Town & Country Planning Department

Housing & Urban Planning Department,
Government of Uttar Pradesh

Formulation for Metro & Class 1 Cities of Uttar Pradesh under AMRUT Scheme: GIS BASED MASTER PLAN

SAHARANPUR

DRAFT MASTER PLAN REPORT, 2031

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Atal Mission for Rejuvenation and Urban Transformation

Submitted By

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Acronyms

AMRUT	*Atal Mission for Rejuvenation and Urban Transformation*
AOI	*Area of Interest*
ASPRS	*American Society for Photogrammetry and Remote Sensing*
ATM	*Automated Teller Machine*
BOD	*Biological Oxygen Demand*
BPL	*Below Poverty Level*
BRTS	*Bus Rapid Transit System*
CBR	*Crude Birth Rate*
CE	*Circular Error*
CFL	*Compact fluorescent lamp*
CGWB	*Central Ground Water Board*
CHC	*Community Health Centre*
Cline	*Central Line*
CNG	*Compressed Natural Gas*
CO	*Carbon Monoxide*
D.P	*Development Plan*
DEM	*Digital Elevation Model*
DGPS	*Differential Global Positioning System*
Dia	*Diameter*
DIC	*District Industries Centre*
DoS	*Department of Space*
DTM	*Digital Terrain Model*
DU	*Dwelling Unit*
EB	*Enumeration Block*
EO	*Earth Observation*
GCP	*Ground Control Point*
GDOP	*Geometric Dilution of Precision*
GIS	*Geographic Information System*
GLR	*Ground Level Reservoir*
GoI	*Government of India*
GPS	*Global Positioning System*
GSI	*Geological Survey of India*
HH	*Household*
HHI	*Household Industry*
HP	*Horse Power*
HPMV	*High Pressure Mercury Vapor*
HQ	*Head quarters*
HRIDAY	*Heritage City Development and Augmentation Yojna*
HT	*High Tension*
ID	*Identification Number*
IGS	*International Ground Station*
IMR	*Infant Mortality Rate*
IR	*Infra-red*
IRC	*Indian Roads Congress*
ISO	*International Organization for Standardization*
ISRO	*Indian Space Research Organization*
IT	*Information Technology*
ITRF	*International Terrestrial Reference Frame*
LE	*Linear Error*
LFDC	*Large Format Digital Camera*
LISS	*Linear Imaging Self-Scanner*
LPCD	*Liter per Capita per Day*
LPG	*Liquefied Petroleum Gas*
LT	*Low Tension*
mg/L	*Milligrams per Litre*
MILMA	*Brand household name of The Kerala Co-operative Milk*

	Marketing Federation
MKWH	*Million Kilowatt per Hour*
MLD	*Mega Litter per Day = 10*6 L/day*
MMTS	*Multi-Modal Transport System*
MoUD	*Ministry of Urban Development*
MRTS	*Metro Rapid Transit System*
MSL	*Mean Sea Level*
MW	*Megawatt*
NAS	*Network Attached Storage*
NCC	*Natural Color Composite*
NDMA	*National Disaster Management Authority*
NGO	*Non-Government Organization*
NHAI	*National Highway Authority of India*
NMP	*National Map Policy*
NNRMS	*National Natural Resource Management System*
NO	*Nitric Oxide also known as Nitrogen Monoxide*
NRSC	*National Remote Sensing Centre*
NSDI	*National Spatial Data Infrastructure*
NSSO	*National Sample Survey Organization*
NUIS	*National Urban Information System*
OGC	*Open Geospatial Consortium*
PAN	*Panchromatic*
pH	*Potential of Hydrogen*
PHC	*Primary Health Care*
PPP	*Public Private Partnership*
QA	*Quality Assurance*
QC	*Quality Check*
R& B Dept.	*Roads and Buildings Department*
RGI	*Registrar General of India*
RMSE	*Root Mean Square Error*
RPC	*Rational Polynomial Coefficient*
RWA	*Resident Welfare Association*
SEZ	*Special Economic Zone*
SO2	*Sulphur di-oxide*
SPM	*Suspended Particulate Matter*
STPD	*State Town Planning Department*
TCPO	*Town & Country Planning Organization*
TV	*Television*
UA	*Urban Agglomeration*
ULB	*Urban Local Body*
URDPFI	*Urban and Regional Development Plans Formulation and Implementation*
UT	*Union Territory*
UTM	*Universal Transverse Mercator*
VHRS	*Very High-Resolution Satellite*
WBM	*Water Bound Macadam*
WFPR	*Workforce Participation Rate*
WGS84	*World Geodetic System (WGS) established in 1984*
SHG	*Self Help Group*
WTP	*Water Treatment Plant*
AADT	*Annual Average Daily Traffic*
ADT	*Average Daily Traffic*
CBD	*Central Business District*
IRC	*Indian Road Congress*
LCV	*Light commercial vehicle*
LoS	*Level of Service*
NCR	*National Capital region*
NMSH	*National Mission on Sustainable Habitat*
NMV	*Non-motorized vehicles*

OD	*Origin-Destination*
PCU	*Passenger Car Unit*
PWD	*Public Works Department*
ROW	*Right of Way*
RRTS	*Regional Rapid Transit System*
RTO	*Regional Transport Office*
TVC	*Traffic Volume Count*

Chapter 1
Introduction

1 Introduction

The chapter provides a brief background of the AMRUT scheme and the project, key aims & objective; methodology and the time lines of the project. It also establishes the relationship between different levels of statutory plans that are preapred at different scales of urban & regional planning.

1.1. Project Brief

In year 2015, the Government of India, ***launched Atal Mission for Rejuvenation and Urban Transformation (AMRUT)***, as a centrally sponsored scheme. The scheme aims to provide basic civic amenities like water supply, sewerage, urban transport, parks as to improve the quality of life for all, especially the poor and the disadvantaged. It mainly focusses on infrastructure creation that has a direct link to provision of better services. One of the key purposes of the Mission is to improve governance through a set of reforms. During the Mission period, eleven reforms are being implemented.

Master Plan/Development Plan is the major tool for urban land management, providing detailed land use allocation for the sustainable development of city/town. Most master/development plans are made for 10 to 20-year periods, in phases, for periodic review and revision. The most crucial information for formulation of Master Plan is an accurate and updated Base Map of the planning area. ***'Formulation of GIS-based Master/Development Plans for 500 AMRUT Cities' is one of the important reforms under AMRUT, which has been approved in October 2015 as a 100% centrally funded sub-scheme***.

The objectives of this sub-scheme are, (1) to develop common digital geo-referenced base maps & land use maps using Geographical Information System (GIS), and (2) Master Plan Formulation for 500 cities that are selected as AMRUT Cities.

In Uttar Pradesh, a total of 61 cities are covered by the AMRUT scheme, which includes around 14 Nagar Nigam/Municipal Corporation and 46 Nagar Palika/Parishad. The State Mission Directorate, GoUP, proposed to undertake the GIS-based master plan formulation under *"Uttar Pradesh (Regulation and Building Operation) Act, 1958"* and "*Uttar Pradesh Urban Planning and Development Act, 1973*", while instituting development authorities/regulated areas for their respective cities.

As a part of the Sub-scheme, the concerned controlling authorities of selected cities passed resolution in their respective boards to prepare new/revised/reformation (conversion) of master plan of these cities. Town & Country Planning Dept., Govt. of U.P. has been declared as Nodal Department for the same

Sometime back, the tender for the Master Plan preparation under AMRUT was floated, with towns grouped in clusters. Almondz Global Infra Consultant Limited, in association with DMG Consulting Private Limited (here after referred to as Consultants), were selected as the consultants for preparation of master plan.

Saharanpur is well known industrial centre with micro, small and medium enterprises as core industrial strength. Situated at foothills of, the city observes pleasant climate throughout the year. The master plan analysis would focus on the deviation occurred in present day land use compared to the MP 2021 and prepare the PLU as per the present-day requirements. The planning process inculcated thorough stakeholder discussions with officials of line departments, secondary and primary data collection, exhaustive analytical understanding of the issues as well as aspirations, new and upcoming projects in different sector. The

proposal would focus on the holistic development of the city so as to realize its industrial potential and harnessing its favorable factors, and project the city to further advancement.

1.2. AMRUT - Sub Scheme Objectives

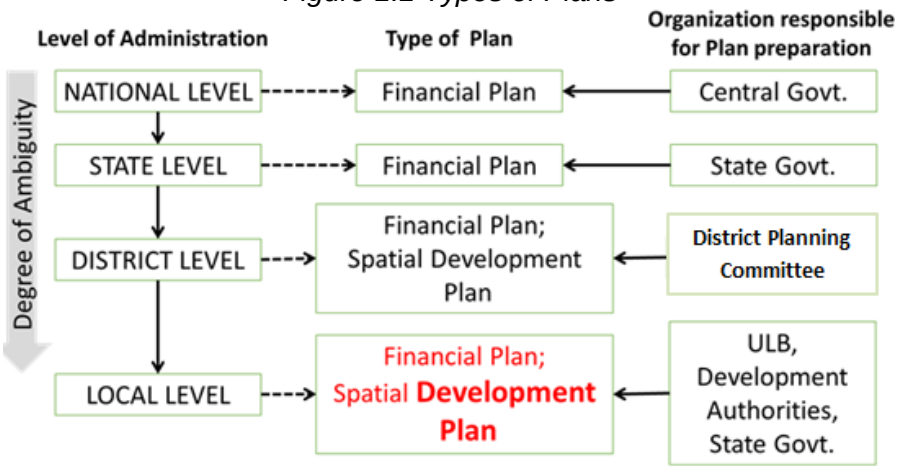
The objective of the sub scheme is to develop common digital georeferenced base maps and land use maps using Geographical Information System (GIS) in each AMRUT city to enable them to make more informed strategic decisions. The major components are:

- Generation of Base Map & Thematic Maps and Urban Database Creation at the scale of 1:4000 as per Design & Standards
- Formulation of Master Plan: Formulation of Master Plan of city as per State Town & Country Planning Act on the GIS base map and sector-wise data analysis. The implementing agency is State Mission Director/ULBs.
- Capacity Building: The training is at 3 levels, Implementing agency State Mission Directors
- Administrators level –three days duration.
- Planning level –two weeks duration.
- Operators and Technicians level –four weeks duration

1.3. Hierarchy of Plans

Planning in India is majorly of two types: socio-economic and physical. Under these there are various plans available to direct the development in urban areas. The levels at which they operate is different & similarly the nature and details provided in each type is different. Hierarchy and Types of Plans are explained below:

Figure 1.1 Types of Plans

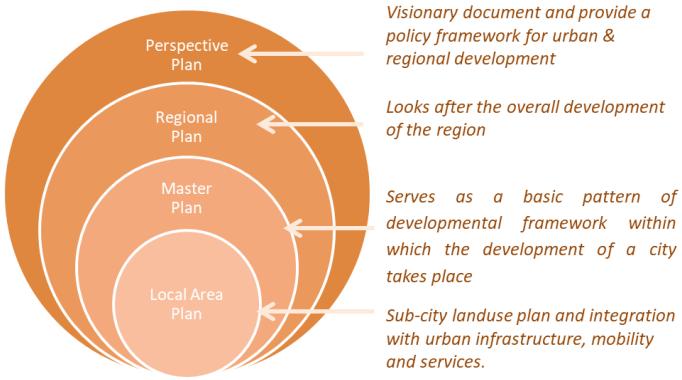


Source: Consultant analysis

1.1.1 Correlation between different Plans

Planning system in India (Perspective Plan, Regional Plan, Development/ Master Plan, and Local Area Plan etc.) has evolved based on its spatial extent, scale of planning, its function and spatiality. The details of different levels of plans are highlighted.

Figure 1.2 - Hierarchy of Plans



Source: URDPFI, 2014

Perspective Plan: A Perspective Plan is a long-term perspective vision document stating the social, spatial and economic development goals, policies, strategies and programs towards the intended development of the State or district. In general, the plan period is 20-25 years coinciding with National/ State five years plan. It serves as a guide to Urban Local Body and Regional Development Authorities in preparation of Master Plan or Regional Plan.

Regional Plan: For planned balanced regional development of human settlement and infrastructure, Regional Plans come into play. Where Master plan concerns only with a city or delineated urban area, the regional plan constitutes both urban as well as rural areas. This requires different government/ departments and municipalities to work together for mutual and overall development of region.

Master Plan: Master Plan or Development Plan is a statutory plan prepared under relevant Act. Master Plan details out policies suggested in the perspective or regional plan, into physical proposals and possible strategies. In general, the time line of master plan is 20 years. For the periodic review and revision, a Master Plan is in phases of 5 years. ***In U.P. state, Master Plan of cities having Development Authorities are prepared under U.P. Urban Planning and Development Act, 1973 whereas for cities under regulated areas is prepared under the Uttar Pradesh (Regulation and Building Operations) Act, 1958.***

Local Area Plan/ Zonal Plan: For the implementation of Master Plan, the plan is divided into various Zones/ Areas. Zoning generally take into account the compatibility of land uses thus details out the land use planning to make Master Plan effective at grass root level. The plan delineates reservation of land for roads and other public purposes.

1.1.2 Need for GIS based Master Plan

A Master Plan ensures orderly development of a city. It acts as a guiding document for the future physical development of the city and provides a framework for preserving the city's unique character, ensuring its diversity, supporting investment and promoting desired change. It also counterbalances the problems which may have come up due to over-crowding of population. The formulation of Master Plan starts with preparation of Base Map, socio economic data collection, existing land-use survey, analyzing the existing situation and then proposing future land use plan. For the master plan to be more effective, an accurate and updated base map showing current status of the roads, built up structures, land uses, water bodies and other natural resources etc. is crucial.

In conventional way of preparation of Master Plan, the mapping and data gathering could not keep pace with the rapid population growth, urban sprawl and change in land-use. But with the advancement in Remote-Sensing and Geographic Information System (GIS) and its usage in Master Plan has expedited the process. With this advances technology of remote sensing and geographic information system, these process of making plan, is expedited with an integration of both spatial and attribute data on a single platform, where a number of analytical tools are available which help us in detailed assessment and helps in defining the spatial growth of towns/cities, Land uses, physical infrastructure facilities, etc. in anticipation of the projected population growth. GIS technology is used for preparation of base map for preparation/ revisions of Master Plan and helps us to bring all the relevant data, both spatial and informative, on a single platform which is easy to study for assessment and is geo-referenced.

1.1.3 Vision and Objectives of Master Plan

1.1.3.1 ***Vision:***

Aim is to promote integrated socio-economic growth by protecting the environment. Also the heritage of the city should be preserved. The urban sustainability should also be promoted.

1.1.3.2 ***Objective:***

The objective of the long-term master plan is to prepare a detailed land use plan, development program, mainly for the overall development of the metropolitan area, with a view to utilize the metropolitan available in the best possible form for future potential population and urban activities. To achieve the above general and comprehensive level objectives, the following work targets have been set under Meerut Master Plan-2031.

- Socio-Economic Development by using local resources.
- Improvement in physical infrastructure.
- Enhancing the use of Public transport by promoting the use of Non-motorized transport system.
- Focuses on Environmental sustainability by reducing the pollution levels and by greening of built environments.
- Promoting Affordable housing for all.

Enhance and preserve the Culture and Heritage of the city

1.1.4 Methodology

Preparation of Master Plan involves analysis of the urban sprawl study of existing land use, assessment for future needs, determination of suitability of available land for various activities/uses, planning of new road links, reserving land for public facilities and services, zoning and framing suitable development promotion and control regulations. Various steps involved in the preparation of Master Plan include: -

- Evaluation of existing Master Plan
- Preparation of base map and existing land use map using GIS technology
- Surveys and studies of existing-conditions, major problems and development issues
- Projection of requirements and assessment of deficiencies
- Establishment of development aims and objectives
- Consultation with Public, Private, Co-operative Sectors and all other Stakeholders
- Development Policies and Proposals
- Resource Mobilization Proposals
- Phasing and Implementation

- Monitoring and evaluation.

1.4. Structure of report

The present report is submited as Pre Draft Master Plan report. The report comprises of following : (1) brief introduction to the city; (2) asessment of the previous master plan (Year 2011- 2021) and deviations occurred in the then proposed land uses; (3) existing situation analysis for the town (covering such aspects as demographic asssesment, economic and socio cultural aspects, physical & social infrastrucure and gaps, public & semi public areas and traffic and transportation assessments etc; this ESA will include the outcomes of the the traffic surveys and existing landuse surveys done during ground truthing of Base Map . With the sector wise data analysis, major problems/issues and potential will be also identified. Different projects, schemes and proposals by Central and State government and its effect has also been studied and incorporated. (4) preparation and assessment of existing land use (ELU); and preparation of proposed landuse and pre draft master plan . In the wake of Covid-19 pandemic, its effect on economy, transporation, social infrastructure, housing and environment sector have also been considered in developing the understanding of current situation/ trend and future planning.

Chapter 1: "Introduction", provides a background, key objectives and aims of the project; it also establishes the relationship between different levels of statutory plans that are preapred at different scales

Chapter 2: "Existing Structure", gives an introduction to the city and focusses on its profile covering topics such as the history, growth and evolution, regional settings, settlement hierarchy in proposed planning area (*Area of Interest or AoI*). City's existing land use and its built-up nature/character will be analyzed. Trend of physical expansion and major developmental issues prevalent in the city will be discussed in this chapter.

Chapter 3: "Evaluation of existing Master Plan 2021, and land use deviations", focusses on the previously proposed landuses, development parameters, extent of land-use changes and deviations (as compared to the ELU), planning proposals and relevant progress.

Chapter 4: "Population & Demography", includes assessment of the demographic indicators such as population growth, gender ratios, literacy rates, urbanization. The chapter also includes the population forecast of the AoI and the methods employed for the same.

Chapter 5: "Economic Base & Employment", covers the economic profile of Saharanpur city, covering indicators such as workforce participation, main and marginal workers, work force participation etc. The chapter describes the industrial profile of the region, including the conditions & trends in informal sector. The chapter includes workforce projections.

Chapter 6: "Resources" discusses the technical manpower and financial capacity of the planning authority. The chapter includes assessment of the implementation aspects of the master plan such as land management schemes as well as investment made by private sector or government agencies for planning and development of infrastructure or in any other schemes in the city

Chapter 7: "Housing", contains census data analysis on the housing stock for indicators such as household sizes, type of housing units etc. Recent housing trends are analyzed and relevant policy evaluation done in relation to densification, regularization/improvement in current housing stock etc.

Chapter 8: "Traffic and Transportation", contains analysis of the data as collected from traffic surveys such as traffic volume count, origin and destination etc. Issues related to traffic and transportation is highlighted. Proposals are accordingly made as per the analysis of existing condition in the city.

Chapter 9: Industry, discusses industrial profile of the city and the region. Environmental impact of these industries is discussed, in addition to the relevant industrial policies. Future estimate and land requirement for industries will be calculated based on the projected workers population and government policies.

Chapter 10: Commerce: Discusses the commercial development of the city

Chapter 11: Public and Semi-Public facilities, discusses the existing condition of social infrastructure: educational, health, post, fire station etc. Demand and gap assessment is carried out for the entire social infrastructure and subsequently, future requirement is projected for the population of horizon year 2031.

Chapter 12: Infrastructure, this chapter includes analysis of the current status of physical infrastructure such as water supply, sewerage, drainage and solid waste management system, as well as demand and gap assessment for the same.

Chapter 13: Recreational and Leisure. In continuance to the social infrastructure, this chapter covers the recreational and tourism aspects of the city such as parks, playgrounds, lakes, water bodies, tourist or pilgrim centers and historical monuments and archeological sites. It will assess the recent trends, land requirements for recreational activities in the future and policy requirements for conservation planning.

Chapter 14: Conservation Townscape & Landscape: The present chapter provides an overview of the conservation of heritage and historical buildings; townscape and landscape aspects such as topographical features etc., and the role of private and governmental organizations in conserving the city landscape.

Chapter 15: Proposed Land use Structure & Development Strategy. The proposed land use structure and development strategy for the city is discussed in this chapter. It describes the thematic conceptual plan for the future development of the city along with proposed land use for the planning area and development strategies for redevelopment, decongestion decentralization and for environmentally sustainable development.

Chapter 16: Analysis and Compliance of Government Policies, will cover assessment of the relevant government policies, to lay base for the future framework for the possible zonal plans and development of the city. Delineation of zones, their functional characteristics, strategy for their development and zoning regulations and development controls are discussed.

Chapter 17: Framework for Zonal Development Plans : The Chapter provides framework for zonal development plans for the city and an overview of the key characteristics of the zones.

Chapter 18: Zoning regulations: This chapter provides zoning regulations for the proposed master plan area. The zoning regulations are prepared with standard regulations available on the Urban Housing & Planning department for Uttar Pradesh.

Chapter 19: Way Forward: Concludes the report with way forward aspects and future analysis to be required.

"Resources", discusses the technical manpower and financial capacity of the planning authority. The chapter includes assessment of the implementation aspects of the master plan such as land management schemes as well as investment made by private sector or government agencies for planning and development of infrastructure or in any other schemes in the city.

"Phasing of Master Plan proposes the phasing of the master plan and summarizes key aspects for implementation of the proposed /possible projects and schemes.

"Resource Mobilization for Implementation. The report is concluded proposals in relation to possible revenue model including private and public participation required in terms of finances to achieve the implementation of different aspects of the master plan. The chapter further discusses the factors related to master plan implementation fund.

Chapter 2
Existing Structure

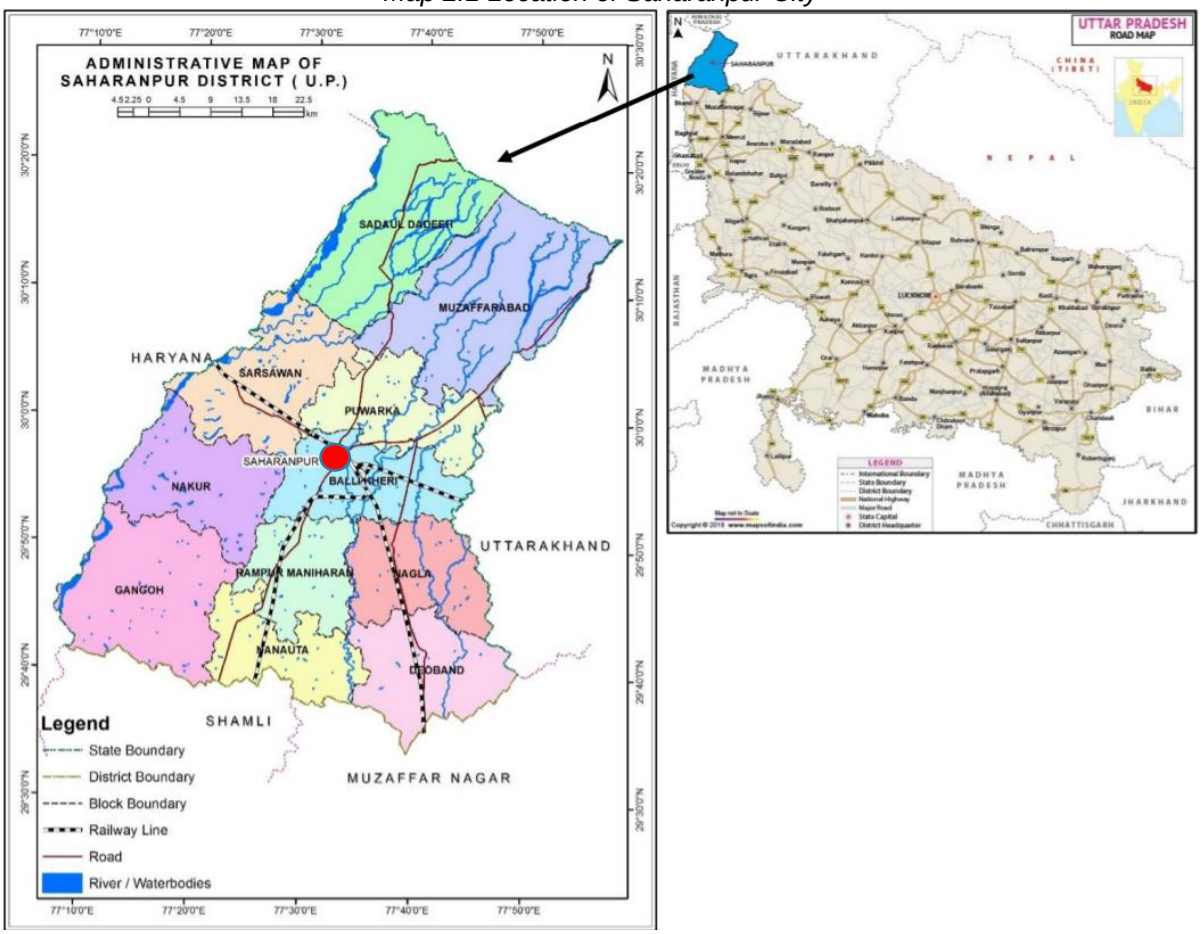
2 Existing Structure

This chapter gives an introduction to the city and focusses on its profile, covering topics such as the history, growth and evolution, regional settings, settlement hierarchy in proposed planning area (Area of Interest or AoI). City's existing land use and its built-up nature/character is analyzed. Trend of physical expansion and major developmental issues prevalent in the city are discussed.

2.1 Town's location and regional setting, linkages and relationship with hinterland

District Saharanpur is north-western part of Uttar Pradesh. River Yamuna marks the western boundary of the district separating U.P. from adjoining Haryana. The extreme north-western part, beak like structure, touches with Sirmaur district of Himanchal Pradesh. In north lies Dehradun (Uttarakhand) and in the east it faces Haridwar district. Muzaffarnagar and Shamli districts marks southern boundary. Administratively, the district is divided into 5 tehsils and 11 developmental blocks. Saharanpur district attained the status as Saharanpur division in year 1997. Saharanpur city, located in the central part, is the administrative headquarter of the District. It is approximately 550 kms from the capital city Lucknow, 164 kms distant from Delhi, and 70 kms away from Dehradun. Saharanpur district attained the status as Saharanpur division in year 1997.

Map 2.1 Location of Saharanpur City



Source: Consultant analysis, online web research

2.2 Historical Background

Saharanpur was founded by Shah Ranveer Singh, and is named after Shah Harun Chisti, a Sufi saint. The history of Saharanpur dates back to as early as 2000 B.C. Many archaeological sites have been unearthed here as well as throughout the adjoining area. It was part of the Indus Valley civilization and was later ruled by Aryan kings. Various dynasties set their conquering footsteps on Saharanpur. Following the second Anglo Maratha war in year 1803, the British planted their feet firmly here till 1947. Post-independence, Saharanpur was engrafted into Uttar Pradesh. Apart from being a prominent agricultural hub, Saharanpur is famous for its wood and handicraft.

2.3 Regional Settings

Saharanpur is a well connected to major urban centers in UP as well as across India. The city has intersection of two National Highways. NH 709B (which is the spur from NH9, and connects many northern cities in UP to Delhi), and NH 344 (running from Ambala in Haryana to Roorkee in Uttarakhand. It is a secondary route of National Highway 44) pass through Saharanpur. In addition, Muzaffarnagar- Saharanpur SH- 59 is a recently completed along 52.95 kms highway, connecting the two cities via Deoband. The city will further have a boost in road connectivity. The proposed Delhi-Saharanpur-Dehradun Economic corridor, work is underway. This will be the country's first access-controlled highway where there will be a 12-kilometer-long elevated corridor for protection of wildlife[1]. Regular USRTC and other private operators' buses operate via Saharanpur at a regular basis.

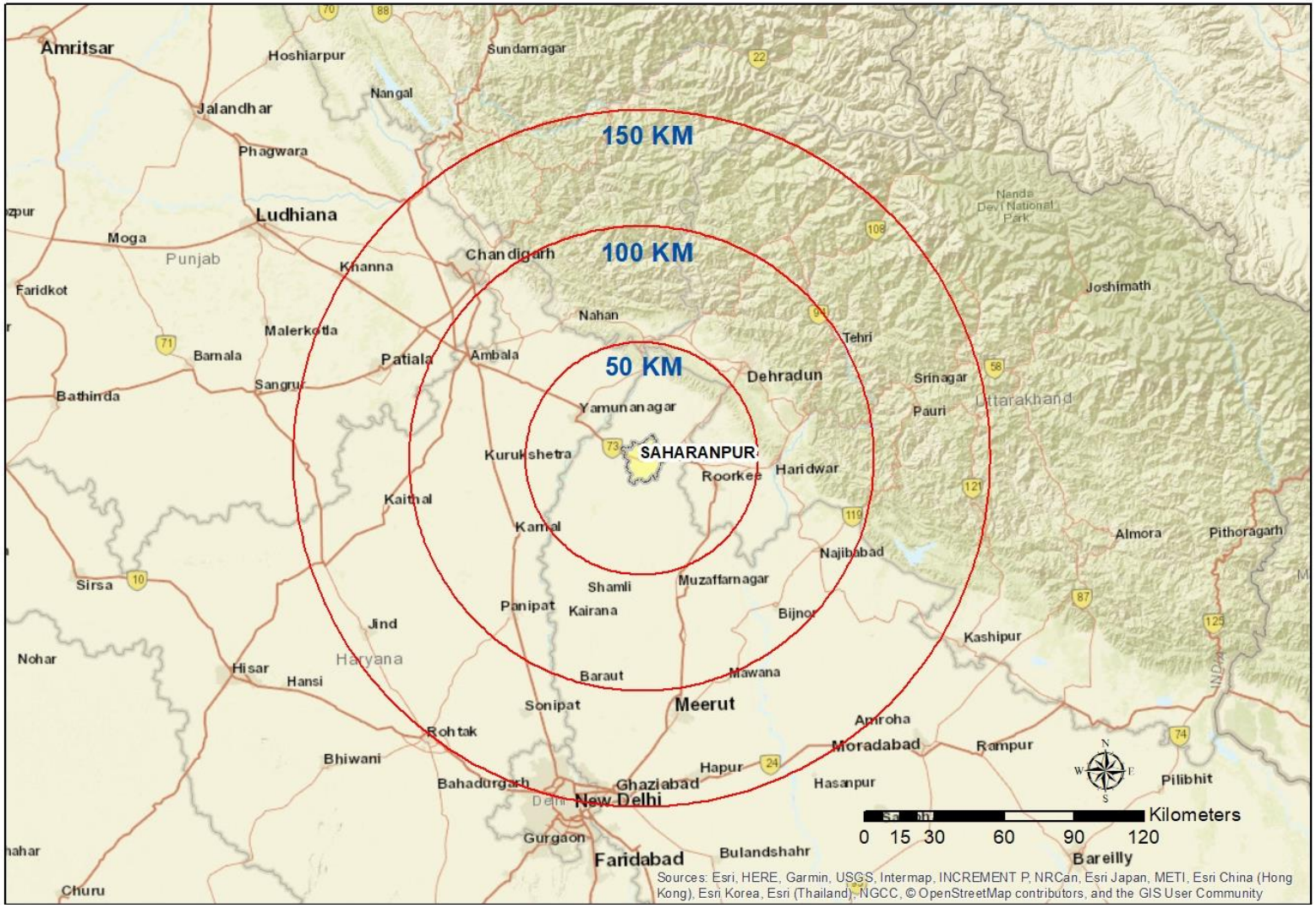
The Saharanpur Junction lies on Amritsar-Howrah main line while the Dehradun-Delhi line passes through the inner city and the Tapri Railway Station which serves as an ancillary railway station to the city, located at Paper Mill Road. It handles more than 200 trains per day inclusive of passenger and freight trains, chiefly, Dehradun-New Delhi Shatabdi Express, Amritsar-Haridwar Jan Shatabdi, Shalimar Express, Golden Temple Mail, and Chhattisgarh Express.

The nearest International airport to Saharanpur is Shaheed-e-Azam Bhagat Singh International Airport Mohali or Chandigarh International airport which is around 140kms away from the city, followed by the Indira Gandhi International Airport of Delhi which is 210 kms away from city, via NH 344. The nearest domestic airport to Saharanpur is the Jolly Grant Airport in Dehradun which is around 96 kms away, and is around two and a half hours driving from the city. The Saharanpur Airport at Sarsawa Air Base, is manned by the Indian Air Force and is located approximately 12 kms from the city. Plans to upgrade this airport to operate commercial flights are underway.

Please Refer the Regional Settings map on the following page.

[1] https://themetrorailguy.com/nhai-delhi-dehradun-expressway-information-route-map-status/

Figure 2-1 Regional setting of Saharanpur



Source: Prepared by Author/ Consultant

2.4 Climate

The average annual rainfall in Saharanpur is 963.9 mm. About 80% of rainfall takes places from June to September. The climate is sub humid and it is characterized by general dryness except in the brief period during the monsoon season. Summer is hot and winter is pleasant cold season. May is the hottest month. The mean daily maximum temperature is about 400C, mean daily minimum temperature is about 240C and maximum temperature some time rises to 440C. With the onset of southern monsoon by the end of June, there is appreciable drop in temperature. January is the coldest month with mean daily temperature at about 200C and mean daily minimum at 70C. The air is dry during the major parts of the year. In south-west monsoon season, the air is very humid and April and May are usually driest months. The mean monthly relative humidity is 67%. The mean wind velocity is 6.70 Km/h.

2.5 Physiography: Saharanpur district

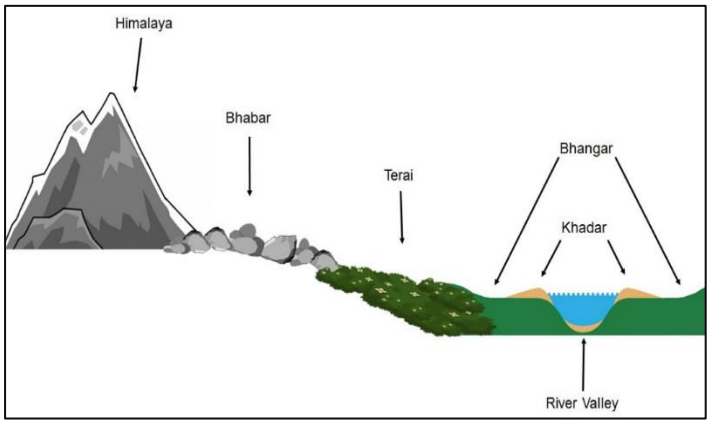
2.5.1 Geological Features

The district Saharanpur is characterized with these physiographic divisions the Shiwalik /structural hills, Bhabar, Tarai, Khadar and the plain. Hilly tract of the Shiwalik, range along the northern border is stretching from west to east directions, which have an extent of 10 to16kms. The whole range is forested. Lying immediately below the Shiwalik is the Bhabar tract intersected by numerous torrents that drain rainy water into the Yamuna River and its numerous tributaries[2].

Yamuna Khadar: - Yamuna Khadar extends to the western part of the district in the north-south direction. It has mostly flat surface with monotonous topography. The region is demarcated on the basis of the extent of Yamuna floodwaters. The general slope of the region is towards south.

Saharanpur Plain: - The region covers the major part of the district. It is a level plain with gentle slope from north to south direction. Monotony of the physiography is broken by the streams flowing in this belt. In the northern part of the streams' beds are wide but narrow down towards south. Hindon is the main river which flows in this region.

Deoband Plain: - The region extends to the eastern part of the district in North-South direction. Kali Nadi with its tributaries drains this tract. A few patches of sand dunes or bhur are noticed south of Deoband town. The plain is flat and fertile with plenty of irrigational facilities. The transport network is also very developed.



Saharanpur Bhabar: - The region is situated south of the Shiwalik ranges are parallel to them in east-west direction. The rivulets coming down from the Shiwalik suddenly disappear in this belt. These streams deposit unasserted

[2] District Census Handbook, Census 2011, Saharanpur District

sediments and town tans and talus. These torrents accelerate soil erosion and render the land up fit for agricultural purposes by depositing coarser materials. The streams are notable for changing their courses. They do not have any defined banks.

Saharanpur Shiwalik: - The region is spread in east-west direction in the northern part of the district. The region is composed of upper Shiwalik and lower Shiwalik of *Pio-pleistocene and Miocene* periods. The region is drained by a number of rivulets.

2.5.2 Drainage

The main drainage system in Saharanpur district is river Yamuna which flows overall north to south, forming the western part (boundary) of the district. Hindon, Kali and Khairanwala River are the main tributaries of the river Yamuna on its western bank within the Bhabar belt. The north eastern part of district drains by river Solani which is a tributary of Ganga River. The drainage covers most of the nalas falling in various tributaries is broad, flat and occupied with cobbles, boulders and gravels. Most of the nalas are torrential and carry runoff with gentle fluctuation. A large amount of influent seepage from such streams during the monsoon period where as during non-monsoon period the streams and nalas are generally dry. However, within the Tarai belt the drainage is more or less perennial as it receives effluent seepage from the ground water in a number of springs on depression along the nalas.

2.5.3 Soil

The surface soil found in the Shiwalik region is generally a thin vegetable deposit, bearing a crop of sal, sain and other trees, with chir on the higher attitudes and northern slopes. The light rich loam or sandy loam soil covers nearly three fourth of the area of the district. It is called by the local name of rausli and ranges from a light friable soil with a considerable admixture of sand to the softer kinds of clay in which all crops can be grown with equal facility. No mineral occurrence has been reported from the district. Muzaffarabad and Sadauli Kadim blocks in the north, Sarsawan, Nakur and Gangoh blocks in the west and Ballia Kheri, Nagal, Rampur and Deoband blocks in the middle and south of the district abound with this type of soil. Heavy clay, found principally in the depressions, is known as Dakar a name that is generally used in the upper doab and corresponds with matiyar of the district.

2.5.4 Disaster prone areas

The hazard maps of various disaster for the state of Uttar Pradesh are given below. The maps include the earthquake hazard, flood hazards and wind hazard map. Saharanpur city lies in zone 4 of earthquake which is high damage risk zone. Annexure 2 of the report shows the disaster prone regions in the state.

2.6 Ecology & Environment: Saharanpur (district level)

2.6.1 Forests

Forests cover practically the whole of the hilly range of the Shiwaliks. Apart from the government forests there are no large areas of jungle or waste. This is generally covered with trees and coarse grass which is in itself of considerable economic value and also useful for grazing. In the Khadar occasional patches of Dhak and other species are to be seen, both in the north and in Gangoh, Manglaur and elsewhere.

Deoband, an ancient place lying in the Southern part of the district is said to have been the residence of the Pandavas during their exile and was then known as Devi-ban meaning the sacred forest dedicated to some deity. With the increase of population, the forest mostly lying the tarai area have been gradually cleared and reclaimed for agricultural purpose.

The Bamboo forests are mainly found along the river banks and on the slopes of the Shiwalik hills. Other trees found in abundance in the forest are Shisam, tun, Sal, Semal, Garhal,etc. These are useful in building houses, match box, plywood, and packing, gum, catechu and sport goods. Coarse grass found in hilly area is used in making bun (Rope). Small scale industry of woodwork in the district of Saharanpur is of world fame because of wood which is easily available here.

2.6.2 Fauna

The fauna of the district is considerably more varied than in other districts of the doab to the south owing to the presence of hills and forests. The Tiger and Leopard which were numerous in the past have practically disappeared. The sloth bear inhabits the Shiwalik and Jungali Suwar or Wild Pig is found all over the district and especially in the low lands of the Yamuna. Deer of many species including the Antilope Cervica, Sambur, spotted Deer or Chital and the barking Deer or Kakar are also found in the district. Of the Antelopes, the Indian Black Buck has become rare, the Nilgai is found in the river basins and the small forests of the north

2.6.3 Agriculture and Crop Pattern

The Kharif crops are sown in the beginning of the hot weather and reaped after the cessation of the rains; the Rabi crops are sown in October-November and harvested in March-April. The Zaid or Intermediate crops comprise a few minor crops like melons, vegetables, spices and tobacco and cover a very small area. The main crop of Kharif is rice. Jowar and Bajra are the main Kharif staples which are grown in the inferior soil and the narrow strips of sandy land along the river banks. Wheat is the most important of the Rabi staples in the district..

2.6.4 Irrigation

Irrigation net-work in the district is very rich. The Ganga and Yamuna- the largest rivers of the state pass through this district. Major portion of the cultivable land is covered by canals. These canals receive ample of water from these rivers. More than 31.5 per cent of irrigated land is irrigated by canals. Statistical Magazine- 1998 states 780 km canals, 559 government tube-wells, 57 pump-sets, 54,447 bored pump sets and 17,362 private tube-wells. The proportion of tube-wells in the irrigation network comprises 68.50 per cent and other sources 0.01 per cent in the district

2.7 Master Planning Area-notification and extent

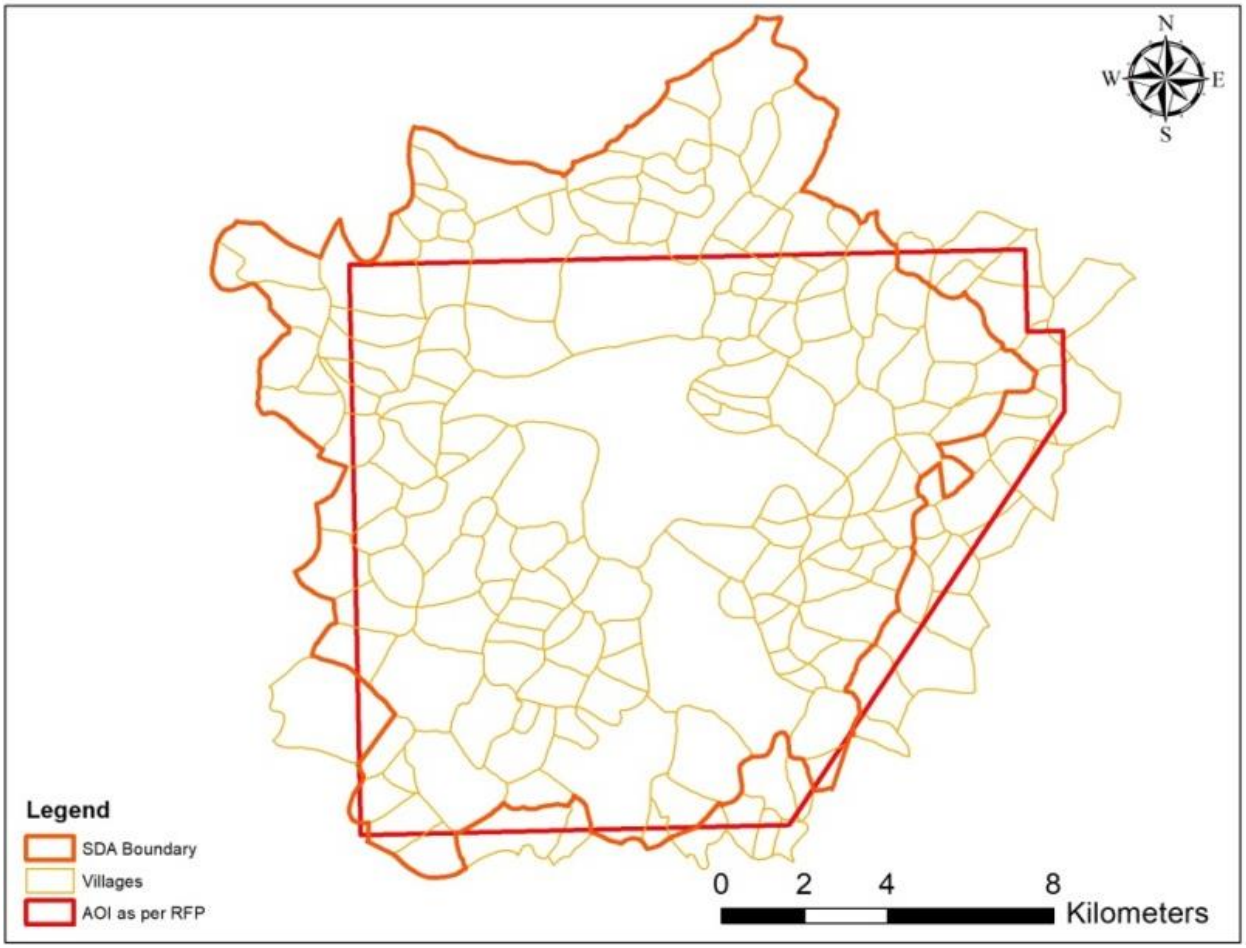
2.7.1 Area & Extent

In the Saharanpur district, there are 11 municipalities, 11 blocks and 882 villages. Of these only, Saharanpur city has attained the status as Saharanpur Nagar Nigam (Municipal Corporation) on 01.10.2009 and is 13th Municipal Corporation of the state.

For the present purpose of preparing the Master Plan, the total demarcated planning area or the area of interest (AOI) spreads over 237 sq. kms. There are a total of 147 villages in the planning area (Refer Annexure 1 for the list of the villages within the planning area). Of these 147 villages 144 villages are notified and under the control of SDA. 3 additional villages are also considered which lies inside development area boundary i.e. Mirzapur (census code 109689), Urganu Aht (census code 109303) and Papda ki rasulpur Ast (census code 109438).

Saharanpur Planning Area	
	•Urban centers: 01 •Villages: 147 (144 notified + 3 additional recommended) •Total planning area: 237 sq. kms.

Map 2.2 Saharanpur AoI as per RFP and SDA boundary



Source: Consultant's analysis of SDA and RFP boundary for planning area.

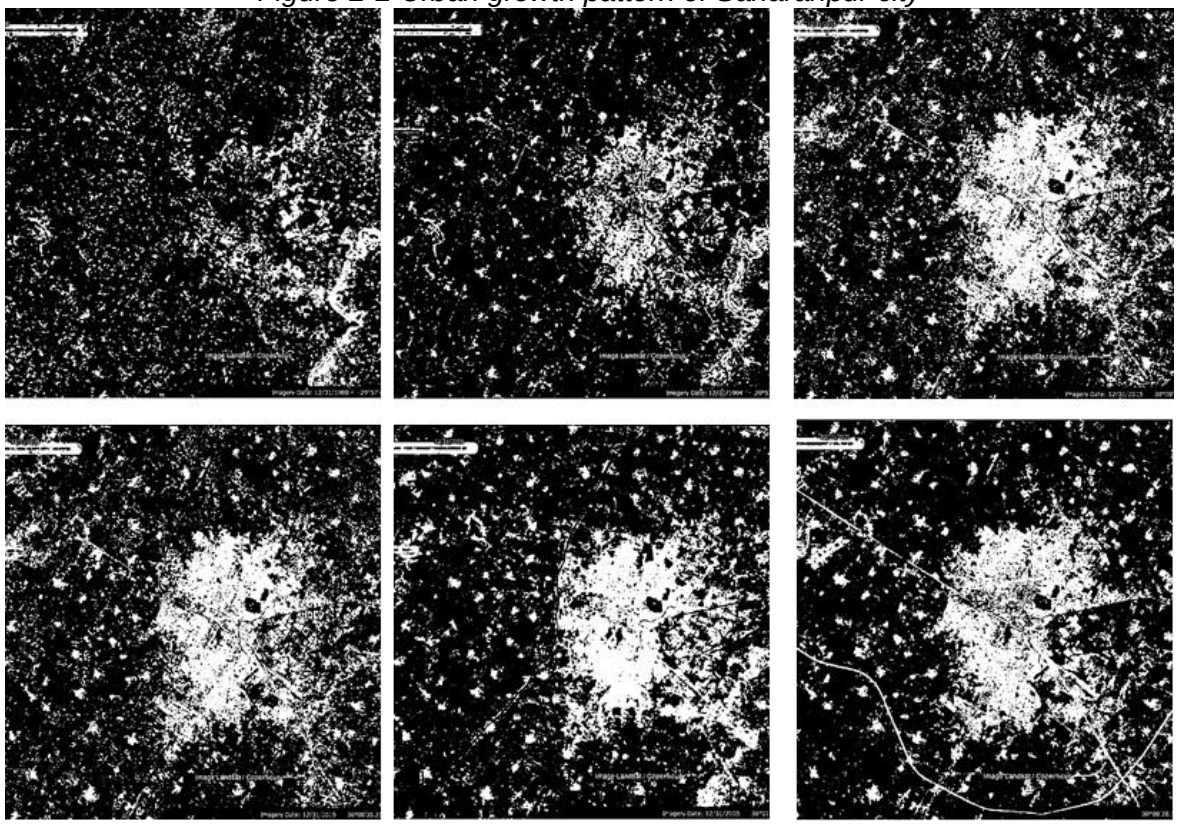
2.8 Urban sprawl, Settlement Pattern and built-up area

2.8.1 Sprawl

Saharanpur city has experienced expansion in the past years owing to the population growth and economic development. **The expansion trend shows that the major growth has taken place along the major roads. The below figures show the urban land cover of Saharanpur city from 2005 to 2015.**

The below figures, attained from Google earth open source, are the timeline images (inverted colors, the white color shows the built-up area) of the settlement pattern of the Saharanpur city over a period of time from year 1990 to year 2020. From left top image clockwise, from year 1990, 2000, 2005, 2010, 2015 and 2020 city has grown considerably south western region. IN 2020 the peripheral road is also visible. The city has sprawled toward the southern plains, and it can be stated that more towards major urban centres, and advent of industries in the region.

