastructure assets; and improving the governance aspects of the municipality. This section summarizes the capital investment required for creating infrastructure assets and various strategic interventions required in the implementation of such projects. The strategies are both investment-oriented and administration-oriented.

Investment Plan for the city highlights broadly the investment required for physical infrastructure such as water supply, sewerage, solid waste, etc. As far as social infrastructure is concerned, it is assumed that the required facilities shall be developed through Govt. on the basis of the latest PPP model.

11.1 INVESTMENT PLAN

The City Investment Plan is the multi-year scheduling of identified and prioritized investments. The phasing of the Plan is based on studies of fiscal resource availability (for new investments and O&M), technical capacity for construction and O&M, and the choice of specific improvements to be carried out for a period of five years. The IP is needed for:

- Assessment of growth and accordingly meeting infrastructure needs (to be carried out once every five years).
- Scheduling of investments of ongoing projects due to cost and/or time overruns
- Aligning of priorities within the constraint of available financial resources

INTEGRATING THE CIP PROCESS

The City Investment Plan is an important element of the Master Plan and is significant in terms of the town's management process and sustainability with regard to the delivery of basic services. As a part of the Master Plan, the CIP prepared includes the following:

- Defined norms and standards for infrastructure services;
- Roles and responsibilities of various stakeholders in the implementation of identified projects
- Project phasing and strategies for implementation.

In Batala, Municipal Council is the primary agency responsible for delivering municipal

services and hence the CDP proposals ought to be implemented by Nagarpalika. The projects, prioritization, investment phasing, strategies and action plan are framed accordingly. The CIP involved the identification of public capital facilities to cater the demands of the city populace by the year 2011 and 2031 according to their short, medium and long-term infrastructure needs. The project identification has been done through a demand-gap analysis of the services and DPRs available with the Nagarpalika. Further, project prioritisation and strategizing of the investments/ phasing of investment are based on strategies, listed under each service sector as identified through stakeholder consultations. The projects derived are aimed at ensuring the optimal and efficient utilisation of existing infrastructure systems and enhancing the capacity of the systems/ services to cater the demands of future population additions. Certain other projects listed as part of the CIP include developmental projects other than those addressing the core service sectors viz. system modernisation, etc.

The CIP and the forecasted future needs for provision of capital facilities under each identified sector are presented below. These assets will help to universalise services for the current population as well as accommodate the expected increase in population. In sectors where long-term planning is required (for example, source development for water supply and development of landfill site), the planning horizon till the year 2031 is considered. Assets created in such sectors consider the projected population in this horizon.

11.2 SECTOR WISE INVESTMENT NEED

WATER SUPPLY

Sector Strategies and Investment Need

Strategy Identified	To cover the uncovered area by water supply network by augmenting the present distribution system network and to ensure equitable distribution of potable water to all through piped water supply, and to provide a water treatment plant in the town
Expected Outcome	Assured ability to meet year 2031 demand
Total Investment Need	Rs 6412 lakhs

The investment for various heads of water supply has been calculated for the year 2011, 2021, and 2031 by taking into account unit cost of each of the heads as well as gaps (requirements) identified respectively. The total investment need for water sector by 2031 is estimated at Rs. 6412 lakhs.

SEWERAGE

Sector strategies & Investment need

Strategy Identified	Capacity expansion and up gradation of the existing collection and conveyance system to meet additional water supply and provide for environmentally safe disposal
Expected Outcome	Synchronisation with water supply capacity
Total Investment Need	Rs 8660 lakhs

The total investment need for sewerage sector by 2031 is estimated at Rs. 8660 lakhs.

TRAFFIC AND TRANSPORTATION

Sector Strategies & Investment Need

Strategy Identified	Increase carrying capacity through widening and improve riding quality through strengthening of existing roads. New roads will cater missing links and developing areas roads.
Expected Outcome	Hassle-free travel on the roads, safe driving during nights
Total Investment Need	Rs. 2710 lakhs

Identified investments based on the demand-gap assessment above presented are meant for the up-gradation of existing un-surfaced roads, new road development, widening and strengthening of major roads, implementation of the public transport system, traffic management systems and junction improvements, provision of street lighting, etc. Improve identified major roads and the construction of ROBs at various critical intersections to achieve an efficient traffic management system. The total investment need for roads, transportation and traffic management sectors by 2031 is estimated at Rs 27150 lakhs.