Figure 2-2 Urban growth pattern of Saharanpur city



Source: Open-*source* Google Earth, From year 1990 to year 2020

2.8.2 Settlement pattern: urban and rural and built character

The urban growth pattern is evident from the above images, the possible reasons are the boost in the new industrial developments and connectivity which has increased over the period of time, Saharanpur has grown into a major urban center and is an only Municipal Corporation in the district, the major headquarters, institutions etc. are located. Hence the availability of opportunities in the city, have pulled in the population influx from the neighboring villages as well. The availability of natural resources (such as wood), as discussed in the previous arts of the report, has induced small cottage industries and further MSMEs over the period of time. Hence shifting the key agrarian focus to industrial sector for the locals. This fact adds to the further assessment of proper planning in the fringe areas, to be focused in the Master Planning proposal.

2.9 Analysis of the Existing Land Use

2.9.1 Rationale

The rational application of the planning process in the preparation of the future master plan is possible only when there is a clear understanding of existing conditions and relationships between land uses. This includes understanding the shortages and issues pertaining to the current land use and creating proposal in future master plan, for not only current but also for estimated forecast population. Knowledge of existing land development furnishes the basic information by which decisions can be made concerning proposals for future residential, commercial, industrial, and public land use activities. For preparation of the Master Plan for Saharanpur, for 201-2031, we the existing land use survey and analysis is conducted. Following table shows the existing land use share in Saharanpur.

2.9.2 Land use Bifurcation in ELU

Saharanpur city is a well-connected city with major regional routes passing through it. Spatially, Saharanpur railway junction visually appears to be the epi-centre of the city. The Ambala- Lucknow railway line bifurcates the city into two parts. The northern sides of the railway station are mostly high density residential, with institutional developments in the North West side. There are commercials pockets spread across the residential land use of the city. Industries are located in peripheral parts. In the northern parts of the city mixed use development can be visible in the residential areas, where petty shops etc. are operating. The following table presents the land use split of the city. The Figure Shows the Existing Land use of Saharanpur.

S. No.	Classification	Area (Ha)	Percent (%)
1	Road	585.73	3.87
2	Water Bodies	240.55	1.59
3	Residential	2104.23	**13.90**
4	Commercial	53.81	0.36
5	Industries	333.18	**2.20**
6	Educational	132.70	0.88
7	Medical	13.91	0.09
8	Central Govt. Property	501.03	3.31
9	State Govt. Property	143.52	0.95
10	Railway Property	32.55	0.22
11	Public & Semi Public	43.40	0.29
12	Religious Place	16.27	0.11
13	Recreational	24.64	0.16
14	Public Utilities	28.65	0.19
15	Post/Telegraph Office	0.22	0.00
16	*Non- notified Slum**		0.00
17	Vacant Land	1514.28	10.00
18	Transportation	97.15	0.64
19	Traffic Related	9.45	0.06
20	Rural	263.51	**1.74**
21	Green Areas	79.02	0.52
22	Agricultural Land	8370.90	**55.29**
23	Waterlogged	45.85	0.30
24	Wastelands	383.75	2.53
25	*Eco Sensitive Areas**		0.00
26	Others	121.11	0.80
Total Area		**15139.44**	**100%**

Source: ELU Survey, consultants' analysis

From the above table, it can be stated that, the present existing norms are not relatable to the standard land use bifurcations, which forms the base of economic and social

development of a city. **As compared to the previously proposed Master Plan 2021[3], there have been considerable deviations from the land use proposed in it, to present situation. The following chapter provides an outline to the Master Plan 2021**. Further in the report a comparison of the ELU to the Master Plan 2021 proposed land use is done, so as to list out the necessary planning strategies for the current proposed master plan.

2.9.3 Major problems and development Issues

2.9.3.1 *Un-organized Mixed and non-conforming land uses*

A mixed and non-conforming land use creates the land-use conflict in Saharanpur city. This is happening because of conflicting problems related to the expansion of city, such as increasing population, land demand and supply without planning etc.

Mixed and non-conforming land use in Shamli city is a contributor to noise, air and water pollution. Apart from the noise and gases released by industries, pollution is also caused by the vehicles which carry materials to and from industries, which contributing to incessant noises and smoke. Heavy road traffic also causing traffic congestion, affecting many nearby residents. In addition to factories, the presence of unplanned mixed land uses on main roads also affects residents, causing the same problems as mentioned above.

2.9.3.2 *Traffic and transportation*

The list of major problems which the city is facing regarding the traffic and transportation is given below:

- No planned parking facilities especially near the commercial areas.
- On-street parking is a common phenomenon.
- Lack of reliable and robust public transport system.
- Non-regulated traffic at junctions.
- Absence of pedestrian friendly infrastructure.
- Lack of NMT facilities.

2.9.3.3 *Air Pollution*

The analysis of Ambient Air Quality data being recorded by the Uttar Pradesh State Pollution Control Board (UPPCB) in year 2019, from the monitoring stations located at Clock tower and near IIT of Saharanpur city shows that, the concentration of PM10 varies from 68.37 µg/m3 to 248.79 µg/m3 during the year January, October and November the concentration levels of PM10 values are much higher than the National Ambient Air Quality standard of 100 µg/m3. The concentration of SO2 and NO2 is within the CPCB standard.

2.9.3.4 *Water Pollution*

Rivers Pandhoi and Dhamola receives considerable amount of wastewater every day from the industries and municipal area of Saharanpur city which leads to deterioration of water quality. The concentration of BOD data for consecutive shows that the concentration is much higher than what is permissible for various uses. As per information available from Central Ground Water Authority, the Saharanpur city falls under overexploited zone. The level of ground water ranges from 10-20 meter below ground level (mbgl).

[3] Saharanpur Master Plan 2021, Town & Country Planning Division, Meerut;

Figure 2-3 Existing Land use Map of Saharanpur city

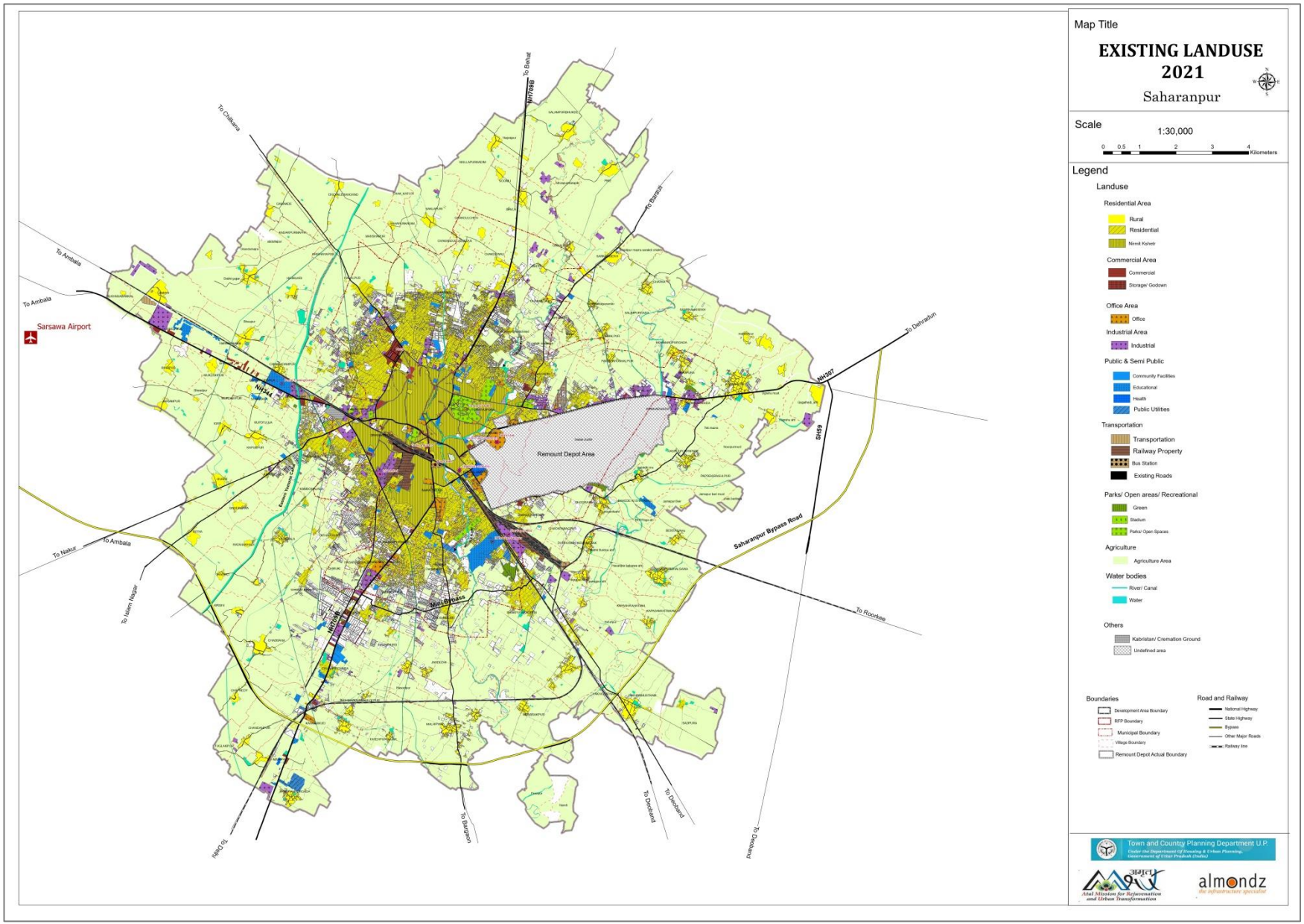
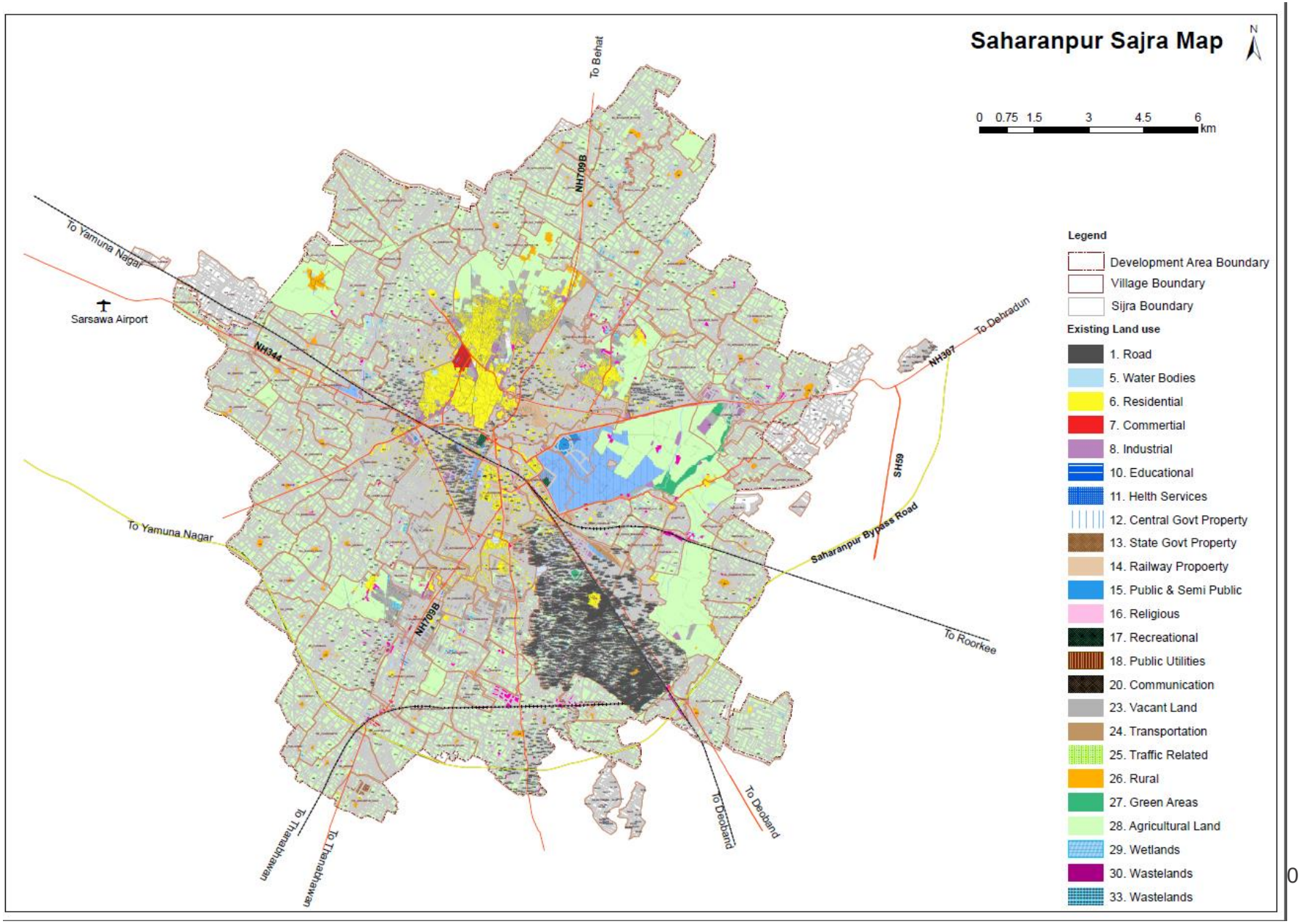


Figure 2-4 Sajra Map of Saharanpur city



2.10 Upcoming and ongoing major projects in Saharanpur

2.10.1 Proposed Delhi-Dehradun Expressway[4]

The 210 kms long Delhi – Dehradun Expressway project by NHAI, is an approved access-controlled highway with a route alignment connecting Akshardham in Delhi with Dehradun in Uttarakhand. A new 45 km spur has been proposed to connect with Roorkee & Haridwar. This will start from Km 108 on the Baghpat EPE – Saharanpur section and end at the proposed Haridwar Ring Road. This mix of brownfield and Greenfield project was approved for construction in 2020 under the Bharatmala Pariyojana's Delhi – Saharanpur – Dehradun economic corridor. In Phase 2, Baghpat's Eastern Peripheral Expressway (EPE) Interchange to Saharanpur Bypass, will have 32 kms length, the tendering for this is underway.

- **Total Estimated Cost:** Rs. 13,000 cr.
- **Project's Total Length**: 210 km
- **Lanes**: 12 lanes (Phase 1) and 6 lanes (Phases 2, 3 & 4)
- **Completion Deadline**: 2024
- **Owner**: National Highway Authority of India (NHAI)
- **Status**: Land Acquisition, Phase 1 contracts awarded & Bidding Underway for Phase 2 and 4

2.10.2 One district one product (ODOP) scheme for boosting industrial development

MSME sector plays an important role in the economy of the state and is significant contributor to capital investment, production and employment. In terms of numbers of MSME units (about 46 lakh units, 8%) Uttar Pradesh stands first in the country. This sector, in the state as well as India, is the largest contributor to employment after agriculture. Uttar Pradesh has been a leading state in the export of handicrafts, processed food, engineering goods, carpet, readymade garments and leather products. Keeping above in view, it has been decided to launch the scheme in the name of 'One District – One Product' in the State. The main objectives of this scheme are as follows:

- Preservation and development of local crafts / skills and promotion of the art
- Increase in the incomes and local employment (resulting in decline in migration for employment).
- Improvement in product quality and skill development.
- Transforming the products in an artistic way (through packaging, branding).
- To connect the production with tourism (Live demo and sales outlet – gifts and souvenir).
- To resolve the issues of economic difference and regional imbalance.

To take the concept of ODOP to national and international level after successful implementation at State level. In case of more than one product having distinct identity from a district, the product with potential of generating more employment and development has been selected in the first state. Gradually, other product will also be included under the purview of scheme. For Saharanpur, the one product selected is, 'Wood craft', which is the main handicraft of this district, and is about 400 years old. The wood products are famous for their beautiful and intricate designs and carvings.

[4] https://themetrorailguy.com/nhai-delhi-dehradun-expressway-information-route-map-status/

Sheesham wood is the main raw material used in this industry. The export of wood carving furniture and handicraft products to various countries is carried out by exporting units in the district. This industry has given a boom to self-employment in the region on small scale and has also generated number of employments in the district directly or indirectly.

2.10.3 Pilkhani Industrial Area

Pilkhani is an industrial area and is located in the Saharanpur district of Uttar-Pradesh state, India. Pilakhni industrial area is spread across 95.45 acres of land with 119 plots present in the region for its development in the region. The industrial area is located 18 kms towards south of the Saharanpur city.

Chapter 3
Evaluation of Existing Master Plan, 2021 and Land Use Deviations

3 Evaluation of Existing Master Plan, 2021 and Land Use Deviations

This Chapter focusses on the previously proposed landuses, development parameters, extent of land-use changes and deviations (as compared to the ELU), planning proposals and relevant progress.

3.1 Background

The Saharanpur Master Plan, 2021 was initiated in year 2001 for a horizon period of 20 years and was notified in year 2007. For the estimated population of around ten lakhs and as per requirement of the city, it focused mainly on the development of industrial sector making Saharanpur major regional center; decongestion of the core areas, and balanced planning of the socio cultural facilities and physical amenities in the city and propose new .

3.2 Future Estimates & projections

3.2.1 Population and density

As per the existing Master Plan for Saharanpur, it was assumed that approximately 31 surrounding villages will be affected by the city's growth and were considered in the population projection. In the Master Plan 2021, the future population for Saharanpur planning area (urban area and neighboring impacted villages), was projected to be 7.63 lacs for the year 2011 and 10 lacs for year 2021.

For the Saharanpur urban area, the population forecast was 6.08 lac for year 2001 and 7.85 lacs for year 2011; and for the surrounding villages it was estimated as 1.54 lacs and 2.25 lacs respectively. However, if we compare the projected population for the urban area, it is 8.14% more in year 2011.

The following table shows the population projected for Saharanpur planning area as per Master Plan 2021; compared to the actual population in year 2011.

Table 3-1 Population projected in existing Master Plan 2021

Primary	**Cultivators**	**3256**	
	Agricultural laborers	6735	
	Animal husbandry, ***forestry, Plantation***	2547	
	Mining and ***quarrying***	45	
Secondary	Industry	56474	
	Construction	17751	

Source: Analysis of the Saharanpur Master Plan 2021

3.2.2 Population Density

As per Master Plan 2021, the residential density of the city in year 2001 was 327 ppHa. The Master Plan proposed 250ppHa density for newly developed residential areas. Whereas for 185ppHa overall density in year 2001, an overall density of 140ppHa was proposed for the city in 2021, however as per the current assessment, the population density remained as high as 300ppHa at many areas.

148ppHA gross density of the city	Year 1991	
186ppHa gross density of the city	Year 2001	

Source: Analysis of the Saharanpur Master Plan 2021

3.2.3 Work force

It was estimated in the Master Plan 2021, that the work force participation ratio (WPR) which was 27.75% in year 2001 would increase to 29% in year 2011 and 30% by the year 2021. Hence, for the horizon year 2021 was projected to be 30%, which means for every 100 persons in year 2021, 30 persons will be engaged in some economic activity. However, as per census 2011, WPR for the urban area was 31.05%.. This can be attributed to the fact, that due to the increased number of initiatives, increased regional connectivity and increased opportunities over the period, there has been an advancement in the number of people engaged in economic activities in the region.

WPR		
S.No	Year	WPR
1	Actual in year 2001	27.75%

Source: Saharanpur Master Plan 2021

3.2.4 Work force division /Occupational structure

The Master Plan 2021, based on the previous years' trends and new proposed development in the region, projected that there would be a subsequent increase in the workers engaged in the tertiary sector, whereas due to more industrial activities there would be decrease in the number of workers engaged in the primary sector. From previous census to census 2011, it is found that the number of workers engaged in the primary sector has increased. This can be due to increased number of irrigation facilities, emphasis on wood work etc. The table below indicates the occupational structure of projected population for year 2011.

Table 3-2 Projections for occupational structure as per Master Plan 2021

Workers' Category	1991	2001	Proposed in MP for year 2011	Actual in 2011	Projected in MP for year 2021
Primary	3.79%	3.70%	3.25%	5.73%	2.50%
Secondary	36.23%	36.30%	36.50%	33.80%	37%
Tertiary	59.98%	60.00%	60.25%	60.47%	60.50%

Source: Saharanpur Master Plan 2021 and Primary Census Abstract, Census 2011

3.3 Industrial Units assessment in Master Plan 2021

Following table provides the number of industrial units as assessed during the preparation of Master Plan 2021.

Industries in Saharanpur city : Registered in 2001			
S.No	**Type of Industry**	**Number of Units**	**Number of workers**
1	Large & Medium Scale	33	10342
2	Small Scale	3214	15486
3	Cottage	6713	25204
		9960	**51032**

Source : Saharanpur Master Plan, 2021

On comparison with the current status and the data as received for preparation of the current master plan, it is found that there are currently around 12,172 registered industrial units in the Saharanpur district, employing 56,459 workers. *(source: Brief Industrial Proffile of Saharnpur Distrrict,MSME , Agra).*

3.4 Physical and Social infrastructure situation mentioned in Master Plan 2021

The Master Plan 2021, estimated a total of 524.66Ha area in for provisioning community facilities in the city. *No detailed quantitative estimation for exact number of schools in each category or medical / health facilities/ etc. such reservations were provided. The below section provides an overview of the status of the different facilities at the time of preparation of the master plan 2021.* Section 3.5 in the present chapter describes the strategies proposed in the Master Plan 2021 for developing and strengthening of physical and social infrastructure in the city.

3.4.1 Educational Facilities

Status of educational facilities in the city as assessed during the master plan 2021 preparation is discussed as under.

Year	Type of Institute	Number of Institute
1989	High School, Intermediate and Colleges	26
2001	High School, Intermediate and Colleges	33
At the time of preparing the Master Plan		
2010-11	Degree Colleges	3

Source: Saharanpur Master Plan 2021

Comparing the above to the present situation, there has been a drastic change in the number of educational institutions in the city. Following table shows the number of educational institutes in the city in year 2020. A detailed assessment of the existing educational facilities in the city is done in the relevant section further in the report.

Table 3-3 Status of the educational facilities in Year 2020

Category	Number
Primary schools	392
Upper primary schools	233
Secondary schools	31
Senior secondary schools	42
Colleges	10

Source : Consultant Analysis

At the time of the preparation of the Master Plan 2021, the city had one paper institute, a post and telegraph institute, an ITI and a women's polytechnic college, which was under construction. The Master Plan 2021 provides an overview of the status of the educational facilities in the city, and does not seem to cover the exact quantitative assessment of their respective nature such as governmental or private establishments. There were only few educational institutions in the city, which had sports facilities available, some of the educational institutions which were located in the densely populated areas of the city. As per Census 2011, total 11 educational facilities, per 10,000 population were provided in the city.

3.4.2 Medical and Health

The number of medical and health facilities as assessed during the preparation of the Master Plan 2021 is given in below table.

S.NO	Type	Number of Facilities	Number of Beds
1	General District Clinic	1	200
2	Women's District Clinic	1	130
3	TB Sanatorium	1	Na
4	Family Planning Centre	1	Na

5	Dispensary	4	Na
6	Ayurveda Clinic	1	Na
7	Homeopathic Clinic	1	Na
8	Maternity Clinic	6	Na

Source: Saharanpur Master Plan 2021

In addition to the above, during the preparation of the Master Plan 2021, it was assessed that the city had hospital in a district jail, and one railway hospital; some charitable hospitals, private nursing homes and clinics. These nursing homes and clinics were mostly located in the inner dense area of Delhi Road, Dehradun Road, Chakarata Road and Chilkana road. **According to the departmental survey at the time of the preparation of the Master Plan 2021, about 800 beds were available in public and private sector hospitals / nursing homes in the city.** As per census 2011, there are 7 beds available per 10,000 population in the city. An assessment of the number of current medical and health facilities in the city and future estimates is given in the further relevant section of the report

3.4.3 Post and Telegraph

The number of post and telegraph facilities as assessed during the preparation of the Master Plan 2021 are given in below table. The current status of the post and telegraph facilties is provided in the relavent section, further in this report.

S.No	Type	Number of Facility
1	Head Post Office	1
2	Post & elegraph Office	1
3	Sub Post Office	27
4	Telephone Exchanges	6
5	PCO	565
6	Numbe of Connections Provided	34,331

Source: Saharanpur Master Plan 2021

3.4.4 Police station and Police Chowkis/ Posts

The number of police stations and posts as assessed during the preparation of the Master Plan 2021 are given in below table. As per the Master Plan there were 5 police stations and 20 police chowki posts in the city. In this way, there was one police station for every 78,000 persons and a police post for a population of about 23,500. There were 6 police stations and 15 police posts in Saharanpur city in 1983 with the preparation of the former master plan. Thus in two decades no new police station has been set up in the city, but to maintain smooth functioning of the city, 5 additional police posts had been set up in different parts of the city. These police stations and police posts are located almost in government buildings. The current status of the post and telegraph facilties is provided in the relavent section, further in this report.

Police Stations		
• ***Year 2001***		
• ***Police Stations***	5	

Source: Saharanpur Master Plan 2021

3.4.5 Community Centres

The number of community facilities as assessed during the preparation of the Master Plan 2021 are given in below table.

Recreational Facilities		
S.No	Type	Number of Facility
1	Park and Playgrounds	31
2	Cinema Halls	11 (9000 seats)

Source: Saharanpur Master Plan 2021

In Master Plan 2021, the provision of community facilities was permissible in the green agricultural zone, with ground coverage of 10% and maximum permissible FAR of 0.20. The Master Plan does not provide quantitative analysis of the number of community facilities proposed for the planning period.

3.4.6 Public Utilities : Water Supply

The main source of drinking water supply in the city, at the time of preparation of the master plan were tube wells and hand pumps. These tube wells supplied 60,616 KL water daily to the city. The city had a total of 27,780 residential connections and 2,800 commercial and industrial water supply connections and supplied an average 127 liters per person per day of drinking water, which was 156 liters per person per day in the year 1983 when preparing the first master plan.

	(ITI, Railway, Rotary, Saharanpur Club, Lions)		
Water Supply			
S.No	Type/ Source	Units	Supply Per Day
	Tube wells	31	60616 KL
	Overhead Tanks	8	7.2 KL
	Supply 2001	127Litresppd	
	Supply 1986	156Lppd	
	Industrial Connections	2800	
	Commercial Connections		
	Residential Connections	**27780**	

Source: Saharanpur Master Plan 2021

3.4.7 Public Utilities : Sewerage and Solid waste Management systems

At the time of preparation of the master plan, only two thirds of the city had some sort of sewerage system in place and one STP existed near Dhamola river. There was no proper drainage and solid waste management system in place in the city. There were no specific guidelines or regulations prescribed in the Master Plan 2021 for SWM and sewerage systems in the city.

3.4.8 Public Utilities : Power

At the time of preparation of the Master Plan, the electricity supply in the city was done by 132 KV line of Uttar Pradesh Electricity Corporation. There were 8 power supplying 100 MVA power, with a total of 79,669 electrical connections in the city. In the year 1983, this number was accounted to be 35,159 thus in the last two decades more than double the number of power connections have increased. As per census 2011, there were 1,12,803 power connections in the city. This shall be detailed in the relevant section further in this report.

SubStations	**8 (8MVA)**
Industrial Connections	1020
Commercial Connections	15217

Source: Saharanpur Master Plan 2021

3.5 Sector vise Key Issues & Planning Strategies in Master Plan, 2021

The sector wise key issues & developmental strategies proposed in the Master Plan 2021 are as follows:

Land Use/ Sector	Major Issues	Main Planning / development strategies
3.5.1 Built areas	• Traffic increase in the roads in the residential areas • On road parking of the shops resulting in reduced RoW • Limited commercial development on fringe areas • Adverse impact on the residential development	• Commercial areas impeachment in the core residential should be discouraged • Separate regulations to be planned in the zonal plans for commercial areas abutting roads • For congested locations where plot areas are 100mtrs or less 1.5m setback to be provisioned • Maximum 3 floors permissible in buildings
3.5.2 Animal husbandry and dairy	• Nuisance created in city due to soiling and traffic hindrance by animals, due to animal shelters and dairy located in the city areas in scattered small pockets	• Relocation of dairy and animal shelters to the fringe, allowing these in green strip zone • Proposing a Dairy Nagar
3.5.3 Village – built up areas	• Haphazard and unplanned development of village areas	• New construction allowed only to residents for more than 10 years, and not allowed to sale for next ten years
3.5.4 Residential	• Land use deviations and unregistered residential properties • Residential development in non-conforming zones • High density/ commercial development along road	• Permitting and adding the existing residential areas, by suitable assessment of pros and cons • Proposing strip commercial development • Zonal development plans based on land pooling schemes • Developing core residential zones to avoid pollution due to non-compatible uses
3.5.5 Commercial	• High intensity commercial development in core city, as compared to sparse commercial development in outer parts of city • Commercial development in strip pattern abutting road sides • Concentrated around city commercial center • Wooden craft shops utilize wood, which is sold on the road side resulting in traffic congestions and road side/ on road parking issues	• Proper dedicated commercial strips, with dedicated parking • Provision of wood for shops

3.5.6 Industry	• No major industrial development in the plan period 2011- 2021	• Effective power supply, support infrastructure and encouraging new industries
3.5.7 Parks and Open Spaces	• Encroachment in the open areas, parks • Noncompliance of the parks and open spaces as per master plan	• Restricted any other use • Transferable development rights to the owners who are willing to provide land for such use to residential areas and equal land area • Incentivizing by provisioning a portion of land given by the any land owner for park/ open spaces as buildable to the owner,
3.5.8 Traffic and Transportation	• Under Utilization of the land use under roads observed, whereas there was substantial increase in the density of population resisting in city, hence leading to congestion and insufficiency of carrying capacity of roads. • The non-implementation of earlier planned road network and	• Increase RoW, while maintaining the radial pattern of the streets in the city • Provision of employing ring cordon to ensure the smooth running of the major roads in the city • Restrictions to unregistered and non-notified activities in built areas • For those areas where there have been encroachments in proposed roads location, and the structures couldn't be removed, the road shall be aligned and re designed
3.5.9 Agricultural Green Belt	• Possible encroachment in the green belt resulting in haphazard city development and limiting agricultural areas	• Allowing activities required for agricultural work in zooming regulations • Allowing construction only for the villagers residing in the settlement for more than 10 years, then the sale of the property is not allowed for next ten years

Source : Analysis of the Master Plan 2021 by the consultants

3.6 Master Plan 2021 area as per GIS

The Master Plan 2021 has been digitised and superimposed on Geographical Information System (GIS). There are some variations found in the proposed land use areas in the Master Plan 2021 after this process. Overall further difference found to be 192.2 ha (around 2.75%) as shown in the below table.

Land use Category	Area as per MP 2021 (ha)	%age	Area as per GIS (ha)	Difference of Area (ha)	%age	% variation
Residential	3,434.91	49.2	3,542.8	+107.9	49.4	0.2
Commercial	157.33	2.3	180.4	+23.0	2.5	0.3
Industrial	902.02	12.9	787.3	-114.7	11.0	-1.9
PSP	604.66	8.7	780.1	+175.4	10.9	2.2
Parks & Open Spaces	924.31	13.2	796.9	-127.4	11.1	-2.1
Traffic & Transportation	957.96	13.7	1,085.9	+127.9	15.1	1.4
Total	**6,981.19**	**100.0**	**7,173.4**	**+192.2**	**100.0**	

Source: Consultant's Analysis

Now, further analysis and calculations have been done keeping 7173.4 ha of area as base area of Master Plan 2021. Based on which Master Plan 2021 land use analysis has been done which indicates that around 47.1% of Master Plan 2021 area is developed and rest of the area is still available for further development. The Master Plan 2021 land use analysis is shown in the below given table.

Land use Category	Area as per MP 2021	%age	Area Developed 2021	%age	Area Not Developed within MP 2021	%age
Residential	3542.81	49.4	1998.73	56.4	1544.08	43.6
Commercial	180.36	2.5	64.08	35.5	116.27	64.5
Industrial	787.28	11.0	274.17	34.8	513.11	65.2
PSP	780.10	10.9	332.05	42.6	448.04	57.4
Parks & Open Spaces	796.93	11.1	107.76	13.5	689.17	86.5
Traffic & Transportation	1085.91	15.1	602.46	55.5	483.45	44.5
Total	**7173.39**	**100.0**	**3379.3**	**47.1**	**3794.1**	**52.9**

Source: Consultant's Analysis

3.7 Landuse Proposed in Master Plan 2021 and the Deviations observed in Existing Landuse

3.7.1 Extent of the Landuse Changes

As per GIS, the land use area proposed in the Master Plan 2021, was about 7173.39 ha, of which residential area consituted as 49.4%, commercial 2.5%, industrial 11% , public and semi public 10.9%, parks & open spaces 11.1%, traffic and transportation 15.1%. The total developed area is 3379.3 ha. which is around 47% of the proposed land use in Master Plan 2021. This 3379.3 ha includes 1049.19 ha of deviation as per MP 2021 which is allowed as per zoning regulations of MP 2021. For example residential is allowed in industrial land use, roads are allowed in most of the land uses etc. The issues are such that one one hand there has been under utilisation of the landuses, on the other hand there have been significant deivations of the land uses , located elsewhere from the demarcated areas. This has given rise to improper and non compatible land use, concerated development, und registered residential areas, conestion anf traffic issues, lack of parking and such . The purpose of the

furture proposed land use 2031 would be to focus on such deviations and plan strategies to counter this situation. In many residential arteas mixed use developemtn have occurred, unlike as planned in in the erstwile master plan. Such uses are more like household enterrises , petty shops etc. Such assessment of the deviation would direct strategical decision and policy making in future master plan.

Please refer below Table for the analysis of the land use proposed in the erstwhile Master Plan, 2021 and the deviations, observed in the existing land use plans, as compared to the previously prposed Master Plan 2021. Please Refer the below given map 3-1 for the Landuse Proposed in Master Plan 2021, Sharanpur and Map 3-2 for the deviations marked on the Landuse as compared to the ELU assessment conducted for the present study.

3.7.2 Residential land use deviations

It is evident from the below table, that from the total proposed residential land use of 3542.81 Ha, around 1523.8 Ha was developed as per master plan 2021. Around 66.36 ha is developed in non-allowed deviation, which is actually violation as per the regulations. An analysis on the compatibility of these residential developments located elsewhere than the demarcated zones, reveals that around 2303.87 Ha land is compatible (considering residential development for workers in industrial area, and public semi-public areas etc.), whereas 66.36 Ha is located in non-compatible use (such as residential areas encroached upon in dedicated green belt, lands demarcated for roads, and agriculture). These are mere encroachments resulting in congestion, lack of parking etc. such spaces. The issue of encroachments was discussed in the master plan report 2021 as well. It is observed that to some extent similar issue prevails in Saharanpur and needs planning focus.

3.7.3 Commercial land use deviations

In the master plan 2021, the total demarcated land for the commercial land use was 180.36 Ha. Of this, only around 19.6 Ha of land has been developed as per master plan 2021, which is only approximately 11% of the total proposed. Around 8.20 ha is developed in non-allowed deviation, which is actually violation as per the regulations. The commercial landuse is observed to be more in the residential pockets in form of commercial strip along side roads. This has become a serious concern in over the years. As there are no designated parking areas in the central core, private taxis can be found mostly parked along the roads. On-street parking happens on either sides of the commercial stretch, and this reduces the effective carriageway resulting in hindrance to the regular flow of traffic.

3.7.4 Industries land use deviations

In the master plan 2021, around 782.28 Ha land was proposed for industrial development to strengthen the economic development of the city. Of this, only around 136.7 Ha of land has been developed as per master plan 2021, which is only approximately 17% of the total proposed. Around 4.97 ha is developed in non-allowed deviation, which is actually violation as per the regulations. It can be stated that as the MSME sector has been eventually growing these have taken shape in the core city, near respective residences.

3.7.5 Public & Semi Public land use deviations

Approximately 780.10 Ha land was demarcated for the use of public and semi-public requirements including offices. Of this, only around 114.1 Ha of land has been developed as per master plan 2021, which is only approximately 14% of the total proposed. Around 33.68 ha is developed in non-allowed deviation, which is actually violation as per the regulations.

3.7.6 Parks and Open Spaces land use deviations

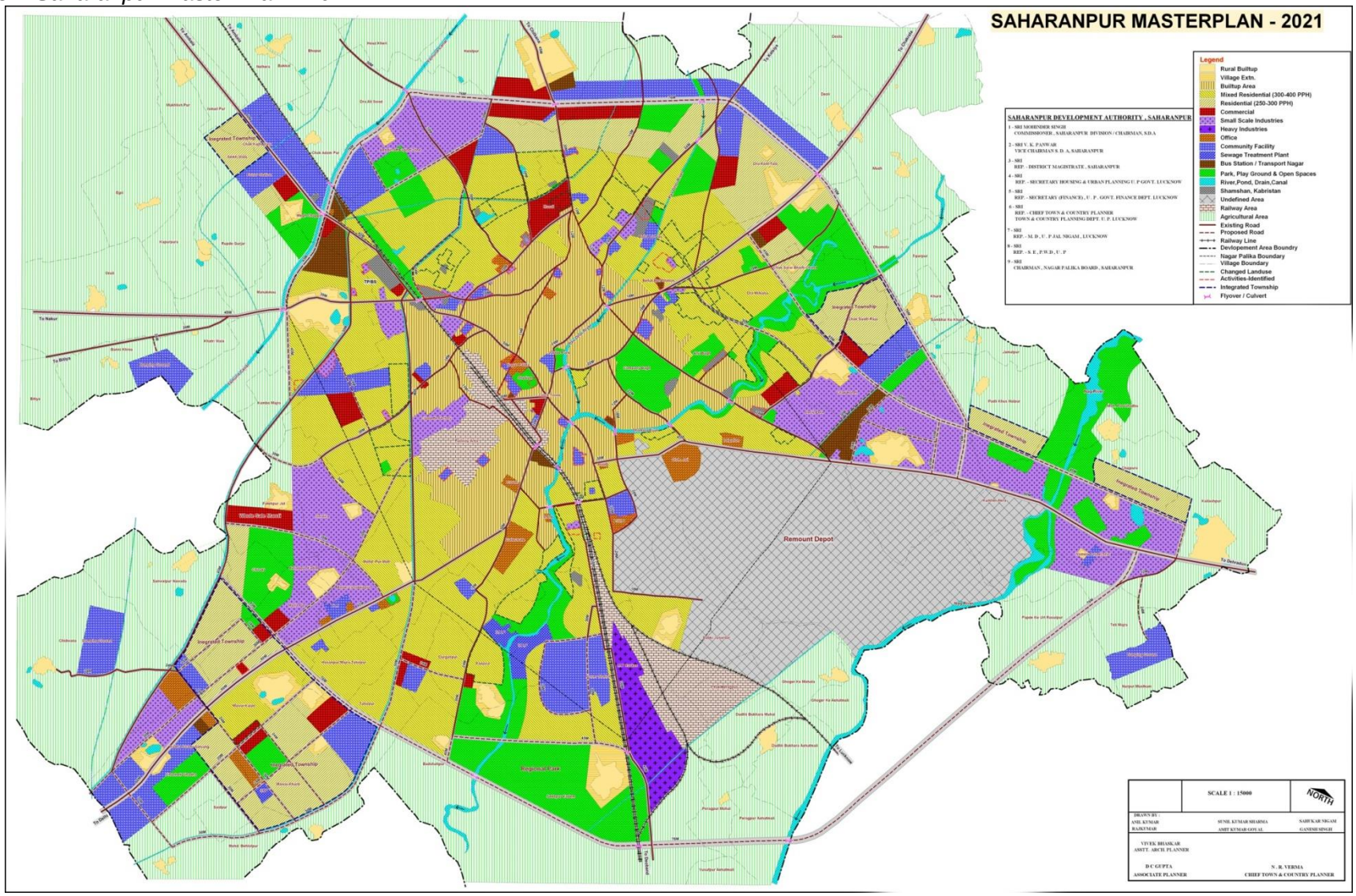
Around 796.93 Ha land was demarcated in the Master Plan 2021 for the park and open spaces land use. Of this, only around 67.7 Ha of land has been developed as per master

plan 2021, which is only approximately 8.5% of the total proposed landuse. Around 81.55 ha is developed in non-allowed deviation, which is actually violation as per the regulations. In addition, out if these, there has been a considerable encroachment in the lands dedicated to open areas and playgrounds etc. For assessment purpose considering such areas as a part of the green land use, residential, industrial, PSP as well as commercial development has taken over in some or the other extent.

3.7.7 Traffic & Transportation land use deviations

Approximately 1085.91 Ha land was dedicated for the use of traffic and transportation in the city. Of this, only 36.6 Ha of land has been developed as per master plan 2021, which is only approximately 3% of the total proposed. Around 22.46 ha is developed in non-allowed deviation, which is actually violation as per the regulations. Such encroachments have resulted in the congestion of streets, traffic issues and lack of parking spaces.

Map 3.1 Saharanpur Master Plan - 2021



Map 3.2 Land Use Deviations observed in the Saharanpur Master Plan – 2021, as compared to the ELU (Refer Fig._ for ELU map)

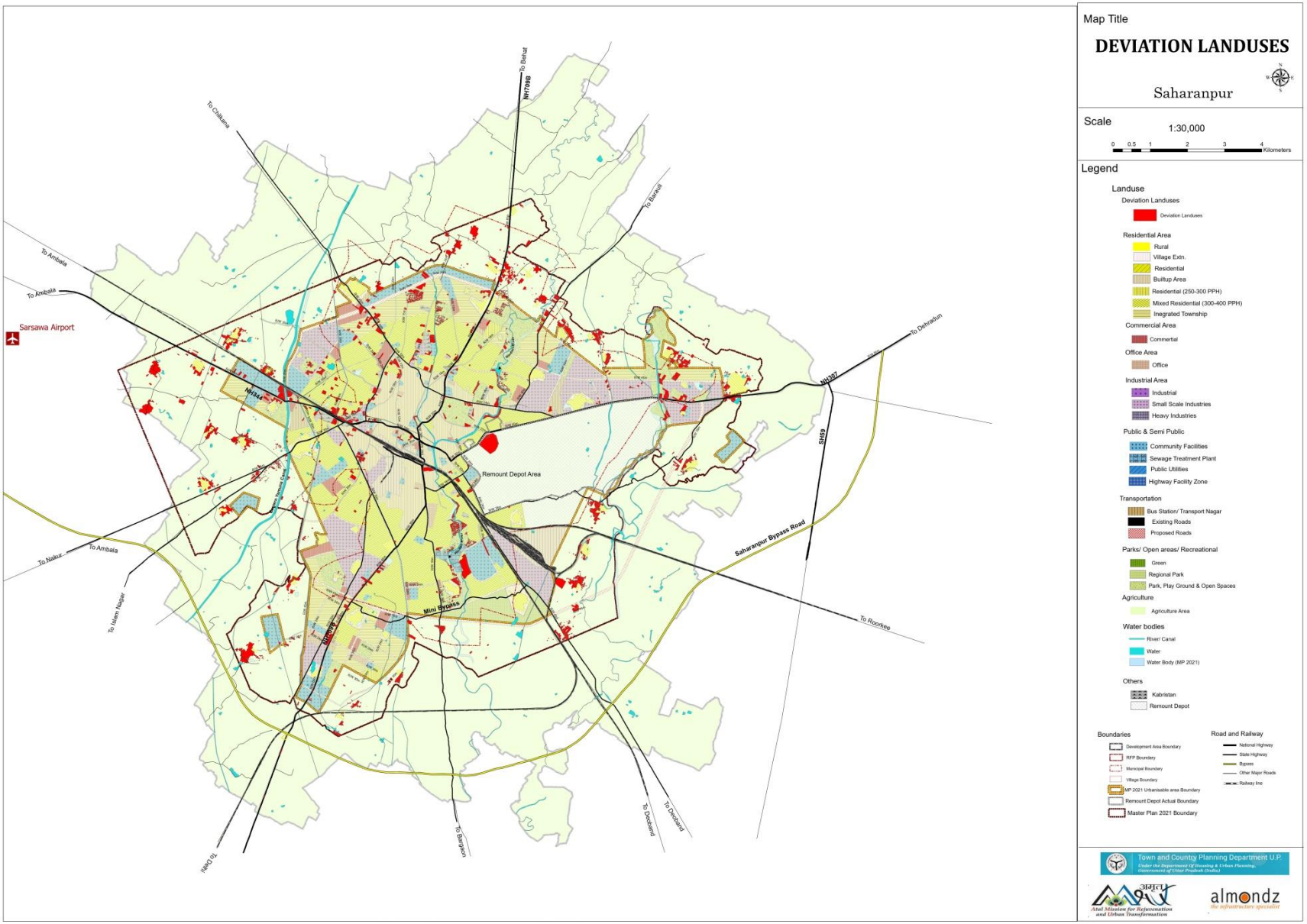


Table 3-4 Land Use proposed in Master Plan 2021, Existing Land Uses and Deviations from demarcated locations in Master Plan

Sr. No.	Land use Category	Proposed Land use as per MP 2021		Total Area (Non Allowed Deviation + Development as per MP 2021)		Actual Development as per Master Plan 2021		Non Allowed Deviation		Non Allowed Deviation and Violations in Prevailing Master Plan 2021											
										Residential		Commercial		Industrial		Office		PSP		Traffic and Transportation	
		Area (ha)	%age	Area (ha)	%age	Area (ha)	%age	Area (ha)	%age	Area (ha)	%age of total	Area (ha)	%age of total	Area (ha)	%age of total	Area (ha)	%age of total	Area (ha)	%age of total	Area (ha)	%age of total
1	Nirmit Kshetra	627.66	8.75	627.66	100.00	613.8	97.79	13.89	2.21	-	-	-	-	11.63	83.73	-	-	2.26	16.27	-	-
2	Residential	2915.15	40.64	962.47	33.02	910.0	94.55	52.47	5.45	-	-	4.29	8.18	46.33	88.30	-	-	1.1	2.10	0.75	1.43
3	Commercial	180.36	2.51	27.77	15.40	19.6	70.47	8.20	29.53	-	-	-	-	6.7	81.71	-	-	1.5	18.29	-	-
4	Industrial	787.28	10.98	141.72	18.00	136.7	96.49	4.97	3.51	-	-	0.028	0.56	-	-	-	-	4.94	99.44	-	-
5	Office	80.00	1.12	49.79	62.23	28.9	58.05	20.89	41.95	-	-	0.016	0.08	1.6	7.66	-	-	18.62	89.15	0.65	3.11
6	PSP	700.10	9.76	97.95	13.99	85.2	86.94	12.79	13.06	-	-	2.56	20.02	10.23	79.98	-	-	-	-	-	-
7	Traffic and Transportation	1085.91	15.14	59.04	5.44	36.6	61.96	22.46	38.04	-	-	0.82	3.65	11.18	49.78	4.37	19.46	6.09	27.11	-	-
8	Parks and Open Spaces	796.93	11.11	149.24	18.73	67.7	45.36	81.55	54.64	55.19	67.68	1.49	1.83	13.73	16.84	3.2	3.92	7.94	9.74	-	-
9	Agriculture	-	-	241.74	-	-	-	241.74	-	216.75	89.66	1.38	0.57	23.43	9.69	-	-	0.18	0.07	-	-
Total		**6981.19**	**7173.39**	**100**	**2357.37**	**32.86**	**1898.42**	**80.53**	**458.95**	**19.47**	**271.94**		**10.584**		**113.2**		**7.57**		**40.37**		**1.4**

Source : Consultants' Analysis, Existing Land use survey and Master Plan 2021 (Saharanpur Mahayojana, 2021)

Note: The total developed area is 3379.3 ha. which is around 53% of the proposed landuse in Master Plan 2021. This 3379.3 ha includes 1049.19 ha of deviation as per MP 2021 which is allowed as per zoning regulations of MP 2021. For example residential is allowed in industrial landuse, roads are allowed in most of the land uses etc.