STORM WATER DRAINAGE

Sector Strategies & Investment Need

Strategy Identified	Laying down of closed pucca drains throughout the town and providing it a separate distribution line other than the sewerage one.
Expected Outcome	Universal coverage and disposal capability, restrict sewerage flow into storm water drains
Total Investment Need	Rs. 4300 lakhs

The system plans to cover 100% of the road network for service efficiency. The total investment need for drains sectors by 2031 is estimated at Rs. 43500 lakhs.

SOLID WASTE MANAGEMENT

Sector Strategies & Investment Need

Strategy Identified	Source segregation and door-to-door collection, effective transportation and environmentally safe disposal
Expected Outcome	Reduced waste generation, hygienic conditions and a clean city
Total Investment Need	Rs. 5199 lakhs

The total investment need for Solid Waste Management sector by 2031 is estimated at Rs. 5199 lakhs.

ELECTRICITY

Sector Strategies & Investment Need

Strategy Identified	Installation of new electric sub stations as per the requirement by 2031, minimize the transmission losses and laying down of new hierarchical electric distribution system
Expected Outcome	Supply of regular uninterrupted electricity throughout the year.
Total Investment Need	Rs. 60.60 lakhs

The total investment need for electricity sector by 2031 is estimated at Rs. 60.6 lakhs.

SUMMARY OF COST ESTIMATION FOR DIFFERENT SECTORS OF PHYSICAL INFRASTRUCTURE

Water Supply

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Treatment Plant	18	MLD	25	450
Network Distribution	174	km	25	4350
OH	1	Nos.	55	55
Metering System	51895	Nos.	0.03	1556.85
Total				6412

Sewerage (80% Water Supply)

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Treatment Plant	34	MLD	50	1700
Distribution Network	174	km	40	6960
Total				8660

Transportation

Infrastructure Components	Numbers	Units	Rate (lakhs)	Cost (lakhs)
Roads	59	km	250	14750
ROBS	5	Nos.	2500	12500
Flyovers and Bridges	2	Nos.	1000	2000
Junction Improvement	7	Nos.	100	700
Total				29950

Storm Water Drainage

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Network	174	KM	250	43500
Total				43500

Solid Waste Management (Door to door collection, Mechanical sweeping, Collection through vehicles, landfill site development, incinerators, etc.)

Infrastructure Components	Requirement	Units	Rate (lakhs)	Cost (lakhs)
Collection, transportation and Disposal	115526	KG	0.045	5198.6475
Total				5199

Electricity

Infrastructure Components	Requirement	Unit	Rate (lakhs)	Cost (lakhs)
Sub Station	13	Nos	800	10400
Distribution Network	174	Km	9	1566
Total				11966

SECTORWISE TOTAL COST ESTIMATION

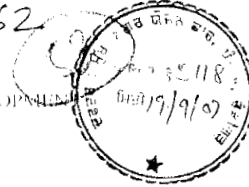
INFRASTRUCTURE COMPONENT	TOTAL EXPENDITURE (LAKHS)
Roads	29950
Water Supply	6412
Sewerage	8660
Storm Water Drainage	43500
Solid Waste	5199
Electricity	11966
Grand Total	105687 lakhs (1056.87 Crores)

ANNEXURE I

Notification Batala PA

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

SB-62



NOTIFICATION

Date: 12/9/07

No. 215/07-4461/7569 Whereas it appears to the Governor of Punjab that to meet the challenge of rapid growth of Batala town and to provide for workable frame work for comprehensive planned and regulated development, preparation of statutory Master Plan of Batala town is very essential. Hence in order to develop Batala town and its surroundings in an orderly manner and to prepare its master plan under "The Punjab Regional and Town planning and Development Act- 1995". The Governor of Punjab is pleased to declare the Local Planning Area of Batala within the meaning of sub-section 1 of section 56 of the Punjab Regional and Town Planning and Development Act, 1995 (Amendment Act, 2006.) Total area proposed for Local Planning Area is 16570.44 hectare including Batala town and adjoining 77 villages. The schedule of boundary of proposed Local Planning Area is given below:-