3.8 SWOT Analysis

Strength	Weaknesses	Opportunities	Threats
– The city is a major urban centre & administrative capital, serves the entire hinterland with employment opportunities, resources and markets for agricultural produce – Tremendous growth in last decade, with a population influx at 50% growth; many new institutions, medical facilities have come up catering to nearby villages / towns; – Strong regional linkages, direct connectivity with NHs in the city; city is strategically placed, central to the core industrial and tourist areas of the region – Part of the NCR sub region, – Proximity to the major urban centers such as Delhi, Chandigarh, Muzaffarnagar, Dehra dun etc., as well as Meerut-Muzaffarnagar industrial area – The city is directly connected to Muzaffarnagar via SH 59 which was recently completed. – Willingness of locals such as prompt response of authorities and locals in redevelopment of Paondhoi river shows community participation	– Issues in traffic and transportation. On road parking of the shops resulting in reduced ROW; Under Utilization of the land use under roads observed, whereas there was substantial increase in the density of population, leading to congestion and insufficiency of carrying capacity of roads. The non-implementation of earlier planned road network – Congestion and noise pollution, traffic issues in core city areas – Haphazard sate of land use as planned in erstwhile MP: Encroachment in the open areas, parks; noncompliance of the parks and open spaces; land use deviations and unregistered residential properties; residential development in non-conforming zones – High density/ commercial development along roads – The provision of parks and open spaces is not adequate – Condition of physical infrastructure: part provision of sewerage system, extraction of ground water resources, inadequate water supply etc. – Pollution is not only limited to the ground water, solid waste but also the small industrial pockets in mixed use developments, green areas and encroached residential areas etc. cause air/ noise pollution – Underutilized industrial potential spatially as well as economically	– The connectivity of city would be enhanced with proposed Delhi Dehradun Expressway which will have spur and connectivity to Saharanpur. This will enable direct and fast connectivity to the capital – As per the economic profiling of NCR, the Saharanpur-Muzaffarnagar region has tremendous scope for development of floriculture and homogeneous industries. – The strong regional and local linkages are fundamental for inducing economic development in the region. – Opportunities to harness the industrial possibilities and future upward and down ward linkages; promote ex-im, and drive skilled and technical manpower to the city. – The city's physical location provides resources in abundance, such as wood, irrigation facilities Hence the local crafts, small and medium sector enterprises can be further strengthened – More opportunities in secondary and tertiary sector as well as induced informal activities will have thriving effect in the entire region. – The city is famous for religion-based tourism – IIT branch is set up in town indicating strong positioning in educational sector	– Lack of dedicated industrial areas in the city, lack of infrastructure and issues in traffic and transportation would fail to encourage new industrial investors in the city and the city potential would not be harnessed to its fullest – Threat to environment is major issue in the city. – Encroachments specially in green areas would lead to further issues in pollution with low quality of life for the citizens – Untapped ground water extraction and industrial pollution – The highly congested core areas with lack of breathing spaces can lead to disastrous situations – Threats as quality and safety of air and water, as well as the availability of water, sold waste disposal etc.

Chapter 4
Population & Demography

4 Population and Demography

This chapter includes assessment of the demographic indicators such as population growth, gender ratios, literacy rates, urbanization. The chapter also includes the population forecast of the AoI and the methods employed for the same.

4.1 Existing Population: town and planning area

4.1.1 Planning Area for Master Plan 2031

The planning for the preparation of the Master Plan for Saharanpur City consists of the core city: Saharanpur (Saharanpur Municipal Corporation Area) and the adjacent 144 villages. The population and growth of the planning area *vis-a-vis* Saharanpur MC and the villages is given in the following sections.

4.1.2 Saharanpur City: Population

Saharanpur is the 11th largest city among cities having more than 1 lakh population in the state. As per Census 2011, Saharanpur city had a total population of 7,05,478 persons, with 3,71,740 males (52.69%) and 3,33,738 (47.31%) females. The total geographical area of Saharanpur Municipal Corporation area is 46.74 km^2 as per census 2011. Population density of the city is 15,094 persons per km^2 (approx. 151 PPHA). Saharanpur city comprises of approximately 20% of the total population of district. The city is the most significant urban centre occupying around 66% of the total urban population in the district, inhabiting 7.05 lacs population of total 10.66 lac urban population in Saharanpur district.

Table 4-1 Population of Uttar Pradesh, Saharanpur District and Saharanpur city - 2011

Administrative units	Population (lakhs) as per Census 2011			% of urban population w.r.t. total population
	Total	Rural	Urban	
Uttar Pradesh	199,812,341	155,317,278	44,495,063	22.27%
Saharanpur District	34,66,382	23,99,856	10,66,526	30.77%
Saharanpur M. Corp	705,478		7,05,478	100.00%

Source: Census of India, 2011

4.1.3 Ward vise Population

As per census 2011, there are 86 wards in the city; Ward No 56 is the most populous ward with 33,372 persons and 82 is the least populous ward with population of 36. (Refer Ward Map in Annexure_).

Table 4-2 Ward wise population of Saharanpur city - 2011

Ward	Population	No. of Households	Ward	Population	No. of Households
1	7881	1560	44	16596	2676
2	9777	1897	45	7219	1207
3	18117	3266	46	10667	1726
4	4982	984	47	8597	1576
5	7007	1216	48	8257	1341
6	12331	2523	49	7737	1346
7	8032	1502	50	16619	2776
8	12148	2465	51	9974	1618
9	7535	1535	52	13353	2199
10	8698	1628	53	6226	1414
11	5380	1057	54	5732	1149
12	9067	1824	55	4942	782
13	5315	1075	56	33372	5402
14	11361	2203	57	1148	187

Ward	Population	No. of Households	Ward	Population	No. of Households
15	9592	1901	58	6677	1193
16	14026	2852	59	23547	3923
17	8209	1713	60	15447	2677
18	12283	2360	61	199	37
19	9289	1797	62	553	117
20	8105	1659	63	10245	1973
21	8066	1612	64	1810	317
22	8288	1662	65	3151	583
23	11338	2106	66	2230	396
24	13418	2774	67	204	43
25	7056	1424	68	683	130
26	8003	1661	69	1256	253
27	8648	1522	70	15481	3093
28	8280	1724	71	3341	683
29	12227	2156	72	5227	1054
30	11434	2306	73	2188	350
31	9852	2097	74	3285	560
32	8197	1735	75	1643	304
33	6965	1203	76	1599	343
34	9404	1649	77	4191	812
35	7173	1411	78	6060	1022
36	5730	962	79	5695	1001
37	10657	1694	80	1009	185
38	8167	1442	81	6535	1090
39	14226	2363	82	36	8
40	8579	1645	83	7847	1431
41	7328	1433	84	1741	342
42	12337	2016	85	1155	190
43	8542	1431	86	18954	3302
Total				**705478**	**129856**

Source: Census of India, 2011

4.1.4 Village vise population

There are 144 villages falling in the planning area or the Area of Interest (AoI). The population of these villages is as follows.

Table 4-3 Population of Villages within Saharanpur AoI – 2011

Village	Population	Village	Population
Abdullapur	Uninhabited	**Dudhli bukhara must.**	2763
Badshahpur	1204	**Fatehpur guzar**	510
Bag kala lan	1902	**Fatehpur jat***	
Bahadaki aht.	Uninhabited	**Firozpur aht.**	Uninhabited
Bahadaki must.	1599	**Gagalhedi aht.**	Uninhabited
Bani kheda	1410	**Gawaleera***	
Baritaga aht.	Uninhabited	**Ghoghriki aht.**	412
Baritaga must.	1474	**Ghoghriki must.**	4305
Beedpur	1979	**Ghosipura**	295
Bhaupur	2056	**Gokalpur**	1427
Bityaa	2183	**Halalpur***	
Chak abdulla sultan	341	**Hasanpur balaswa aht.**	Uninhabited
Chak adampur	2342	**Hasanpur balaswa must**	4492
Chak baritaga	Uninhabited	**Hasanpur Kadeem***	
Chak gullhin	Uninhabited	**Hasanpur mazra taharpur***	

Village	Population	Village	Population
Chak harati*		Hoz kheri	2678
Chak katauti	Uninhabited	Igari	1825
Chak kazi wala	Uninhabited	Ismailpur	1253
Chak khanoo*		Jairampur	1311
Chak paragpur	Uninhabited	Jamalpur	1441
Chakdevali*		Jamapur bari aht	1032
Chaksaid raja	Uninhabited	Jamapur bari must	919
Chaksaray bhartichand*		Jandhari	1325
Chandanpur	1186	Kadarpur mafi	Uninhabited
Chandu mazra	Uninhabited	Kailashpur (ct)	11422
Chapradi	1261	Kakrala	3249
Chatka	2539	Kamboh majra	736
Chhazpura	3151	Kankar kooi	2583
Chidbana	5434	Kapasa aht.	Uninhabited
Chiruki*		Kapasa must.	1842
Chunati gada	3553	Kapoorpur	1499
Dabki guzar	4570	Karashani	998
Dabki junardar*		Khanalampura*	
Damkadi*	1842	Khatriwala*	
Dara ali swad Saharanpur*		Khurd*	3267
Dara Kottala*		Krishanapura	Uninhabited
Dara Milkana*		Kumhar Heda*	
Dara Rajpura*		Lakhnour aht	Uninhabited
Dara shivpuri*		Lakhnour must.	3568
Dargahpur*		Madh*	
Datauli rangad	4804	Mahipura*	
Devla	2705	Malhipur (ct)	6720
Dhamola	1367	Manak mau*	
Dudhli bukhara aht.	Uninhabited	Manani	1718
Mohanpur gada	2805	Mansapur	Uninhabited
Mohd.pur bahlolpur	1749	Mathhanpura*	
Mohd.pur gada	2556	Mavi kalan*	
Mohiddinpur	4377	Mawi khurd*	
Mubarakpur	1812	Megh chappar	1475
Mukhlispur	1293	Milk waziuddinpur*	
Mullapur kadeem	1092	Mirzapur mazra piki	789
Mullapur majabata*		Mirzapur*	
Nagrajpur	1932	Mohammadpur mafi*	
Nalheda bakkal	1718	Paragpur aht.	Uninhabited
Nandi aht.	Uninhabited	Paragpur must.	2835
Noorpur must	Uninhabited	Piki	3332
Padli khushalpur	1305	Panjora*	
Papda ki rasulpur must.	3680	Papda ki rasulpur ast	Uninhabited
Pilakhni	4018	Pilakhna bakkal	292
Rasoolpur	3588	Saidpura	867
Rasoolpur paphedi*		Sakalapuri	2713
Ratna khari	1181	Salampur bhukdi	3925
Roop di guzar	1533	Salampur gadda	1151
Sadak dudhli*		Sambalki shek	1734
Saharanpur (M Corp.)	705478	Sambhalka gunardar	**1370**
Shekhpura kadeem	26893	Sambhalki khurd	**Uninhabited**
Soomli	1613	Sarakadi sheikh	**3828**
Taharpur	1311	Sawalpur nawada*	
Teli mazra	Uninhabited	Shahpur kadeem	**869**
		Sheikhwala	**Uninhabited**

*Source: Census of India, 2011, *Data unavailable*

4.2 Population Growth trends

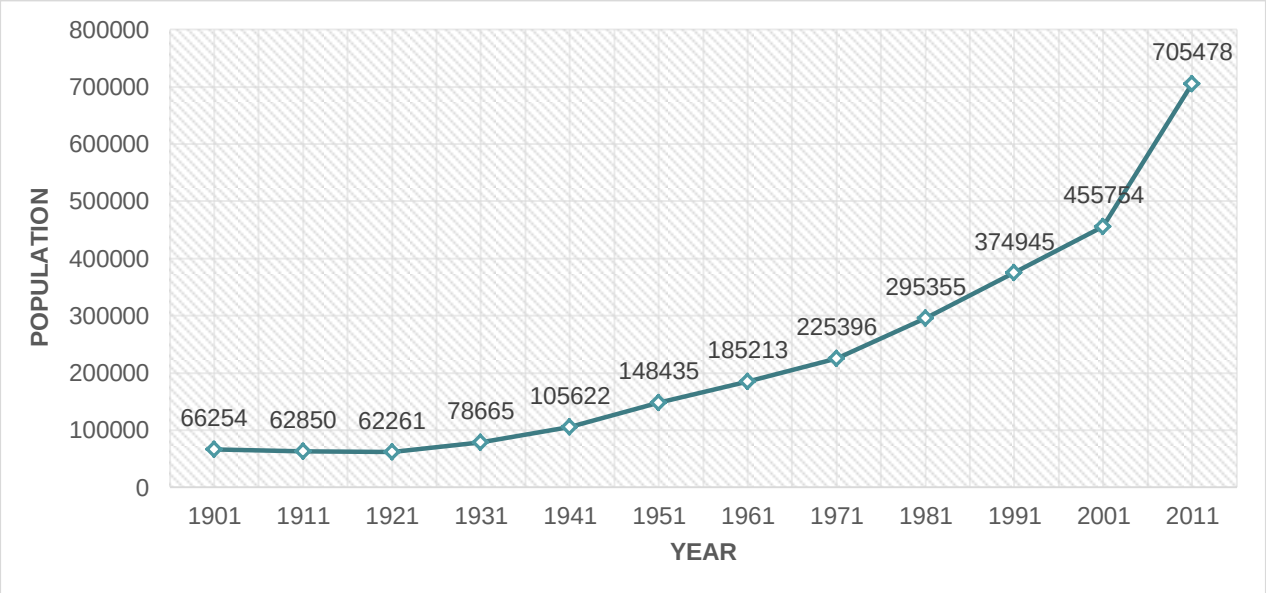
From year 1901 to Year 2011, Saharanpur has witnessed gradual increase in population. The city occupied the status of Municipal Corporation. From year 2001 to 2011 the growth rate was the highest, with number of inhabitants increasing at a rate of more than 50% in the said decade. This huge influx is due to the immense employment opportunities which the city has to offer. The city acts as the epicenter for the selling and buying of the agricultural produce, equipment as well as hub of the local woodcraft micro and small enterprises. The increasing connectivity of the city to the NCR is also one of the key reasons of its rapid growth over the last years. It is envisaged that the city would be increasing in the similar pace in coming years, owing to its vast range of opportunities.

Table 4-4 Decadal Population growth of Saharanpur M. Corp - 1901 to 2011

Year	Population	Decadal Variation	Growth
1901	66254		
1911	62850	-3404	-5.14%
1921	62261	-589	-0.94%
1931	78665	16404	26.35%
1941	105622	26957	34.27%
1951	148435	42813	40.53%
1961	185213	36778	24.78%
1971	225396	40183	21.70%
1981	295355	69959	31.04%
1991	374945	79590	26.95%
2001	455754	80809	21.55%
2011	705478	249724	**54.79%**

Source : DCHB Saharanpur, Census Year 2011

Figure 4-1 Decadal population growth of Saharanpur M. Corp - 1901 to 2011



Source: Census of India, 1901 to 2011

4.3 Existing composition of age, sex, literacy and household size

4.3.1 Age profile

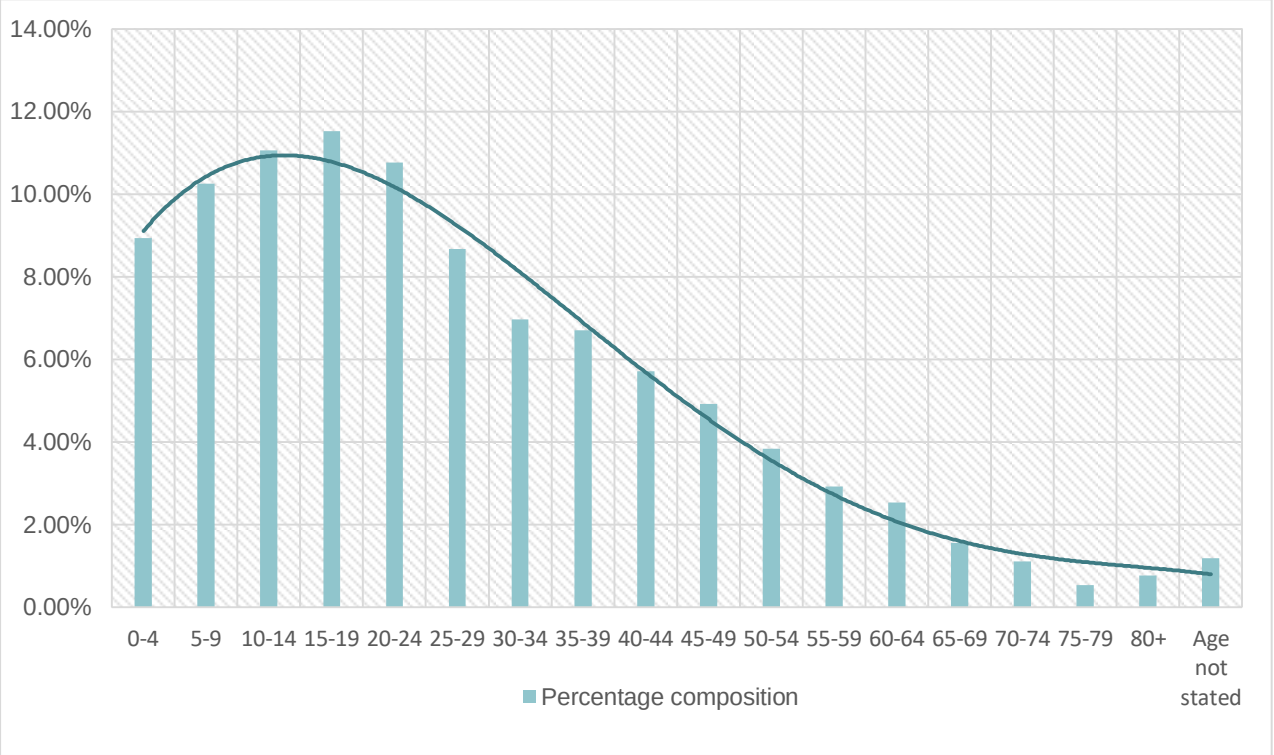
Age profile for the city is assessed from the Census 2011 data which shows that, the majority of the population in the city is young. The trend is similar to the national level trend where most of the population is young with a median age of 22.7 years in year 2010. In Saharanpur, the age of about 68% of the total population ranges between 0-35 years and about 42% of total population ranges between 10 to 25 years of Age. It is a strong indication, which highlighted that Saharanpur has a valuable youth crowd that could play an important role in the future economic development of the city.

Table 4-5 Age profile of Saharanpur city - 2011

Age slab	Percentage composition
0-4	8.94%
5-9	10.26%
10-14	11.07%
15-19	11.52%
20-24	10.77%
25-29	8.67%
30-34	6.96%
35-39	6.71%
40-44	5.71%
45-49	4.92%
50-54	3.84%
55-59	2.93%
60-64	2.54%
65-69	1.55%
70-74	1.12%
75-79	0.54%
80+	0.76%
Age not stated	1.19%

Source: Census of India, 2011

Figure 4-2 Age profile of Saharanpur city - 2011

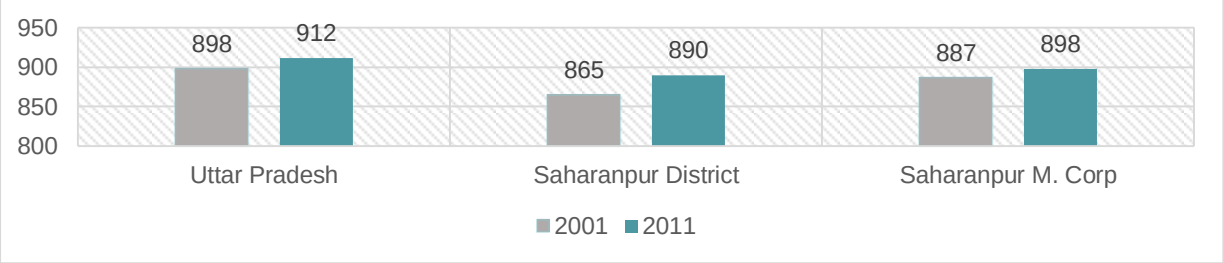


Source: Census of India, 2011

4.3.2 Sex ratio

Sex ratio of Saharanpur city increased from 887 in 2001 to 898 in 2011. As per Census 2011, the sex ratio of Saharanpur district is 890, lower than that of the state's which is 912 and that of India which is 943. The increase in the sex ratio of the city in last decade is indicative of the fact that, with increase in diverse opportunities, there has been increase in number of families settling in the city as compared to the previous years, and also accentuating the increase in population over the last years. The lower sex ratio compared to the state and that of the district can be because of the male working population of the city which have moved from neighboring villages and smaller urban centres for work.

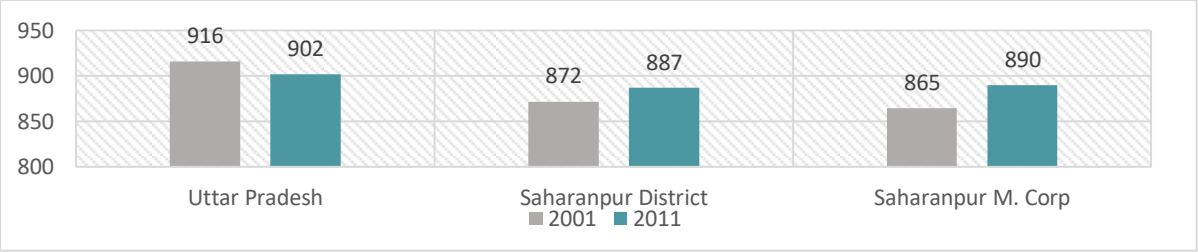
Figure 4-3 Decadal change in the sex ratio of Uttar Pradesh, Saharanpur district and Saharanpur city



Source: Census of India, 2001 &2011

The child sex ratio is defined as number of female children ranging 0-6 years per 1000 male children ranging 0-6 years. Child sex ratio in the city has been increased from 865 to 890 from 2001 to 2011. During the same period child sex ratio has also been decreased for Uttar Pradesh from 916 to 902. But there is an increase in the child sex ratio at district level from 872 to 887 during the same period

Figure 4-4 Decadal change in the child sex ratio of Uttar Pradesh, Saharanpur district and Saharanpur city

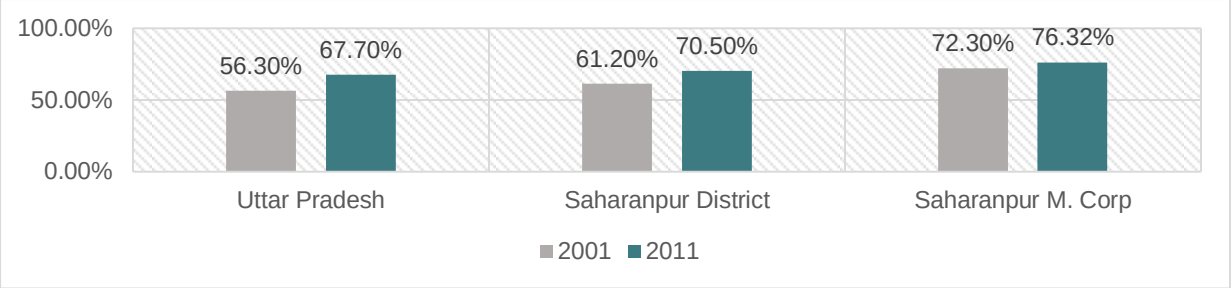


Source: Census of India, 2001 &2011

4.3.3 Literacy rate

As per census 2011, literacy rate of Saharanpur is 76.32 %, which is higher than the state average of 67.70 %. In comparison with 2001, the overall literacy rate increased in 2011 with an improvement in both male and female literacy rates. As per Census 2011, there are 4,67,519 literates in the city, of which 2,59,262 are males and 2,08,257 are females. As per census 2011, at district level, the literacy rate of Saharanpur district was 70.5%.

Figure 4-5 Decadal change in the literacy rate of UP, Saharanpur district and Saharanpur city

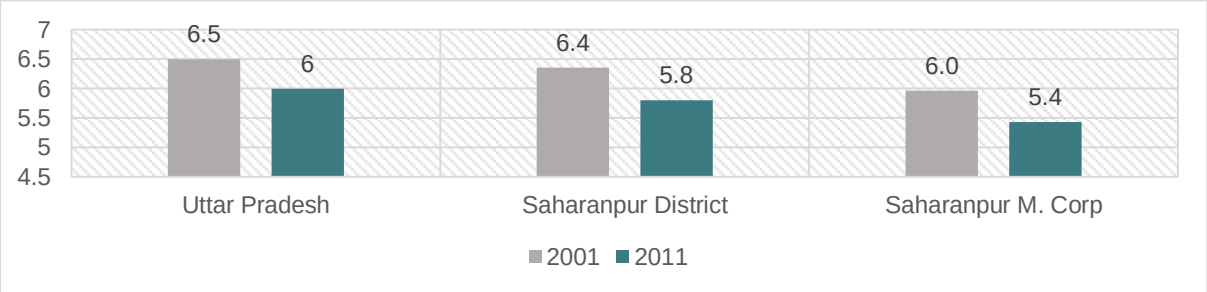


Source: Census of India, 2001 &2011

4.3.4 Household size

The numbers of households in Saharanpur city, were increased from 76,430 in 2001 to 1,29,856 in 2011, experiencing a decadal growth of about 70%. The household size in Saharanpur M. Corp. decreased from 6 in 2001 to 5.4 in 2011. City's household size is on the lower side in comparison with household size at state and district levels

Figure 4-6 Decadal change in the household size of UP, Saharanpur district and Saharanpur city



Source: Census of India, 2001 &2011

4.4 Existing density

4.4.1 Density of Population in city

The total area of Saharanpur city (corporation area) is approximately 46.74 sq.km, with a total population of 7.05 lac persons, it acquires a gross density of 151 Persons Per Hectare (PPH) which is less than 200 PPH, the standard density for large cities as per the latest URDPFI guidelines, 2014.

On further analysis of the Existing Landuse and residential areas, it is found that the residential densities go as high as 300ppHA in the city. The city presently faces issues such as high concentration development towards the core areas (north of the city). The northern side of the railway station are mostly high density residential, with institutional developments in the north west side. There are commercials pockets spread across the residential land use of the city. Industries are located in peripheral parts. In the northern parts of the city mixed use development can be visible in the residential areas, where petty shops etc. are operating.

4.5 Recent trend through natural increase and migration

Saharanpur has witnessed significant growth since its inception as municipal corporation and even before that. The total population in the city which was 2.95lacs in year 1981 reached to 3.74 lacs in year 1991 and 4.55 lacs in year 2001. From year 2001 to year 2011, the population in Saharanpur city grew at an unprecedented rate, with a huge influx of people and reached a total of 7.05lacs persons, achieving a growth of more than 50% in population from year 2001 to year 2011. Such trend which is observed in the last decade is indicative of migration of the people from neighboring villages or smaller urban centres. Saharanpur occupies, a strategically as well as physically central position in the district and is also the divisional headquarter, administrative center of the district. Hence the population growth in the city is not only because of the natural increase in the population but also the influx of people from neighboring villages who come and settle in the city in wake of the new opportunities.

4.6 Future estimates for significant stages/ projections

The population projections play a vital role in the estimation of future needs for the city. The projected population would assist in estimating the demand for various physical infrastructure services like drinking water supply, sewerage system, solid waste management, etc. and social infrastructure like schools, health centers, parks etc. for the design years. The population projections have been done for the planning area using various techniques. The forecasting methods adopted include the arithmetic projection, geometric projection, incremental increase and decadal growth rate. For population projection current population of Saharanpur Municipal Corporation, surrounding villages within the AoI and urban agglomerations Kailashpur and Mahilpur has been considered. The average population calculated from arithmetic, geometric, decadal growth rate and incremental increase is considered for planning.

The forecast includes projections of the past trends as well as influx induced from the neighboring villages, a trend which has been observed in the previous years in the city including the increase in number of workers in coming years in the city as per the projected work force participation. The economic, physical, social and cultural aspects and their requirements in the city have impetus in the type of growth the city would foresee by year 2031. The projected population would assist in estimating the demand for various physical infrastructure services like drinking water supply, sewerage system, solid waste management, etc. and social infrastructure like schools, health centers, parks etc. for the design years.

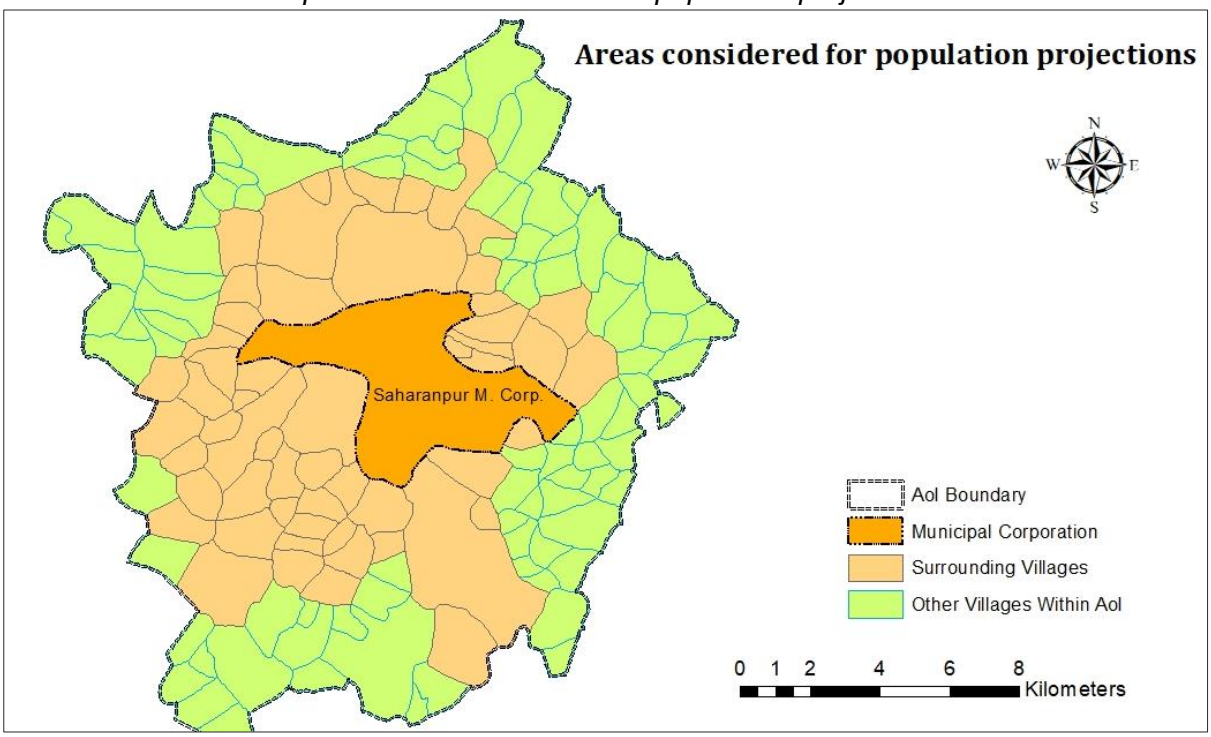
Table 4-6 Population Projections (Horizon year – 2031)

		Projected Population				
Year		1991	2001	2011	2021	2031
Saharanpur Mun. Corp		3,74,945	4,55,754	7,05,478		
	Arithmetic				8,42,186	9,78,893
	Geometrical				9,29,039	12,23,444
	Incremental Increase				9,27,253	12,34,094
	Decadal growth rate				9,48,381	12,74,919
Average Population (A)					**9,11,715**	**11,77,838**
Surrounding villages		56,436	87,407	1,30,981		
	Arithmetic				2,29,472	2,63,989
	Geometrical				2,44,983	3,07,848
	Incremental Increase				2,18,651	2,31,526
	Decadal growth rate				2,52,473	3,26,962
Average Population					2,36,395	2,82,581
Average Urbanising Villages Population (B)					**1,22,925**	**1,46,942**
Surrounding UA		56,436	87,407	1,30,981		
	Arithmetic				26,541	34,940
	Geometrical				33,781	62,903
	Incremental Increase				25,869	32,252
	Decadal growth rate				33,781	62,903
Average Population (C)					**29,993**	**48,249**
Total Projection Population		**(A+B+C)**			**10,64,633**	**13,73,029**

Source : Consultants' analysis

It is envisaged that the total population of the Saharanpur city would be 11.77 lacs and of the planning area would be 13.73 lacs by the year 2031 (considering 20% of the village population nearby). It is estimated that there would be 52% urbanizing villages, which would reach a projected population of total 1.46 lacs by year 2031. The present population for year 2021, as per the projections, shall be 10.64 lacs of the planning area.

Map 4.1 Areas considered for population projections



Source: Prepared by Author/ Consultant

4.7 Future density and its distribution

As per the erstwhile Master Plan, the population density if the city at the time of preparing the master plan was 185PPH (year 2001), further for the 2021 plan period, an overall density of 140PPH was proposed for the city. However as per the existing land use study, the current density gross density of the city is 151ppHa. For the proposed master plan 2031, an average overall density of the city is considered as 115PPH, which is on lower side as per the standard which is due to the following reasons:

- Existing density as per COI 2011 is only around 90 PPH.
- The proposed density of 140 PPH in Master Plan 2021 was not achieved till date.
- Unlike other metro cities like Ghaziabad, Delhi etc. here in Saharanpur the high rise flat culture is not popular. Majority of people reside in plotted development and wants to continue the same. So, it is advisable to reach the density standard of 200 PPH gradually in the coming decades and currently for MP 2031 the density considered is 115 PPH, which is achievable by 2031.

As per Master Plan 2021, the residential density of the city in year 2001 was 400 PPH. The then Master Plan proposed 250PPH density for newly developed residential areas in the city. Presently for the future master plan 2031, an overall residential density of 320PPH is considered. The distribution of the residential density has been done in such a way that it is planned across household units of EWS, LIG, HIG and MIG type of units, so that there are 15% EWS, 35% LIG and MIG each and 15% HIG units in the residential areas.

Type of residential category as per economic status	% from Total household	No. of houses	Unit Area considered (in metres)	Land Area Required (ha)
EWS	15	41,191	50	206
LIG	35	96,112	80	769
MIG	35	96,112	120	1,153
HIG	15	41,191	200	824
Total	**100**	**2,74,606**		**2,952**
Additional 45%	-	-	-	**1328**
Total	-	-	-	**4280**

Additionally, it is envisaged that the land requirement of 45% shall be required due to urbanizing villages etc. Hence a total requirement for 2031 is envisaged as 4280Ha.

For the industrial area density estimation, workers population projections and work force participation rate projections were done. Industrial workers density of 100 to 125ppHA id considered as per the medium and small-scale industries envisaged in the city (discussed in Chapter 5 of this report).

4.8 Existing composition on the basis of economic status

As per Saharanpur Urban Development Authority data, there were 57 slums bastis in the city area in year 2003-04, with a total population of 1,46,450 persons. Based on census 2001, for the Saharanpur Municipal Corporation area, around 35% were the slum population of the total residential population in the city, with 25,164 households and population of 1,61,971 persons. Of these 85 thousand were male and 76 thousand were female. Around 22 thousand of this population belonged to scheduled castes.

4.9 Population and Demography: Key Takeaways

Key Takeaways

1. *Saharanpur, occupying around 66% of the total urban population in the district, is the most significant urban center in the district. In addition to natural increase, workers population and migration from the neighboring villages and urban center has been a contributing factor.*
2. *As per census 2011, the city had a total population of in year 2011. The Area of Interest with 141 villages in addition to the Saharanpur Municipal Corporation are, has a total exiting population of*
3. *City witnessed huge population influx in last decade growing with a growth rate of more than 50%, indicative of immense diverse employment and work opportunities.*
4. *More than 68% of the population in the city is young and eligible work force in coming years; hence present an optimistic scenario for further growth of the city in future.*
5. *The city gross density is 151 Persons Per Hectare (PPH) which is less than 200 PPH, the standard density for large cities; whereas the residential densities go as high as 300ppHA in the city*
6. *The residential future density id calculated across four economic sector EWS, LIG, MIG and HIG with their respective planning area and population estimated.*
7. ***It is envisaged that the total population of the Saharanpur city would be 11.77 lacs and of the planning area would be 13.73 lacs by the year 2031**. It is estimated that there would be 52% urbanizing villages, which would reach a projected population of total 1.46 lacs by year 2031. The present population for year 2021, as per the projections, shall be 10.64 lacs of the planning area.*

Chapter 5
Economic Base & Employment

5 Economic Base & Employment

This chapter covers the economic profile of Saharanpur city, covering indicators such as workforce participation, main and marginal workers, work force participation etc. The chapter describes the industrial profile of the region, including the conditions & trends in informal sector. The chapter includes workforce projections.

5.1 Introduction

Saharanpur is a mushrooming commercial hub and a leading regional center for wholesale and retail trade, agro-based industries and industrial products in Saharanpur district. Saharanpur is well known for its agricultural produce such as sugar, mangoes and rice. The development of railway system and the increased connectivity of the city has had a huge impact on the increase of trade and commerce. Small and medium Industries, trade & commerce and agriculture are the main economic base of the city. Key characteristics of the economic base of the city are as follows:

- Industry has acquired a place of importance in the economy of Saharanpur. Units of paper mill, dairy, cigarette factory, textile mill and sugar mills are concentrated in the city area. The industrial establishment boasts of the woodwork industries of Saharanpur which has acquired wide reputation. The industry consists (apart from frames and wheels for carts) chiefly in the decoration by wood carving, of door, doorways and the like, the wood used for the crafts is *Shisham* wood. The wood carving industry earns a fair amount of foreign exchange also.
- Handloom textile is an important household industry. Ordinary coarse cloth known as garha is commonly produced everywhere. Pottery making in the district possesses a previous heritage of beauty and art and is quite popular in the region.
- Saharanpur is one of the great exporting districts of Uttar Pradesh, of which the Saharanpur city acts as epicenter of the commercial and trade activities, as is evident from the extensive population influx in the last decade toward the city. The main items of the export of the district are food grains, particularly wheat and oil-seeds, sugar and forest products and imports are salt, metals and piece goods. Now Saharanpur district is one of the most prosperous districts in Uttar Pradesh. Its prosperity is the direct result of interaction of improved agriculture and sound industrial base.
- The city industrial sector of the city consists of industries like sugar, paper, cigarette and distillery factories and a large number of small-scale industries. The banking and transport facilities of the district have helped in the promotion of its trade and commerce.
- Forest products like *Shisham, Jamun, Babul, Siras, Saimal, Mahua and Lar* are mostly exported to different districts after the local consumption Cigarettes, Paper, Sugar, Medicines, Ghee, Hosiery, Rubber Belts, Wood carved articles and drawing and survey instruments are also exported in good quantity. Machinery parts, general merchandise, paints and varnish, building material, cement, coal, plastic goods and iron and steel are other items that are imported in a fairly large quantity *(DCHB, Saharanpur Census 2011).*
- The three main commodities produced in the city are wood works, paper production and readymade garments.

5.2 Workforce at base date

As per census 2011, there are 2,19,086 number of workers registered in Saharanpur Municipal corporation area, out of a total population of 7,05,478. As per census 2011, the

Work force participation ratio in Saharanpur city is 31.05%, which means for every 100 person in the city about 31 people are employed in some economic activites.

In the total population of the district of Saharanpur, 29.93 percent are workers and rest 70.07 percent are non-workers. Among workers, 25.46 percent are main workers and 4.46 percent are marginal workers of total population. In absolute terms, females are outnumbered by males as main workers and marginal workers as well. The extent of main workers is highest at 27.12 percent in Rampur Maniharan tahsil and lowest at 23.52 percent in Behat tahsil. In case of marginal workers, it is highest in Behat tahsil (5.36 percent) in comparison to 4.36 percent in Saharanpur and 2.81 percent in Deoband tahsil. The extent of workers in rural parts and non-workers in urban parts is higher. In the district among workers, 21.4 percent are cultivators and 49.0 percent other workers.

5.2.1.1 *Work Force Participation*

As per Census 2011, being an industrial base, the existing work force participation rate in the city is 31.13%. Work force participation ratio among men is about 51.16% while that among women is about 8.66% in Saharanpur city. The absolute number of main workers in the city, which have a permanent job is around 1.87 lacs. The tables below indicates the absolute numbers of existing workers and gender wise distribution of workers active in Saharanpur city in year 2011. It can be noted that the number of mrarignal female workers is more, evident of their involvement in the household industries and enterprises as well as in agricultural and allied jobs. Around 70% of the non worker population constitue not only children and old age persons but also people involved in informal acitvities in the city.

Table 5-1 Workforce in Saharanpur city – 2011

City	Total workers	Main workers	Marginal workers	Other workers	Non-workers
Saharanpur	2,19,086	1,87,995	31,091	196,011	486,392

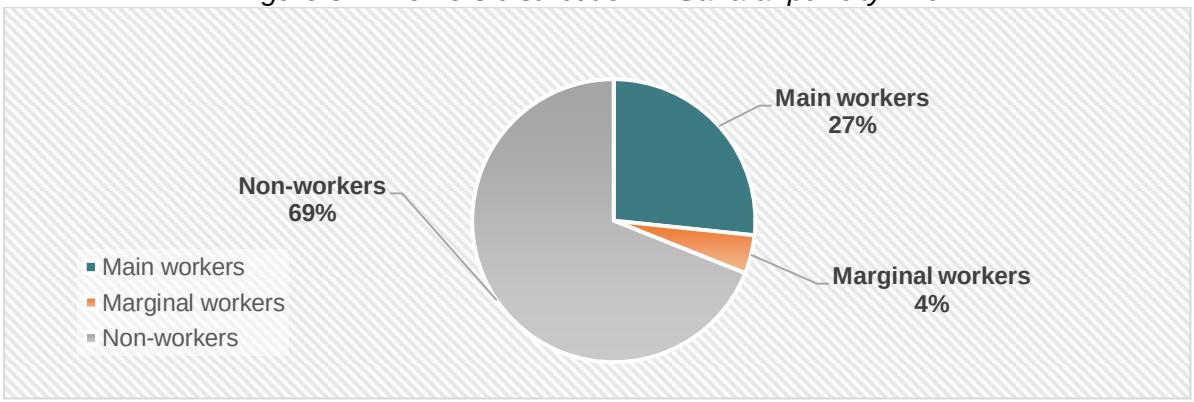
Source: Census of India, 2011

Table 5-2 Workforce (gender wise distribution) in Saharanpur city - 2011

City	Total workers		Main workers		Marginal workers		Non workers	
	Males	Females	Males	Females	Males	Females	Males	Females
Saharanpur	190,176	28,910	167,769	20,226	22,407	8684	181,564	304,828

Source: Census of India, 2011

Figure 5-1 Workers distribution in Saharanpur city - 2011



Source: Census of India, 2011

5.3 Existing occupational structure

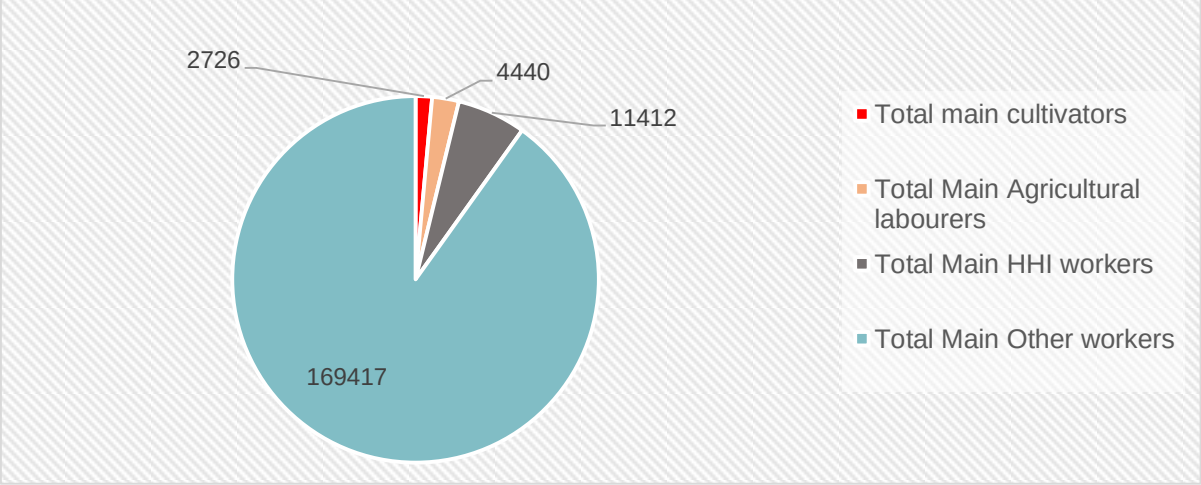
The Table below indicates the classification of main workers based on their occupational structure. The workers classification includes cultivators, agricultural laborers, household industry workers and workers engaged in other activities. Table 5.3 represents the percentage distribution of various classes of main workers in Saharanpur city. As per census 2011, about 4% of main workers were engaged in agriculture related activities and about 6% are engaged in household industrial activities. 90% of the total main workers were engaged in activities other than agriculture and household industries.

Table 5-3 Main workers classification in Saharanpur city - 2011

City	Total main cultivators	Total Main Agricultural laborers	Total Main HHI workers	Total Main Other workers
Saharanpur	2726	4,440	11,412	169,417

Source: Census of India, 2011

Figure 5-2 Main workers classification in Saharanpur city - 2011



Source: Census of India, 2011

Similarly, the distribution of marginal workers in the city of Saharanpur during 2011 is given below. As per census 2011, about 9% of marginal workers were engaged in agriculture related activities and about 5% are engaged in household industrial activities. 86% of the total marginal workers were engaged in activities other than agriculture and household industries.