SCHEDULE OF BOUNDARIES OF BATALA LOCAL PLANNING AREA

NORTH: Starting from point "A" which is the common meeting point of village Ruliali Khurd (H.B. No. 300) and village Morar (H.B. No. 299) of district Gurdaspur with the common district boundary of Gurdaspur and Amritsar and moving towards North-East along the northern boundaries of village Morar (H.B. No. 299), Ghoga (H.B. No. 298), Khokhar (H.B. No. 273), Tadwal Lal Singh (H.B. No. 281), Rikhia (H.B. No. 280), Burj Arain (H.B. No. 277), Karwalian (H.B. No. 278), Taragarh (H.B. No. 245), Balewal (H.B. No. 247), Winjwan (H.B. No. 248), Bhullar (H.B. No. 234), Kotla Sahya (H.B. No. 233), Kotli Phasi (H.B. No. 232), Malludawara (H.B. No. 230), Udhawal (H.B. No. 229) and Khokhar (H.B. No. 228) up to point "B" which is the common meeting point of village Khokhar (H.B. No. 228), Godherpur (H.B. No. 446) and Naushenra Majja Singh (H.B. No. 470).

ਸ਼ਹੀਦੀ/ਪਿਤਾਮਹ ਵਿਚ ਕੀਤੀ

ਸਮ. ਮ. ਮ. ਮ. ਮ. ਮ.

Handwritten notes and signatures at the bottom of the page, including "ATRE", "PC", "SPT/OTP's", "copy", "19/9", "10/10", and "10/10".

- EAST:** Thence from point "B" and moving towards south along the eastern boundaries of villages Khokhar (H.B. No.228), Udhowal (H.B. No. 229), Dialgarh (H.B. No.227), Harsian (H.B. No. 226), Mamrai (H.B. No. 225), Malikpur (H.B. No. 224), Diwaniwal (H.B. No. 199), Shahabad (H.B. No. 204), Sangatpura (H.B. No. 205), Batala M.C., Partapgarh (H.B. No. 210), Chahal Khurd (H.B. No. 209) and Chahal (H.B. No. 133) up to point "C" which is the common meeting point of villages Chahal (H.B. No. 133), Purian Khurd (H.B. No. 137) and Nat (H.B. No. 136).
- SOUTH:** Thence from point "C" and moving towards west along the southern boundaries of villages Chahal (H.B. No. 133), Phulke (H.B. No. 131), Rangilpur (H.B. No. 127), Basarpura (H.B. No. 126), Hassanpur Kalan (H.B. No. 289) and Bal (H.B. No. 290) up to point "D" where the common village boundaries of villages Bal (H.B. No. 290), and Purian kalan (H.B. No. 123) meets with the common district boundaries of Gurdaspur and Amritsar.
- WEST:** Thence from point "D" moving towards west along the common district boundary of Gurdaspur and Amritsar up to point "A" which is the point of start.

Boundaries of Local Planning Area Batala are specifically shown on drawing no.DTP (G) 15/07 dated 30/08/07. All the provisions laid down u/s 56(2) of the Punjab Regional and Town Planning and Development Act, 1995 (Amended) Act, 2006 and all the concerned rules framed under this Act have been taken into consideration.

Date: 11-9-2007.
Place: CHANDIGARH.

(ARUN GOEL, I.A.S.)
Secretary to Government Punjab,
Housing and Urban Development Deptt.