Table 5-4 Marginal workers classification in Saharanpur city – 2011

City	Total marginal cultivators	Total marginal Agricultural laborers	Total marginal HHI workers	Total marginal Other workers
Saharanpur	530	2295	1672	26,594

Source: Census of India, 2011

Figure 5-3 Marginal worker classification in Saharanpur city - 2011

Source: Census of India, 2011

5.4 Recent trends in employment and occupational structure

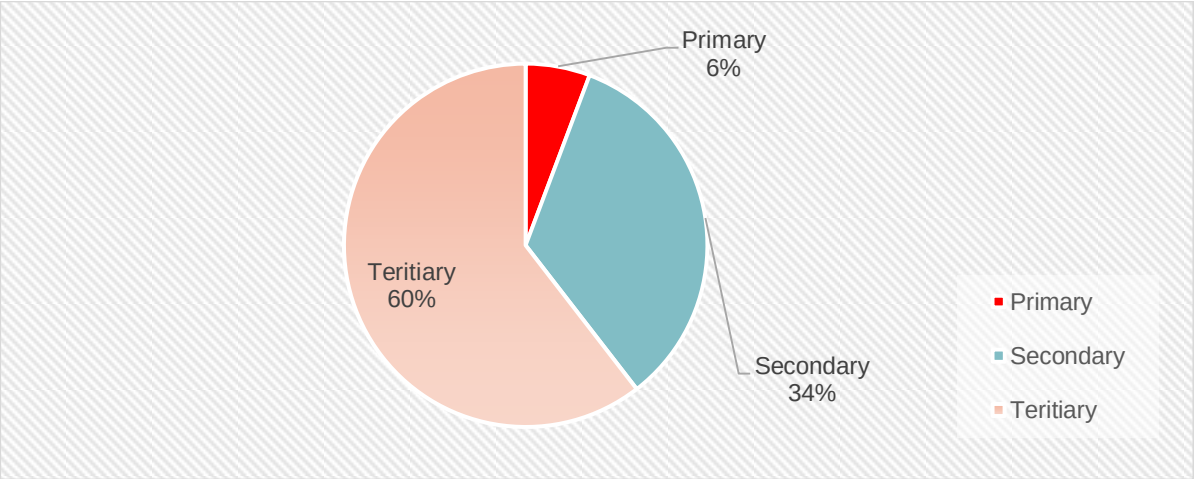
The sectorial share of workers in Saharanpur city as per census 2011 is indicated in table below.

Table 5-5 Category wise distribution of workers in Saharanpur city - 2011

Category	Number of workers (2011)
Cultivators	**3,256**
Agricultural labourers	**6,735**
Animal husbandry, forestry, Plantation	**2,547**
Mining and quarrying	**45**
Industry	**56,474**
Construction	**17,751**
Trade and commerce	**53,013**
Transportation, storage	**16,174**
Other services	**63,625**
Total worker population	**2,19,620**

Source: Census of India, 2011

Figure 5-4 Sector wise distribution of workers in Saharanpur city - 2011



Source: Census of India, 2011

5.4.1 Sector wise number of workers and employment

As per the assessments done in erstwhile master plan the workers classification were further clubbed in three categories: primary, secondary and tertiary sectors. The categorization for the analysis is done as per follows,

Primary	**Cultivators**
	Agricultural **labourers**
	Animal husbandry, **forestry, Plantation**
	Mining and quarrying
Secondary	Industry
	Construction
Tertiary	Trade **and commerce**
	Transportation, storage
	Other services

Source : Consultants' analysis (Bases Master Plan 2021)

Based on above, the number of workers in the three sectors is as follows. The total number of the workers engaged in the tertiary sector is far more than those engaged in the primary as well as secondary sectors in the city. This proves that the number of small and medium enterprises and industries have grown substantially over the years. However as compared to the year 2001 the engagement in the primary sector has grown. In year 1991, around 59% workers were engaged in tertiary and 36% were engaged in secondary sectory which reached to 60.47% and 33.80% in year 2011 (refer table below).

Primary	**12583**
Secondary	74225
Tertiary	132812

Source: Census 2011 analysis

Workers' Category	1991	2001	2011 Proposed in MP	Actual in 2011
Primary	3.79%	3.70%	3.25%	5.73%
Secondary	36.23%	36.30%	36.50%	33.80%
Tertiary	59.98%	60.00%	60.25%	60.47%

Source: Census 2011 analysis

5.5 Informal Sector Employment

Informal sector lacks security both legally and economically. Therefore, there is the greater vulnerability of the workers who are outside the reach of the labor legislation due to worker's absence of social protection and worker's right. The vulnerability increases with women in particular. The 25 percent of the informal sectors constitute the urban employment in India. These comprise of domestic workers, home-based workers, street vendors and waste pickers. In India, there is a continuous migration of people from rural areas to urban dwellings primarily because of less opportunity to earn livelihood in villages. People migrate to cities and indulge in all types of informal employment like small shops, household work, rag picking etc.

5.5.1 PM SVANidhi

PM Street Vendor's Atma Nirbhar Nidhi is a scheme for providing affordable loans to street vendors. As per this scheme, those who were vending till 24 March, 2020 can avail the benefits of the scheme, the duration of which is till March 2022. The vendors can avail a working capital loan of up to INR 10,000, which is repayable in monthly installments in the tenure of one year. On timely or early repayment of the loan, an interest subsidy of seven

per cent per annum will be credited to the bank accounts of the beneficiaries through direct benefit transfer on six monthly bases. There will be no penalty on early repayment of loan.

5.6 Future occupational structure

5.6.1 Projections for total workforce

The projection for workers population is done by considering the recent trend in the workforce participation ratio. Based on the below-given assumptions we have considered a slightly higher growth rate for industrial workforce participation projection in the total worker population:

- Agriculture base of the city will attract agro-based industrial activities
- Increased opportunities due to proximity towards NCR and part of NCR sub region, and as per the economic profiling of NCR, the Saharanpur- Muzaffarnagar region has tremendous scope for development of floriculture and homogeneous industries
- Located in proximity to Meerut-Muzaffarnagar industrial area
- Increase connectivity via roadways and railways
- Faster growing agro-industrial demand in the state
- Better infrastructure and utilities will increase the expected number of job openings
- Increased technical and Skilled training education and related workforce
- Faster growth and development of neighbouring major cities like Muzaffarnagar, Dehradun, Yamunanagar etc.

However, considering the effect of Covid-19 on the economic activities in the coming future, the increment in the workforce participation ratio is calculated based on the average of the previous years. Below tables show the projections done for workforce participation ratio and workers population respectively. It is estimated that based on the previous trends of the city, and the futuristic industrial development, the work force participation in the city would be 35.11% in year 2031 i.e, a total of 4,82,070 persons would be available as workforce for the city.

Table 5-6 : Workforce Participation Ratio Projections, 2031

Year	Workforce Participation ratio	Increment ratio	Average increment
1991	27.15%		
2001	27.25%	0.10%	1.99%
2011	31.13%	3.88%	
2021	**33.12%**		
2031	**35.11%**		

Source: Census of India 1991 to 2011, Estimation by consultant

Table 5-7 Projections for Workers Population, 2031

Year	Workforce participation ratio	Projected total population for planning area	Projected worker population
1991	27.15%	3,73,904	1,01,513
2001	27.25%	4,69,764	1,28,010
2011	31.13%	705478	207269
2021	**33.12%**	10,64,633	3,52,606
2031	**35.11%**	13,73,029	4,82,070

Source: Census of India 1991 to 2011, Estimation by consultant

5.6.2 Projection for Core Industrial Workforce

As per the URDPFI standards and planning norms, it is estimated that in any large and metro city, a total of 25% of the total workforce is engaged as industrial workforce. For Saharanpur, it is estimated that around 1,13,274 persons or around 8.24% of the total population would be engaged directly in industrial activities of the city.

5.7 Future Occupational structure

In the past decade, as per Census 2011, it has been observed that there was a decline in number of workers engaged in the secondary sector (industrial and construction sector workers), this could be due to the shift of the workers towards more household and medium sector enterprises. Breakup for future occupational structure is calculated as per the average of the incremental growth over the last decade, based on this there would be a decrease in the engagement of the workers in the secondary sector, whereas an increase in the primary sector and tertiary sectors.

Year	Primary		Secondary	Tertiary		
1991	3.79%		36.23%		59.98%	
2001	3.70%	-0.09%	36.30%	0.07%	60.00%	0.02%
2011	5.73%	2.03%	33.80%	-2.50%	60.47%	0.47%
2021	6.70%	0.97%	32.58%	-1.22%	60.72%	0.25%
2031	7.67%		31.36%		60.97%	

Source: Consultants' analysis

5.8 Economic Base & Employment: Key Takeaways

Key Takeaways

1. *Trade and commerce has been the core economic base of the city in last decade, with Saharanpur growing as major commercial hub and a leading regional centre for wholesale and retail trade, agro-based industries and industrial products.*
2. *Units of paper mill, dairy, cigarette factory, textile mill and sugar mills, wood crafts etc. such small and medium scale enterprises are core industrial establishments. In addition, handloom is a significant industry*
3. *Saharanpur is the major urban centre and serves the entire hinterland, providing employment opportunities, resources and markets for the locals from the villages nearby; central to major economic and developmental initiatives and proximal to the NCR and proposed Muzaffarnagar- Meerut investment region. There are immense opportunities in the commerce, trade, industrial as well allied agricultural sectors in the city in coming years.*
4. *Around 2.19 lac persons are workers in the city with 1.87 lacs as main and 31 thousand marginal workers.*
5. *The WPR for year 2011 was accounted as 31.05% which as per the projections shall be 33.12% in year 2021 and 35% in year 2031. The absolute number of workers engaged in economic activities in year 2031 would be 4.82 lacs of total 13.73 projected population.*
6. *Around 8.24% of the total population would be engaged in core industrial activities (25% of the workers)*
7. *Based on the analysis of the past trends there would increase in the tertiary sector activities in the city.*

Chapter 6

Resources

6 Resources

This chapter provides a brief on the financial resources of the Master Plan implementation authority which is Saharanpur Development Authority (SDA). The data in the current chapter is based on the report, "Technical assistance to Saharanpur City for generating revenue through value capture financing tools for Smart City development Draft report 1", November 2017.

6.1 Planning Authority's income during the past 10 years

The Saharanpur Development Authority (SDA) would be the implementing agency for the Master Plan, 2031. Established in 1974, under UPD Act 1973, SDA aims to coordinate planned and sustainable development of the city. One of its functions is to develop housing schemes in the city to meet growing demand. SDA develops housing colonies including basic infrastructure like roads, sewer lines, drainage lines and parks. After selling the plots, infrastructure and facilities developed by SDA are transferred to the municipal corporation for operation and maintenance. To fulfill its role, SDA seeks to coordinate with various other agencies involved in creation and extension of urban infrastructure, in accordance with the master plan.

For SDA, the income has decreased from Rs 19.83 crore and Rs 15.81 crore in the period 2012-13 to 2015-16, decreasing at CAGR of -7%. SDA has not been able to maintain a constant surplus over the last couple of years. After 2012-13, SDA witnessed overall deficit consecutively in 2013-14 and 2014-15.[5]

Revenue income sources comprise rent income, stamp duty and others, income from building department and other income (sale of forms), etc. Income from building permissions department comprises external development fee, betterment fee, application & map fees and impact fees.

One of SDA's income sources in the years is sale of plots and free hold charges through Transport Nagar residential scheme. SMC however claims high coverage and efficiency in collection of general taxes and assessment of properties. Collection efficiency has grown steadily, from 65% to 90% from 2013-14 to 2016-17.

6.2 Financial position including loans, grants and Infrastructure Development Fund, etc.

Financial position under various schemes in Saharanpur is given as below :

Smart City Mission: Saharanpur smart city covers an area of 5 sq km for area-based development. It is primarily focused on establishing a self-sustainable city with an emphasis on public services and urban mobility. The pan city proposals envisage solid waste management and robust IT connectivity. Together, the Area Based Development (ABD) & pan city proposals cost Rs 1650 crore.

AMRUT city:. The State Level High Power Steering Committee (SHPSC) has released a sum of Rs 81 lakh for green park/spaces to Saharanpur Nagar Nigam in October 2016 and

[5] *Otherwise mentioned, the information for this Chapter has been sourced from the report "**Technical assistance to Saharanpur City for generating revenue through value capture financing tools for Smart City development Draft report 1", November 2017**. For present values, the respective data is awaited from the authority*

the cost of projects for FY17 is estimated at Rs 55 lakh. The components being addressed through AMRUT in Saharanpur are: sewerage and septage management with a sanctioned project cost of Rs 108.63 crore jointly for the years FY16 and FY17, and water supply at a cost of Rs 29.30 crore in FY16 and Rs 29.01 crore in FY17 (Progress Report, SMC).

Pradhan Mantri Awas Yojna (PMAY): PMAY is being implemented in Saharanpur where the district urban development agency (DUDA) has carried out surveys in SMC and other Nagar Palikas (NPs) of Saharanpur District. Within the SMC area, 2,000 applications have been received and the survey in underway. An amount of Rs 5 lakh has been released for assistance to vendors in creation of vending zone.

Electricity supply under Integrated Power Development Scheme (IPDS): Various activities including renovation and modernization, underground cabling of 33KV of about 2 kms and 11KV (21 kms), and setup of transformers are being carried out under IPDS scheme at a cost of Rs 21 crore. The state has signed MoUs with the intent of improving finances of electricity distribution companies and meeting increased demand. It includes components such as feeder metering, distribution converting metering, consumer indexing and GIS mapping, smart metering, and tackling aggregate technical and commercial losses.

Swachh Bharat Mission: The key components for the implementation of the Swachh Bharat Mission are construction of toilets and solid waste management, for which an investment of Rs 134.78 lakh is envisaged. Apart from developing physical infrastructure, it also aims at information, education, and communication about the mission. The target for individual household level toilets is envisaged at 987, with a provision of Rs 8000 per toilet. The estimated project cost for this would be Rs 80 lakh. On the other hand, the target for public/ community toilets is 200 seats, with a revised provision of Rs 98,000 per seat. The older provision per seat was Rs 52,000. The cost for public/community toilets is Rs 2 crore. The second component of the mission is solid waste collection and management. For this, new prospective suppliers/partners of Municipal Corporation for the city-wide project comprising 60 wards have been roped in.[6]

6.3 Manpower and technical capacity

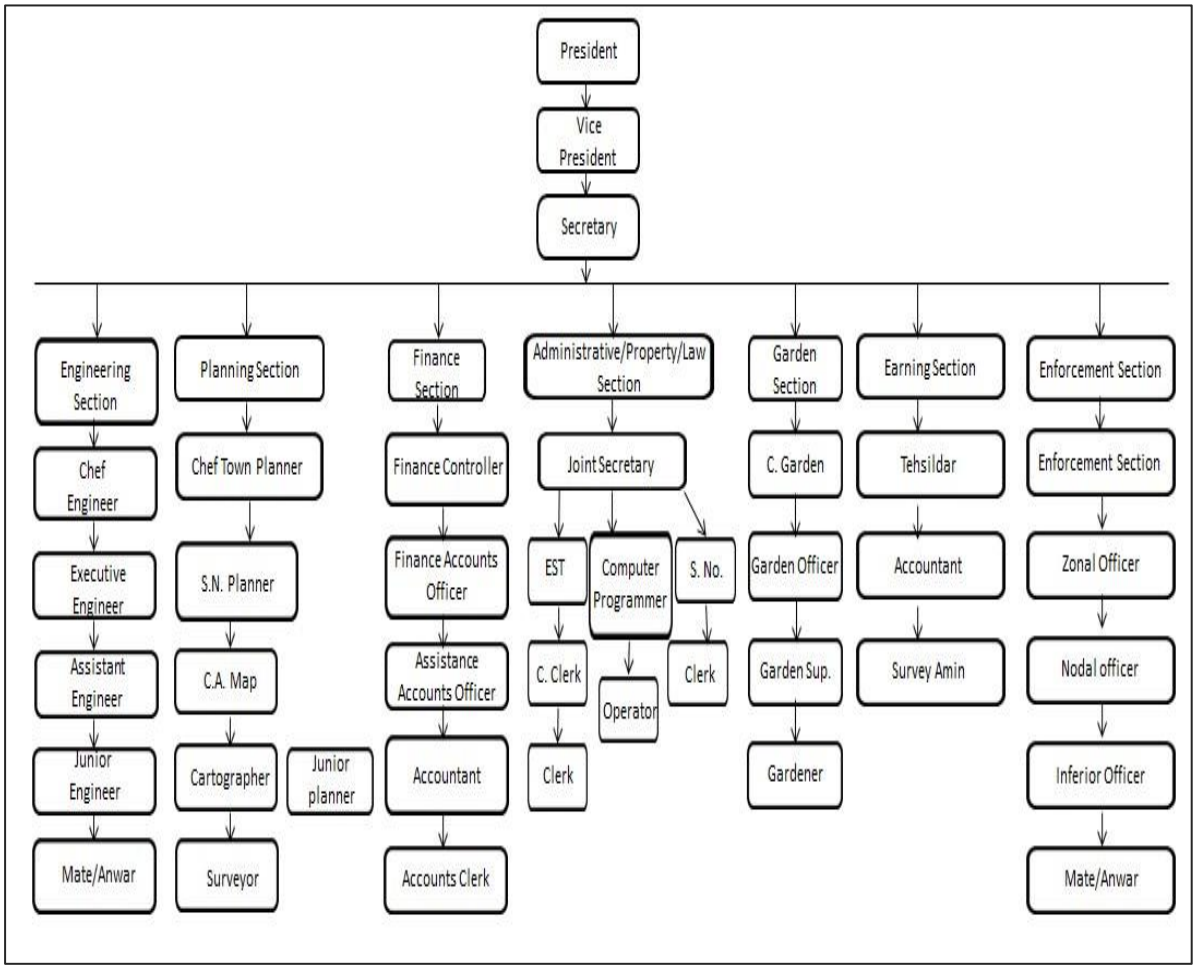
A detailed analysis on the manpower shall be done on the basis of the actual number of permanent as well as temporary employees in the SDA and comparing the same with the employee service rules of Uttar Pradesh. Following information is sourced from the SDA website, for the number of board members in the authority.

Board Members in SDA		
1	Commissioner	Chairman
2	Vice Chairman, Saharanpur Development Authority	Vice Chairman
3	Secretary, Awas, U.P. Govt.	Member
4	Secretary, Finance, U.P. Govt.	Member
5	Chief Town & Country Planner, U.P.	Member

[6] *Otherwise mentioned, the information for this Chapter has been sourced from the report "**Technical assistance to Saharanpur City for generating revenue through value capture financing tools for Smart City development Draft report 1", November 2017**. For present values, the respective data is awaited from the authority.*

Board Members in SDA		
6	District Magistrate, Saharanpur	Member
7	City Commissioner, Nagar Nigam, Saharanpur	Member
8	Executive Engineer, Jal Nigam, Saharanpur	Member
9	Joint Director Industries, Saharanpur	Other Member
10	Executive Engineer, U.P. Power Corporation	Other Member
11	Additional Director, Treasury & Pension Saharanpur Division	Member

The following picture reflects the organization structure of the development authority:



6.4 Other resources such as land and properties

This section shall be detailed on receipt of the data on the current resources for land and properties by the SDA

6.5 Private investment in the real estate sector during past 5 years

Saharanpur has witnessed immense infrastructure development in the past decade. Organized and planned development of roadways, physical infrastructure, residential and

commercial development, entertainment zones, educational institutions, and other public amenities, have gained pace in the past couple of years.

The city has seen a few projects listed in the recent past by the Development Authority and the Awas Vikas. The government of India has implemented the Real Estate (Regulation and Development) Act 2016, or RERA. An online registration platform was launched for the state of Uttar Pradesh, where builders could register their projects and get a RERA registration number. Initially, three projects by Parasvnath Developers at various locations have been registered for Saharanpur City.

Development of various residential and commercial centres in the city, coupled with development under various flagship programs and schemes, have led to a steady increase in real estate prices. The areas that have witnessed a boom in residential and commercial development in the past few years are Raiwala, Mission compound, Gill colony, Hasanpur, Ambala Road, Court road, Jain college road, paper mill road, railway road etc. For these areas, the circle rates fixed by the Stamp and Registration Department are almost parallel to the prevailing market prices.

Based on the analysis done in the VCF report[7] and the rates from the property markets highlights the areas that have witnessed high market value due to rapid residential development in recent years. The housing schemes developed by the Saharanpur Development Authority i.e Transport Nagar and the Awas Vikas at Vivek Nagar illustrate the significant growth in market value.

The upcoming investments in the city are flagship programs by the central government such as the Smart City Mission. As the city was shortlisted in the top 100 cities, having received approval from the state in Round 3 with the proposal under preparation, AMRUT and Swachh Bharat Mission are ongoing. Other developments that have the potential to impact real-estate prices in the city are the schemes developed by Awas Vikas Parishad. Additionally, over three upcoming real-estate projects in Saharanpur district have been registered on RERA. These projects will have a positive impact on the real estate market in the impact areas of the projects.

6.6 Capital investment programme of govt. agencies involved in the planning, development and maintenance estimate at significant stages (for specific schemes, infrastructure development, etc.)

6.6.1 Infrastructure development fund

As per Uttar Pradesh State Housing and Habitat Policy, 2014 (UPSHH) policy, infrastructure development fund has been created in all development authorities and the Housing and Development Board. A fixed percentage of income from certain identified sources is being regularly credited to this fund to ensure contribution of these authorities towards development of infrastructure such as roads, drainage, sewerage, water supply and development of parks, etc.

As per GO 152/9-A-1-1998, of Uttar Pradesh Government, Housing Section – 1, (dated January 15, 1998), it is mandatory to spend 80% of the infrastructure development fund

[7] *Otherwise mentioned, the information for this Chapter has been sourced from the report "**Technical assistance to Saharanpur City for generating revenue through value capture financing tools for Smart City development Draft report 1", November 2017**. For present values, the respective data is awaited from the authority.*

towards capital expenditure and only 20% towards any revenue expenditure. The fund is created at the development authority level and all expenditure from the fund has to be approved by a committee headed by the Divisional Commissioner with the representation of the following members: -

- District Magistrate
- Vice Chairman - UDA
- Municipal Commissioner/ Executive Officer or other representative from urban local body
- Representative from PWD
- Representative from Jal Nigam

As per office memorandum of GoUP number 1498 (dated September 23, 2014) existing provisions, income from the following sources in regulated areas is contributed to a separate bank account:

- 90% of fees received for change of land use
- 90% of proceeds from development fee
- 90% of proceeds from city development charges
- 50% of income collected for compounding
- 90% of income from impact fees, collected as per provisions under master plan zoning regulations

This section shall be further detailed on receipt of the data.

VII. Action Plan for acquisition/assembly of land (5 years)

This section shall be detailed on receipt of the data on the current resources for land and properties by the SDA

6.7 Key Takeaways

- Revenue income sources comprise rent income, stamp duty and others, income from building department and other income (sale of forms), etc. Income from building permissions department comprises external development fee, betterment fee, application & map fees and impact fees. One of SDA's income sources in year 2014-15 was sale of plots and free hold charges through Transport Nagar residential scheme
- Collection efficiency has grown steadily, from 65% to 90% from 2013-14 to 2016-17
- Smart City mission, AMRUT city , PMAY, Electricity supply under IPDS, and Swachh Bharat Mission are some of the core schemes which are reviewed state level and central funding for the city development
- The city has witnessed rapid development in real estate in last years. Development of various residential and commercial centres in the city, coupled with development under various flagship programs and schemes, have led to a steady increase in real estate prices

Chapter 7
Housing

7 Housing

This chapter contains census data analysis on the housing stock for indicators such as household sizes, type of housing units etc. Recent housing trends are analyzed and relevant policy evaluation done in relation to densification, regularization/improvement in current housing stock in the city.

7.1 Analysis of existing situation by size, condition and adequacy

7.1.1 Number and type of census houses in Saharanpur

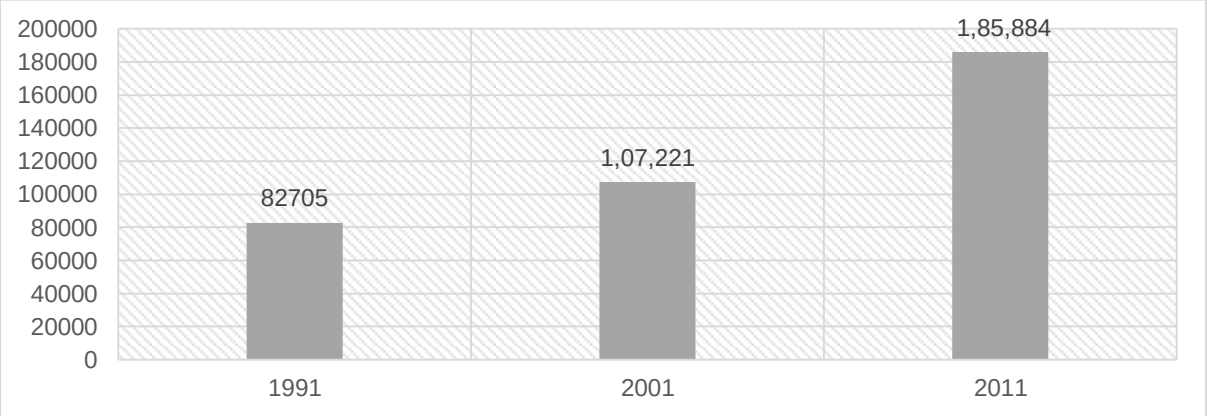
The section provides a detailed over view of the existing housing scenario in the city in terms of present housing stock, and quality of housing. Housing status of the city is assessed from the available census data. The houses based on census can be categorized on the basis of its use, type of roof material, floor material, number of rooms and ownership status. There has been a gradual increase in the number of census houses from 1991 to 2011 as indicated in the figure below.

Table 7-1 Details of census houses in Saharanpur city - 1991 to 2011

Year	1991	2001	2011
Census houses	82,705	107,221	1,85,884

Source: Census of India – 1991 to 2011

Figure 7-1 Census houses in Saharanpur city from 1991 to 2011



Source: Census of India - 1991 to 2011

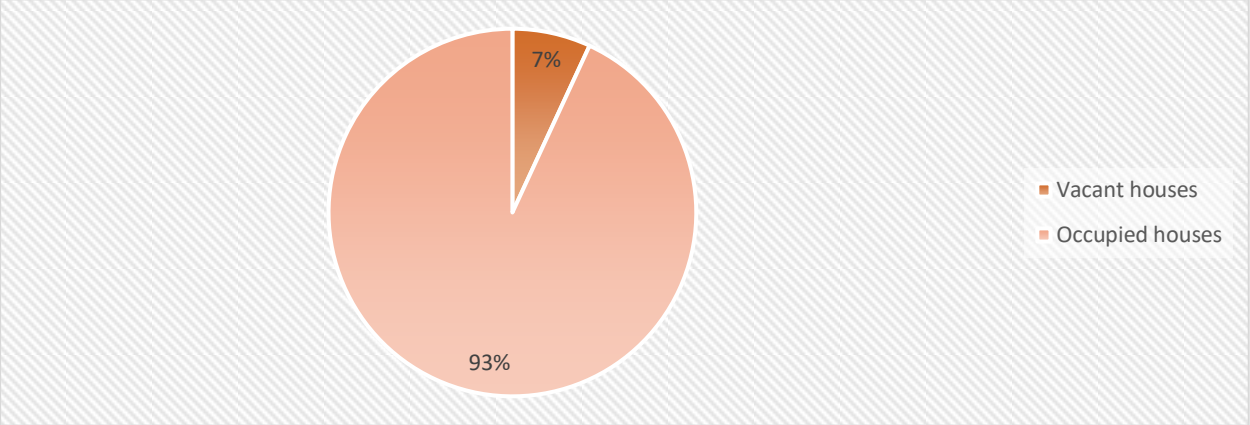
The details of the existing housing stock in the city as per census of India, 2011 is given below

Table 7-2 Existing housing stock in Saharanpur city - 2011

Total number of census houses	Total number of vacant census houses	Total number of occupied census houses
185,884	12,817	1,73,067

Source: Census of India, 2011

Figure 7-2 Existing housing stock in Saharanpur city - 2011



Source: Census of India, 2011

As per census of India, 2011, out of 185,884 total houses in Saharanpur city, 173067 (93%) are occupied and only 12,817 (7%) are vacant. Out of total occupied houses, around 69.77% is residential and around 3.43% belongs to residential-cum-other uses. Also, 30261 i.e., 17.62% of the total occupied houses are shop/ office.

Table 7-3 Occupied housing use in Saharanpur city - 2011

Occupied Census Houses used as								
Residence	**Residence -cum- other use**	**Shop/ Office**	**School/ College etc.**	**Hotel/ Lodge/ Guest house etc.**	**Hospital/ Dispensary etc.**	**Factory/ Workshop/ Workshed etc.**	**Place of worship**	**Other non-residential use**
119791	5896	30261	510	282	422	2834	827	10873

Source: Census of India, 2011

7.1.2 Housing Condition

As per Census of India, 2011, the quality of housing stock in Saharanpur city shows that around 63% of the total houses are in good condition and 35% are in livable condition, and 2% of the total housing stock is in dilapidated condition.

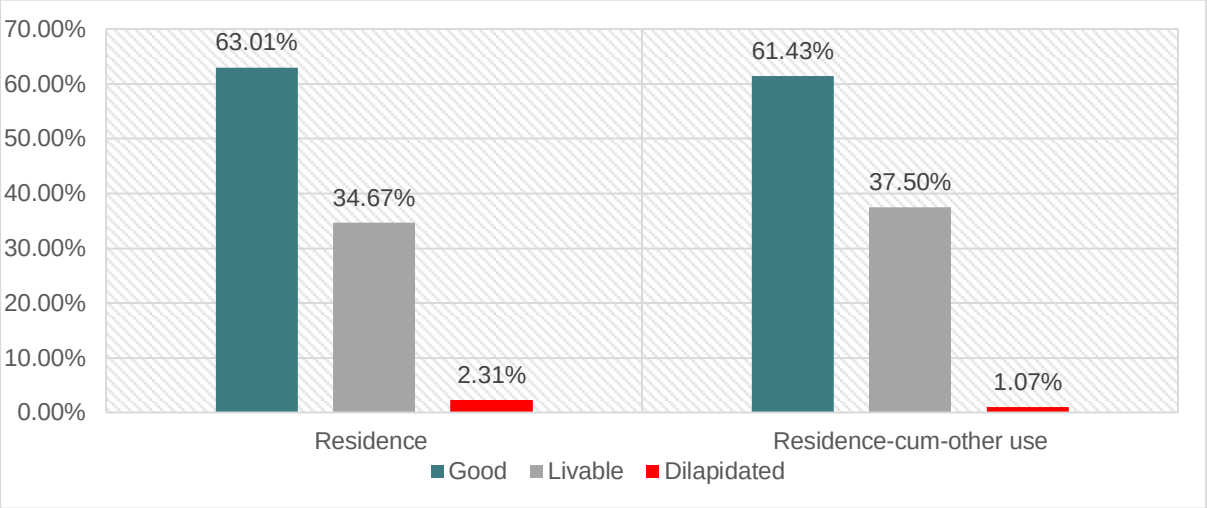
Table 7-4 Condition of census houses in Saharanpur city - 2011

Condition of Census House (Excluding Locked/ Vacant Houses)											
Total				**Residence**				**Residence cum other use**			
Total	**Good**	**Livable**	**Dilapidated**	**Total**	**Good**	**Livable**	**Dilapidated**	**Total**	**Good**	**Livable**	**Dilapidated**
1,26156	**79403**	**43907**	**2846**	**1,20,292**	**75,801**	**41,708**	**2,,783**	**5,864**	**3,602**	**2,199**	**63**

Source: Census of India, 2011

As per the above table, there are around 5864 houses which are used for residence cum other uses. Such phenomenon is quite common in the city where mixed used are prevalent in the core residential areas. Further, around 63% of the residential and around 61% of the residential-cum-other used houses are in good conditions. About 35% of the residential and around 37.5% of residential-cum-other use houses are in livable conditions. The housing stock facing dilapidation among residential and residential-cum-other houses are only 2.3% and around 1% respectively.

Figure 7-3 Condition of housing stock in Saharanpur city - 2011



Source: Census of India, 2011

7.1.3 Type of housing stock and quality of housing material

There are around 1,13,520 houses in city classifies as pucca, 5593 as semi pucca and around 7043 as kutcha. The following table shows the distribution of census houses in the city based upon the type of materials used for its roof and walls.

Table 7-5 Distribution of census houses in the city based upon the type of materials used for its roof and walls

Material of Walls	Total number of households	Material of Roof								
		Grass/Thatch Bamboo/Wood/Mud etc.	Plastic/ Polythene	Handmade Tiles	Machine made Tiles	Burnt Brick	Stone/Slate	G.I./Metal/Asbestos sheets	Concrete	Any other
Type/Total	**126156**	**8000**	**395**	**853**	**568**	**65125**	**1724**	**2762**	**46529**	**200**
Grass/thatch/bamboo etc.	**327**	216	16	2	2	69	2	18	0	2
Plastic/ Polythene	**86**	20	14	0	1	39	1	10	0	1
Mud/unburnt brick	**3966**	2207	176	201	28	815	55	206	247	31
Wood	**103**	21	3	0	1	59	1	18	0	0
Stone not packed with mortar	**1958**	104	17	63	99	737	203	283	448	4
Stone packed with mortar	**2230**	125	13	74	57	1483	160	71	246	1
G.I./metal/asbestos sheets	**169**	3	1	2	7	111	9	33	3	0
Burnt brick	**115941**	5262	147	505	362	61543	1251	2094	44623	154

Material of Walls	Total number of households	Material of Roof								
		Grass/Thatch Bamboo/Wood/Mud etc.	Plastic/ Polythene	Handmade Tiles	Machine made Tiles	Burnt Brick	Stone/Slate	G.I./Metal/Asbestos sheets	Concrete	Any other
Concrete	**1101**	30	5	2	10	141	36	26	850	1
Any other	**275**	12	3	4	1	128	6	3	112	6

Source: Census of India, 2011

7.1.4 Ownership

The below Table, indicates the households having different number of dwelling rooms. The household having no exclusive rooms are considered to be contributor of housing shortage in the city which is around 1.42% (1,794) of the total number of households.

Table 7-6 Ownership status of houses in Saharanpur city - 2011

Ownership status	Total number of HH	Households having number of dwelling rooms						
		No exclusive room	One room	Two rooms	Three rooms	Four rooms	Five rooms	Six room and above
Total	126,156	**1,794**	47,923	39,005	19,876	11,052	3,482	3,024
Owned	104,592	1,385	35,598	32,703	18,141	10,482	3,357	2,926
Rented	18,859	315	11,158	5,345	1,410	464	87	80
Other	2,705	94	1,167	957	325	106	38	18

Source: Census of India, 2011

7.1.5 Family Structure

The below Table indicates the number of married couples in houses with different number of dwelling rooms. As per census of India, 2011, households in which the number of married couples exceeds the number of exclusive rooms in Saharanpur city is around 5,765 and it forms the part of housing shortage in the city.

Table 7-7 Number of married couples in houses with different number of dwelling rooms

Number of married couples in a household	Total number of households	Number of Dwelling Rooms						
		No exclusive room	One room	Two rooms	Three rooms	Four rooms	Five rooms	Six rooms and above
Total	**126,156**	**1,794**	**47,923**	**39,005**	**19,876**	**11,052**	**3,482**	**3,024**
None	9,573	502	4,518	2,691	1,043	534	130	155
1	93,277	1,068	39,972	29,268	13,388	6,357	1,824	1,400
2	18,560	183	3,093	6,204	4,260	2,994	1,008	818
3	3,847	34	292	722	1,026	917	383	473
4	733	4	41	97	142	211	106	132
5+	166	3	7	23	17	39	31	46

Source: Census of India, 2011

7.2 Housing demand assessment for significant stages

Housing demand for any town is the function of various factors such as migration, condition of existing houses, slums and their living conditions, moreover, the natural growth of the town, number of rental houses and their tenure etc.

Housing demand assessment is done by considering the shortage at the base year and the demand due to natural increase of population. The census data for the year 2011 is considered for estimating the housing shortage. The various categories considered includes dilapidated houses, kutcha houses, houses with no exclusive rooms, rental houses and the houseless households. The below Table shows the number of households under each category.

Table 7-8 Existing shortage in housing of Saharanpur city – 2011: as per condition of housing stock

S. No	Category	Number of houses
A	Dilapidated Houses	2846
B	Kuccha Houses (based on roof and wall material)	7,043
C	Houses with No. of Married couples exceeding No. of exclusive rooms	5765
D	Rental Houses	18,859
E	Houseless Households	164
	Total	**34,677**

Source: Census of India, 2011

Table7-9 Housing demand estimations for the horizon year 2031: Natural increase

Year	Base Population (2011)	Projected population	Assumed household size for future housing demand	Housing Demand due to natural growth
2021	7,05,478	10,64,633	5	
2031	7,05,478	13,73,029	5	2,74,606

Source: Census of India, 2011, Estimation by consultants

Based on the existing status and condition of the housing in the city, the housing stock requirement of the city is around 34,677 units. The demand due to natural increase is estimated from projected population and assumed household size. The household size considered is 5 for the horizon year 2031. Based on this, the total housing stock requirement by the year 2031 is calculated to be 2,74,606 units**.**

An analysis on the future division of the housing as per the economic status is done. Of the total required housing stock by the year 2031, around 41 thousand units shall be required for EWS and HIG, and around 96 thousand units shall be required for MIG and LIG.

Table 7-10 Housing stock as per economic status

Type of Zone	% from Total household	No. of houses
EWS	15	41,191
LIG	35	96,112
MIG	35	96,112
HIG	15	41,191
Total (Year 2031)	**100**	**2,74,606**

Source : Consultants' analysis

7.3 Contribution of public, private, co-operative sectors and self-help groups

Saharanpur real estate is not small, but is on the way of progress and in future Saharanpur property business may be hike more than expected. According property experts, property bazaar of Saharanpur is growing day by day and in future it will show more demand in Saharanpur. Specially housing 1BHK, 2bHK flats buying demand are showing more in these days.

With increase in population of the city, has been substantial development in private and other housing projects. For example, UP Awas Vikas Parishad came up with a new housing scheme called *Shakumbhari Vihar Yojana 2016* in Sector-2A, Delhi-Saharanpur Road, Saharanpur. The scheme consisted of 368 floors for all categories, including EWS, LIG, MIG and HIG. Two types of housing (F-70 and F-45) were offered for assignment as of September 14, 2016.The super-floor area type F-70 is around 69.71 square meters, available in G + 3 building type while the super area of F-45 flats is 44.97 square meters which are also available in the G + 3 type building.

Saharanpur PM housing scheme 2021 project is another big real estate housing scheme, which should be liked by people of Saharanpur. Its application can apply through online mode. All the best information about Saharanpur housing projects can also available online. PM housing application form can be applied through CSC and eMitra centers.

7.4 Recent trends in housing

The trend in physical growth over the years has been linear development along the National Highway and the State highway passing through the city. The town serves as an important transport node connecting five different states. The anticipated physical growth in the coming years and a growing urban population are likely to exert pressure on the existing natural resources, necessitating interventions. Presently the housing trends in the city are such that there are many mixed type developments in the core city area which are highly dense and congested.

The city has seen a few projects listed in the recent past by the Development Authority and the Awas Vikas. The government of India has implemented the Real Estate (Regulation and Development) Act 2016, or RERA. An online registration platform was launched for the state of Uttar Pradesh, where builders could register their projects and get a RERA registration number. Initially, three projects by Parasvnath Developers at various locations have been registered for Saharanpur City.

Development of various residential and commercial centers in the city, coupled with development under various flagship programs and schemes, have led to a steady increase in real estate prices. The areas that have witnessed a boom in residential and commercial development in the past few years are Raiwala, Mission compound, Gill colony, Hasanpur, Ambala Road, Court road, Jain college road, paper mill road, railway road etc. For these areas, the circle rates fixed by the Stamp and Registration Department are almost parallel to the prevailing market prices. The housing schemes developed by the Saharanpur Development Authority i.e Transport Nagar and the Awas Vikas at Vivek Nagar illustrate the significant growth in market value.

7.5 Alternative policies evaluation and strategies for Master Plan 2031

Seeing the recent trends in housing in the city following alternative planning strategies can be proposed in the city. For further analysis of these proposal, the relevant housing policies

have been studied which support the below given key strategies. Such as the State Urban Housing and Habitat policies provides strategies on redevelopment, decongestion, promoting mixed use and ToD etc. such aspects. These are discussed in detail (Please Refer to Analysis and Compliance to Policies chapter), in the policy analysis section. The future planning densities and relevant aspects have been discussed in the proposed land use planning sections.

- Uttar Pradesh State Urban Housing & Habitat Policy, 2014
- Integrated Township Policy (License Based System)
- Draft Policy for Promotion of Private Investment in Development of High-Tech Townships in Uttar Pradesh
- Planning norms, zoning regulations and building bye-laws for Mixed Use and TOD

7.5.1 Decrease density within the built-up area and increased density in new areas

Key points

- Promoting sustainable development through focusing on Greenfield development, integrated townships, high tech townships etc. are suggested to increase density in the new areas of the city. This shall support in not only strengthening urban rural linkages and promoting catalytic development of the backward areas / underdeveloped areas but also to foster growth in rural areas and outskirts of the city, while promoting de congesting of the core.

- Allowing mixed use in new developments/ newer areas. High density, high Far to be allowed in horizontal as well as vertical mixed-use development, with two or more uses shall be permitted; such proposals can be as per the integrated township policy; high tech township policy etc.

- Mixed use can be permissible in following situations *(as per Uttar Pradesh State Urban Housing & Habitat Policy, 2014)*

    - MRTS corridors/ transit-oriented development zones and Urban redevelopment schemes (total area can be under mixed use)
    - New townships/ integrated townships schemes; Potential locations demarcated in Master plan/ zonal development plans, Expressway, major highways proposed in development nodes (maximum 20% land area can be dedicated to mixed use)
    - Maximum permissible FAR In new developments 4.0 and in redevelopment 3.0 for mixed use
    - For mixed use permissible, Minimum width of road should be 30m Minimum land area 10 acres (4 hectare)
    - Maximum permissible FAR in mixed use in TOD zone to be 4 (developed areas) and 5.0 (in new or undeveloped areas)

- Promoting ToD, implemented with adequate road hierarchies and zoning regulations. These can be further detailed out in the zonal plans.

7.5.2 Redevelopment of core areas and Improvement/re-development/regularization of existing housing stock

Approaches shall be developed for Re-development / re- densification of existing urban habitat. Mixed land use, integrated and shared social space and multiple transport options can be considered and implemented to reduce trip generation and create efficient transport system in the core city. The National Mission on Sustainable Habitat (NMSH) recommends Low Rise and Higher Density Development to improve overall energy efficiency of any area; such forms are less expensive and reduce pressure on travel demand.

- For the current status of the core areas, it is suggested that these areas shall not be further densified. Rather incentivization in form of TDR can be given to those owners who are willing to use their properties for development of open areas or green areas or parks in the core city.

- Non-conforming uses can be identified in the city, and wherever these are highly incompatible, provision of redevelopment can be applied in form of incentivization etc. Such as promoting redevelopment and densification in urban areas by incentivizing provision on public utilities / open areas in non-confirming land uses with area min 1 Ha;

- Allowing redevelopment in areas (>1 Ha) with old industries / terminals etc. in accordance with new master plans

- Redevelopment of underutilized areas and non-conforming land uses

- Redevelopment conditions such as min area to be 1 Ha, and to be allowed by land owned by private developers, govt. agencies, housing societies etc. The Uttar Pradesh State Urban Housing & Habitat Policy, 2014 policy provides percentage land under developer, utilities and govt. on redevelopment.

- Incentives offered under redevelopment are focused such as free of charge land conversion to higher/ mixed land use; additional 25% of base FAR and additional 5% for green building; etc. are suggested under the policy to promote redevelopment

7.6 Distribution of new development within town in relation to public transport and work centres

For the new development coming in the city, strengthening the mass transport and provisioning for alternative methods such as rerouting etc. can be possible. Such interventions shall be done in discussions with the authorities. Building dedicated bus lanes for BRT and improvements to bus service frequency can usually be implemented relatively quickly and cheaply, compared to other forms of mass transit. Large physical infrastructure projects which typically transport more people without taking up road space

Provision for TOD at some places in the city should be considered, as it encourages high density and mixed-use development, overall reducing the travel demand and in turn reducing the carbon footprints.

The newer developments shall be proposed such that they get direct access to the main roads (as required for the integrated township policy) such that the inhabitants have are in close proximity to the working centres of the city. The decongestion of the core areas can be

done by allowing new development to occur near the peripheral parts of the city. Based on the analysis done in previous sections of the report, that there would be industrial development in the city in the coming years, towards Muzaffarnagar, and along Dehradun Delhi highway. There has been substantial activity along this route. A new industrial area is proposed towards South, Pilkhani. Hence new proposals can be in approach to these new work places.

7.7 Key Takeaways

- *There are around 185,884 number of census houses in the city of which 1,73,067 are occupied; around 3.43% houses (5896 houses) belong to residential-cum-other uses/ mixed uses.*
- *Based on the condition of the house such as dilapidated houses, kuchha houses, houses where number of married couples exceed exclusive rooms, rental houses and houseless households (homeless) account to the shortage in existing housing units. There are around 34, 677 such housing unit shortage in the city.*
- *The demand due to natural increase is estimated from projected population for the horizon year 2031, and is calculated to be 2,74,606 units (for a projected population of 13,73,029 persons and household size of 5 for horizon year 2031)*
- *Development of various residential and commercial centers in the city, coupled with development under various flagship programs and schemes, have led to a steady increase in real estate prices. There are many mixed type developments in the core city area which are highly dense and congested.*
- *Uttar Pradesh State Urban Housing & Habitat Policy, 2014 provide strategies for redevelopment, re-densification etc. of the developed area. Strategies for incentivization for redevelopment of core areas or existing built areas can be implemented. New development shall promote mixed uses, vertically as well as horizontally.*

Chapter 8
Traffic & Transportation

8 Traffic & Transportation

The chapter deals with analysis of the existing traffic and transport scenario in the city. A comparative analysis of situation of roads, junctions, parking etc. is done with ICR standard. Further, gap assessment for developing capacity augmentation proposals is done.

8.1 Analysis of existing network in Saharanpur

8.1.1 Road Network

Roads in Saharanpur suffer from traffic congestion due to inadequacies in the transportation network such as capacity constraints, poor definition of road hierarchy, encroachments, on-street parking, poor traffic management, inefficient safety and security, inadequate enforcement of traffic rules, lack of pedestrian zones, and inadequate street furniture. Upcoming developments along already congested roads; encroachment by hawkers and unauthorized on-street parking add to the problems by increasing traffic and parking issues in the area.

Nearly all major roads in the Saharanpur Corporation jurisdiction are constructed and maintained by the Municipal Corporation of Saharanpur, whereas, highways and other district-level roads belong to the Public Works Department (PWD). Internal roads, constructed in colonies, are under the responsibility of Saharanpur Development Authority (MDA) and respective private developers.

Figure 8-1 Road network map in GIS highlighting different categories of roads

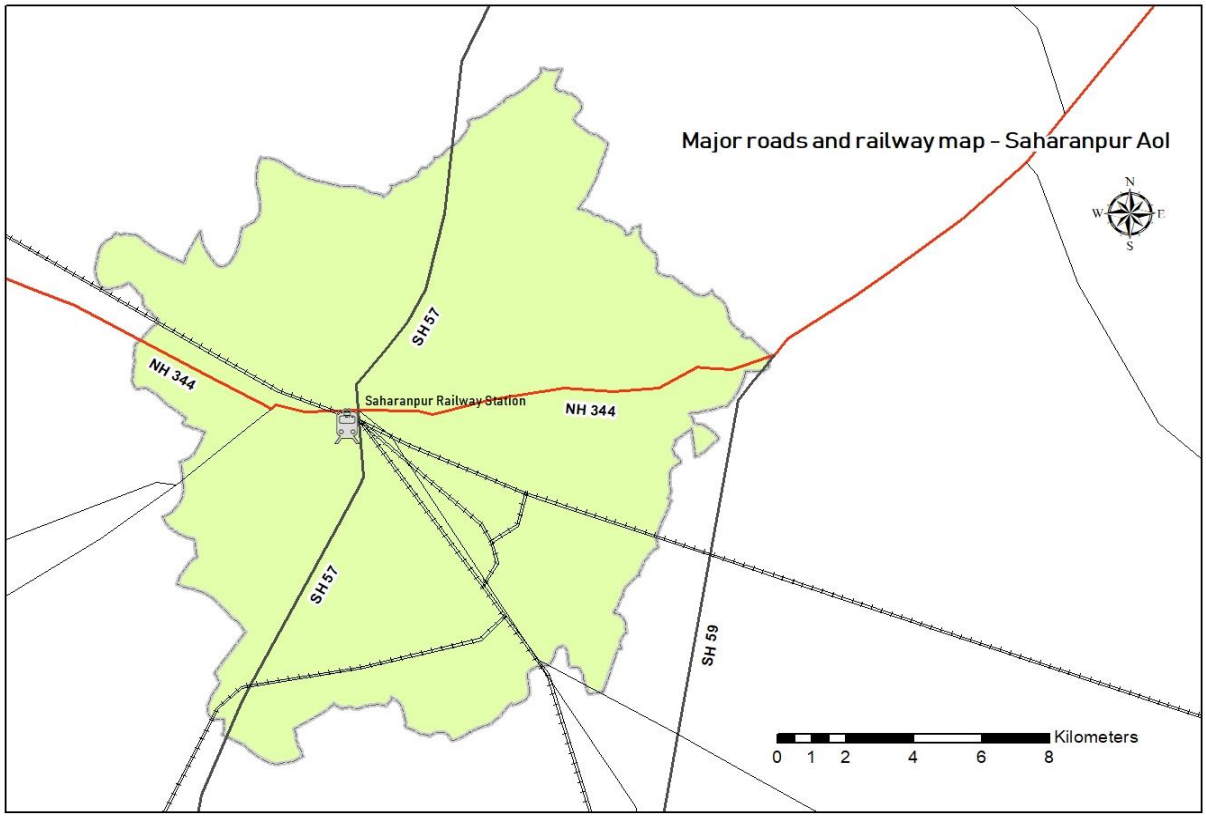


Table 8-1 Category-wise distribution of road network

Road type	Road length (in km)	Percentage of road length	Jurisdiction
National highway	**12**	**0.9%**	**NHAI**
State highway	**243**	**19.1%**	**PWD**
District roads	**100**	**7.9%**	**PWD**
Municipal roads	**920**	**72.1%**	**M. Corp.**
TOTAL	**1,275**	**100%**	

Source: Consultant Analysis

The total road maintained by Municipal Corporation is around 920 km, of which kutcha (un-surfaced) roads account for nearly 50% of the total road length.

NH-709B and NH-344 pass through Saharanpur, primarily catering to the 'through traffic', though 'destined traffic' also accounts for a certain percentage. Other inter-city roads include Dehradun Road, Chilkana Road, DAV Hospital Road, Bada Pull, Mandi Samiti Road, Jail Road, Chakarota Road, Ambala Road, Jail Road, and Station Road. These roads primarily cater to the large volume of intra city traffic.

Figure 8-2 Images of critical roads in the city

Haphazard traffic along Ambala Road

Traffic jam along with Bada Pul

Source: Primary Survey (Pictures taken on 16th October 2020)

As depicted in the images above, the majority of the road corridors are operating at a capacity that is far below their actual designed capacity due to heavy encroachments, hawking zones, and unauthorized on-street parking.

Critical junctions include Ghantaghar Chowk, Nehru Market Chowk, Qutub Sher Chowk, and Sri Ram Chowk. Table 8-2 highlight major issues along the junctions.

Table 8-2: Issues along critical intersections

Ghantaghar Chowk	Nehru Market Chowk
Intersection falls along the intersection of NH-709B and NH-344 and caters to the traffic coming from Delhi towards the west, Meerut, Saharanpur, and Muzaffarnagar towards the south, and Deoband and Roorkee towards the east. The junction is the hub of all commercial activities, providing connectivity to important nodes, including Nehru market and Saharanpur Railway Station.	The intersection is located adjacent to the Nehru Market and Government Inter College of Saharanpur. Being located in proximity to the largest market of the city, it is surrounded by various small and large commercial establishments. The design capacity of the intersection and abutting roads is less than desired. The large footfall of trucks and tractors passes through this

The junction is also surrounded by small and large commercial establishments along the abutting roads, including wholesale and retail of household items, banks, and receives a large volume of heavy vehicles. Junction also suffers from poor geometry, hawking and encroachment, on-street parking, and heavy pedestrian movement.	junction, but the ROW is not enough to hold the existing traffic. Also, the junction lacks proper traffic handling geometry. No traffic calming measures have been adopted.
	
Qutub Sher Chowk	**Sri Ram Chowk**
Junction falls along the intersection of NH-344 and NH-Gurudwara Road and is in proximity to Qutub Sher Mosque and a large number of commercial establishments, developed along major roads abutting from the junction. The area suffers from mixed kinds of traffic, the improper hierarchy of roads, several temporary and permanent encroachments, on-street parking of rickshaws and private vehicles, and large pedestrian footfall.	The intersection is located at the junction of Nehru Market Road and NH-709B. It handles traffic coming to and from Nehru Market. Being located in proximity to the largest market of the city, it is surrounded by various small and large commercial establishments. The design capacity of the intersection and abutting roads is less than desired. The large footfall of trucks and tractors passes through this junction, but the ROW is not enough to hold the existing traffic. Also, the junction lacks proper traffic handling geometry. No traffic calming measures have been adopted.
	

Source: Primary Survey (Pictures taken on 13th October 2020)

Land width that is available for the government department to build, maintain, and operate a highway or an urban road is known as Right of Way (RoW). This is typically the land that is

owned by the department but not necessarily always the case. The map below shows major roads and a comparative analysis of their designed and available RoW.

8.1.1.1 *Rail Network*

Saharanpur city has a major railway station, named Saharanpur Railway Junction. The station comes within the Northern zone. It has 6 platforms with 136 trains halting there. The platform is not well sheltered and lacks basic facilities including water and sanitation.

Table 8-3 Details of rail transit

Particular	Details
Number of railway stations	**1**
Type of rail gauge	**Broad gauge**

Source: Consultant's assessment

Figure 8-3 Regional rail network around Saharanpur city

Source: indianrailinfo.com

8.1.1.2 *Air Transit*

The nearest major airport to Saharanpur city is Jolly Grant airport in Dehradun which is around 64 Kms away from the city. Jolly Grant is a domestic airport located 25kms south-east of Dehradun city. The nearest international airport is Indira Gandhi International airport in New Delhi. Indira Gandhi International Airport (IGI) airport is located about 213 Kms from the city.

8.1.1.3 *Pedestrian corridors*

Urban roads are characterized by heavy pedestrian footfall. As per IRC-86-1983, the minimum width of the footpath should be 1.5m, which may be increased with higher pedestrian volumes. Below table indicates guidelines for the width of footpaths along with urban areas.

Table 8-4 Guidelines for with of footpaths

Number of persons/hours along one direction	Number of persons/hours in both directions	Required width of footpath (in m)
1,200	800	1.5
2,400	1,600	2.0
3,600	2,400	2.5
4,800	3,200	3.0
6,000	4,000	4.0

Source: Geometric Design Standards for Urban Roads in Plains - IRC: 86-1983

No dedicated footpath is provided along major roads in the city. Commercial areas that receive heavy pedestrian footfall, have paved areas at the level of the road which is currently being used as a pedestrian walkway. However, this walkway is not continuous and is obstructed by broken pavements, electricity poles, piles of garbage, on-street parking, and temporary encroachments and are being used as hawking zones.

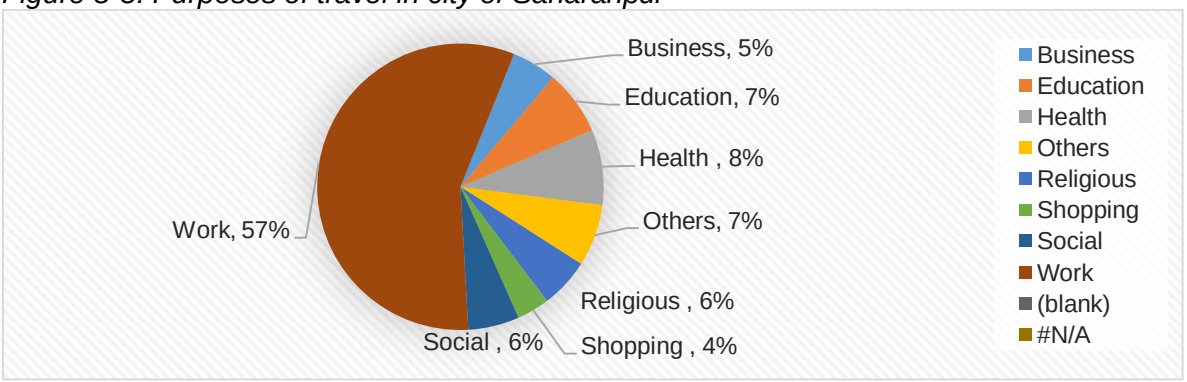
Figure 8-4 Footpath along Station Road

Source: Consultant assessment (Pictures taken on 13th October 2020)

8.1.2 Relation between living and work areas

Agriculture and commerce activities are the primary employment generator in the city and are primarily located at the city center. Thus, the center of the city attracts large traffic and is most congested. Residential spaces have moved towards the periphery due to lower rents and less congestion. A large number of the population travels to these city centers daily for various purposes. The major trip purposes include work, business, health, religion, and social. Of this, work-related trips account for 57% of the total traffic from residences to work areas, as shown in Figure 8-5.

Figure 8-5: Purposes of travel in city of Saharanpur



Source: Consultant assessment

Most of these work travels originate from residential areas in the vicinity of New Patel Nagar, Laxmanpur Colony, Bijopuri, Chauntala, Subhash Nagar, and Nawabganj. Whereas, major work-related trips are mostly destined to the large commercial centers of the city of Nehru Market, Janakpuri, Ghantaghar Chowk, and Purani Mandi.

Below table presents total work trips in the city of Saharanpur. As per the primary survey, cars, cycle rickshaws, and 2-wheelers account for the largest mode for work trips in the city.

Table 8-5 Total work trips from residences in Saharanpur and the average time taken

Type of vehicles	No. of Work Trips per day	Average Time taken for one-way trip (in minutes/per day)
Private motorized		
Private cars	2,35,188	43
Two-wheelers	1,43,701	25
Buses/cabs/mini car	38,582	49
Sub-Total	4,17,471	39
Public Transport		
Trains	-	-
Trams/metro	-	-
Bus/mini bus	-	-
Sub-Total	-	-
Non-motorized		
Cycle/Rickshaw	91,950	20
Walking	-	-
Others	462	30
Sub-Total	92,412	25
Total	5,09,883	33

Source: Primary Survey

To improve the congestion along roads, there is a strong need to strengthen public transport in the city.

8.1.3 Problems of central and core areas

Commercial areas in Saharanpur are largely cantered on Ghantaghar Chowk and Qutub Sher Chowk along the city center. National Highways, namely NH-709B, and NH-334, abut form the city center towards different directions, along which transit-oriented development has been witnessed. Large market establishments can also be witnessed along these roads. Small and Medium commercial development can also be seen along Station Road. The Nehru Market and Old Mandi remains the hub of wholesale activity of agricultural produce. They also largely suffer from the issues of traffic congestion, on-street parking, and water clogging along roads.

Nehru Market is the major market where a large number of agricultural produce are loaded/ unloaded on trucks and are sent to adjacent cities of Muzaffarnagar and Meerut. Large urban and rural footfall is witnessed in the market, leading to traffic halts. Also, the internal roads in the market are very narrow and have a design capacity less than the desired level.

Old Mandi is another large wholesale market for agricultural produce. The market is surrounded by various small commercial establishments, lacking proper parking spaces for vehicles, and is subject to insufficient loading/ unloading areas and haphazard traffic along roads.

Areas towards the south of Railway Station are largely residential and are newly developed. Mixed commercial developments are witnessed along major roads, which are wide enough

to accommodate existing traffic volumes. **Thus, traffic congestion is not a major concern in these areas.**

Figure 8-6 Images of critical markets in the city

Nehru Market

Purani Mandi

Source: Primary Survey (Pictures taken on 13th October 2020)

8.1.4 Parking problems including terminal facilities

With the increase in personalized motor vehicles, one of the major problems being faced by urban centers today is the acute shortage of parking space. In the absence of adequate organized parking space and facilities, valuable road space is being used for vehicular parking. Parking in the city can be broadly divided into the following categories:

- Along streets;
- In planned commercial centers;
- In residential colonies; and
- In the large institutional complexes.

Parameters for the National Mission on Sustainable Habitat (NMSH) of 2011, as defined by the Ministry of Housing and Urban Affairs, state that parking management strategies should be aimed at encouraging more efficient use of existing parking facilities, reducing parking demand, and shifting travel to non-private modes. The personal vehicle should pay for the use of space for parking. A portion of the revenue generated could be used for the localized improvement of footpaths, cycle tracks, and maintenance of facilities with the involvement of the local communities.

- **Bus parking:** Large public parking facilities, the underside of flyovers, wide arterial roads, and underused areas of the city should be permitted for use in off-peak hours for parking of public/private buses and commercial vehicles, chargeable at appropriate rates. Planning and provision of space for private buses, private commercial vehicles, trucks, and logistics terminals at the peripheries of the city need to be planned at the Zonal Plan level.
- **Residential parking:** Paid on-street and off-street parking should be developed for long-term and short-term parking provisions.
- **Public parking:** Major efforts should be taken for the creation of public facilities in designated commercial centres and areas where significant commercial activity has developed in the form of mixed-use. Pedestrianisation should also be considered in areas with heavy footfall.

A large number of markets, commercial and other activity centers on various roads in Saharanpur are suffering from inadequate parking facilities. On most of these stretches, the root cause of the congestion on the street is caused due to on-street parking. Roads along station road, Ambala Road, Bada Pull, and Shamli-Saharanpur Road are majorly suffering from on-street parking.

Ghantaghar Chowk is the major hub of different commercial activities, including banks, showrooms, and various large and small commercial establishments. Nehru Market and Purani Mandi are the large market belts of the city. These areas witness large heavy vehicle traffic. Roads along these areas are not wide enough and traffic congestion is a major concern in these areas. Large-scale flea market and wholescale activities are conducted in Nehru Market every Tuesday, which further deteriorates the traffic movement.

Figure 8-7: On-street parking along Ambala Road

Figure 8-8: On-street parking along Nehru Market Road

Source: Consultant assessment (Pictures taken on 10th October 2020)

A large number of empty and loaded trucks can also be witnessed standing along the Nehru Market Road and Mangal Nagar area since there is no proper location for the parking of trucks destined within the city. This further reduces the effective ROW of the roads, thus, adding to the congestions in the region.

8.2 Impact on environment

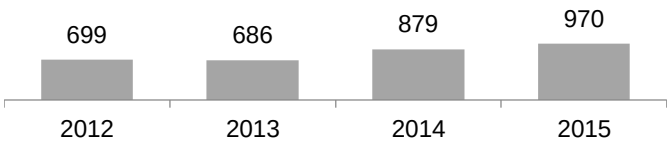
Large numbers of people use private vehicles for traveling in the city of Saharanpur. Only a very negligible share of traffic is contributed by public buses. This is the major reason for high PCU volume along the roads. As a result, the city also suffers from air pollution. The major cause of pollution in Saharanpur is the burnt fuel emitted from vehicles, in the form of Suspended Particulate matters (PM-10). Other reasons for PM-10 also include burning of forest, agricultural lands, fuels, and construction activities.

As per the Uttar Pradesh Pollution Control Board (UPPCB), air pollution in the city is recorded along with three locations, namely Avas Vikas, Farakhpur, and Gobind Pura. All these locations show high values of PM-10. As recorded on March 2020, the PM-10 levels at these locations were recorded to be 17µg/m^3, 124µg/m^3, and 79µg/m^3, respectively. While the maximum acceptable limit of PM-10 within an urban area is 150µg/m^3. This resulted in Air Quality Index (AQI) values of 52, 152, and 102 on these locations, respectively. This represents a poor level of air quality with symptoms like breathing discomfort to people with lung/heart disease, children, and older adults. Quick necessary actions need to be taken to avoid any further discomfort.

8.3 Accidents

Road accidents are a negative externality associated with expansion in the road network, motorization, and urbanization in the country. Road traffic injuries are recognized, globally, as a major public health problem, for being one of the leading causes of deaths, disabilities, and hospitalization, imposing huge socio-economic costs.

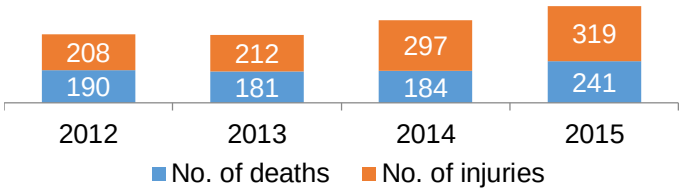
Figure 8-9: Road accidents in Saharanpur



Source: Traffic Directorate, UP Police Department

The Year 2015 witnessed an increase in the number of accidents in the city of Saharanpur, compared to previous years.
During the year 2015, the total number of road accidents in Saharanpur was reported at 970. This would translate to an average of 3 accidents taking place on Saharanpur roads every day.

Figure 8-10: Fatalities during road accidents in Saharanpur



Source: Traffic Directorate, UP Police Department

Also, the number of fatalities has increased over the previous year. In 2015, 560 deaths were reported, resulting in 43% deaths and 57% injuries during the accidents. This is much higher than the average share of 23% deaths during road accidents in the state of Uttar Pradesh.
Most of these fatalities are due to poor road geometry, lack of proper signals, and haphazard traffic flow.

Most of these fatalities are recorded in the accident-prone areas of Ambala Road, Nehru Market Road, Shamli Saharanpur Road, Bada Pull, and Bhagat Singh Road.

8.3.1 Impact of the existing and proposed network

This section discusses key recent and proposed development initiatives in the influence area of the city and represents a broad understanding of their impact on ongoing traffic flow within the city.

8.3.1.1 *Delhi-Meerut Regional Rapid Transit System (RRTS)*

To enhance the movement of freight around Delhi, National Capital Region Transport Corporation (NCRTC) has proposed the integration of passenger and freight transportation by utilizing the high-speed Regional Rapid Rail Transit System (RRTS). To accommodate the increasing needs of commute and freight movement, Regional Rail Transit System (RRTS) is planned to accommodate commuters in peak hours and is envisioned to accommodate freight traffic (especially perishable commodities) during the off-peak hours of the services. The system is likely to enhance supply chain options in the catchment area and thereby unlock additional revenue potential on account of logistics services. It is envisioned to likely reduce pollution and congestion in NCR, thus ensuring sustainable urban development in the region.

The introduction of cargo movement on RRTS would result in reduced truck traffic on the road. The modal shift of freight traffic from trucks to RRTS would result in a significant reduction in the operating cost of the vehicles. This, in turn, would result in lesser CO2, CO,

NOx, and PM emissions. Owing to the speed of operation, RRTS is likely to result in a saving in transit time between the proposed transit hubs.

The train is likely to cover the distance of 82 km between two end nodes in 60 minutes. Road, however, corresponds to higher transit time. Saving in cargo transit time would likely to decongestion benefits. The development of RRTS may also result in a reduction of road accidents, involving fatalities, injuries, vehicle damage, and loss of infrastructure.

1.4.1.1. Eastern Dedicated Freight Corridor

The Eastern Dedicated Freight Corridor (EDFC) project is part of India's Dedicated Freight Corridor (DFC) program, which aims to create one of the world's biggest cargo operations. The EDFC project involves the construction of a 1,839km-long freight line extending from Ludhiana in the Indian state of Punjab to Dankuni near Kolkata, the capital city of West Bengal. The corridor would connect via Muzaffarnagar, a city located 25km from the city of Meerut.

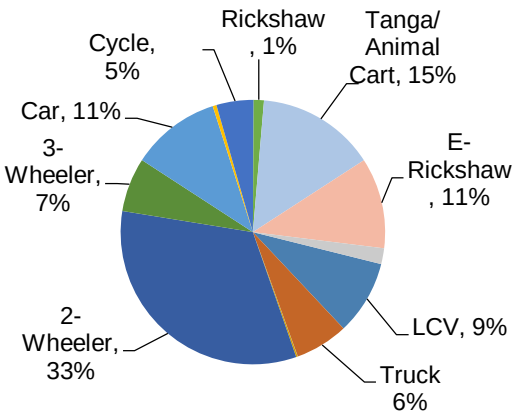
The Eastern dedicated freight corridor will improve passenger services in several cities of UP, which are among the most densely populated areas in India. The Indian Government also plans to set up seven integrated manufacturing clusters along the corridor with an investment of approximately USD 1 billion. It will lead to an economic boost in the city of Saharanpur and provide the citizens with better access to cities with employment opportunities, health, education, and other social services along the corridor.

As proposed goods handling on the DFC corridor is likely to eliminate a certain number of trucks from roads, the resultant effect would be decongestion on the roads, reduced travel cost and time, and reduced pollution level.

8.4 Existing travel patterns in Saharanpur

8.4.1 Modal split in Saharanpur

Table 8-6 Modal classification in the city of Saharanpur



A large population in Saharanpur uses 2-wheeler for commuting to different places. 2-wheelers account for 33% of the total vehicular traffic in Saharanpur. This is followed by hand-drawn carts, e-rickshaws, and cars, accounting for 15%, 11%, and 11%, respectively.
Goods carrying vehicles, including LCV (9%) and Truck (6%), collectively account for 15% of the total traffic.
Non-motorized modes, including cycles (5%), rickshaws (1%), and animal-driven carts (15%), collectively comprise 21% of the total traffic.

Source: Consultant's assessment (based on primary surveys at key roads and junctions of the city)

8.4.2 Vehicle's registration and ownership

As highlighted in above table there has been an average year-on-year increase in the number of vehicles registered, of about 3% from 2011 to 2020. In terms of the composition of traffic, it is observed that 2-wheelers account for the largest share in the total registered vehicles category. The share of 2-wheelers has remained around the same from 86% in 2011 to 84% in 2020. There has been a significant decline in the number of registered

vehicles in 2020 which was recorded to be 35,655, as compared to 57,673 total registered vehicles in 2018, registering a decline of 38%.

Table 8-7: Year-wise vehicle registration details

Road type	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Passenger vehicles										
2-wheeler	26,994	27,956	29,168	33,486	34,654	37,164	42,846	52,035	49,494	30,060
3-wheeler	222	196	184	162	448	972	1,447	3,288	2,237	565
Light passenger vehicles	3,265	3,215	3,178	3,183	2,917	3,390	3,850	4,202	4,745	4,282
Medium passenger vehicles	41	32	27	18	9	8	4	30	29	15
Heavy passenger vehicles	124	79	95	115	77	99	69	16	39	7
Goods vehicles										
Light goods vehicles	541	799	1,034	635	450	378	444	732	757	548
Medium goods vehicles	41	24	15	11	8	11	12	9	16	2
Heavy goods vehicles	303	327	172	136	186	180	233	326	285	112
Others	2	5		3	5	1	5	32	71	64
TOTAL	**31,533**	**32,633**	**33,873**	**37,749**	**38,754**	**42,203**	**48,910**	**60,670**	**57,673**	**35,655**

Source: Vahan dashboard (updated 2020), GoI

The total number of vehicles registered has increased to 7,32,862 in 2020, from 3,44,742 vehicles in 2011, depicting an average year-on-year growth of 41% from 2011 to 2019.

Table 8-8 Total registered vehicles in the city

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total vehicles registered	3,44,742	3,77,375	4,11,248	4,48,997	4,87,751	5,29,954	5,78,864	6,39,534	6,97,207	7,32,862

Source: Vahan dashboard (updated 2020), GoI

8.5 Traffic flow: People and goods

To assess the current situation of travel patterns and transportation characteristics in the city, volumetric traffic surveys were conducted at key roads and junctions in the city. The main aim of traffic assessment is to establish a reliable traffic database, including the base year daily traffic and travel characteristics on the project road and thereafter forecasting the level of traffic for future years.

This section presents traffic studies and analysis carried out by the Consultants for the assessment of road corridors and junctions as described in earlier chapters. The results of the analysis form the inputs for enhancing the transportation system in the city by identifying network gaps and developing capacity augmentation proposals.

8.5.1 Primary Surveys

The primary survey conducted at Saharanpur included i) Classified Traffic Volume Counts (classified TVC), which identify traffic composition of the city, average daily traffic, the hourly variation of traffic and peak hours, ii) Origin-Destination (OD) survey to identify influence area of the project road, trip generating and trip attracting zones and purpose of travel, and iii) Turning Movement Counts (TMC)

All the performed surveys and investigations conform to relevant IRC and other publications and good industry practices. A brief note on each of these surveys and investigations follows in this chapter.

8.5.2 Classified Traffic Volume Count (TVC)

Classified TVC survey provides a mode-wise physical census of road traffic. TVC surveys were conducted for 24 hours period for 3 consecutive working days at each of the identified survey locations.

Survey methodology and vehicle classification] used for all the traffic surveys are based on IRC Guideline IRC: 64-1990 and IRC: SP-41:1994. Traffic counting was carried out manually in three, eight-hour shifts each day by trained enumerators. A group of observers recorded the classification of the vehicles and vehicles' directions of travel. Count data were recorded at 15-minute intervals, using hand tallies and total vehicles per hour for each vehicle category were computed. Data collected from the respective sites are analyzed to study daily variation and hourly variation of traffic, peak hour share, traffic composition, and Average Daily Traffic (ADT) at all the survey locations.

Analysis of traffic survey data provides the following traffic information on the project road.

- Average Daily Traffic (ADT);
- Traffic composition;
- Annual Average Daily Traffic (AADT);
- Identification of traffic homogenous sections;
- Daily variation of traffic volume during the survey period;
- Hourly variation of traffic within a day;
- Peak hour periods and peak pour flows; and
- Directional distribution of ADT

8.5.3 Turning Movement Count Survey at Intersections

Intersection turning movement survey was conducted at major intersections to obtain information on classified turning movements of traffic at the intersection. Classified traffic volume counts of all vehicle types are prepared separately for all possible turning movements from each approach, as per the guidelines specified in IRC SP-41:1994. The survey was conducted by recording traffic for each successive 15-minute interval, for 24 hours on working days with the help of trained enumerators.

Each turning movement at the intersection was recorded by deploying trained enumerators in sufficient numbers at appropriate locations. Data from daily turning flow and peak hour turning flow is used to understand the movement of traffic in the surrounding road network. This served as the basis for the design of the intersections.

8.5.4 Origin Destination (OD) Survey

Origin-destination survey was carried out with the primary objective of studying the travel pattern of passenger traffic along the study corridor. O-D surveys were carried out 24 hours on weekdays. In most of the cases, these surveys were conducted at the same location where the classified traffic volume count survey was performed (i.e., parallel to the traffic

volume counts). The roadside interview method is adopted for the survey in which the vehicles were stopped on a random sample basis with the help of the police. Trained enumerators interviewed the drivers to obtain the required data (origin, destination, trip length, trip purpose, commodity type, frequency, etc. as applicable for different vehicle types).

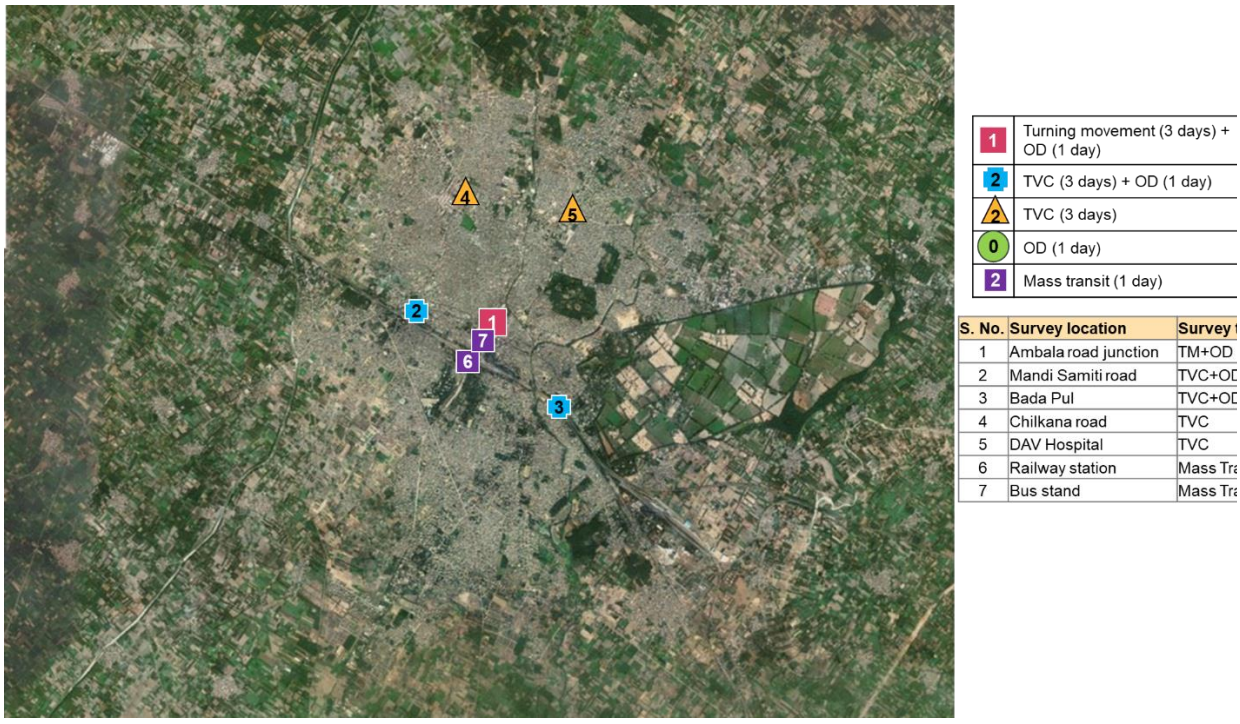
The results of this survey are useful for identifying the influence area of the project road, as well as in estimating the growth of traffic operating between different O-D pairs. Separate O-D matrices for each mode is generated for the observed sample first and then for the total traffic observed, by expending the sample O-D matrices. These matrices are currently developed for each survey location. These matrices are currently developed for each survey location. Analysis of O-D data gives the following traffic information on project road:

- Major trip generating zones within the project influence area and its share in total trips;
- Lead and load pattern of the vehicular movement on the project road;
- Type of commodities moving on the project road; and
- Frequency and purpose of travel.

8.5.5 Survey Methodology

The city has been surveyed along major traffic zones, considering the major traffic attracting commercial and industrial nodes, recent urban expansions, key arterial roads, and transportation zones, including railway stations and bus stands. A reconnaissance survey was conducted to identify critical roads and junctions, and then the traffic survey was conducted along with these select locations. The figure below highlights survey locations in the city of Saharanpur.

Table 8-9 Identified Survey Locations in Saharanpur city



8.5.6 Survey sample size

Along with these select locations, the survey sample size was calculated with respect to the population of the city, considering a 95% confidence level, and a 5% margin of error. Based

on this, surveys were conducted at each location for the assessment of the as-is traffic scenario in Saharanpur.

Table 8-10 Survey locations at Saharanpur and sample size

S. No.	Survey Location	Survey days	Dates	Sample size
Classified Total Volume Count				
1	Mandi Samiti Road	3 days	14th October 2020, 15th October 2020, 16th October 2020	-
2	Bada Pull	3 days	14th October 2020, 15th October 2020, 16th October 2020	-
3	Chilkana Road	3 days	14th October 2020, 15th October 2020, 16th October 2020	-
4	Dev Hospital	3 days	14th October 2020, 15th October 2020, 16th October 2020	-
Turning Movement Survey				
5	Ghantaghar Junction	1 day	17th October 2020	1,283
Origin-Destination Survey				
6	Ambala Road Junction	1 day	16th October 2020	1,642
7	Mandi Samiti Road	1 day	16th October 2020	1,186
8	Bada Pull	1 day	16th October 2020	1,358
Commuter Survey				
9	Dehradun Adda	1 day	18th October 2020	546
10	Saharanpur Railway Station	1 day	18th October 2020	93
11	Saharanpur Roadways	1 day	18th October 2020	488

Source: Consultant's assessment

8.5.7 Survey summary

Daily Traffic Volume by vehicle type and direction was totaled and averaged for the entire survey duration to determine the Average Daily Traffic (ADT) for the survey locations.

Table 8-11: Link-wise summary of traffic projections (In PCUs)

Name of road section	LCV	Heavy vehicles	Light vehicles	Non-motorized	E-rickshaws	Others	Total PCU	Peak hour factor
Ghantaghar Chowk to Ambala Road	1,333	911	78,503	11,657	12,336	233	1,04,973	10.4%
Ghantaghar Chowk to Behat Adda	1,110	42	71,584	10,319	12,469	72	95,596	10.1%
Ghantaghar Chowk to Roorkee Road	301	923	41,827	3,186	7,777	217	54,231	9.0%
Ghantaghar Chowk to Shamli Road	18	329	44,600	4,168	6,419	77	55,611	7.6%
Ghantaghar Chowk to Railway Station	88	471	29,360	2,158	5,339	71	37,487	8.4%
Mandi Samiti Road	4,067	2,994	22,736	9,074	4,963	863	44,696	7.6%
Bada Bridge	3,050	2,049	38,721	1,688	2,098	267	47,872	7.7%
Chilkana Road	4,338	1,503	27,780	19,646	11,587	2,511	67,364	8.0%
Sharanpur- Behat Road	2,549	1,194	18,095	8,029	4,612	322	34,800	7.6%

Source: Consultant's assessment

8.5.8 Key issues and challenges

a. Road network and connectivity

The majority of roads in Saharanpur are in poor condition, which includes patches, potholes, and rutting. Following issues have been observed related to road networks and connectivity-

- Roads having high trip attraction characteristics, including Ambala Road, Behat Road, Roorkee Road, and Mandi Road, take more travel time as road conditions are poor, and are heavily jammed.
- No dedicated pedestrian walkways are provided along the edges of roads along commercial zones. Areas along the edges of roads suffer from on-street parking, leading to slow and haphazard traffic flow.
- Roadside encroachments, obstructions, and physical objects are the major causes of reducing the effective capacity of existing corridors.
- Major junctions including Ghantaghar Chowk and Qutub Sher Chowk have encroached hawking zones alongside, causing on-street parking over the intersection and heavy unmanaged pedestrian footfall.
- Although the capacity of some roads has been augmented in recent years, further improvement is needed to meet the future demand.
- Most of the private bus operators park their vehicles on the streets/roads, hindering the smooth movement of vehicles.
- Lack of dedicated routes/lanes for buses, other public transport, and dedicated facilities for pedestrian and cycle movement along and across the roads affect highway capacity and safety.
- Grade separators/interchanges, pedestrian subways, and foot-over bridges are missing for traffic segregation and safety.
- Exercising controls on direct access to highways and arterial roads is very nominal.

b. Parking

- Lack of defined terminal/waiting stands for auto/rickshaws. Generally, they use part of ROW therefore cause hindrance in traffic movement.
- All the bus stops even in regional centers use road space for parking, boarding/alighting thus reducing the effective carriageway width and causing delays to other traffic.

c. Public transport

- The share of buses for mass transport is moderate and hence efforts are required to strengthen the bus system and rationalize the routes and operation.
- The passenger amenities at bus terminals are the bare minimum. The development of commercial space is not coupled with the improvement of passenger amenities.
- A comprehensive policy does not appear to exist for planning/development/operation/maintenance of bus terminals, particularly for the Private Operators buses.

8.5.9 Traffic forecast and capacity analysis

An estimation of future traffic on-road sections is required for a variety of purposes. The width of a road is decided based on the traffic volume it can efficiently accommodate.

a. Traffic Forecast

Traffic in future years is projected by considering the trend of population growth rate in the previous decade and growth in vehicular ownership. A snapshot of these indicators is shown in the table below.

Table 8-12: Trends of growth in Total Registered Vehicles in Saharanpur

	2012	2013	2014	2015	2016	2017	2018	2019	2020
Vehicular Growth rate	9%	9%	9%	9%	9%	9%	10%	9%	5%

Source: Consultant's assessment

Vehicular traffic is forecasted for different road sections, through linear regression of existing PCU count with population and growth in vehicular ownership. The CAGR growth rate was estimated for all the modes in the city between 2011 and 2020. The outcome of the same is highlighted in the table below.

Table 8-13: Trends of growth in mode from 2011-2020

S. No.	Vehicle type	CAGR
1	2-Wheeler	3%
2	3- Wheeler	3%
3	Light passenger vehicles	5%
4	Light goods vehicles	2%
5	Light motor vehicles	6%
6	Medium passenger vehicles	4%
7	Medium goods vehicles	2%
8	Medium motor vehicles	3%
9	Heavy passenger vehicles	0%
10	Heavy goods vehicles	5%
11	Heavy motor veicles	
12	Others	0%

Source: Consultant's assessment

Light Passenger Vehicles, Medium Passenger Vehicles, Light Motor Vehicles, and Heavy Goods Vehicles have been growing at a comparatively higher growth rate than 2-wheelers, 3-wheelers, Light Goods Vehicles, and Medium Goods Vehicles. The above table has been considered to forecast mode-wise traffic at surveyed road sections.

Table 8-14: Link-wise summary of traffic projections (In PCUs)

Name of road section	2020	2025	2030
Ghantaghar to Ambala	8,138	9,490	11,163
Ghantaghar to Behat Adda	6,984	8,119	9,517
Ghantaghar to Roorkie	4,063	4,769	5,640
Ghantaghar to Shamli	3,911	4,596	5,442
Ghantaghar to Railway Station	2,696	3,193	3,807
Mandli Samiti Road	3,516	4,062	4,732
Bada Pul	3,554	4,261	5,133
Chilkana Road	5,226	5,960	6,866
Dev Hospital	2,789	3,203	3,709

Source: Consultant's assessment

b. Capacity Analysis

As per IRC 106-1990 (guidelines for capacity of Urban Roads in Plain Areas), urban road capacity largely depends upon factors like parking, the extent of commercial activities, frontage access, Level of Service (LOS), etc. Level of Service is a qualitative measure describing operational conditions within a traffic stream and their perception by driver and passengers. LOS 'C' is preferred for all roads within urban boundaries and the 'designated services volume' is considered to be 0.7 times the maximum capacity. Road capacity expressed in design service volume for the urban road is given in Table 8-15.

Table 8-15: Capacities of urban roads between intersections

Type of carriageway	Traffic flow	Road capacity (in PCU/hour)		
		Arterial roads	Sub-arterial roads	Collector streets
2 lane (7-7.5m)	One way	2,400	1,900	1,400
	Two way	1,500	1,200	900
3 lane (10.5m)	One way	3,600	2,900	2,200
4 lane (14m)	Undivided, two way	3,000	2,400	1,800
	Divided, two way	3,600	2,900	-
6 lane (21m)	Undivided, two way	4,800	3,800	-
	Divided, two way	5,400	4,300	-
8 lane	Divided, two way	7,200	-	-

Source: Geometric Design Standards for Urban Roads in Plains - IRC: 106-1990

Capacity analysis of the road has been carried out to define the lane configuration required in different road sections. Capacities for various lane configurations, as specified by IRC – 64: 1990 “Capacities of Roads in Rural Areas”, have been adopted for determining the level of service during the design period. These capacities are presented in the table below.

Table 8-16: Link-wise existing capacity and potential volume in forecasted years

Name of road section	Existing road capacity (in PCU)	Volume of roads (in PCU)		
		Existing Volume in 2020	Forecasted Volume in 2025	Forecasted Volume in 2030
Ghantaghar to Ambala	5,400	8,138	9,490	11,163
Ghantaghar to Behat Adda	3,600	6,984	8,119	9,517
Ghantaghar to Roorkie	3,600	4,063	4,769	5,640
Ghantaghar to Shamli	3,600	3,911	4,596	5,442
Ghantaghar to Railway Station	4,300	2,696	3,193	3,807
Mandli Samiti Road	2,400	3,516	4,062	4,732
Bada Pul	1,200	3,554	4,261	5,133
Chilkana Road	4,800	5,226	5,960	6,866
Dev Hospital	2,400	2,789	3,203	3,709

Source: Consultant’s assessment

8.6 Trends in public and private transport

To avoid obstructions to traffic in the main lanes, bus bays are preferably provided by recessing the kerb shoulder. Bus bays should not be located too close to intersections. Table 8-17 depicts guidelines generally used for developing bus-bays.

Table 8-17: Guidelines for design of bus-bays

Particulars	Details
Minimum length of single bus stop	**15 m**
Minimum length for multiple bus stops	**Additional 15 m per bus stops**
Minimum depth of single bus stop	**4.5 m**
Minimum depth of multiple bus stops	**7 m**
Distance from intersection	**At least 75 m**

Source: Unified Traffic and Transportation Infrastructure (Planning and Engineering) Centre (UTTIPEC)

Private vehicles are predominant in Meerut. Intra-city buses are a major public transit mode in the city. To cater to a large demand for intercity passenger movement, several bus routes have been made operational.

8.6.1 Key transportation terminals

8.6.1.1 *Saharanpur Roadways*

Figure 8-11: Traffic at Saharanpur Roadways

Source: Consultant's assessment

Saharanpur Roadways is the largest bus terminal of the city of Saharanpur, along with Saharanpur Railway Station. It is poorly maintained and is very crowded. It lacks proper seating, drinking water, and toilet facilities. The bus stand lacks an insufficiently covered area, which makes it difficult for passengers during the monsoon.

There is no buffer space between the bus stand and the road, leading to large traffic halts and congestion.

The road is surrounded by a large number of small commercial establishments and encroachment, thus, reducing the ROW.

The commuter survey was carried out for one day (24 hours) at the bus stand. The roadside interview method was adopted for the survey. The passengers were stopped on a random sample basis: trained enumerators interviewed the travelers and the required information/data was collected.

i. **Purpose of travel:** Passengers between 20-40 years age group accounts for 64% of the traffic at the bus stand. Work trips account for 50% of the total trips, followed by religious trips, accounting for 26% of the total traffic.

Figure 8-12: Age group classification of passengers at Saharanpur Roadways

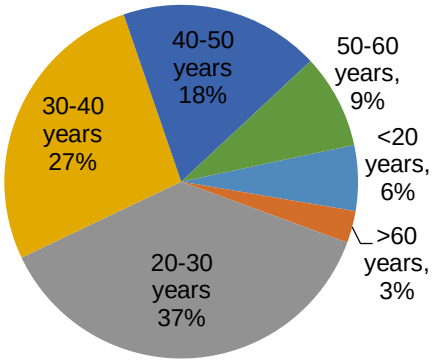
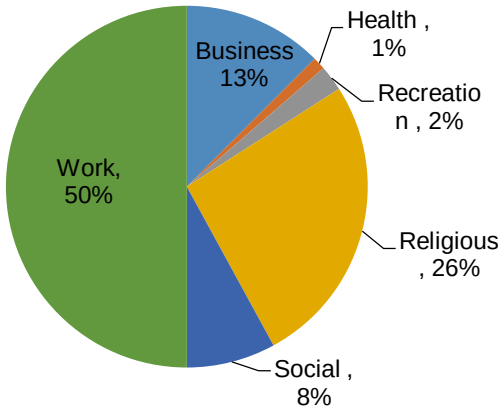
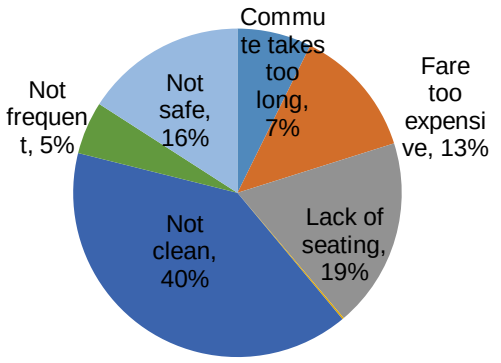


Figure 8-13: Purpose of travel to/from Saharanpur Roadways



- **Issues during travel:**

Figure 8-14: Issues of travel at Saharanpur Roadways



Around 40% of the passenger traffic has agreed to poor cleaning and maintenance of the bus stand. Other issues include lack of seating, fare expenses, and safety and security concerns.

Lack of CCTV cameras and police surveillance leads to less reliable trips and is the major drawback of the bus stand.

8.6.1.2 *Saharanpur Railway Station*

Figure 8-15: Traffic at Saharanpur Railway Station

Source: Consultant's assessment

Saharanpur Railway Station comes within the Northern zone and has 3 platforms. The platform is not well sheltered and lacks basic facilities including water and sanitation.
The approach road to the railway station is surrounded by a large number of small commercial establishments and encroachment, thus, reducing the ROW.

A commuter survey was carried out for one day (24 hours) at the bus stand. The roadside interview method was adopted for the survey. The passengers were stopped on a random sample basis: trained enumerators interviewed the travelers and the required information/data was collected.

- **Purpose of travel:** Passengers between 20-40 years age group accounts for 68% of the traffic at the bus stand. Work trips account for 58% of the total trips, followed by religious trips, accounting for 16% of the total traffic.

Figure 8-16: Age group classification of passengers at Saharanpur Railway Station

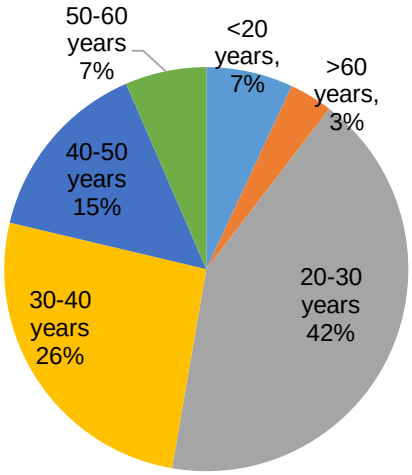
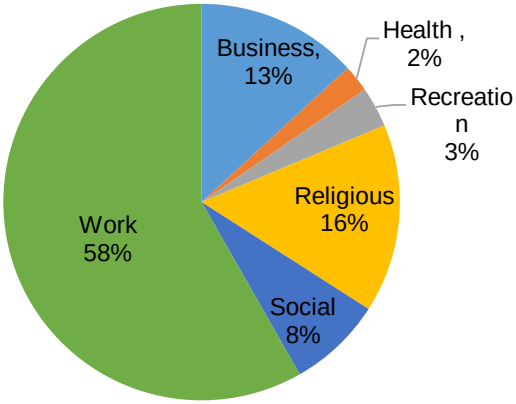
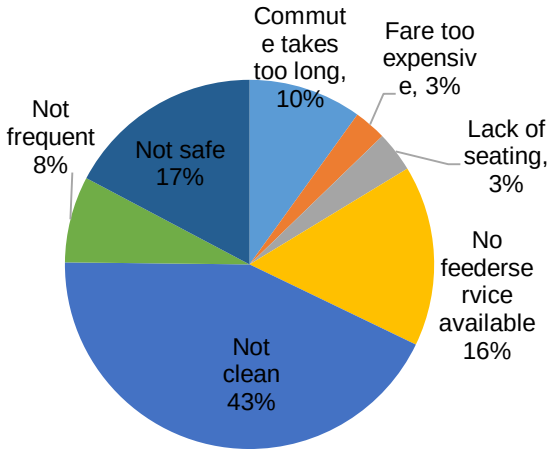


Figure 8-17: Purpose of travel to/from Saharanpur Railway Station



Issues during travel:

Figure 8-18: Issues of travel at Saharanpur Railway Station



Around 43% of the passenger traffic has agreed to the issue of cleanliness and maintenance of the railway station. Other issues include the unavailability of feeder services and safety and security concerns.