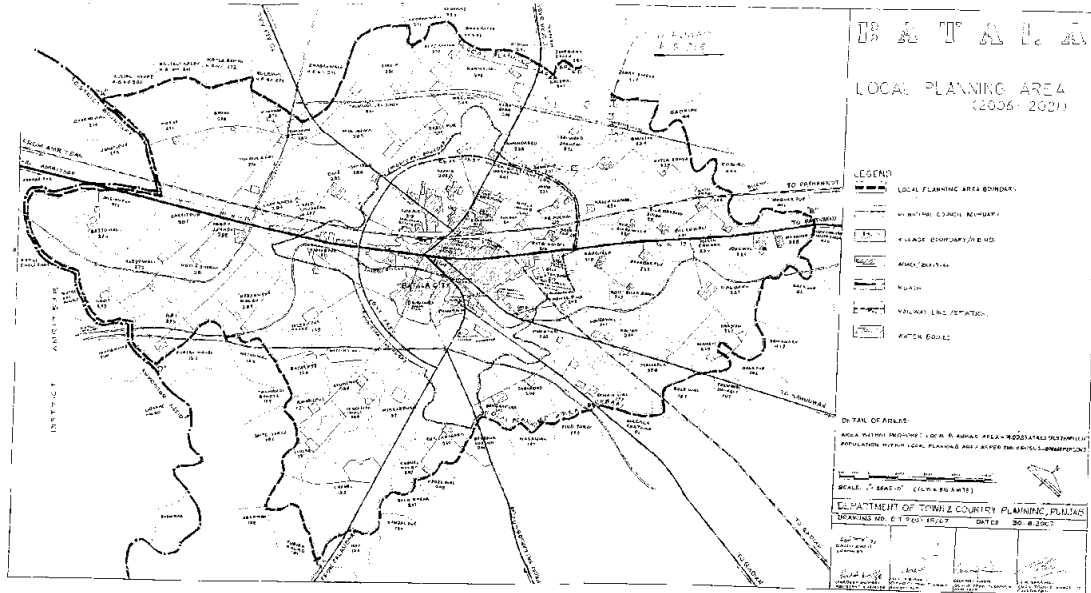
List of Settlements atala PA

S. N.	Name of the Village/Town	Hadbast N.	Area (in Ha)	Population (2001)	Remarks
1	Baala M. Cl.	----	3276	125677	-
2	Shahabpur	212			Area and Population included in Baala M.Cl.
3	Faizpur	213			
4	Bakehwal	214			
5	Frindewal	215			
6	Quabi Nangal	216			
7	Aima	239			
8	ola Nawab	240			
9	Punder	241			
10	okhuwal	242			
11	haib	243			
Ougrowhs of Baala U.A.		---	---	22195	Include ougrowhs of Bawali Inderji, Bhaala Inderji, Bakewal, aunspura, Alowal, Nawanpind, Marrianwala, Umarpura, ohe Malawa, Sagarpur, Haveli Chobdaran, Jharriwala, Mani hauranga, Bhode - di - hui and haral
12	Qila Tek Singh	217	50	1112	Area partially included in Baala M.Cl.
13	Sodhpur	219	21	114	-do-
14	Dhupsari	203	135	968	-do-
15	Mulianwali	283	171	2458	-do-
16	Dhaulpur	279	188	1372	-do-
17	Shampur	237	125	564	-do-
18	ala Nangal	235	157	1558	-do-
19	Suniyah	284	128	2201	-do-
20	Ahmadabad	238	62	884	-do-
21	Talwandi Jheuran	236	104	1157	-do-
22	andiala	218	125	1067	
23	Nawan Pind	202	99	328	
24	Shahabad	204	216	1364	
25	Sangapura	205	112	810	
26	Parapgarh	210	108	563	
27	Missarpura	129	237	1551	
28	Said Mubarak	297	144	799	
29	Dhir	285	195	1679	
30	Balewal	247	184	1812	
31	Winjwan	248	174	1300	
32	Bhullar	234	287	1758	
33	ola Sahya	233	146	1305	

34	Kotli Phasi	232	116	663	
3	Malludawara	230	8	4 6	
36	Gillanwali	231	109	1064	
37	Surjit Singh Wala	220	2	729	
38	Qilla Darshan Singh	221	136	973	
39	Bahadarpur	222	116	898	
40	Kotli Bhan Singh	223	142	9 7	
41	Malikpur	224	281	13 1	
42	Mamrai	22	8	63	
43	Harsian	226	148	924	
44	Dialgarh	227	4 8	1902	
4	Khokhar	228	191	890	
46	Udhowal	229	1	1128	
47	Kalian	200	110	987	
48	Longowal	201	1 6	1041	
49	Diwaniwal	199	324	1821	
0	Chahal Khurd	209	82	398	
1	Chahal	133	1	2287	
2	Chapianwali	130	82	301	
3	Phulke	131	134	99	
4	Chuhewal	128	1 4	1032	
	Rangilpur	127	84	669	
6	Basarpura	126	2 6	1376	
7	Hasanpur Khurd	12	23	1367	
8	Hasanpur Kalan	289	232	1193	
9	Hardo Jhanda	288	312	2078	
60	Ghastipur	287	1	1371	
61	Chak Khasa	286	48	8	
62	Bal	290	348	2092	
63	Kotla Sharaf	291	194	1374	
64	Sarupwali	292	301	2116	
6	Chhit	293	148	1024	
66	Bajjuman	294	241	1674	
67	Sheikhpur	29	40	164	
68	Dhadialanat	296	731	3 44	
69	Ghoga	298	220	919	
70	Morar	299	777	3 92	
71	Khokhar	273	84	249	
72	Shankarpura	282	161	1 33	
73	Talwandi Lal Singh	281	4 1	2482	
74	Rikhia	280	11	873	
7	Burj Araian	277	127	634	
76	Haruwal	244	77	37	
77	Taragarh	24	201	1790	
78	Karwalian	278	144	717	
79	Batala Sarki	211	430	Uninhabited	Area partially included in Batala M Cl