Lack of CCTV cameras and police surveillance leads to less reliable trips, and is the major drawback of the railway station.

8.6.1.3 *Dehradun Adda*

Figure 8-19: Traffic at Dehradun Adda

Dehradun Bus Adda is along Ambala Road and is close to the Saharanpur Roadways.
It is poorly maintained and lacks proper seating, drinking water, and toilet facilities.
There is no buffer space between the bus stand and the road, leading to large traffic halts and congestion.
The road is surrounded by a large number of small commercial establishments and encroachment, thus, reducing the ROW.

A commuter survey was carried out for one day (24 hours) at the bus stand. The roadside interview method was adopted for the survey. The passengers were stopped on a random sample basis: trained enumerators interviewed the travelers and the required information/data was collected.

Purpose of travel: Passengers between 20-40 years age group account for 64% of the traffic at the bus stand. Work trips account for 46% of the total trips, followed by business trips, accounting for 20% of the total traffic.

Figure 8-20: Age group classification of passengers at Dehradun Adda

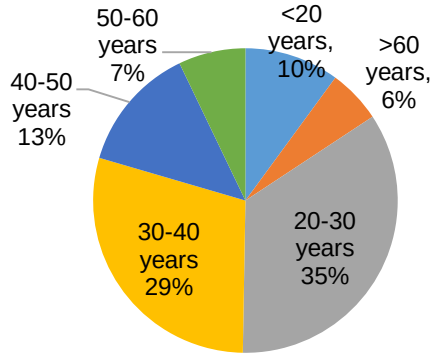
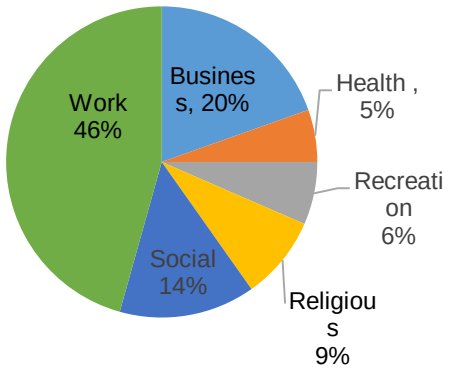
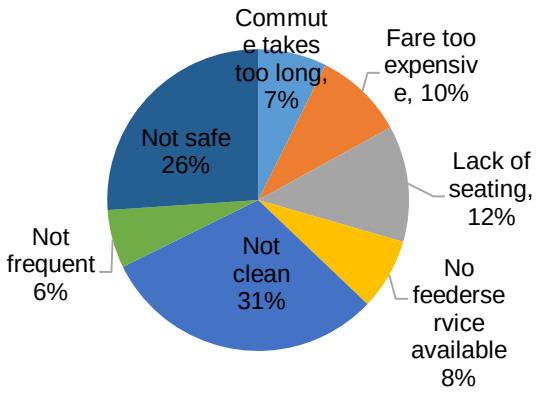


Figure 8-21: Purpose of travel to/from Dehradun Adda



Issues during travel:

Figure 8-22: Issues of travel at Dehradun Adda



Around 31% of the passenger traffic has agreed to poor cleaning and maintenance of the bus stand. Other issues include lack of seating, fare expenses, and safety and security concerns.

Lack of CCTV cameras and police surveillance leads to less reliable trips and is the major drawback of the bus stand.

Chapter 9
Industry

9 Industry

This chapter discusses industrial profile of the city and the region. Environmental impact of these industries is discussed, in addition to the relevant industrial policies. Future estimate and land requirement for industries will be calculated based on the projected workers population and policies.

9.1 Introduction

Industry has acquired a place of importance in the economy of the city. There are important units of paper mill, dairy, cigarette factory, textile mill and sugar mills. A more celebrated industry is the woodwork of Saharanpur which has acquired wide reputation in the past. The industry consisted (apart from frames and wheels for carts) chiefly in the decoration by wood carving, of door, doorways and the like. Handloom textile is also an important household industry in the city.

9.2 Analysis of existing situation

9.2.1 Type and scale of industries

As per the Master Plan 2021, there were 33 large and medium scale, 3214 small scale and 6713 cottage industrial units in the city employing approximately 51032 workers in Saharanpur. As per the Brief Industrial Profile report of Saharanpur[8], for year 2011, there were around 12,172 registered industrial units in the city. However, it is reported that around only 1152 such units are functional. Of these there are 32 registered medium and large industrial units. Estimated Avg. Number of Daily Worker Employed in Small Scale Industries is 56459 persons and Employment in Large and Medium Industries in the district are 21680 persons.

S.No	Type of Industry	Number of Units	Number of workers	
1	Large & Medium Scale	33	10342	
2	Small Scale	3214	15486	
3	Cottage	6713	25204	
			9960	51032

Source : Saharanpur Master Plan 2021

There are two large enterprises within the city, a cigarette manufacturing unit of ITC and star paper mills ltd. As per Brief industrial profile of the Saharanpur district 2011, there are 30 medium scale enterprises and 17,089 micro and small enterprises in the district. The following table shows the details of industries in the district

Table 9-1 Industrial assessment for year 2011, Saharanpur district

Sl. No	Head	Unit	Particulars
1	Registered Industrial Unit	No.	12172
2	Total Industrial Unit (functional)	No.	1153
3	Registered Medium and Large Unit	No.	32
4	Estimated Avg. Number of Daily Worker Employed in Small Scale Industries	No.	56459
5	Employment in Large and Medium Industries	No.	21680
6	No. of Industrial Areas	No.	5

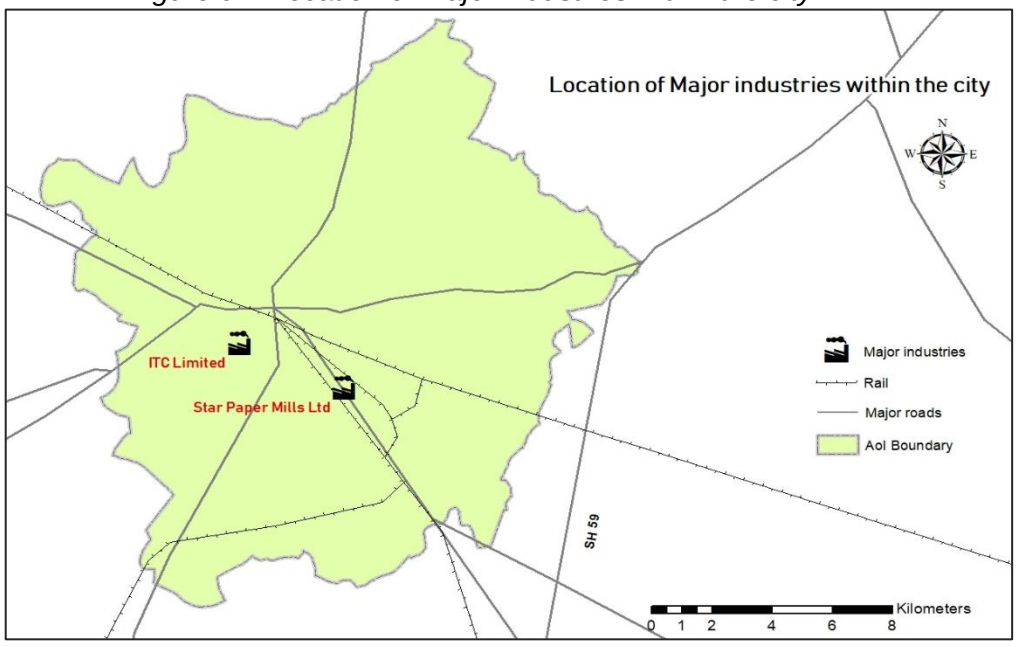
Source: DIC Saharanpur

8 Brief Industrial Profile report of Saharanpur, MSME Development Institute, Agra

There are 2 Large scale Enterprises in Saharanpur.

- **ITC Limited**
  Established in 1910, ITC Limited is a diversified conglomerate with businesses spanning Fast Moving Consumer Goods comprising Foods, Personal Care, Cigarettes and Cigars, Branded Apparel, Education & Stationery Products, Incense Sticks and Safety Matches; Hotels, Paperboards and Packaging, Agri Business and Information Technology. The Company was incorporated on August 24, 1910 under the name Imperial Tobacco Company of India Limited. The Company now stands rechristened 'ITC Limited. ITC Limited has a cigarette manufacturing unit in Saharanpur.
- **Star Paper Mills Ltd.**
  Star Paper Mills Limited established in 1938, is an integrated Pulp and Paper Mill. Starting with 6000 MT/annum, it has come a long way and produced of 72000 MT in 2008-09. It produces a wide range of industrial, packaging and cultural papers catering to almost all segments of the consumers. Star has a distribution network throughout the Country. The company is a part of Duncan Goenka Group. The Mill located at Saharanpur, U.P., has 4 Paper Machines producing a wide Range of Products catering to different segments and meeting varied requirements of the customers.

Figure 9-1 Location of major industries within the city



Source: Prepared by Author/ Consultant

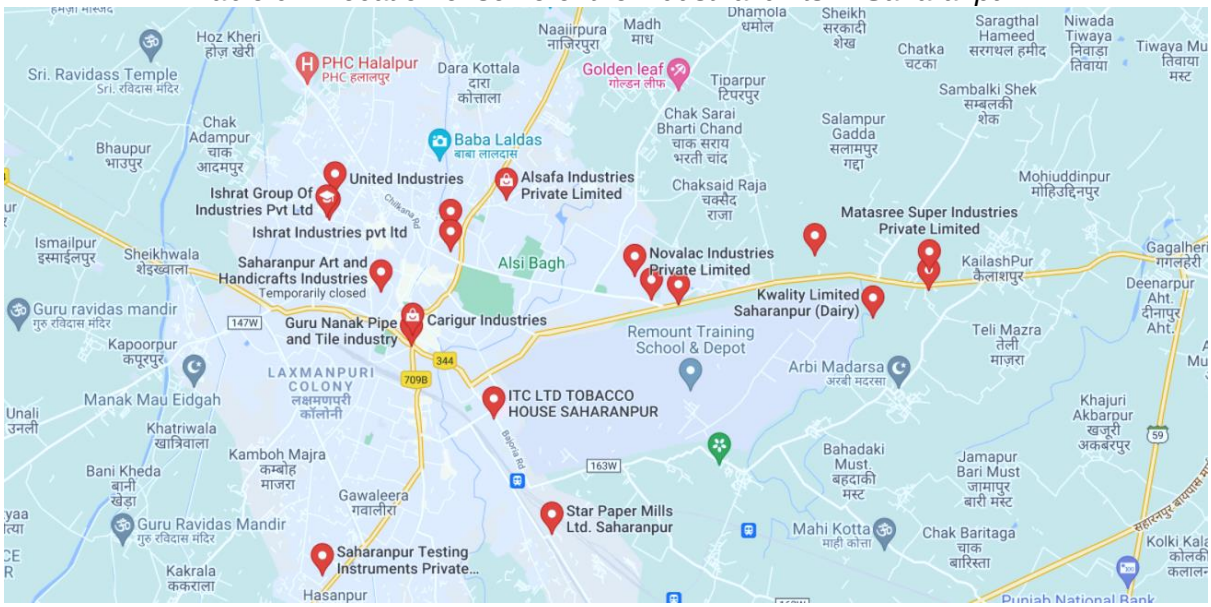
9.3 Location and status of industries in the city and district

Small and medium enterprises engaged in wood craft and pottery making, in the city are mostly scattered across the city areas. It is also observed that many small-scale industrial units are located along or have direct accesses from the two National Highways passing through the city, on Delhi road, Deoband road etc., many registered units have come up towards south of the railway station. Comparing to the Master Plan 2021, it is observed that the areas reserved for industrial development in the city land use plan, were not utilized. At

many places small industrial units have taken the shape of mixed-use development in residential areas.

As discussed in the previous section of this report, in the master plan 2021, around 787 Has land was proposed for industrial development to strengthen the economic development of the city. However as compared to the master plan only 17% of the industrial land has been developed. It can be stated that as the MSME sector has been eventually growing these have taken shape in the core city, near respective residences.

Table 9-2 Location of some of the industrial units in Saharanpur



Source: google map

Note: The above picture does not show all the small sector enterprises in the city. These are the medium scale manufacturing units and showcased to show the concentration of industries along the highways.

Below table provides an overview of the type of industries situated in the Saharanpur district and their number of units and employment. This shows the increasing industrial environment of the city. As per the industrial profiling done by MSME Development Institute, Agra most of the industrial units are concentrated in proximity to Saharanpur as well in Deoband in the district.

Table 9-3 Type of industrial units in the Saharanpur district

Type of Industry	Units	Employment
Agro based	777	3610
Soda water	27	219
Cotton textile	271	1208
Woolen, silk & artificial clothes	76	423
Jute & jute based	110	238
Ready-made garments & embroidery	931	4879
Wood/wooden based furniture	**2160**	**10174**
Paper & Paper products	352	1787
Leather based	656	2948
Rubber, Plastic & petro based	297	2253
Chemical/Chemical based	358	1940
Mineral based	391	2889
Metal based (Steel Fab.)	270	1216
Machinery & Parts	712	3000

Type of Industry	Units	Employment
Engineering units	429	2012
Electrical machinery and transport equipment	564	2989
Transport Equipment & Parts	36	162
Miscellaneous manufacturing	2587	12051
Repairing & servicing	6085	21554
Total	**17089**	**75552**

Source : Brief Industrial Profile report of Saharanpur, MSME Development Institute, Agra

Type of Industry	Units	Investment	Employment
Agro based	777	1304	3610
Soda water	27	59	219
Cotton textile	271	822	1208
Woolen, silk & artificial clothes	76	275	423
Jute & jute based	110	15	238
Ready-made garments & embroidery	931	2088	4879
Wood/wooden based furniture	2160	2616	10174
Paper & Paper products	352	687	1787
Leather based	656	810	2948
Rubber, Plastic & petro based	297	728	2253
Chemical/Chemical based	358	1003	1940
Mineral based	391	462	2889
Metal based (Steel Fab.)	270	271	1216
Machinery & Parts	712	1835	3000
Engineering units	429	1577	2012
Electrical machinery and transport equipment	564	1253	2989
Transport Equipments & Parts	36	183	162
Misc.Mfg	2587	12915	12051
Repairing & servicing	6085	22344	21554
Total	17089	51247	75552

9.3.1 Industrial Areas in the district

There are majorly five industrial areas in the district. Within the Master Planning area, there is one industrial area proposed by UPSIDA in Pilakhni. The table below shows the details of industrial areas within the district. Pilakhni industrial area is spread across 95.45 acres of land and located at a distance of 18 kms towards North West from the city, with 119 plots present in the region. Chemicals; leather and leather products are the thrust sectors for this industrial development.

Table 9-4 Details of industrial areas in Saharanpur district

Sl. No.	Name of the Industrial Area	Land acquired (in acre)	Land developed (in acre)	No. of plots	No. of allotted plots	No. of vacant plots	No of units in production

Sl. No.	Name of the Industrial Area	Land acquired (in acre)	Land developed (in acre)	No. of plots	No. of allotted plots	No. of vacant plots	No of units in production
1	Pilakhni	95.45	95	119	96	15	2
2	Mini I/e Ambehtapeer	N A	N A	40	40		N A
3	Mini i/e Titron	N A	N A	145	138		N A
4	I/E Rly Road Deoband	30	30	49 plots 30 shed	50 plots 30 shed	0	N A
5	Delhi road Saharanpur	30	30	81 plot 10 shed	82 plot 10 shed	0	65

Source : Brief Industrial Profile report of Saharanpur, MSME Development Institute, Agra

9.3.2 Industrial Clusters identified in the district

9.3.2.1 ***Wood Carving Cluster***

Saharanpur is known for its wood Carving Industry. The Total export is about 200cr & Total Production is around 400 Crores. Around 50,000 artisans are engaged in this traditional work.

9.3.2.2 ***Bells of Wrought Iron/Iron***

Behut is a tehsil Place of Saharanpur where about 250 micro units are engaged in Manufacturing Bells made of Iron/wrought Iron. Around 1200 workers are engaged in this trade approximately; Rs 260 crore of worth Bells & accessories made & 100% exported.

9.3.2.3 ***Hosiery Industry***

In Saharanpur there are about 1000 Micro & Small Units are engaged in Hosiery & textile Industry with a turnover of 100 crores. It is second no in UP after Kanpur. There are 10 units are of composite nature which produce yarn, dyeing & making Cloth for hosiery items. The items are mainly undergarments, Cots wool, Slex & Track suites etc. An estimate says that 4.5 LAKH mt. or 150 Ton of cloth is being used for this purpose. Around 12,000 people are engaged in this Industry.

9.3.2.4 ***Foundry Industry***

Around 100 Small & Micro units are producing a Particular type of Hand Pump. Employing around 500 workers & a turnovers about 15 Crore.

9.3.2.5 ***Straw & Mill Board industry***

There are 23 units in this field. Since the main crop of Saharanpur is Sugar Cane & 8 Sugar Mills are situated here. The waste product known as *bag'as* & proximity with Dehradun where the Paddy straw is available in plenty. Accordingly, 23 units are working in this field employing about 1000 people with a turnover of 250 Lakh.

9.4 Impact on Environment

Saharanpur city inhabits paper manufacturing industries, sugar mills, hosiery etc. There are researches done by scholars stating the Industries are extracting ground water to meet their water requirements. This district is having paper and pulp manufacturing units and also sugar industries. The ground water consumption of these industries is very high. There is urgent need that these industries should upgrade their plant for water efficient processes and adopt recycle and reuse of water in their processes. All efforts should be taken to ensure treatment of waste disposal both solid and liquid from industries and urban areas to prevent pollution of ground water and surface water.

In addition to this, a study conducted by People's Science Institute[9] determined the threshold level of toxicity of a paper mill effluent, and the level of toxicity that it can create in the receiving water body and at identifying the physico-chemical parameters of the effluent that may be causing the observed toxicity. The study was conducted in Star Paper Mill in Saharanpur in Uttar Pradesh, which is one of the oldest and the largest paper mills in the country. Wastewaters generated from the processes in the paper mills contain a range of toxic chemicals such as mercury, chlorinated lignin and their derivatives, chlorides and suspended solids, which can be extremely harmful to living organisms in the water bodies. Many a times, the wastewaters are not recycled and are directly released as effluents into the water bodies. In the present case, wastewater from the mill is channeled through a single drain to the effluent treatment plant, where it is treated by activated sludge. The effluent is then released into the River Hindon, which is a seasonal river and has very low flows for much of the year.

Many studied have been conducted as above, in relation to the pollution caused by industries in the city. The pollution is not only limited to the ground water, solid waste but also the small industrial pockets in mixed use developments, green areas and encroached residential areas etc. cause congestion and related traffic and air quality issues. Hence apt planning for new industrial developments such as strict implementation on environmental norms shall be implemented and proper upgradation of the existing industries in respect to the industrial pollution shall be done. Measure should be taken in containing the pollution by identification of such industries and creating work plan for establishment of such facilities as ETP etc.

9.5 Recent trends (Expansion, closure, conversion to other uses)

The Pilkhni Industrial area near the city towards North West side is a new upcoming industrial development. However, there are many plots registered, yet lying vacant. There is no detailed data regarding the exact number of industries which are closed or converted into another use. On assessment of the land use, it was found out that around 12% of the total industrial area demarcated in the erstwhile master plan, is located elsewhere in the city and non-compatible to the land use. Such industries can be identified and proposals for redevelopment can be done to not only curb the pollution but also provides support in infrastructure provisioning.

9.6 Future Estimate and land requirement

As per previously discussed in the report, in Economic Base and Employment section, it is estimated that based on the previous trends of the city, and the futuristic industrial development, the work force participation in the city would constitute as 35.11% in year 2031. This indicates that a total of 4,82,070 persons would be available as workforce for the city by the year 2031.

As per the URDPFI standards and planning norms, it is estimated that in any large and metro city, a total of 25% of the total workforce is engaged as industrial workforce. For Saharanpur, it is estimated that around 1,13,274 persons or around 8.24% of the total population would be engaged directly in industrial activities of the city.

[9] *Determination of toxicity of paper mill effluents - Saharanpur (Uttar Pradesh) - A study by People's Science Institute, Law Christopher Suneel and Mani Rama, India Water Portal, 2009*

Based on the previous discussion, it is envisaged that there would be growth in the trade and commerce as well as industries in the city. Industrial density of 100 to 125ppHa is considered for such enterprises in the city in the coming years. Hence based on this, a total of 1441.68 Ha additional land shall be required for future industries.

9.7 Policies and strategies for Master Plan 2031

The following section details out the policies in relation to the following key aspects for industrial development in the city.

9.7.1 Spot-zoning

The process of changing/relaxing/modifying land use of part or "Spot" of a "zone" in a particular land use is termed as "Spot Zoning". Spot Zoning can be done for comparatively smaller area in a particular land use zone in such a way that it does not affect the overall land use/ plan. For industrial pockets, such units can be allowable which are compatible to the existing land uses as per the prevalent bye laws. Use zone regulations for the use permissibility could be decided by the competent authority, depending upon the requirement/ feasibility of the said spot zone. In addition to the various uses/activities, permitted, restricted on application to the Competent Authority and prohibited, listed under various use zones, zone may also be specified keeping in view the special characteristic of such areas/pockets. Therefore, it is necessary that use/activity permissibility in special areas should be carefully thought of in the development plan while formulated, keeping in view the predominant and compatible activities of a specific use, of which such a special area is a part of.

9.7.2 Continuation of non-conforming uses

A nonconforming use is generally defined as a land use or structure that was legal when established but does not conform to the standards of the current zoning ordinance. The term "nonconforming use" actually covers several situations, including nonconforming uses, lots and structures.

Preexisting land uses that do not conform to current zoning are not favored. The ultimate goal of zoning is to achieve uniformity of property uses within each zoning district. At the same time, landowners have made investments in their businesses and buildings, and it would be unfair — not to mention illegal in some states — to require immediate termination or removal. Rather than require the immediate elimination of these preexisting uses, the zoning ordinance will outline a set of conditions for the continued existence of nonconforming uses.

Although state courts apply different interpretations to local zoning codes regarding nonconforming uses, the expansion, enlargement or intensification of a nonconforming use in almost all cases can be regulated or prohibited.

Resumption of a nonconforming use or structure after it has been destroyed may be prohibited in some states. In other states the right to reestablish the nonconforming use exists. Zoning ordinances traditionally have set a specific threshold– for example, a percentage of assessed value — for defining what constitutes destruction, and courts generally defer to the stated threshold. Again, the principle is to allow landowners to continue to reap the benefits of investments made in their properties. If those investments have been destroyed, however, the community may or may not have an obligation to allow a landowner to reinvest in a use prohibited by current zoning.

To prevent nonconforming uses from becoming blighted properties, zoning codes generally do allow for routine maintenance and repair, so long as such activities do not constitute expansion or enlargement.

Once a nonconforming use has been abandoned, its resumption can be prohibited. Most ordinances state a time period, usually six months to a year, that creates a presumption of abandonment if the property is not used for that period. Some states do not allow just a passage of time to establish abandonment. The issue of what constitutes abandonment is one that is generally the subject of much state court case law, with some courts requiring that an "intent to abandon" be shown before the nonconforming use is considered to be terminated. The intent to abandon may be something like a list of criteria, in the zoning ordinance, from which "abandoned" is established from a preponderance of facts about the particular situation.

9.7.3 Relocation of incompatible industry

Under this policy, industries would be categorized for the purpose of relocation. These include red category industries which would be shifted with immediate effect by giving them six months and orange category industries to be shifted with immediate effect as in case of red category. However, if these units comply with pollution control norms, they may be given two years to shift to conforming areas.

Green category industries may continue to be dealt with as per the existing provisions and norms of the pollution control department and other relevant approvals from the authorities concerned. Household units may continue in residential areas provided they are not operating from HUDA sectors or other planned and approved residential colonies.

Apart from this, only non-hazardous and non-noxious industries with clearance from pollution control department would be permitted to operate from the residential areas.

9.7.4 Development of Special Economic Zone (SEZ)

There is no special economic zone (SEZ) proposed in the city.

9.8 Phasing and Implementation

(5-10 years programme for acquisition/Assembly of land, Redevelopment, shifting of hazardous industries, etc.)

9.9 Policies and schemes for industrial development

9.9.1 Policy Analysis

The Analysis of following policies related to industrial development and strengthening is done further in the 'Analysis and Compliance of the government policies chapter' of this report.

- Industrial Investment and Employment Promotion Policy of Uttar Pradesh 2017
- Uttar Pradesh Micro, Small and Medium Enterprises Promotion Policy-2017
- Uttar Pradesh Warehousing & Logistics Policy
- Scheme for promoting establishment of Private Industrial Parks
- Film Policy

9.9.2 One District One Product Scheme in Saharanpur

MSME sector plays an important role in the economy of the state and is significant contributor to capital investment, production and employment. In terms of numbers of MSME units (about 46 lakh units, 8%) Uttar Pradesh stands first in the country. This sector, in the state as well as India, is the largest contributor to employment after agriculture. Uttar Pradesh has been a leading state in the export of handicrafts, processed food, engineering goods, carpet, readymade garments and leather products. Keeping above in view, it has been decided to launch the scheme in the name of 'One District – One Product' in the State. The main objectives of this scheme are as follows:

- Preservation and development of local crafts / skills and promotion of the art
- Increase in the incomes and local employment (resulting in decline in migration for employment).
- Improvement in product quality and skill development.
- Transforming the products in an artistic way (through packaging, branding).
- To connect the production with tourism (Live demo and sales outlet – gifts and souvenir).
- To resolve the issues of economic difference and regional imbalance.

To take the concept of ODOP to national and international level after successful implementation at State level. In case of more than one product having distinct identity from a district, the product with potential of generating more employment and development has been selected in the first state. Gradually, other product will also be included under the purview of scheme. For Saharanpur, the one product selected is, 'Wood craft', which is the main handicraft of this district, and is about 400 years old. The wood products are famous for their beautiful and intricate designs and carvings. Sheesham wood is the main raw material used in this industry. The export of wood carving furniture and handicraft products to various countries is carried out by exporting units in the district. This industry has given a boom to self-employment in the region on small scale and has also generated number of employments in the district directly or indirectly.

Table 9-5: List of Department wise Policies and Schemes in UP

S.No	Department	Scheme
1	Ministry of Food Processing	PMKSY (Pradhan Mantri Kisan SAMPADA Yojana)
2	UP Dept. of Horticulture & Food Processing	Food Processing Industry Policy-2017
3	UP Dept. of Horticulture & Food Processing	Integrated Horticulture Development Mission Rashtriya Krishi Vikas Yojana
4	Ministry of Agriculture	Integrated Scheme for Agricultural Marketing (ISAM)
5	Ministry of Agriculture	National Agriculture Market(e-NAM)
6	Ministry of Agriculture	Mission for Integrated Development of Horticulture During XII Plan
7	APEDA (Agriculture & Processed Food Products Exports Development Authority)	APEDA Schemes for Infrastructure Development
8	APEDA (Agriculture &Processed Food Products Exports Development Authority)	APEDA Schemes for Market Development
9	APEDA (Agriculture &Processed Food Products Exports Development Authority)	APEDA Schemes for Quality Development
10	National Horticulture Board	Capital Investment Subsidy Scheme for Cold Storage Construction
11	National Horticulture Board	Development of Commercial Horticulture Scheme

S.No	Department	Scheme
12	National Horticulture Board	Technology Development and Transfer for Promotion of Horticulture
13	National Horticulture Board	Market Information Services for Horticulture Crops
14	National Good Laboratory Practice Compliance Monitoring Authority	Department of Science & Technology
15	Small Farmers' Agri-Business Consortium	Equity Grant Scheme
16	Department of Agriculture and Co-operation, Ministry of Agriculture	Agmark
17	Ministry of Agriculture and Farmers Welfare	National Food Security Mission
18	Department of MSME & Export Promotion	MSME Schemes
19	Export Promotion Bureau, GoUP	Export Promotional Schemes
20	UP Agriculture Dept., UP	Facilities and Grants for Farmers
21	MSME Policy - 2017	Department of MSME & Export Promotion, GoUP
22	Infrastructure and Industrial Investment Policy - 2012	Department of MSME & Export Promotion, GoUP
23	CFC (Common Facility Centre) Scheme	ODOP
24	Market Development Assistance Scheme	ODOP
25	Finance Assistance Scheme	ODOP
26	Skill Development & Toolkit Distribution Scheme	ODOP

Chapter 10
Commerce

10 Commerce

This chapter discusses the existing condition of the type and pattern of the commercial development in Saharanpur.

10.1 Analysis of existing situation

10.1.1 Distribution and accessibility of commercial centers

Following map shows the location of major shopping centers in the city. The commercial centers in Saharanpur are mostly concentrated in north core city area, majorly on the Saharanpur Delhi highway. These follow a pattern of road side strip pattern. In the city, the commercial development has been sparse and pocketed. Many mixed-use developments with small and petty shops have sprung in the city in residential areas. These have caused congestion on the road especially in the interiors.

The Delhi Saharanpur highway passing through the city longitudinally seems to be a highly activated commercial spine of the city. Not only small service shops, markets, whole sale stores, etc. are spring, there are hospitals, banks, public places abutting the road. The city as naturally gained the character of a transit based and linear development.

Figure 10-1 Image showing shopping centres of Saharanpur

Source : Google Maps

In the interiors of the city, the commercials strips are patterned, residential areas with mixed uses. Ground floor as shops is, mostly found.

Source : Online research

10.1.2 Floor space by trade and commercial centers

As per current prevailing building bye laws in the city, the maximum permissible base FAR in any commercial area in the city, for Built areas is 2.00 permissible in CBD followed by 1.75 given in commercial city centre/ district shopping centre and sub-central business district (CBD) of the city. Ground coverage of 40% is allowed in such areas. For the new or non-built areas maximum permissible FSI is 3.00, allowed in CBD. For the commercial areas the floor space permissible in built as well as new areas, are as follows:

Areas	Ground Coverage (%)	FSI
Built Areas		
• **Convenience Shops**	60	1.20
• **Sector Shopping Centre**	40	1.20
• **Bazaar Street**	40	1.20
• **City Centre/ District Shopping Centre And Sub Central Business District (CBD)**	40	1.75
• **CBD**	50	1.50
	40	1.75
	30	2.00
Non-Built Areas		
• **Convenience Shops**	50	1.50
• **Sector Shopping Centre**	40	1.75
• **City Centre/ District Shopping Centre And Sub Central Business District (CBD)**	35	2.00
• **CBD**	30	3.00

For zonal shopping centers in the High-tech townships and in Integrated Township Schemes, the maximum permissible FSI is 2.5

The building regulations ensure additional parking spaces in the zonal shopping centre, city centers, or official complex other than required as per individual plot bye laws

Purchasable Far is allowed only on 24 m and higher width roads; in built areas the purchasable far is 20% of basic FAR; in developed other areas 33% of base FAR and in new areas as 50% of base far with a maximum permissible far of 4.

The above bye laws discussed here are prevalent with other conditions for setbacks, density to be maintained as per the permission granted for development etc. and other aspects.

Commercial streets/ bazaar streets in the city are allowed for roads more than 12m and accordingly the setback widths of the commercial plots are defined, which are in proportion to the adjoining road widths. For example, for 12 m wide road, the front setback of the plot shall be 3m as compared to 9m setback for a commercial plot adjacent to a 76 m wide road.

10.2 Recent trends

10.2.1 Shopping malls

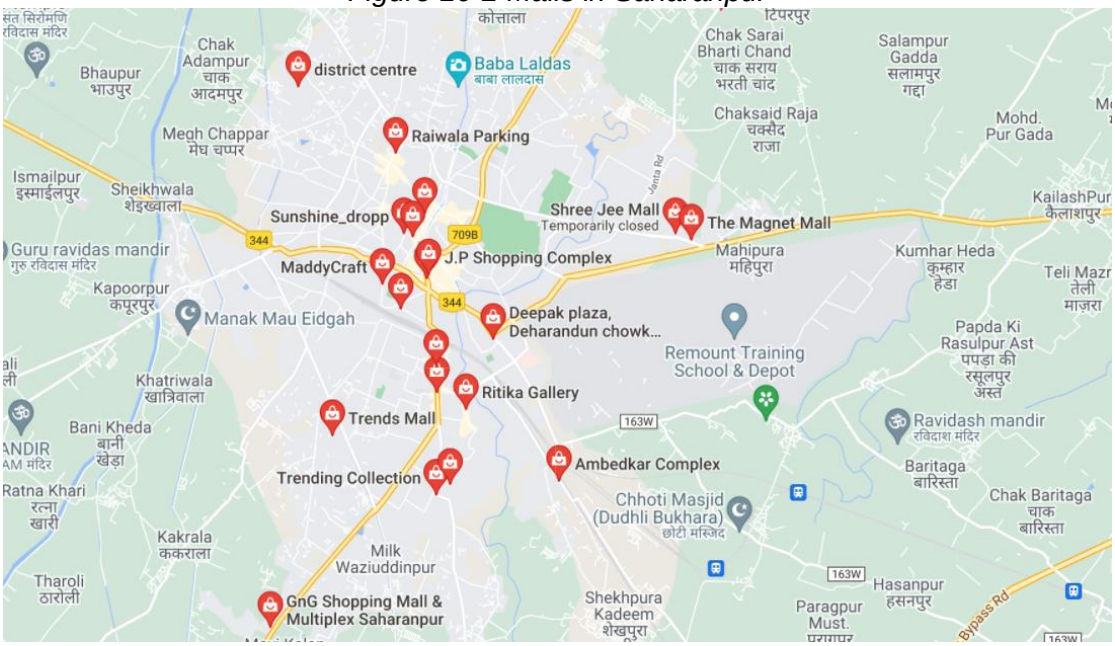
A shopping centre can be distinct as a building that contains many units of shops but is managed as a single property, with different facilities less than one roof. A shopping mall provides good shopping experience, national and international variety of products, cinema, restaurants etc. A shopping mall is having huge space approximately 60,000 sq ft to 70,000 sq ft. providing spacious space and parking facilities.

Malls are located normally from center of urban areas to outskirt of urban areas with growing culture of mall mania, however the city has malls located in the interiors. As pet the prevalent

building bye laws in the city, the malls are allowable in only commercial (CBD/ Sub CBD etc. areas); small and medium industrial areas (nonpolluting and nonhazardous) land uses. However, it is observed that in recent years the malls have also sprung in other land uses in the city. The bye laws do not provide exact FSI for the construction of the shopping malls, and these are given as per the relative zone/ CBD's permissible FSI.

Four malls are deemed as most famous in the city, the Magnet Mall in transport Nagar; JP Shopping Complex, Zilla hotel compound (abutting the highway) and Shree Jee mall, near Transport Nagar and GNG Shopping Mall and multiplex, Delhi road. From below figure, it is evident that the mall culture is slowly building up in city, with small marts, etc. such commercial units are coming up in many places. Below are the pictures of Magnet mall and GNG mall.

Figure 10-2 Malls in Saharanpur



10.2.2 Bazaar Streets

The Delhi – Saharanpur road in the city is the most thriving commercial road. However, in the interiors of the city, many bazars are found. Plethora of wooden craft shops, cloth markets, whole sale markets, vegetable bazaars etc. are found scattered in the city. There is no dedicated / identified bazaar street or Commercial Street or any commercial centre/ plaza type of development yet in the city. There are no CBD in the city. The erstwhile master plan provided pockets of commercial development in the city, however these are underutilized.

10.3 Policies and strategies for commercial development in the city

The erstwhile master plan had proposed around 180.36 Ha for commercial development in the city, however as per current situation, only 10% of the total proposed land use is utilised and the commercial development has occurred more in the residential pockets in form of commercial strip along side roads. This has become a serious concern in over the years. As there are no designated parking areas in the central core, private taxis can be found mostly parked along the roads. On-street parking happens on either sides of the commercial stretch, and this reduces the effective carriageway resulting in hindrance to the regular flow of traffic. Following strategies can be proposed in conjunction to the issues faced for commercial development in the city.

10.3.1 Establish hierarchy of centers

Hierarchy of commercial centres has to be developed in the proposed master plan 2031 such as city centre, sub city centre etc. Other commercial areas have to be demarcated in the plan.

10.3.2 Earmark Bazar Streets

The bazaar streets have been marked in the prevailing master plan 2021. These streets are mainly marked inside the built up areas. There are separate regulations for such kind of streets. The same regulations can be kept for the demarcated commercial streets.

10.3.3 Provide Informal Shopping

Informal shopping is very common phenomenon in the city. Separate informal shopping zones needs to demark in the old markets area to decongest the area and for the safety of both vendors and customers.

10.3.4 Relieve congestion in central area

To relieve congestion in the central area there is a need to identify the plots where Multi storey car parking can be developed. In absence of such plots the decongestion can be done by various traffic decongestion methods like, one way routes, no entry zones, toe away zones etc. A detailed traffic and transportation study is required in the city.

10.4 Policy Analysis

Draft Uttar Pradesh Retail Trade policy 2016 Uttar Pradesh has huge potential to become one of the leading destinations for retail trade. This is reinforced by its large Consumer base, increasing per capita income, rapid urbanization and abundance of raw material. The State's per capita income as per Advance estimates of 2014-15, has posted a growth of 11.37%, reflecting enhanced standard of living and increased purchasing power. Percentage of urban population to total population in the State has also shown an upward trend, reaching 22.27% in 2011. This increase has helped in growth of retail ecosystem in the state.

- Targets Attract new investments worth `5,000 crore in the sector by 2021.
- Create 20,000 additional employment opportunities in the sector by 2021.

This policy will help to improve the retail market in Meerut because from ancient times Meerut's advantageous geographical location and availability of abundant productive rich fertile land form the basis of a strong economic growth for the city. And these resources will be going to help Saharanpur to become a good retail market center in future.

10.5 Distribution of shopping areas

The shopping areas in the city are presently taking shape of linear pattern abutting major roads, whereas the interior core cities are densely populated. For future planning decongesting of the core areas and proper planning of such centers is imperative.

10.6 Takeaways

1. *The commercial development of the city has acquired a linear pattern, in addition to be sparse and pocketed. Many mixed-use developments with small and petty shops have sprung in the inner city in residential areas*
2. *The maximum permissible FSI for commercial units in the city in new or non-built areas is 4 (includes purchasable FSI component). For built areas, maximum FSI is 2 in CBD*
3. *As per bye laws the malls in city are allowed only in CBD and dedicated areas, however it is observed that such malls have sprung in inner city.*
4. *Only around 33% of the dedicated commercial land use of erstwhile master plan has been utilized, creating an unorganized and lack of hierarchy in commercial centers of the city*

Chapter 11
Public & Semi Public Places

11 Public and Semi-Public facilities

This chapter discusses the existing condition of social infrastructure: educational, health, post, fire station etc. Demand and gap assessment is carried out for the entire social infrastructure and subsequently, future requirement is projected for the population of horizon year 2031.

11.1 Educational Facilities

11.1.1 Analysis of Existing Situation

11.1.1.1 *Number and distribution*

The following table shows the total number of educational institutes in the Saharanpur district for year 2019-20. Total 410318 students enrolled in government and private institutions in year 2019-20. As per the data provided by the DIOS department, for every 25 enrolled students in the district, there is one teacher.

Table 11-1 Number of educational institutions in Saharanpur district - 2019-20

	Government	Private
Number of institutions	1,438	1,898
Number of Class rooms	7,865	11,755
Enrolment	1,80,600	2,29,718
Number of teachers	7,235	9,554

Source: Department – DIOS/ BSA

Below table present the number of education institutions in the Saharanpur city as per mentioned in Census 2011.

Table 11-2 Educational institutions within the city as per Census 2011

Category	Number
Primary schools	392
Upper primary schools	233
Secondary schools	31
Senior secondary schools	42
Total Colleges	*10 (as per existing situation analysis, there are 10 engineering colleges and 5 medical colleges in addition to 10 arts and science colleges)*

Source: Census of India, 2011

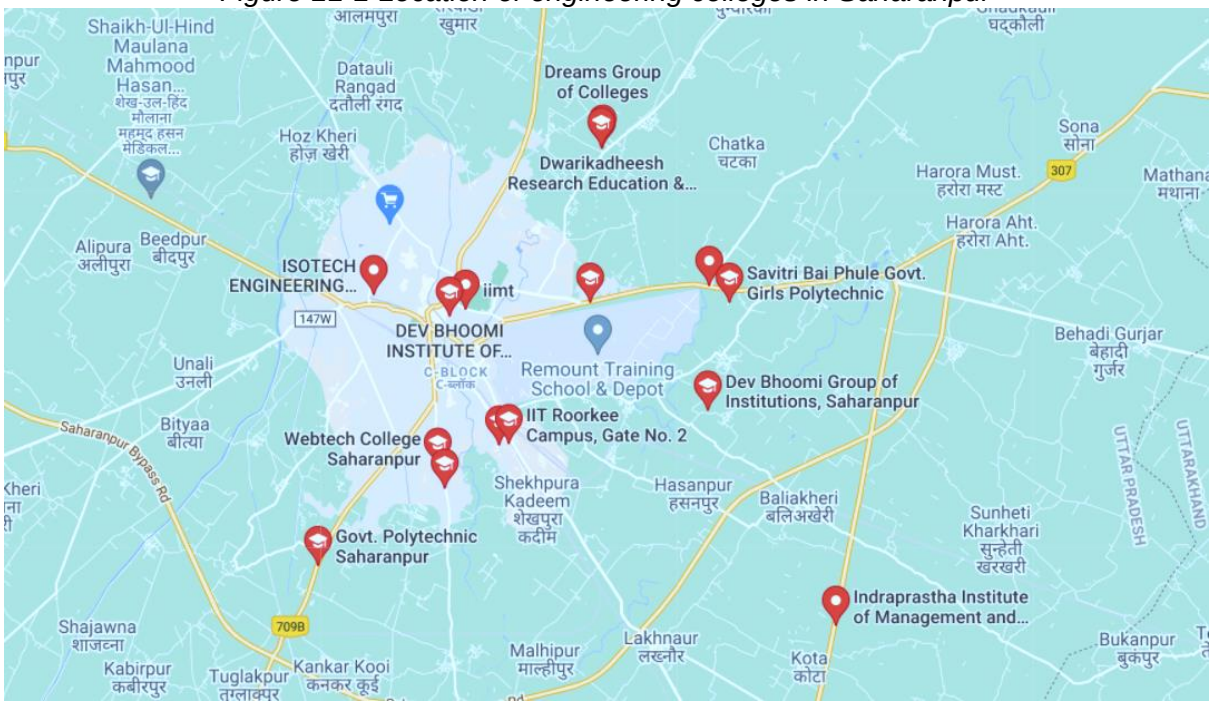
In addition to the below, as per census 2011, there were 10 arts and science colleges and 3 engineering colleges in the city. However as per the existing situation analysis there are around 10 colleges offering engineering degree courses in the city. This includes the IIT Roorkee's campus of Saharanpur.

The IIT Saharanpur Campus, formerly known as the School of Paper Technology was established by the GoI in 1964, with an aid from the Royal Swedish Government. This School was managed by a Society created by U.P. Government until its merger with the then University of Roorkee in 1978. Saharanpur Campus covers 25 acres of land and has three departments started in year 2012. These are Department of Paper Technology, Department of Polymer and Process engineering and Department of Applied Sciences and Engineering. The colleges in the city are:

- IIT Roorkee's Saharanpur Campus
- Engineering colleges in Saharanpur
- Glocal University

- Dev Bhoomi Group of Institutions
- Indraprastha Institute of Management and technology
- Doon College of Engineering and Technology
- Doon Group of colleges
- Millenium Institute of Technology
- Glocal School of Science and Technology
- Fourth Dimension College of Architecture
- Savitri Bai Phule Government Girls Polytechnic

Figure 11-1 Location of engineering colleges in Saharanpur



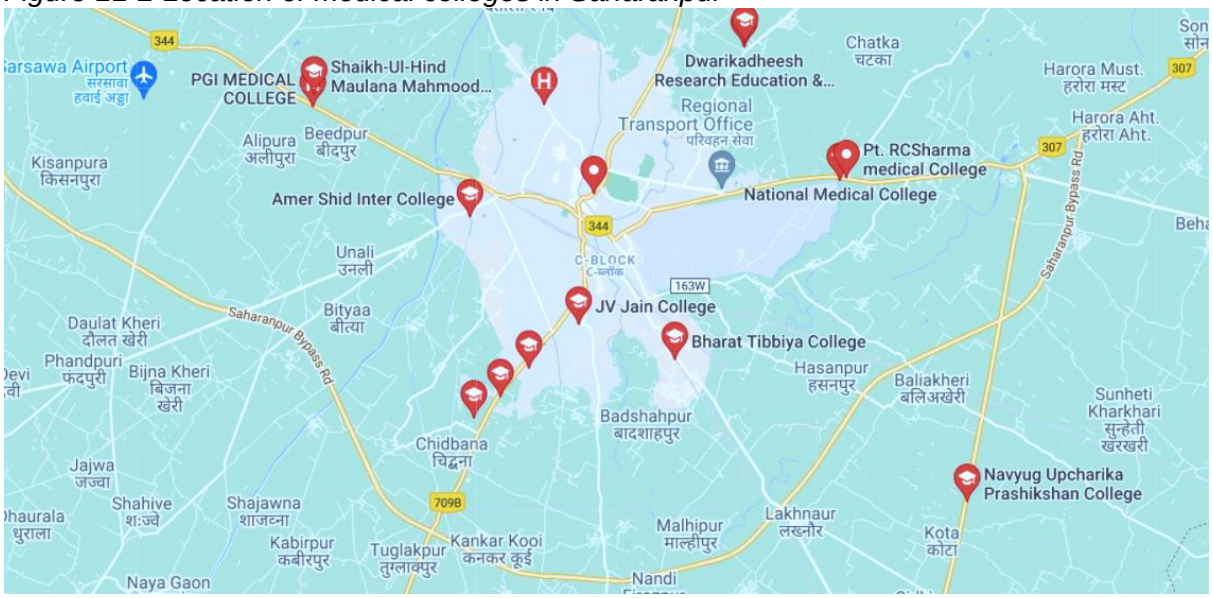
Source: online research

As per Census 2001, there were no medical colleges in the city. However, in the past decade there are around 5 colleges established, which are offering medical degrees. These are,

- Glocal University
- Deoband Unani Medical College
- Jamia Tibia Deoband
- Glocal Medical College, Super specialty hospital and research centre
- Shaikh-Ul-Hind Maulana Mahmood Hasan Medical College
- National Medical College
- Pt RC Sharma Medical College

In addition, the city has management colleges such as Dwarikadheesh Research Education & Management School; Dreams group of colleges etc. Hence it is evident that in the past decade there has been a substantial increase in the higher degree colleges and institutional provisioning of the city. It can be said that for the present population of the city there is an oversupply of the degree level institutions and provides for neighboring urban centres and villages.

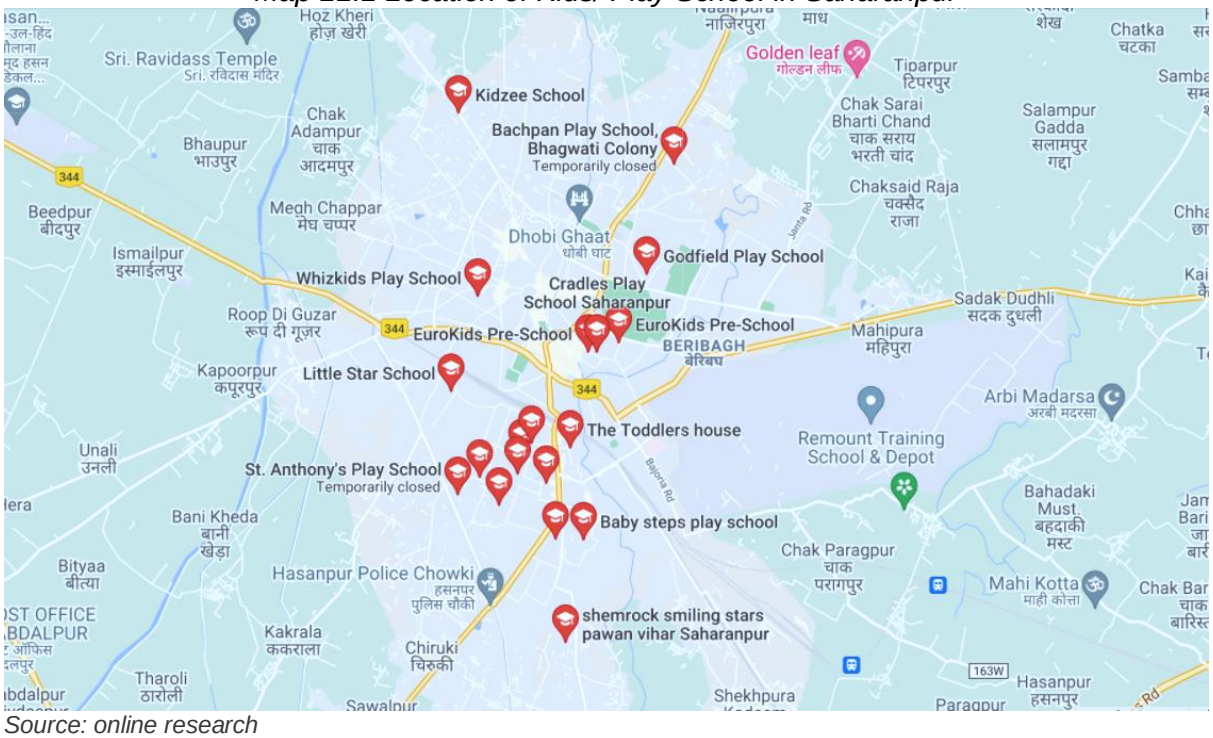
Figure 11-2 Location of medical colleges in Saharanpur



Source: online research

There are many play schools for kids in Saharanpur which offer nurturing environment for kids at an early age. These play schools provide an environment to learn & discover new things every day. The location of kids play schools within Saharanpur city is marked in the following map.

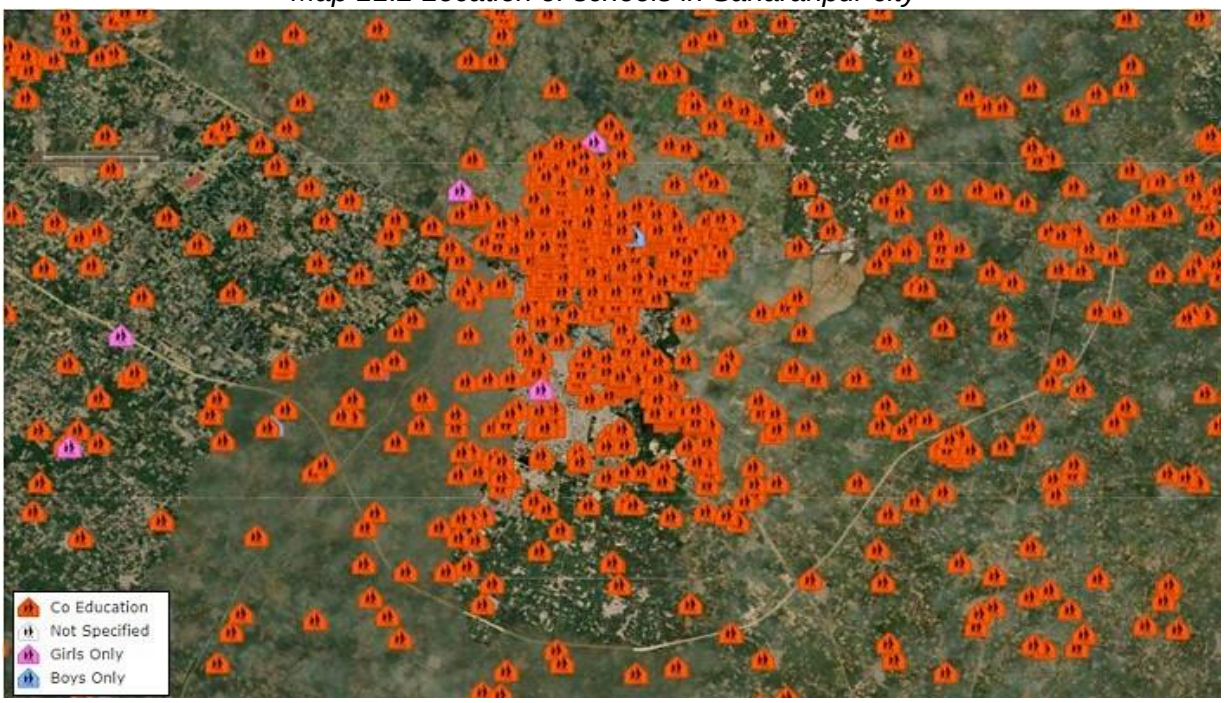
Map 11.1 Location of Kids/ Play School in Saharanpur



Source: online research

As per census 2011, there are around 700 schools in the city. The below figure gives an overview of the schools present in the city. This shows an oversupply of the educational institutions in the city. There are many technical coaching centres in the city. From the above maps, a linear development of educational institutions can be visible, mostly sprung adjacent to the national highways.

Map 11.2 Location of schools in Saharanpur city



Source: Survey of consultant team

11.1.1.2 ***Norms for provisioning of educational facilities in Saharanpur***

The norms for providing access to basic education under centrally sponsored program of Sarva Shiksha Abhiyan (SSA) for primary and upper primary education is based on the distance and population criteria. This norm is of providing a primary school (Classes 1 to 5) in a radius of 1 Km for 300 population and providing an Upper primary school (Classes 6 to 8) in a radius of 3 Km for 800 population in order to fulfill the commitment under Right to Education Act (RTE). As per URDPFI guidelines, one primary school (Class I-V) is required for 5,000 Population and one Senior Secondary School (Class VI- XII) is required for 7,500 populations. The number of primary, upper primary, secondary and senior secondary schools available within the city limits is provided in the table below.

Table 11-3 Comparison of educational facilities with URDPFI guidelines

Educational facilities	Existing	URDPFI guidelines	Requirement as per URDPFI	Met the benchmark
Primary School	392	1 for 5000 population	142	Yes
Upper primary school	233	-		-
Secondary school	31	-		-
Senior secondary school	42	1 for 7500 population	95	No
College	10	1 for 1.25 lakh population	6	Yes
Technical education center	2	1 for 10 lakh population	1	Yes
Engineering college	10	1 for 10 lakh population	1	Yes
Medical college	5	1 for 10 lakh population	1	yes

Source-URDPFI, Estimation by Author/Consultant

Hence it can be stated that though there is a substantial supply of higher educational institutes there is a shortage of secondary schools in the city.

11.1.2 Recent Trends and role of private sector

The role of private sector in provision of public facilities is not new. Some facilities are provided either by Government or Private entity or both. Private companies provide schooling facilities and there are several educational institutions in India run by private

companies. In Saharanpur most of the degree colleges are run by private institutions, in addition secondary, higher secondary schools. There are many kids and preschools located in the city which are developed by private institutions.

11.1.3 Quantitative requirement of sites and facilities to be provided

The educational institution requirement for the year 2031 is computed as per the norms given in URDPFI guidelines. The projected population for planning for the horizon year is 13,73,029 persons for year 2031. The analysis is done based on the census data of 2011 and existing situation assessment for technical, medical and engineering institutes, as per the data available for analysis.

Table 11-4: Educational infrastructure requirement for the projected population

Educational facilities	Existing	Requirement for 2031	URDPFI guidelines	Gap
Primary School	392	274	1 for 5000 population	0
Senior secondary school	42	183	1 for 7500 population	141
College	10	10	1 for 1.25 lakh population	0
Technical education center	2	2	1 for 10 lakh population	0
Engineering college	3	2	1 for 10 lakh population	0
Medical college	0	2	1 for 10 lakh population	0

Source-URDPFI, Estimation by Author/Consultant

11.1.4 Distribution within zones and towns

The distribution of desired schools will be done equally in the zones under the public and semipublic land use.

11.1.5 Phasing and Implementation

Focus will be given to fulfill the backlog in the first 3-5 years and then the more facilities can be proposed for other desired education facilities.

11.2 Health Facilities

11.2.1 Analysis of Existing Situation

11.2.1.1 *Number and distribution*

The analysis for the health institutions present in the city is done based on the data for Census 2011 and data as received from the relevant authorities. For last year 2019-2020, it is noted that there were 76 hospitals in the city with around 946 beds. Hence for a population of around 10.46 lacs for year 2021 (projected as per past trends), there is one bed for every 1000 population and one government employed doctor for every 4000 persons.

Figure 11-3 Number of government hospitals and facilities 2019-2020

Govt. Hospitals	
Number of Units	76
Number of Beds	946
No. of Doctors	266
No. of nurses	141
Paramedical staff	173
Patients treated	2589413

Source: CMHO, Saharanpur

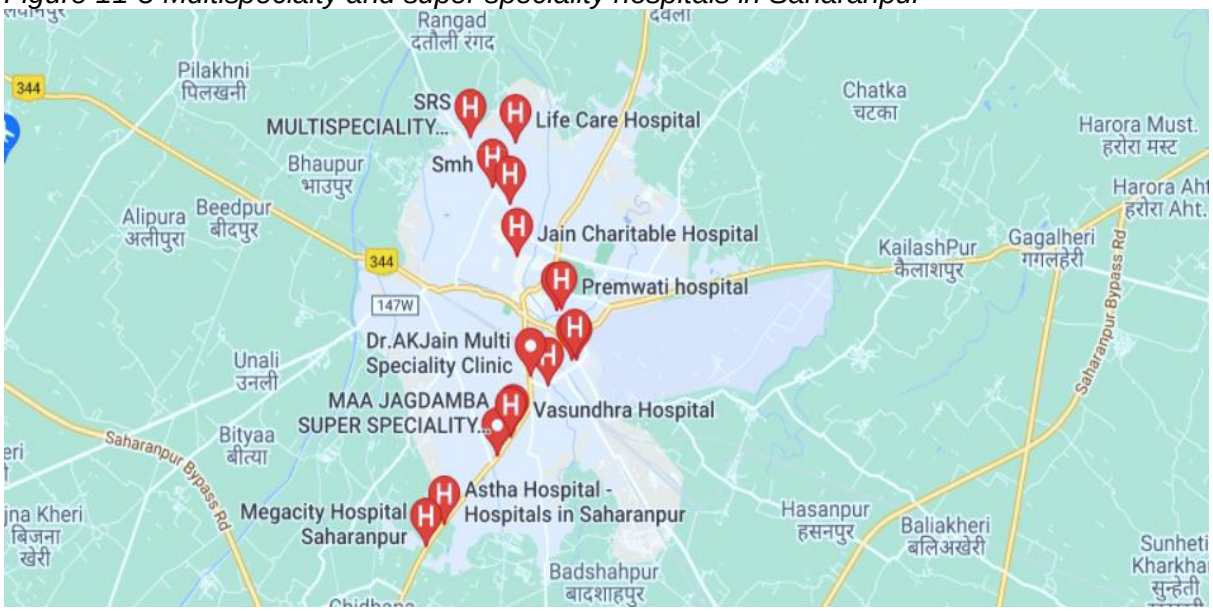
Figure 11-4 Number of medical facilities in Saharanpur as per Census 2011

Type of health institution	Number
Hospitals (Allopathic and others)	11
Dispensaries/ Health center	4
Family welfare center	1
Maternity homes	1
T. B hospital/ clinic	2
Veterinary hospital	2

Source: Census of India, 2011

In addition to the government hospitals, private institutions have played a major role in provisioning of hospitals, clinics and dispensaries in the city. There are around 12 multispecialty hospitals in the city such as Tarawati super specialty hospital, Maa Jagdamba Super specialty hospital, Pande multispecialty hospital, Jain charitable hospital etc.

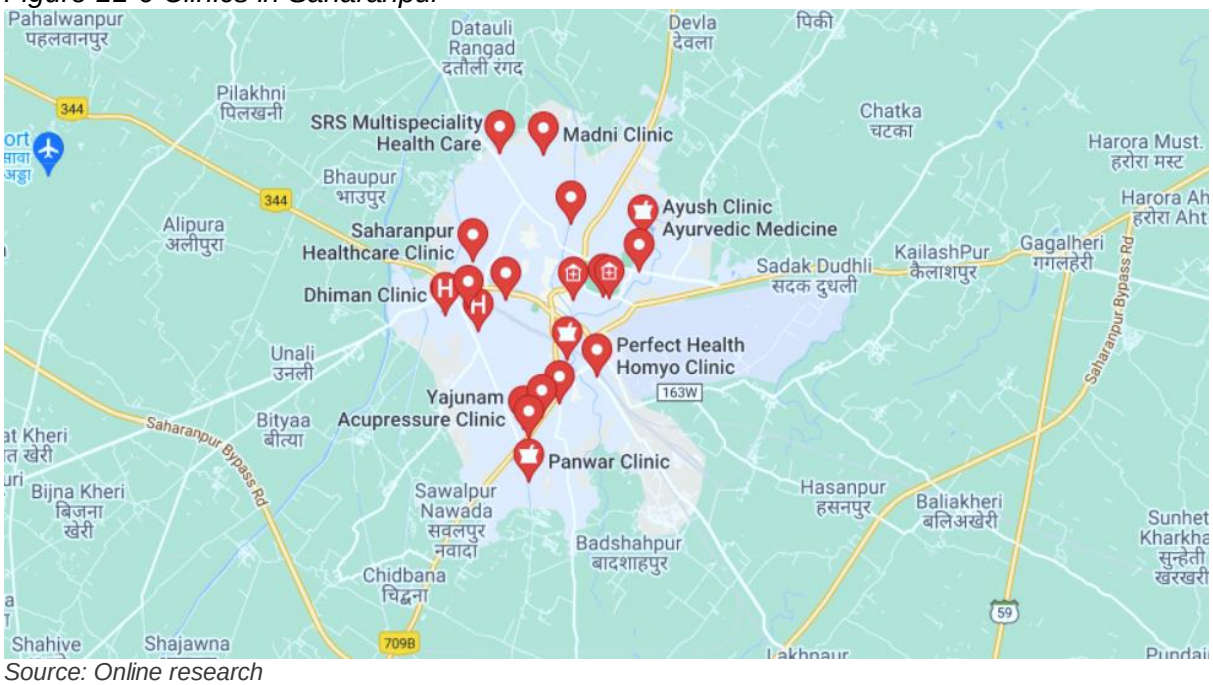
Figure 11-5 Multispecialty and super speciality hospitals in Saharanpur



Source: online research

The below figure shows the location of clinics in the city. It can be evident that the distribution of the health facilities is such that these are mostly concentrated in along Delhi Saharanpur highway.

Figure 11-6 Clinics in Saharanpur



Source: Online research

11.2.1.2 ***Norms for provisioning of health facilities***

The comparison of existing health facilities with respect to URDPFI guidelines is given below.

Type of hospital	Existing	URDPFI guidelines	Requirement as per URDPFI	Met the benchmark
Dispensary	4	1 for 15000 population	47	No
General hospital		1 for 2.5 lakh population	3	yes
Multi- specialty hospital	9	1 for 1 lakh population	2	Yes
Intermediate hospital	9	1 for 1 lakh population	8	Yes
Nursing home, family welfare & maternity center	2	1 for 45000 to 1 lakh population	8	No
Veterinary hospital for pets and animals	2	1 for 5 lakh population	2	Yes

Source-URDPFI, Estimation by Author/Consultant

11.2.2 Quantitative requirement for sites and facilities to be provided

The health facilities required for the projected population calculated as per URDPFI guidelines is given below. The projected population for planning for the horizon year is 1508834. The analysis is done based on the census data of 2011. The table is to be updated once the updated data is received from the concerned department

Table 11-5: Health facilities requirement for the horizon year

Type of hospital	Existing	Requirement for 2031	URDPFI guidelines	Gap
Dispensary	4	81	1 for 15000 population	77

Type of hospital	Existing	Requirement for 2031	URDPFI guidelines	Gap
General hospital	2	5	1 for 2.5 lakh population	3
Multi- specialty hospital		3	1 for 1 lakh population	
Intermediate hospital	9	12	1 for 1 lakh population	3
Nursing home, family welfare & maternity center	2	12	1 for 45000 to 1 lakh population	10
Veterinary hospital for pets and animals	2	3	1 for 5 lakh population	1

Source-URDPFI, Estimation by Author/Consultant

11.2.3 Recent trends and role of private sector

Long distance transportation facility for public and Private Hospitals for medical facilities is also provided by private companies. In Saharanpur many super specialty, multispecialty private hospitals are operating such as Tarawati Super specialty hospital and blood bank, Medigram Hospital, Swastik Hospital and IVF centre etc. Many private schools and colleges are also operating in the city.

11.2.4 Distribution within zones and towns

The distribution of desired medical facilities will be done equally in the zones under the public and semipublic land use.

11.2.5 Phasing and Implementation

Focus will be given to fulfill the backlog in the first 3-5 years and then the more facilities can be proposed for other desired medical facilities.

11.3 Cultural Centers

As per census 2011, there were around 18 cinema theatres present in the city. Following table presents the situation of cultural facilities in Saharanpur for year 2011.

Cultural Centres	
Orphanage	2
Old Age Home	2
Stadium	2
Cinema Theatre	18
Auditorium/ Community Halls	1
Public Libraries and Reading Rooms	3

Source: Census 2011

11.4 Telephone Exchange, Post & telegraph

As per data received from GMTD, there are around 12 lac mobile connections provided in the city. There are 211 post and telegraph offices in the city which was only 1 in year 2011. As compared to the data in Census 2011, there has been substantial increase in the number of facilities. Following table presents the situation of telephone exchange, post & telegraph facilities in Saharanpur for year 2011 and year 2019-20.

		Present Year 2020
1	Telephone Exchange	45
2	Number of Connections Provided	4368
3	Mobile connections	120946
4	Post & Telegraph Office	211
5	Internet Connections	2547
6	WiFi Hotspots	28
7	Public Telephone Booths	28
8	Mobile Towers	83

Source: GMTD Saharanpur

S.No	Type	Number of Facility
1	Head Post Office	1
2	Post & Telegraph Office	1
3	Sub Post Office	27
4	Telephone Exchanges	6
5	PCO	565
6	Number of Connections Provided	34,331

Source: Census 2011, Saharanpur Master Plan 2021

11.5 Government policies for community facilities and services

For community facilities and service are planned as per the guidelines provided by respective authorities, such as for urban development, planning of public facilities in India generally follows the thumb rules prescribed in URDPFI Guidelines. The guidelines are based on minimum provision of such facilities as per population criteria. The respective zonal regulations and bye laws include such aspects as provisioning of Transferable Development Rights for provisioning of public facilities in case the owner has its land in the reservation lands. Such kind of interventions is done in the bye laws. The city planning documents make sufficient reservations for such facilities.

11.6 Takeaways

Educational

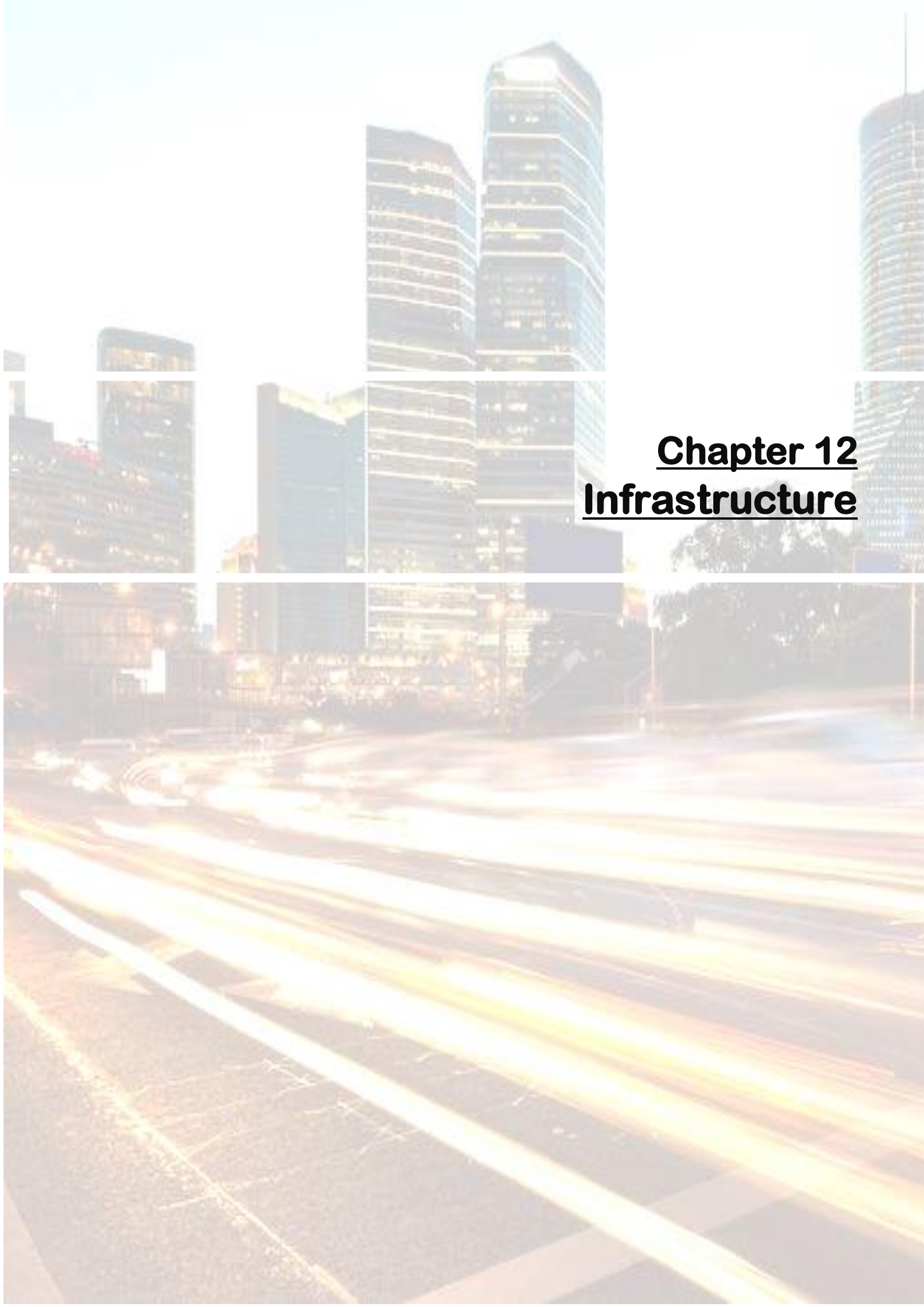
1. *The city in past decade has witnessed a surge in development of technical institutions. In year 2012, IIT Roorki set up a branch in the city. There are more than 9 engineering institutions, 5 medical colleges and 2 technical and vocational training institutes in the city in addition to 10 arts colleges and other management colleges. For higher degree and technical studies, there seems to be an oversupply of the facilities.*
2. *The city not only caters to the locals but also the hinterland neighboring urban centers and villages for provision of education*
3. *The gap in the educational institution occurs at provision of secondary schools*

Health

1. *As per data provided by CMHO the city currently has around 76 govt. aided hospitals with 946 beds. However, there are many private funded institutions, medical research centers and clinics in the city*
2. *There are more than 10 super specialty and multi-specialty hospitals in the city. It is noted that the distribution of the facilities is such that they are located adjacent to Delhi Saharanpur highway in a linear patter, and not as per the dedicated land use for such facilities in erstwhile master plan*
3. *Based on the assessment done on available data from census 2011, there seems to be gap in provision of nursing homes, family welfare homes etc. However, the data needs to be updated*

Post & Telegraph

4. *There has been substantial increase in the number of telegraphs, post and telephone facilities in the last decade. Compared to 34 thousand telephone connections, there are 1.23 lacs mobiles connections in the city. Around 83 mobile towers are existing.*



Chapter 12
Infrastructure

12 Infrastructure

This chapter includes analysis of the current status of physical infrastructure such as water supply, sewerage, drainage and solid waste management system, as well as demand and gap assessment for the same.

12.1 Water Supply

12.1.1 Analysis of Existing Network and Installation

12.1.1.1 *Introduction*

The following section provides details of the existing water supply system in Saharanpur City. Water supply functions are taken care by Jal Nigam and Nagar Nigam. Jal Nigam is involved in planning, design, construction and implementation of water supply systems whereas Nagar Nigam only takes care of operation and maintenance. Currently, ground water is the main source of water for the city.

12.1.1.2 *Distribution Network existing in town*

The water supply in the city happens through tube wells in the city. **A total of 86 tube wells are present in the city.** At the time of preparation of the erstwhile master plan, there were 31 tube wells in the city. **The total capacity of the sources is 103.32 MLD.** The ground water is treated with water chlorination technique. Each tube well has separate dozers. **The current per capita water supply in the city is 134.35 LPCD.** Table below for the existing status of piped water supply in Saharanpur.

Table 12-1 Existing status of water supply in Saharanpur city

2011 (Census data)	**Population – 7,05,478**			
	Location of source of drinking water		Total number of households	Households availing tap water from treated source
		Within the premises	117416	66238
		Near the premises	7727	2059
		Away	1013	251
		Total	126156	68548
2015 (Departmental data)	Population - 769638			
		Total	80070*	40277

*Source: AMRUT SLIP, *Only 80070 HH are accessed as per nagar nigam record*

For distribution of water, the city is divided into 4 zones. The below table gives zone wise coverage of water supply. **Around 50% of the households have tap water connections in the city.** In Saharanpur city, the water is supplied to the consumers through direct pumping as well as elevated reservoirs. **There are around 11 elevated reservoirs located in the area with a total storage capacity of 10.225 ML.**

Table 12-2 Coverage of water supply in Saharanpur city

Zone No.	Total No. of Households (as per 2015)	Households with water tap connection	Households without water tap connection
1	20690	13530	7160
2	32844	16303	16541
3	20164	6330	13834
4	6372	4064	2308
Total	**80,070**	**40,277**	**39,793**

Source: AMRUT SLIP

12.1.1.3 ***Ward wise water supply in the city***

The following table shows ward wise details of the water supply within the city. At an average the water is supplied for 10 hours per day. At an average 2.5 MLD water is supplied to each ward per day. Average per capita consumption is 108 lpcd.

Table 12-3 Ward wise water supply details of Saharanpur city

Ward	Quantity of Water Supplied (MLD)	Times/Hours of supply per day	No. of Connections	Per Capita Consumption (LPCD)	Area Covered (sq. km.)
1	0.35	10	407	96	2.52
2	2	10	2236	99	4.11
3	1.2	10	1273	105	0.36
4	2.25	10	2437	103	0.67
5	1	10	1091	102	7.14
6	1.25	10	1408	99	5.3
7	1.25	10	1171	119	0.61
8	2.25	10	4236	59	4.37
9	1.25	10	1467	95	3.95
10	0.75	10	1024	81	1.79
11	1.25	10	1364	102	3.43
12	1.85	10	1910	108	0.85
13	2.85	10	3126	101	1.22
14	1.85	10	1951	105	0.24
15	0.85	10	890	106	0.8
16	1.25	10	1357	102	0.49
17	0.75	10	834	100	0.18
18	0.75	10	753	111	0.82
19	1.85	10	2013	102	0.31
20	0.7	10	768	101	2.48
21	2.25	10	2446	102	0.59
22	0.85	10	603	157	0.89
23	1	10	1246	89	0.38
24	1.85	10	1341	153	0.34
25	1.25	10	1506	92	0.94
26	1	10	1167	95	1.65
27	1.25	10	1399	99	3.89
28	1.5	10	1721	97	0.31
29	1.25	10	1224	113	0.35
30	1.1	10	1349	91	0.17
31	2	10	2555	87	2.41
32	1	10	1085	102	0.3
33	0.85	10	973	97	1.03
34	0.85	10	1011	93	0.52
35	1	10	1136	98	0.29
36	0.7	10	358	217	0.46
37	1.25	10	1251	111	0.26
38	1.5	10	1828	91	0.37
39	1.25	10	718	193	3.33
40	1.25	10	1161	120	0.51
41	0.5	10	512	109	0.21
42	1	10	1322	84	0.78
43	0.85	10	877	108	0.14
44	1.5	10	1419	117	0.13
45	0.9	10	606	165	0.15
46	2	10	2412	92	1.49
47	1.5	10	1433	116	0.22
48	1.5	10	1946	86	0.69
49	1.25	10	1373	101	0.28
50	1.5	10	1668	100	0.26
51	1.25	10	1060	131	0.31
52	1.35	10	1405	107	0.34
53	0.65	10	606	119	0.14
54	1.75	10	1700	114	0.51

Ward	Quantity of Water Supplied (MLD)	Times/Hours of supply per day	No. of Connections	Per Capita Consumption (LPCD)	Area Covered (sq. km.)
55	1.75	10	1684	115	0.56
56	0.5	10	523	106	0.12
57	0.85	10	890	106	0.16
58	1.9	10	2321	91	0.2
59	1.5	10	1174	142	0.2
60	1.25	10	1312	106	0.36
61	1.25	10	1177	118	0.23
62	1.5	10	1539	108	0.25
63	2.5	10	2839	98	0.34
64	0.85	10	969	97	0.32
65	1.5	10	1611	103	0.23
66	1.25	10	1387	100	0.32
67	0.85	10	848	111	3.21
68	85	10	813	116	0.14
69	0.5	10	579	96	0.16
70	2.25	10	2521	96	0.24

Source: Jal Kal Dept., Saharanpur

12.1.1.4 *Service level benchmarks for water supply in city*

MoUD has prepared the service-level benchmark (SLB) toolkit for gauging the performance of the basic urban services.. The following table shows the SLB for water supply in Saharanpur city for the year 2015

Table 12-4 Service level benchmark indicators for water supply in Saharanpur city

Sl. No.	Indicators	Present status	MoUD Benchmark
1	Coverage of water supply connections (14774/26562)	32%	100%
2	Per capita supply of water	134 LPCD	135 LPCD
3	Extent of metering of water connections	0%	100%
4	Extend of non-revenue water	40%	20%
5	Quantity of water supplied	99.8%	100%
6	Cost recovery in water supply services	37.45%	100%
7	Efficiency in collection of water supply related charges	37.45%	90%

Source: AMRUT SLIP

The service level benchmark indicator assessment shows that the city lacks 68% of water supply connections presently to achieve complete coverage. There is a deficit of about 1 LPCD per capita water supply than the desired level as per MoUD benchmark. Presently, the city doesn't have any metered water connections and cost recovery is only about 37%.

12.1.2 Future estimates for quantity services to be provided at significant stages

The domestic water supply demand is calculated based on the per capita water supply demand and water supply losses as per the standards set by CPHEEO. The per capita water demand for domestic supply is taken as 135 LPCD as per CPHEEO guidelines.

Considering 15% loss, the supply requirements is calculated to be 155 LPCD. The total domestic water supply required is estimated based on the population projections made for the city. The water supply demand projection for the design year has been presented in the table below:

Table 12-5 Water demand for year 2031

Year	Area	Population projections	Water demand (MLD)
2021	Saharanpur M. Corp	9,11,715	**141.32**
	M. Corp. and surrounding areas	10,64,633	**165.02**
2031	Saharanpur M. Corp	11,77,838	**182.56**
	M. Corp. and surrounding areas	13,73,029	**212.81**

Source : Estimation by consultant

12.1.3 Phasing and Implementation

The first phase or implementation for water supply will focus on fulfilling the backlog in already developed residential and other built up areas. In the second phase the water supply can be distributed and provided in the proposed land use areas.

12.2 Sewerage System

12.2.1 Analysis of Existing Network and Installation

12.2.1.1 ***Existing sewerage network***

The sewerage system in Saharanpur city is partially developed. **The total length of sewerage network within the city is around 111 km. About 27km is trunk sewer and around 84km is branch sewers.** There is 01 main pumping station and 03 intermediate pumping stations.

Table 12-6 Number of households with toilets and sanitation facilities

	Population – 705478			
	Location of sewerage		**Total number of households**	**Total number of households with toilets**
2011 (Census data)		Within the premises	117416	111625
		Near the premises	7727	5665
		Away	1013	457
		Total	**126156**	**117747**
2015 (Departmental data)	**Population – 769638**			
			80070	**78468***
2017 (Departmental data)			**80356**	**77226**

*Source: AMRUT SLIP, *as per Swachh Bharat Mission*

As per the census of India, 2011 the majority of existing drainage network i.e around 66% of the total households are connected to open drains. The distribution of drainage type among the households within the city is given below.

Table 12-7 Distribution of drainage type in Saharanpur city

Drainage type	Number of households
Closed drainage	35,243
Open drainage	82,873
No drainage	8,040

Source: Census, 2011

12.2.1.2 ***Sewage generation***

At present, the sewerage generated in the city is 86 MLD out of which only 40 MLD reaches to STP through sewerage system. BOD of the incoming sewage varies from 130 to 210 mg/l. BOD of outgoing treated sewerage water varies from 26 to 31 mg/l.

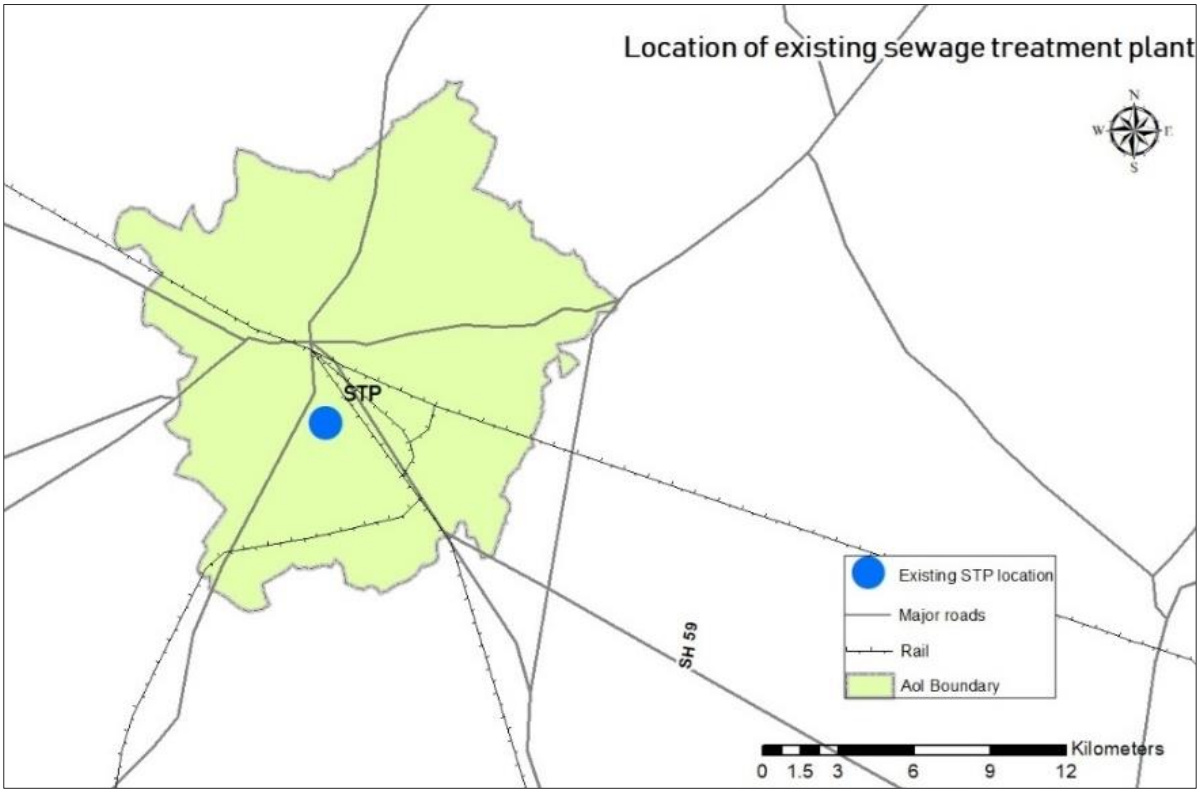
12.2.1.3 ***Sewage disposal***

The grey water from the households and commercial establishments are directly released into open and closed drains running along the roads. These open drains serve the combined purpose of grey water discharge and channeling the rain water. While the black water is disposed into septic tanks constructed privately at household level. These septic tanks are there after cleaned periodically by households at personal level.

12.2.1.4 ***Sewage treatment plant***

Presently the city has only one Sewage Treatment Plant (STP) located in Praduman Nagar. The capacity of the existing STP is 38 MLD which is less than the required capacity. It was constructed under Yamuna Action Plan- 1 in 1998. It is maintained by Saharanpur Nagar Nigam through Uttar Pradesh Jal Nigam (UPJN). The treated effluent from the STP is disposed in to river Dhamola. Another STP is under construction in the same area where the existing STP is located. The capacity of this proposed ongoing STP is 90 MLD which is located over 6.5 ha of land.

Map 12.1 Location of existing STP



Source: Prepared by Author/ Consultant

12.2.1.5 ***Key Issues***

Saharanpur city does not have a proper sewerage system and all houses have individual septic tanks that discharge in to open drains causing pollution. Individual septic tanks are not properly maintained in the city and are major source of pollution.

12.2.2 Future estimates for quantity services to be provided at significant stages

Future sewage generation has been calculated with an assumption that 80% of the water supplied will be let out in the sewerage system as waste water. Accordingly, the sewage generation has been projected as 114.5 MLD for 2021 and 185.4 MLD for 2031 for the municipal corporation area. For the total planning area, the sewage projections are 120.2 MLD for 2021 and 149 MLD for 2031. The sewage generation projected for various horizon years has been presented in the table below.

Table 12-8 Projections *for sewerage*

Year	Area	Projected population	Projected water demand (MLD)	Projected Sewage generated (MLD)
2021	Saharanpur M. Corp	9,11,715	143.1	**113**
	M. Corp. and surrounding areas	10,64,633	150.2	**132**
2031	Saharanpur M. Corp	11,77,838	185.4	**146**
	M. Corp. and surrounding areas	13,73,029	186.2	**170**

Estimation by consultant

12.2.3 Phasing and Implementation

In the first phase of its implementation the focus has to be on completion of ongoing STP construction which is 90 MLD. The total capacity will become 128 MLD which is sufficient for the population projected for the year 2021. The next phase will focus to fulfill the capacity of remaining STP.

12.3 Solid Waste Management

12.3.1 Solid waste management system

Saharanpur city generates a total of 28.17 tons per day. Ward 63 generates the highest amount of waste per day followed by ward 36 whereas the least amount of waste is generated by ward 69. There are 306 workers working in Saharanpur city for collection, management and disposal of waste generated daily. There are 2 trucks, 14 tippers, 233 tricycles, 36 tempos, 2 JCB, 2 big poke len, 9 tractors and 5 loaders employed for solid waste management in the city. The following table shows the ward-wise details of the waste generated and the manpower deployed in the city for SWM.

Table 12-9 Ward-wise details of waste generated and manpower deployed for SWM in Saharanpur city

Ward	Average generation (Tons/day)	No. of Houses covered for House to House Collection	Manpower deployed
1	0.565	630	1 Supervisor, 4 Labor
2	0.89	1980	1 Supervisor
3	0.695	415	1 supervisor, 2 labor
4	0.813	2249	1 supervisor, 6 labor
5	0.37	1006	01 Supervisor, 5 labor
6	0.432	963	01 Supervisor, 3 labor
7	0.0955	250	1supervisor, 1 labor
8	0.668	3704	2 supervisor, 6 labor
9	0.723	1610	01 supervisor, 6 labor
10	0.426	950	01 supervisor, 03 labor
11	0.1	218	01 supervisor, 1 labor

Ward	Average generation (Tons/day)	No. of Houses covered for House to House Collection	Manpower deployed
12	0.715	1590	01 supervisor, 06 labor
13	0.601	1577	01 supervisor, 06 labor
14	0.665	1482	01 supervisor, 05 labor
15	0.102	224	01 supervisor, 01 labor
16	0.201	450	01 supervisor, 02 labor
17	0.289	750	01 supervisor, 03 labor
18	0.512	1140	01 supervisor, 04 labor
19	0.565	1470	01 supervisor, 07 labor
20	0.39	870	01 supervisor, 03 labor
21	0.832	1852	01 supervisor, 07 labor
22	0.231	515	01 supervisor, 04 labor
23	0.231	225	01 supervisor, 02 labor
24	0.301	830	01 supervisor, 03 labor
25	0.648	1444	01 supervisor, 05 labor
26	0.36	800	01 supervisor, 03 labor
27	0.115	250	01 supervisor, 01 labor
28	0.155	300	01 supervisor, 01 labor
29	0.781	680	01 supervisor, 03 labor
30	0.336	750	01 supervisor, 03 labor
31	0.32852	2041	01 supervisor, 03 labor
32	0.38	1000	01 supervisor, 08 labor
33	0.437	975	01 supervisor, 04 labor
34	0.105	232	01 supervisor, 01 labor
35	0.59	1312	01 supervisor, 05 labor
36	0.90534	2370	1 supervisor, 1 driver, 1 helper, 5 labor
37	0.098	215	01 supervisor, 01 labor
38	0.725	1973	1 supervisor, 1 driver, 1 helper, 6 labor
39	0.431	960	01 supervisor, 03 labor
40	0.431	960	01 supervisor, 03 labor
41	0.375	834	01 supervisor, 03 labor
42	0.593	1550	01 supervisor, 06 labor
43	0.341	760	01 supervisor, 02 labor
44	0.213	570	01 supervisor, 02 labor
45	0.18	390	01 supervisor, 01 labor
46	0.23	510	01 supervisor, 01 labor
47	0.108	240	01 supervisor, 01 labor
48	0.24	530	01 supervisor, 02 labor
49	0.216	480	01 supervisor, 02 labor
50	NA	219	01 supervisor, 01 labor
51	0.232	510	01 supervisor, 02 labor
52	0.216	480	01 supervisor, 01 labor
53	0.325	710	01 supervisor, 03 labor
54	0.577	1510	01 supervisor, 06 labor
55	0.118	255	01 supervisor, 01 labor
56	0.118	230	01 supervisor, 01 labor
57	0.077	200	1 supervisor, , 1 helper, 1 labor
58	0.094	210	01 supervisor, 01 labor
59	0.486	540	01 supervisor, 01 labor
60	0.6494	2345	01 supervisor, 06 labor
61	0.851	2282	01 supervisor, 07 labor
62	0.404	1060	1 supervisor, 1 helper, 1 labor
63	0.919	2405	1 supervisor, 1 helper, 8 labor

Ward	Average generation (Tons/day)	No. of Houses covered for House to House Collection	Manpower deployed
64	0.725	1894	01 supervisor, 07 labor
65	0.32852	860	01 supervisor, 03 labor
66	0.4052	1160	01 supervisor, 04 labor
67	0.54435	1425	01 supervisor, 05 labor
68	0.096	250	01 supervisor, 01 labor
69	0.075	200	01 supervisor, 01 labor
70	0.198	520	01 supervisor, 02 labor
Total	28.17283	68341	

Source: SBM Action Plan Saharanpur

12.3.2 Future estimates for quantity services to be provided at significant stages

The average amount of solid waste generated per head is assumed to be equal to 0.350 kg. By taking this assumption into consideration, the table below indicates the amount of solid waste that will be generated by the projected population for horizon year 2031.

Table 12-10 Projections for solid waste generation for year 2031

Year	Area	Projected population	Average waste generated per head (in kg/day)	Projected solid waste generated (Tonnes/day)
2021	Saharanpur M. Corp	9,11,715	0.35	319
	M. Corp. and surrounding areas	10,64,633	0.35	373
2031	Saharanpur M. Corp	11,77,838	0.35	412
	M. Corp. and surrounding areas	13,73,029	0.35	481

Source: Consultants' analysis

There is no landfill site is working under the Nagar Nigam of Saharanpur. Recently the Nagar Nigam has purchased a land of around 2 ha in the Devla village on which the landfill site is to be developed in the coming years.

12.4 Power Supply

Paschimanchal Vidyut Vitran Nigam Limited is the DISCOM which takes care of distribution of power in Saharanpur. The Discom covers in its jurisdiction the areas of District Meerut, Baghpat, Ghaziabad, Gautambudh Nagar, Bulandshahar, Hapur, Muzaffarnagar, Saharanpur, Shamli, Bijnor, Moradabad, Sambhal, J.P. Nagar and Rampur. The Discom comprises of 06 distribution zones based at Meerut, Ghaziabad, Bulandshahar, Noida, Saharanpur and Moradabad and each is headed by an officer of the rank of Chief Engineer.

The total number of Distribution Circles and Divisions in Different Zones are 29 and 95 respectively along with 29 nos. of Test Divisions. The details of sources of power and number of connections under Electricity Urban Distribution circle of Saharanpur is given in respective tables below

Table 12-11 Sources of power under Electricity Urban Distribution Circle, Saharanpur 2019-20

Source of Power	Capacity (MVA)	Total Electricity Demand (MW)	Total electricity Supply (MW)	Total Consumption (MKWH)
33/11 KV S/S AMBALA ROAD	25	15	10.5	65193
33/11 KV S/S MANDI SAMITI	20	12	8.4	37949
33/11 KV S/S AVAS VIKAS	20	12	8.4	42078
33/11 KV S/S MANAK MAU	20	12	8.4	51645
33/11 KV S/S HAKIKAT NAGAR	23	14	9.8	45657
33/11 KV S/S PAPER MILL ROAD	20	12	8.4	73770
33/11 KV S/S GHANTA GHAR	15	9	6.3	23336
33/11 KV S/S T.P NAGAR	15	9	6.3	17454
33/11 KV S/S JAIN BAGH	31	18	12.6	106570
33/11 KV S/S HUSSAIN BASTI	10	6	4.2	22459
33/11 KV S/S JANAK NAGAR	48	28	19.6	87713
33/11 KV S/S PUL KHUMRAN	10	6	4.2	19148
33/11 KV S/S KISHAN PURA	10	6	4.2	18126
TOTAL	267	144	111.3	611098

Source: Electricity urban distribution circle, Saharanpur

Table 12-12 Number of connections under Electricity Urban Distribution Circle, Saharanpur - 2019-20

	Type	Residen-tial	Commer-cial	Industrial	Agri-cultural	Others	Total
EUDD I	No. of Electric Connections	55869	12374	465	6	214	68928
	Electric Consumption KWH	143502000	37848000	29822000	32000	17096000	228300000
EUDD II	No. of Electric Connections	49768	16515	476	6	140	66905
	Electric Consumption KWH	140240000	29168000	59027000	117000	17734000	24628600
EUDC Saharanpur	No. of Electric Connections	105637	28889	941	12	354	135833
	Electric Consumption KWH	283742000	67016000	88849000	149000	34830000	474586000

Source: Electricity urban distribution circle, Saharanpur

12.5 Takeaways

Water Supply

1. *Main source of water supply in the city is through tube wells, which is similar to when the erstwhile master plan was prepared. More tube wells have been dug in the last decade.*
2. *Presently there are 86 tube wells, with total capacity of 103.32 MLD. The current per capita water supply in the city is 134.35 LPCD*
3. *For distribution of water, the city is divided into 4 zones. Around 50% of the households have tap water connections in the city. There are around 11 elevated reservoirs located in the area with a total storage capacity of 10.225 ML*
4. *At an average water supply to all the 70 wards occur for 10 hours per day. At an average 2.5 MLD water is supplied to each ward*
5. *The city lacks 68% of water supply connections presently to achieve complete coverage per day. Average per capita consumption is 108 lpcd.*
6. *a deficit of about 1 LPCD per capita water supply than the desired level as per MoUD benchmark*
7. *For planning area, water requirement for year 2021 and 2031 is projected as 165 MLD and 212.81 MLD, with 155 lpcd.*

Sewerage

1. *The total length of sewerage network within the city is around 111 km and is partially developed*
2. *66% of the total households are connected to open drains*
3. *the sewerage generated in the city is 86 MLD*
4. *The city has only one Sewage Treatment Plant (STP) located in Praduman Nagar. The capacity of the existing STP is 38 MLD*
5. *Saharanpur city does not have a proper sewerage system and all houses have individual septic tanks that discharge in to open drains causing pollution. Individual septic tanks are not properly maintained in the city and are major source of pollution*
6. *It is estimated that sewage generation for year 2021 and 2031 is projected as 132 MLD and 170 MLD, assuming 80% of water supply*

SWM and Power Supply

1. *Saharanpur city generates a total of 28.17 tons per day.*
2. *The average amount of solid waste generated per head is assumed to be equal to 0.350 kg. Based on this it is estimated that in year 2021 around 373 tonnes per day and for year 2031, 481 tonnes per day waster would be generated.*
3. *There are at present 271666 total electric connections provided in the city*

Chapter 13
Recreation & Leisure

13 Recreation and Leisure

In continuance to the social infrastructure, this chapter covers the recreational and tourism aspects of the city such as parks, playgrounds, lakes, water bodies, tourist or pilgrim centers and historical monuments and archeological sites. It will assess the recent trends, land requirements for recreational activities in the future and policy requirements for conservation planning.