Tal	16588	208668	
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*The data of area has been taken from the Existing Landuse Plan prepared by PRSC, Ludhiana, while the data of Population is extracted from Census of 2001.



ANNEXURE II

Notification Planning Agency Batala PA

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

NOTIFICATION

DATED 18/9/07

No. 12/5/2007-4HG1/ 7569 Whereas the Governor of Punjab was pleased to declare the Local Planning Area of Batala and its surrounding area u/s 56(1) of "The Punjab Regional and Town Planning and Development Act, 1995" vide notification No. 12/5/2007-4HG1/ 7569 dated 18/9/07.

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".

Dated, Chandigarh.
11-09-2007

/s/ run Goe.
Secretary to Government of Punjab
Department of Housing & Urban Development

ਸਰਕਾਰੀ/ਨਿਰਦੇਸ਼ਕ ਦਫ਼ਤਰ ਦੀ

ਦਿ. 11.09.2007

ANNEXURE III

List of Trees recommended for Plantation in the Major Roads within Urban Limits/ Master Plan Areas

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>Chakrassia Tabularis</i>	Tall spreading tree, evergreen and hardy. Excellent for shade. Flowers are greenish, white in April-May.
12.	<i>Chorisia speciosa</i> (Mexican 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.	Jacrandra mimosaeifolia (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.	Putranjiva 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.	Tabebuia Rosea	Small in height, columnar in shape, deciduous from December to February, Scanty foliage, flower colour is purple pink in February-March.
29.	Terminalia Arjuna(Arjan)	Tall, columnar shaped tree, sheds leaves in March. Very Hardy tree, flowers of pale-yellowish white colour appear in September-October.
30.	Terminalia Chebula(Bahera)	Tall, Columnar shaped tree, leafless in March, Pale-yellow flowers all the year round.

ANNEXURE IV

N ti icati Wide i g NH 15



ANNEXURE V

Notification Prohibited & Regulated Areas around Protected Monuments

THE GAZETTE OF INDIA

DEPARTMENT OF CULTURE
(ARCHAEOLOGICAL SURVEY OF INDIA)
NEW DELHI, THE 16TH JUNE 1992
(ARCHAEOLOGY)

S.O.1764.—Whereas by the notification of the Government of India in the Department of Culture, Archaeological Survey of India no. S.O. 1447 dated the 15th May 1991, published in the Gazette of India, part II, Section 3, sub-section (ii) dated the 25th May 1991, the Central Government gave one month's notice of its intention to declare areas upto 100 meters from the protected limits and further beyond it upto 200 meters near or adjoining protected monuments to be prohibited and regulated areas respectively for purposes of both mining operation and construction;

And whereas the said Gazette was made available to the public on the 5th June 1991:

And whereas objections to the making of such declaration received from the person interested in the said areas have been considered by the Central Government.

Now, therefore, in exercise of the powers conferred by rule 32 of the Ancient Monuments and Archaeological Sites and Remains Rules, 1959, the Central Government hereby declares the said areas to be prohibited and regulated areas. This shall be in addition to and not in any way prejudice to similar declarations already made in respect of monuments at Fatehpur Sikri; Mamallapuram; Golconda Fort, Hyderabad, Andhra Pradesh; Thousand Pillared Temple, Hanamkonda, district Warangal, Andhra Pradesh; Sher Shah's Tomb, Sasaram, Bihar; Rock Edict of Ashoka, Koppal, district Raichur, Karnataka; Fort Wall, Bijapur, Karnataka; Gomateswara Statue at Sravanabelagola, district Hassan, Karnataka; Elephanata Caves, Gharapuri, district Kolaba, Maharashtra.

[No. F. 8/2/90-M]
M.C. JOSHI,
Director General.

Historically Protected Monuments in Punjab under Chandigarh Circle

Sr. No.	Name of Monument/Site	Locality	Tehsil	District
1	Gateway of Old Sarai	Amanat Khan	Tarn Taran	Tarn Taran
2	Gateway of Old Sarai	Fatehaba	Kharur Sahib	Tarn Taran
3	Ram Bagh Gate (Deoli)	Amritsar	Amritsar I	Amritsar
4	Summer Palace Maharaja Ranjit Singh	Amritsar	Amritsar I	Amritsar
5	Fort	Bhatinda	Bhatinda	Bhatinda
6	Ancient Site and Buddhist Stupa	Sanghol	Khamanon	Fatehgarh Sahib
7	Mound at Mughal Fort	Abohar	Abohar	Firozpur
8	Ancient Site	Ropar	Rupnagar	Rupnagar
9	Aradani Arali	atala	atala	Gurdaspur
10	Shaherha Tomb	-d-	-d-	-d-
11	Takht-I-Akbari	Kalanaur	Kalanaur	-o-
12-15	Kos Minars	Bir Pin & Dakhni, Jahangir, Nakoar, Tut Kalan	Nakoar	Jalandhar
16-18	Three Kos Minars	Cheema Kalan, Shampur, Uppal	Nurmahal	-o-
19	Mughal Bridge	Dakhni	Nakoar	-o-
20	Sarai & Gateway	-o-	-o-	-o-
21	Mughal Kos Minar	-o-	-o-	-o-
22	The Gatti Mound	Nagar	Phillaur	-o-
23	Tomb of Moh. Momin & Haji Jamal	Nakoar	Nakoar	-o-
24	Sarai including Gateway	Nurmahal	Nurmahal	-o-
25	Ancient Mound	Katpalon	Phillaur	-o-
26	Kos Minar	Ghungrali Rajputan	Khanna	Lu hiana
27	Kos Minar	Lashkari Khan	-o-	-o-
28	Kos Minar	Lu hiana	Lu hiana	-o-
29	Kos Minar	Sherpur Kalan	-o-	-o-
30	Ancient Site	Sunet	-o-	-o-
31	Kos Minar	Sanewal	Sanewal	-o-

ANNEXURE VI

Notification Regarding Forest and Waste Land in Punjab

Notification
The 3rd May, 1958

No. 1122-FT-58/1195. In supersession of Punjab Government notifications

1. No. 260-FT-dated the 8th February, 1945
2. No. 5002-D-51/6264 dated the 15th November, 1951
3. No. 563-FT-54/458 dated the 3rd March, 1955 and
4. No. 3384-FT-55/2134 dated the 19th August, 1955

and in exercise of the powers conferred by section 29 of the Indian Forest Act, 1927, and all other powers enabling him in this behalf, the Governor of Punjab is pleased to declare the strips of Govt. forest or waste land whether under tree growth or not on either side of all roads, canals and railways in the State of Punjab except those in the Patiala Division described in the following schedule, to be protected forests and the provisions of chapter IV and section 68 of the said Act to be applicable to them :-

S C H E D U L E

Name of Strips	Description and situation
Roads	All P.W.D. (Buildings and Roads) roadside strips and also other P.W.D. lands in Punjab State transferred to the Forest Department for Management.
Canals	All land on either side of P.W.D. (Irrigation Branch Canals and Canal roads including main canals, branches distributaries, Minors escapes and bounds and also other land of that department transferred to the Forest Department for Management.
Railways	The land along the railway track and station yards on Northern railways transferred to the Forest Department for Management.

No. 1122-FT-58/1196. Whereas by Punjab Government Notification No. 1122-FT-58/1195, dated 3rd May 1958, all strips of Government waste lands, demarcated by boundary pillars whether under tree growth or not on either side of all roads, canals and railways in the state of Punjab except, Patiala Division as mentioned in the schedule annexure to the said notification have been declared to the protected Forests under section 29 of the Indian Forest, Act 1927.

NOT HEREFORE the governor of Punjab in exercise of the powers conferred by section 30 of the said Act is pleased :-

- (a) to declare all trees standing in or upon these lands to be reserved with effect from the date of publication of this notification.
- (b) To prohibit from the same date the quarrying of stones, burning of lime or charcoal, or the collection or subjection to any manufacturing process, or removal of any forest produce in any stage forest and the breaking up or clearing of land for building or for herding cattle or for any other purpose of any land in such forests.

NAKUL SEN
Secretary to Govt. Punjab, Revenue Deptt