13.1 Analysis of existing situation and potentials

13.1.1 Parks and other recreational places in Saharanpur

The following table shows the present situation of parks and open spaces in the city.

Table 13-1 Availability of parks within the city - 2017

Jurisdiction	No. of parks	Area of parks (sq. m)	Proportion to total NPP area (%)
ULB	129	622427.7	0.000082
Development authority	0	0	0
Private ownership – Corporate/ NGOs	0	0	0.00%
Total	129	622427.7	0.000082

Source: AMRUT Slip

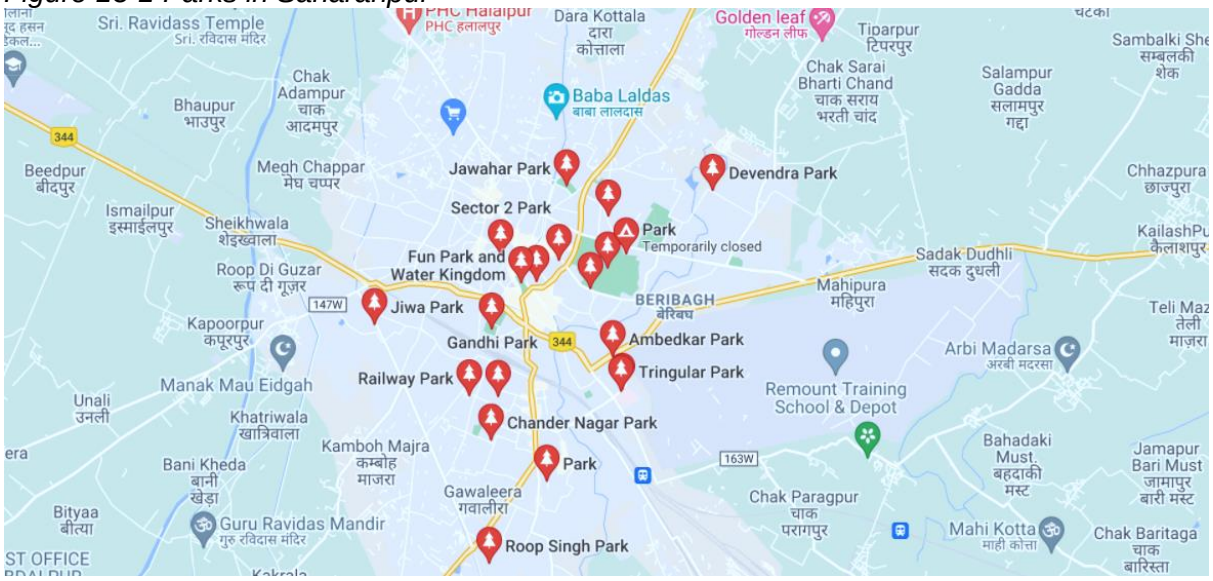
At present, the open space availability in the city is calculated to be 2.9 sq. m. per person, which is much less than the benchmark set in URDPFI guidelines (i.e., 10-12 sq. km.). The details of organized green areas in the city are given in the table below:

Table 13-2 Hierarchy of organized green in the city

Sl. No	Category	No. of Parks	Area under the category (in Sq. m.)	% Area under parks/ open space
1	Housing park (less than 5000 Sq. m)	125	98815	0.83
2	Neighborhood park (5000 - 10000 Sq. m)	1	7621.73	0.06
3	Community park (10000 - 50000 Sq. m)	2	41957	0.35
4	District park (50000 - 250000 Sq. m)	0	0	0
5	Sub-city park (250000 Sq. m and above)	1	473654	3.99

Source: AMRUT Slip

Figure 13-1 Parks in Saharanpur

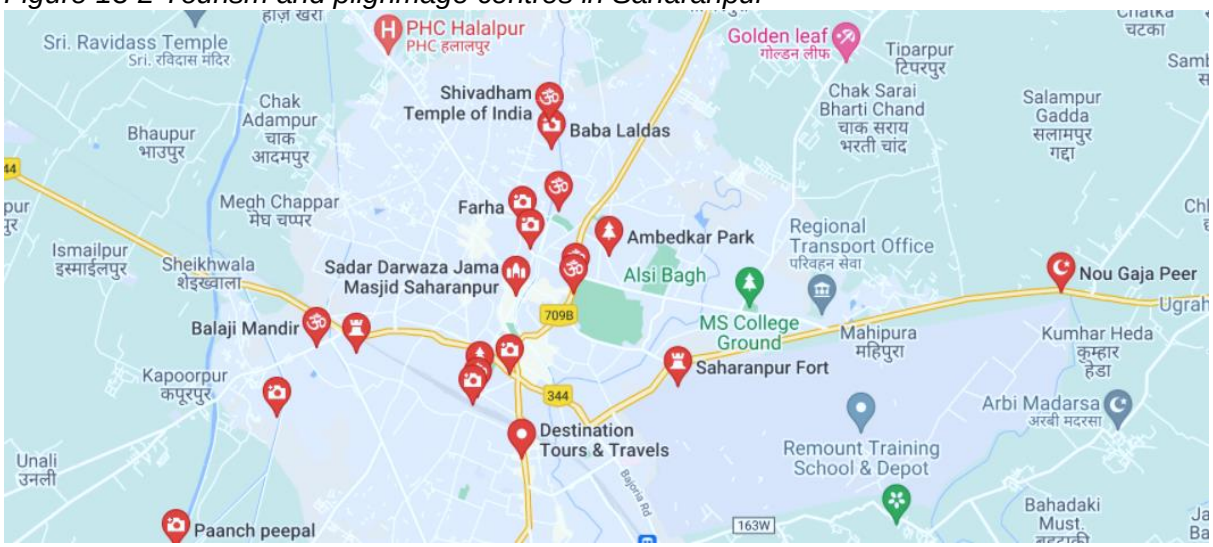


Source : online data

13.1.2 Tourism/pilgrimage areas and parks

Saharanpur is famous for its religion-based tourism. One of the famous attractions to Saharanpur are age-old temples including Shakumbhari devi temple and Bala Sundari Temple of Deoband which are known *Shakti Peethas*. The Naugaja Peer is another favorite of the devotees. Apart from the temples, Saharanpur has several colonial buildings that have stood the test of time. The Botanical Gardens, established by the British East India Company in the city are also quite famous and serve as a centre for botanical research. Following section present an overview of the notable tourist and pilgrimage centers of the city.

Figure 13-2 Tourism and pilgrimage centres in Saharanpur

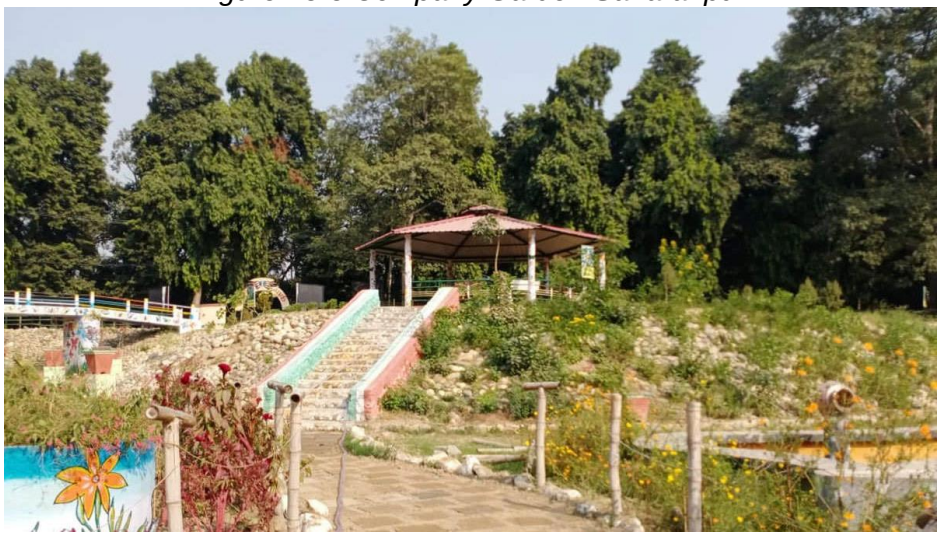


Source : online data

13.1.2.1 ***Company Garden and Temple***

Company Garden is one of the oldest gardens dating back to 1750. It was once under the preserve of British East India Company and is also known as Saharanpur Botanical Gardens. The Company Garden stands second, next to Calcutta Gardens for its contribution in development of science. It has a large variety of plants and flowers even after being under private sponsorship. The exotic varieties of plants and beautiful flowers attract many biologists and nature enthusiasts.

Figure 13-3 Company Garden Saharanpur



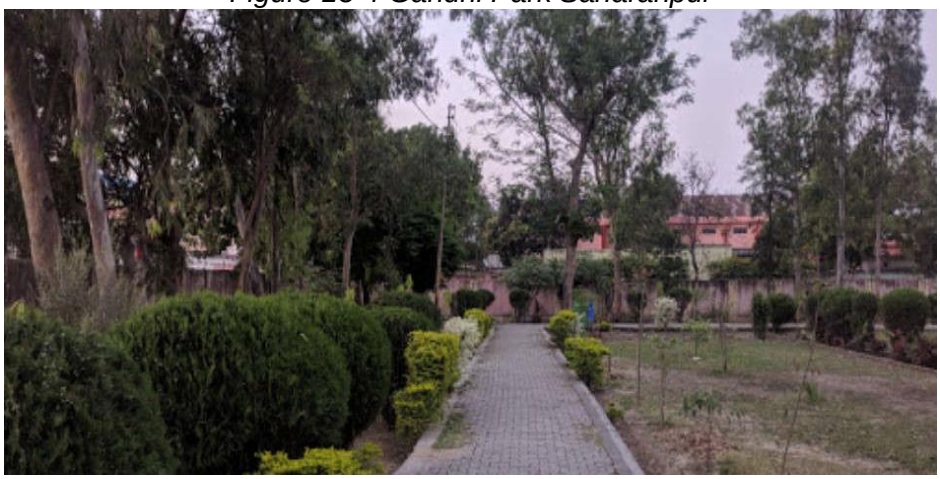
Source: Online data

Several notable researches have been carried out including the introduction and acclimatization of medicinal plants due to which the garden is also called as the Horticulture Experiment and Training Centre. The view point here gives a breath-taking view of the city. There is also a temple inside the garden.

13.1.2.2 ***Gandhi Park***

Gandhi Park is located less than 2 kilometers from the city centre of Saharanpur. It was one of the main locations where Gandhiji along with his troops prepared and planned to fight against the Britishers and help India regain its independence. There is lush greenery all around the garden with wide open area to play for children and also to relax and take walks along with great ambiance. This is also a place where many rallies of the city are arranged. The park is well maintained.

Figure 13-4 Gandhi Park Saharanpur



Source: online data

13.1.2.3 ***Balaji temple***

Balaji Temple is located in the Sharda Nagar of the city. The Balaji Temple is one of the famous destinations in the city. Because of this, there are long queues of devotees.

13.1.2.4 ***Jain Bagh***

Jain Bagh, also known as Digambar Jain Temple is a very famous religious place in Saharanpur. It is located at a distance of around 3 kilometers from the city centre. It offers a calm and soothing surrounding along with an architectural beauty to witness. Jain Bagh Temple has a quite large compound. A Digambar Jain Rath Yatra Mohatsav is also one of the special events of the Jain Bagh Temple. This Ratha Yatra is organized every year and is attended by many local tourists.

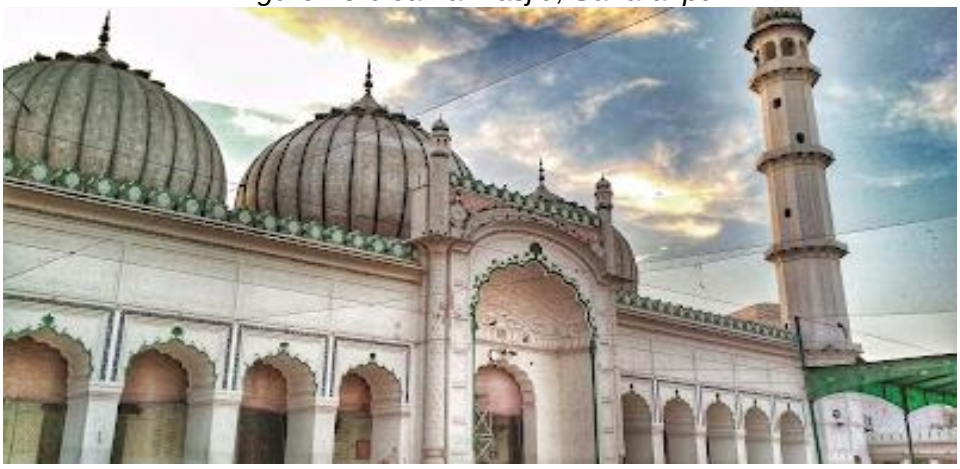
Figure 13-5 Jain Bagh Saharanpur

Source: online data

13.1.2.5 ***Jama Masjid Saharanpur***

Located at not more than 1. 5 kilometers from the city centre, Jama Masjid is one of the most famous tourist destinations of Saharanpur, Uttar Pradesh. It was built in 1530 during the reign of Humayun. The architecture being quite similar to the grand Jama Masjid of Delhi, it spreads its elegance in all its surrounding. The mosque is able to accommodate over thousand people inside its premises. The place is very serene, majestic and peaceful.

Figure 13-6 Jama Masjid, Saharanpur



Source : online data

13.1.3 Other recreational centres and water parks

There are few water parks and fun and entertainment zones for local tourists in the city. Such as Fun Park and Water Kingdom; Sun city; Jiwa Park, Ambedkar Park, Sahara City park etc. Many of these water parks and recreational centres are introduced by private players in the city.

Figure 13-7 Water park in Sahranpur

Source : online data

13.1.3.1 ***Lake and Water bodies***

Paondhoi River: The Paondhoi originates in Sankalapuri village and flows through the city of Saharanpur before meeting the Dhamola River at the outskirts of the city. Legend has it that Baba Lal Das, an ascetic who lived in Saharanpur nearly 300 years ago, practiced daily ritual bath in the holy Ganges in Haridwar before accepting any meals. Every year during Ramlila, scenic were enacted on the banks of the reiver attracting thousands of viewers gathered on banks of the river to witness the spectacle.

Figure 13-8 Paondhoi river in Saharanpur

Source : online data

The river had faced pollution for many years. In year the cleaning drive was started by local bodies and non-governmental organizations with help of community representatives and now the river is fit for tourism and religious purpose.

13.1.4 Stadium

Ambedkar stadium near Gandhi Park is the major sports centre of the city. The stadium is maintained by the municipal corporation and houses an indoor stadium with facilities for badminton and other indoor games, in addition to one and swimming pool. There are other private operated training centres such as Rajkumar cricket stadium etc. in the city.

Figure 13-9 Ambedkar stadium Saharanpur

Source : online data

13.2 Recent trends in recreation and leisure

In last decade many new private parks and recreational centres have opened up in the city. The Pondhai river was also cleaned and opened up for tourism and religious purposes. There are many clubs operating in the city initiated by private organizations. Many privately operated sports facilities have come up in the city in last years. In addition to above discussed public parks, there are small private parks within residential colonies (such as Chander Nagar, Kamla Nehru Park, Makhan Colony Park, Lal Singh park) and one railway hockey ground is also present in the city.

13.3 General policy for provision of recreational facilities

This section will be detailed out in the future based on the assessment regarding existing and proposed land use, proposed density areas, infrastructure proposals, transport proposals, commercial proposals and other detailed proposals.

13.4 Land requirement for facilities to be provided at significant stages

This section will be detailed out in the future based on the assessment regarding existing and proposed land use, proposed density areas, infrastructure proposals, transport proposals, commercial proposals and other detailed proposals.

13.5 Distributional pattern within zones and town

The provision of recreation facilities and parks / open spaces in any city should be such located that they are within walking distances for the people in their neighborhoods and act as lungs for the city, other than the public central parks. However, it is observed in Saharanpur city that the neighborhoods parks are only limited to few colonies, but also not adequate for the existing population. In addition to this, it has been observed that the core city areas have limited and no open spaces or parks, and are highly congested.

13.6 Takeaways

- *Presently the open spaces provided per person in the city is 2.9sqkm/ per persons, which is much less than the planning guidelines*
- *The city is famous for religion-based tourism inhabiting some of the famous temples and dargah, which are visited my local tourists mostly*
- *There are few water bodies in the city, such as Paondhoi river which was revitalized in last years and open for its religious and tourism use*
- *There has been a significant contribution of private institutions in provisioning of parks, recreational space such as water parks and clubs in the city*
- *The provision of parks and open spaces is not adequate, there are fewer breathers in the city as compared to its population*

Chapter 14
Conservation, Townscape & Landscape

14 Conservation, Townscape and Landscape

The present chapter provides an overview of the conservation of heritage and historical buildings; townscape and landscape aspects such as topographical features etc., and the role of private and governmental organizations in conserving the city landscape.

14.2 Analysis of existing character of urban and rural areas

14.2.1 Topographical features

Saharanpur forms the northern most position of the Doab region, land which stretches between the Ganges and the Yamuna river. The Shivalik hills rise above it on the northern frontier. The north and the north east of the district is surrounded by Shivalik hills and separates it from the Dehradun district. Most of the area belongs to the upland *Bangar* which stretches in a continuous line up to Allahabad i.e., Junction of the two great rivers and on the either side is the broad and low-lying valley full of swamps and back waters with wide open grass plains and Tamarisk jungle. But in the north, there are the steep hills of Shivalik chain which appear in a far more marked form in Saharanpur than any other district of Uttar Pradesh while below the hills are to be seen in a modified form the prevailing characteristics of the *Bhabar* and *Tarai* region. The main characteristics of the district can be divided into four parts.

- Shivalik Hill Tract
- The Bhabar Land
- Bangar Land
- Khadar Land (Yamuna, Hindon)

Yamuna is the important river of the district. Apart from this Solani, Hindon, Ratmau, Nagdev have also played an important role in the physical reconstruction of the district. All the rivers of the district submerge either in Yamuna or in the Ganges. The Saharanpur city lies in relatively plain region.

14.2.2 Historical monuments and archaeological sites

With the passage of time the district name has changed many times, owing to its vast history and events. During the region of Iltutmish Saharanpur became a part of the Slave Dynasty. Muhammad Tughlag reached northern doab to crush the rebellion of Shiwalik Kings in 1340. There he came to know about the presence of a Sufi saint on the banks of 'Paondhoi' river. He went to see him there and ordered that henceforth the place should be known as 'Shah-Harunpur' by the name of Saint Shah Harun Chisti.

Akbar was the first Mughal ruler who established civil administration in Saharanpur and made it 'Saharanpur-Sarkar' under Delhi province and appointed a Governor. The Jagir of Saharanpur was honored to Raja Sah Ranveer Singh who founded the city of Saharanpur. At that time Saharanpur was a small village and served as army cantonment area. The nearest settlements at that time were Shekhpura and Malhipur. Most of the part of Saharanpur was covered by forests and 'Paondhoi' 'Dhamola' and 'Ganda Nala' (Kregi Nala) were Swampy/Marshy. The climate was humid hence it was prone to malaria. The city which Sah Ranveer Singh founded was surrounded by 'Nakhasa', 'Rani Bajar', 'Shah Bahlol' and 'Lakhi Gate' along the 'Paondhoi' River. Saharanpur was a walled city and had four gates.

The map becomes clear as soon as we survey and enter Chaudarian mohalla (locality). The ruins of the fort of Sah Ranveer Singh can still be seen in Chaudharian locality. Saharanpur passed to the British in 1803. The founders of Darul Uloom Deoband, actively participated in the rebellion.

14.2.2.1 *Botanical Garden*

The Botanical Gardens/ Company Gardens is one of the oldest botanical gardens in India dating to before 1750. It was an initiative of the British East India Company. In 1887, when the Botanical Survey of India was established, Saharanpur became the centre for the survey to study and maintain the flora and fauna of the region. Today, the garden is considered second only to the Calcutta Botanical Gardens in terms of contributing to research and science and the study of flora and fauna. Several notable researches have been carried out including the introduction and acclimatization of medicinal plants.

14.2.2.2 *Shakumbharidevi Devi Temple*

Shakumbhari Devi Temple is a Shaktipeeth situated at a distance of 40 km from Saharanpur in the Shakumbari area. Although there are no historical or archaeological data to back the claim, the general belief is that the temple dates to ancient times.

14.2.2.3 *Shri Baba Lal Das*

This is religious site in Saharanpur which attracts both Hindus and Muslims. It commemorates Shri Baba Lal Das, a famous seer who is believed to have performed his meditation here during the Mughal period.

14.2.2.4 *Darul Uloom Deoband*

The Darul Uloom Deoband is an Islamic seminary in India, established in year 1866 at which the Sunni Deobandi Islamic movement began. It is located in Deoband, a town in Saharanpur district, Uttar Pradesh.

14.2.2.5 *Paon-dhaoi river*

River Paondhoi, in earlier days was an important source of drinking water for the city and major attraction for religious travelers. In its heyday, the water of the river ran ankle deep, just enough to wash one's feet. People coming into the city would wash their feet in the river giving it the name, Paondhoi. However, in last few years until year 2010, it was known as a sewer running through Saharanpur city. In year 2010, by the active participation of the citizens and government, the lake was restored.

14.3 Policies for conservation planning and development control

14.3.1 Development Authority Bye-laws for Conservation of Heritage Site

As per the prevailing bye laws and in relation to the conservation of the heritage sites, it is prescribed that, in case of streets, heritage precincts, areas and of natural features published as per the provisions of bye-law, development permissions shall be granted in accordance with the special separate bye-laws prescribed for respective streets, precincts/natural features, areas which shall be framed by the Authority with previous approval of the Government on the advice of the Heritage Conservation Committee.

Before finalizing the special bye-laws for precincts, streets, natural features, areas, the draft of the same shall be published by the Authority on behalf of the Heritage Conservation Committee in widely circulated two leading newspapers in the area for the purpose of inviting suggestions of objections from the public. All suggestions and objections received within a period of 30 days from the date of publication of the said draft in the newspapers shall be considered by the Authority as per the advice of Heritage Conservation Committee.

14.3.2 The U.P. Ancient and Historical Monuments and Archaeological Sites and Remains Preservation Act, 1956

An Act to provide for the preservation of ancient and historical monuments and archaeological sites and remains in Uttar Pradesh other than those declared by Parliament by law to be of national importance.

14.3.3 The Ancient Monuments and Archaeological Sites and Remains Act 1958

An Act to provide for the preservation of ancient and historical monuments and archaeological sites and remains of national importance, for the regulation of archaeological excavations and for the protection of sculptures, carvings and other like objects.

14.4 Recent trends

The urban local bodies and local community have been actively engaged in the conservation aspects. For river Paondhoi, as discussed previously in the chapter, in 2010 after concerned residents created a stink about the dirty waters, an independent media outlet in the city, and the Paondhoi Bachao Samiti, who had prepared the blueprint of the river clean-up in 2009, initiated the river restoration. Over 10,000 people were contacted to get their signed pledge to keep the river clean. The Paondhoi Bachao Samiti was a joint effort of government officials as well as civil society to clean the river.

Figure 14-1Paon dhoi river restoration process

Source: Online data

Hence is it evident from the river restoration that there is an active awareness in the locals about the conservation and restoration. However similar awareness needs to created for other older dilapidated structures and provisions for facilities for better living conditions and inclusive development in the city, and engagement of more private players shall be encouraged.

Chapter 15
Proposed Land use Structure & Development Strategy

15 Proposed Land use Structure & Development Strategy

The proposed land use structure and development strategy for the city is discussed in this chapter. It describes the thematic conceptual plan for the future development of the city along with proposed land use for the planning area and development strategies for redevelopment, decongestion decentralization and for environmentally sustainable development.

15.1 Land Demand Estimations

For preparation of the Master Plan, the future land demand calculations are crucial, to accommodate the projected population and housing densities, basic infrastructural, social and cultural facilities, in addition for the land allocated to fill the gaps in infrastructure. For Saharanpur, the population and workforce are predicted based on economic and physical assumptions. These are discussed in brief as follows.

15.1.1 Population projection, Density and Land demand

Population projection: Population projection is a significant step and is conducted via different methods, to estimate the requirements of a city in coming years and to purpose such needs accordingly in the master plan. Population projections for Saharanpur Master planning area is done previously in this report. The forecast includes projections of the past trends as well as influx induced from the neighboring villages, a trend which has been observed in the previous years in the city. The economic, physical, social and cultural aspects and their requirements in the city have impetus in the type of growth the city would foresee by year 2031. The projected population would assist in estimating the demand for various physical infrastructure services like drinking water supply, sewerage system, solid waste management, etc. and social infrastructure like schools, health centers, parks etc. for the design years.

Saharanpur has witnessed significant growth in last years. The total population in the city which was 2.95lacs in year 1981 reached to 3.74 lacs in year 1991 and 4.55 lacs in year 2001. From year 2001 to year 2011, the population in Saharanpur city had 7.05lacs persons, a growth of more than 50%. For estimating future population, various techniques were applied. The forecasting methods adopted included arithmetic projection, geometric projection and incremental increase; this also includes the component of the work force, estimated for future years in the city, and migration from neighboring villages. An average of the three is taken as the projected population for planning area.

The planning area considered for population projection are, The Saharanpur Municipal Corporation, Urban Agglomerations and nearby villages. **It has been estimated that the population of the proposed planning area of Saharanpur would reach around 13.73 lacs by year 2031.**

Projected Population	Year 2021	Year 2031
Saharanpur Municipal Corporation	*9,11,715*	*11,77,838*
Urban Agglomeration ***(Kailashpur and Mahilpur)***	*29,993*	*48,249*
Neighboring villages	*1,22,925*	*1,46,942*
Total Population of the planning area	**10,64,633**	**13,73,029**

15.1.2 Residential Density

As per the erstwhile Master Plan, the population density if the city at the time of preparing the master plan was 185PPH (year 2001), further for the 2021 plan period, an overall density of 140PPH was proposed for the city. However as per the existing land use study, the current density gross density of the city is 151ppHa. For the proposed master plan 2031, an average overall density of the city is considered as 116PPH, which is on lower side as per the standard which is due to the following reasons:

- Existing density as per COI 2011 is only around 90 PPH.
- The proposed density of 140 PPH in Master Plan 2021 was not achieved till date.
- Unlike other metro cities like Ghaziabad, Delhi etc. here in Saharanpur the high rise flat culture is not popular. Majority of people reside in plotted development and wants to continue the same. So, it is advisable to reach the density standard of 200 PPH gradually in the coming decades and currently for MP 2031 the density considered is 116 PPH, which is achievable by 2031.

As per Master Plan 2021, the residential density of the city in year 2001 was 400 PPH. The then Master Plan proposed 250PPH density for newly developed residential areas in the city. Presently for the future master plan 2031, an overall residential density of 320PPH is considered. The distribution of the residential density has been done in such a way that it is planned across household units of EWS, LIG, HIG and MIG type of units, so that there are 15% EWS, 35% LIG and MIG each and 15% HIG units in the residential areas.

15.1.3 Residential Land demand

Taking 5 persons as the average household size, the land demand for the housing requirement have been considered, with average 750ppHa. This included assessment of the land required for the HIG, EWS, LIG and MIG classes. A total of **4723Ha** land would be required to accommodate this. After considering the vacant residential available land around 1180.41 ha is additional area required for residential use.

15.1.4 Workforce projections

For a strong economic development of city, the past and future trends of the workforce are analyzed. The type and category of workforce, available work force participation rates, employment opportunities in different sector, policies and upcoming proposals in different sectors, are fundamental to strategic decisions in master plan. Trends in WFPR and type of workforce were discussed in previous sections of this report. Based on the below-given assumptions a slightly higher growth rate (based on relevant examples and studies) for forecast of industrial workforce participation is considered-

- Agriculture base of the city will attract agro-based industrial activities
- Increased opportunities due to proximity towards NCR and part of NCR sub region, and as per the economic profiling of NCR, the Saharanpur- Muzaffarnagar region has tremendous scope for development of floriculture and homogeneous industries
- Located in proximity to Meerut-Muzaffarnagar industrial area
- Increase connectivity via roadways and railways
- Faster growing agro-industrial demand in the state
- Better infrastructure and utilities will increase the expected number of job openings
- Increased technical and Skilled training education and related workforce
- Faster growth and development of neighbouring major cities like Muzaffarnagar, Dehradun, Yamunanagar etc.

It has been estimated that by year 2031 year there would be additional **4,82,,070 persons of** work force, with a work force participation rate at 35%. The physical as well as economic strategies shall be planned assimilate this workforce as well as their families. The population projection has taken this factor into account.

15.1.5 Industrial density and Land Demand

To accommodate the future work force, it has been considered that small and medium enterprises would sprung in the city, in addition to the dedicated large & medium scale industries. A density of 120 ppHA is considered to estimate the industrial density.

15.1.6 Estimation for public facilities and land demand

An estimation of the existing public facilities and future requirements as per the URDPFI standards is done in the earlier part of the report. Based on the gap assessment, the future planning would inculcate provision of facilities as minimum as mentioned in the below table. As per the URDPFI standards, an assessment of the land required for the public facilities has been done. This is given in following tables. The land assessment for the public facilities suggested 1420Ha land to be proposed in the future master plan.

Type of Facility	Population Served per unit (as per URDPFI)	UP byelaws	Future Requirements 2031	Unit Area in Ha.	Total area required in Ha.
Education Facility					
Primary Schools	5000		274.61	0.4	109.84
Sr. Secondary School	7500		183.07	0.2	36.61
General College	125000	100000	10.98	0.5	5.49
University Campus	125000		10.98	10 to 60	219.68
Medical College	1000000		1.37	15	20.60
Nursery School		2500	549.21	0.05	27.46
Inter College		10000	137.30	0.4	54.92
Engineering College		1000000	1.37	2	2.75
Dental College		1000000	1.37	2	2.75
Aganwadi		5000	274.61	0.025	6.87
					486.97
Health					
Dispensary	15000		91.54	0.08 to 0.12	10.98
Nursing Home	100000		13.73	0.20 to 0.30	4.12
Intermediate Hospital	100000		13.73	3.7	50.80
Multi-specialty Hospital	100000		13.73	9	123.57
Specialty Hospital	100000		13.73	3.7	50.80
General Hospital	2,50,000		5.49	6	32.95
Veterinary Hospital	500000		2.75	0.2	0.55
					273.78
Socio-Cultural Facility					
Community hall	15,000		92	0.2	18.31
Library	15,000		92	0.2	18.31
Recreational Club	100000		14	1	13.73
					50.34
Religious Facility					
Religious Building	10,000		137	0.1	**13.73**
Other					
Police post	50000		27	0.16	4.39
Police station	90000		15	1.5	22.88
Fire Station	200000		7	1	6.87
Head post office with	250000		5	0.075	0.41

delivery office					
Head post office and administrative office	500000		3	0.25	0.69
Cremation ground	500000		3	2.5	6.87
Burial ground	500000		3	4	10.98
Post office		10000	137	0.01	1.37
Telephone exchange		100000	14	0.4	5.49
substation 11kv		15000	92	1	91.54
substation 66kv		5000	275	1.5	411.91
substation 220kv		500000	3	10	27.46
landfill area		500	2746	0.0015	4.12
					594.98
					Grand Total: 1420 Ha

15.1.7 Land requirement, based on calculations from Land use deviations

The assessment of the existing land use plan reveals that there have been deviations in the master plan land uses, located elsewhere in planning area instead of their dedicated land use. Such deviations are visible across residential, industrial, PSP, open parks etc. such land uses. For land demand estimations, calculations for such underutilized/ over utilized/ complete encroached/ etc. such land uses, is conducted. These areas have been added in the overall land use bifurcation for the city master plan for 2031.

15.1.8 Other Aspects

Land demand assessment for future physical infrastructure and other land uses such as recreational facilities, playgrounds, parks etc. are done based on the standards as well as gap assessments conducted previously in this report.

15.2 Thematic Concept Plan & Planning Approach

15.2.1 Planning Approach & considerations

15.2.1.1 ***Regional and Economic Linkages: future growth of the city***

1. In last two decades the city grew spatially around the railway station, visually appearing to be the epicenter of the city. The city is very well connected, with two major National Highways intersecting here, it appears to be a linearly transit based development happened over the years.
2. Within the district, the city Saharanpur is the major urban center and serves the entire hinterland, providing employment opportunities, resources and markets for the locals from the villages nearby. In addition, it is the administrative capital of the district.
3. The city has witnessed a tremendous growth in last decade, with an increase of population at the rate of more than 50% growth, many new institutions, medical facilities have come up. These not only cater to the local population but also the neighboring urban centres.

- The city has strong regional linkages, Saharanpur's city finds itself strategically placed central to the core industrial, and tourist centers in the region. Proximity to the major urban centres such as Delhi, Chandigarh, Muzaffarnagar, Dehra dun etc, and located in proximity to Meerut-Muzaffarnagar industrial area

4. Proximity to NCR. The connectivity is further going to strengthen due to newly proposed Delhi Dehradun Expressway which will have spur and connectivity to Saharanpur. This will enable direct and fast connectivity to the capital.
5. The city is directly connected to Muzaffarnagar via SH 59 which was recently completed.
6. Increased opportunities due to proximity towards NCR and part of NCR sub region, and as per the economic profiling of NCR, the Saharanpur- Muzaffarnagar region has tremendous scope for development of floriculture and homogeneous industries.

15.2.1.2 ***Industrial Development potential***

1. The strong regional and local linkages are fundamental for inducing economic development in the region. This provides opportunities to harness the industrial possibilities in the city and the hinterland of Saharanpur.
2. There has been increase in the number of small enterprises in the city. However, these are segregated. It is envisaged that with the onset of ODOP policy and wood work as the product for the city, the investments and employment opportunities will boost.
3. The increased connectivity will not only help in upward and down ward linkages for the industries and promote ex-im, but also drive skilled and technical manpower to the city.
4. The city's physical location provides resources in abundance, such as wood, irrigation facilities hence the local crafts, small and medium sector enterprises can be further strengthened.
5. The immense potential in industrial development seems to be underutilised in the last plan period, this needs to be harnessed and proper initiative to be taken in this direction
6. Direct connectivity, investor friendly environment, plug and play infrastructure and institutional support, are the key parameters to boost investments in any city. With above discussed linkages, there are opportunities in the city which can be explored.
7. Better infrastructure and utilities will increase the expected number of job openings. New industrial area proposed in Pilkhani will generate more opportunities in

secondary and tertiary sector as well as induced informal activities. This will have thriving effect in the entire region.

8. Large residential developments can be proposed in the peri urban areas / fringe areas of the master plan, locations which foresees a future development, this can be a secondary centre to the city.

15.2.1.3 ***Spatial Consideration for Plan formulation***

1. The city presently faces issues such as high concentration development towards the core areas (north of the city). Development initiatives towards the fringe shall be promoted to have a balanced development. Housing societies, townships, industrial areas etc. such projects can be proposed in the fringe areas as per the land availability. These will have an induced effect in the region as a whole
2. The commercial development in the region is in form of sparse pockets as well as majorly concentrated on the road sides in strip like patterns. Such pattern being the modus operandi can be taken up and infrastructure shall be planned accordingly such as roads, layouts etc. Such linear commercial land use in form of Bazaar Street shall be formed in the city.
3. Redevelopment, relocation and decongestion of core interior city shall be implemented. Such are discussed further in this chapter.
4. The industrial pockets are located at the fringe, such areas can be developed as industrial ribbons, in direct access to the major road and connectivity to the regional and local linkages can be proposed.
5. Possible provisions of Integrated township (license based) scheme which reflects on the land pooling scheme can be made in the proposed master plan area, where proper direct access and future growth centre can be envisaged; can be proposed as decongesting character to the city and can be a possible location for developer consortium to take up.
6. Promoting sustainable development through focusing on Greenfield development, integrated townships, growth centres etc. Strengthening urban rural linkages and promoting catalytic development of the backward areas / underdeveloped areas so as to foster growth in rural areas

The above development parameters and strategies will be translated in the sector wise strategies for the Master Plan, discussed further in the report.

15.2.2 Planning Concept

Based on the existing assessments, aspiration and the development strategies for the city, the master plan shall focus at following major aspects. There will be four major components or pillars for basing the development of the city. These are as follows.

15.2.2.1 ***Industrial Ribbons: Developing industrial areas along connectivity***

- **Identifying and developing** of the Industrial areas in addition to the existing industrial area, such that all the planning zones in the city are independent
- **Allocating industrial lands on the linkages and fringe/ connectivity**, or industrial ribbons, such as along the Bye Pass road so that the industrial units can be benefited from the increased connectivity of the region. This way the traffic for industrial can be also separated from the city traffic.
- **Decongesting / relocation of the core area industries** towards the dedicated industrial land use. Measures such as TDR incentivization etc. can be implemented

15.2.2.2 ***Strength & uplift Commercial belt***

- **Rejuvenation** of the commercial spine: main roads where highly commercial development has sprung such as Delhi Saharanpur Road, Chikana road, NH344, bijoria road etc. Limiting the type of activities which can come up in those roads.
- **Interventions on existing** such as: Strengthening and Upgrading the existing commercial pockets; assimilating the mixed use of residential and commercial, and incorporating specific regulations for parking, appropriate pedestrianizing of the congested areas, alternate routes etc. such interventions
- **Facilitating linear commercial** development along major routes, a current modus operandi, and regulating the type of development
- **Development at fringe**: For new developments, towards outer skirts, core commercial with ancillary activities such as rest and leisure as a commercial hub can be created. This would support in decongestion of the core
- **Creating a commercial centre in the city**: Central Business District and regulating the type of activities
- **Formation/ identifying Bazaar Street** and regulating the development in accordance to the activities

15.2.2.3 ***Design Green & Blue Links***

- **Identify the green lungs** and the natural bodies such as Hindan river, Dhamoli river, Paondhoi and other ponds/ water bodies in the city.
- **Rejuvenation and developing for tourism purposes**: the water bodies and natural green areas in the city shall be taken up for rejuvenation projects, PPP approach can be applied for developing these areas natural tourism places, river front development etc.
- **Relocation of encroachments**: schemes for relocating the encroachments and further applying strict enforcements, in the green areas
- **Implementing restrictions/ regulating new plans**. On the present as well as proposed areas in the city, regulating the open green areas, number of trees etc. such norms, maintaining buffers, setback such regulations shall be strictly implemented.
- **Connecting the breathing spaces for the city**, spatially identifying the green areas.

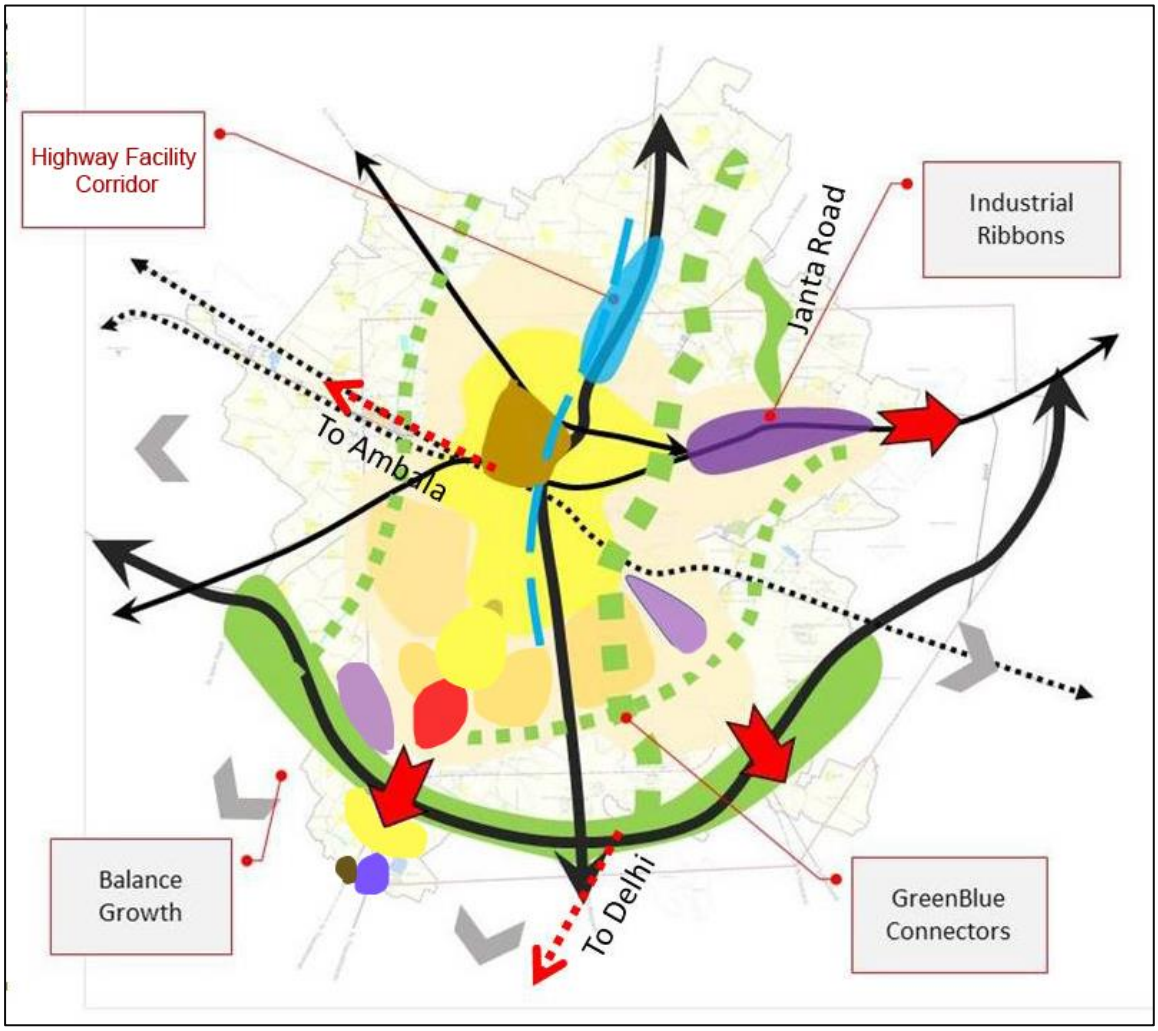
- **Creating Breathers in the core city areas**/ congested areas can be implemented by provision of incentivization to the private owners

15.2.2.4 ***Maintain Balance***

- The overall idea is to **achieve a balanced development** of the city. In order to avoid future haphazard development.
- **Moving outwards**: For core and outer areas, new proposals in housing such as township would support in the decongestion of the core and balanced development of the fringe. Approvals shall be done in such manner.
- **Phased Development** of the region

The above four aspects are shown in below. Further, strategies would focus on these parameters

Figure 15-1 Thematic concept



Source: Consultant's Analysis

15.3 Proposed Land Use for Planning Area

15.3.1 Built Areas

Around 627.66 ha of land in the city is of Built Nature, demarcated as 'Built Land use' in the Master Plan 2031. Mostly the norths of the railway station, and along the national highways, towards Transport Nagar are the core interior areas of the city.

15.3.1.1 ***Key Issues***

The built areas in the city can be characterized by low rise high density, congested, mixed use development. Mixed use development which was observed at the time of the rest while master plan preparation is prevalent today. Many commercial developments such in areas, have occurred which are non-confirming to the originally planned land uses. This has given rise to traffic issues, congestion, parking issues, and pollution in the core city. This has led to adverse impact on the residential areas.

15.3.1.2 ***Policies***

- The predominant land use of the Built Land use zone is residential. Mixed use is allowed in the demarcated markets and commercial areas. For these areas, separate regulations are framed in the zonal regulations. Other than that, only residential land use is allowed.
- In order to maintain the main residential nature of the built-up area use zone, the built-up area land use zone was specifically demarcated in the Master Plan 2021. For current Master Plan as well, similar representation is done, showing the major non-residential land uses located in the built-up area.
- Commercial areas encroachment in the core residential areas should be discouraged by discouraging building permissions of such nature. The commercial or other land uses shall be only allowed on permission of the competent authority's adequate scrutiny on the matter.
- The width of all those roads in the built-up area, whose width will not be proposed in the revised master plan, has been proposed only to the maximum extent available at present, with the restriction that the minimum width of the roads will be 4 meters permissible.
- Separate regulations should be devised, in the zonal plans for commercial areas abutting roads for such aspects as width of road, setbacks etc.
- At the time of building plan approval, those land parcels with area less than 100m, shall have a setback of minimum 1.5m. For plots more than 100m prevailing building bye laws, or as approved by the authority, or as per any amendment time to time in the same, shall be applicable.
- The maximum number of floor allowable in the Built Areas is 3 (three) or 9metres whichever is less.
- For the non-confirming land uses other than the permissible land uses in the built-up area, in relation to their expansion and re-construction / relocation etc. such decision will be taken on the basis of merit in the meeting of Saharanpur Development Authority. Some such strategies are suggested further in this chapter.
- These are mandatory provisions and rest shall be in accordance with the building bye laws.
- Traffic solutions such as pedestrianizing, mass transit, NMVT, one way drive etc. such shall be implemented based on specific analysis in the zonal master plan.

15.3.2 Village Built Areas

Separate regulations for the built areas in village are provided. Only those villagers who have been residing in the village for more than 10 years shall be allowed construction. These structures will not be allowed to be sold for next 10 years.

15.3.3 Residential

Presently for the future master plan 2031, residential density of 750ppHA is considered. The distribution of the residential density has been done in such a way that it is planned across household units of EWS, LIG, HIG and MIG type of units, so that there are 15% EWS, 35% LIG and MIG each and 15% HIG units in the residential areas. Taking 5 persons as the average household size, a total of **4723Ha** land would be required to accommodate this.

15.3.3.1 ***Key Issues***

As compared to the residential land use proposed in Master Plan 2021, considerable deviations were found during the existing situation analysis. Only 66% of the total residential areas were located in the dedicated land use (refer to the deviations analysis conducted earlier in the report). Major issues such as, land use deviations and unregistered residential properties; residential development in form of unauthorized colonies has come up in non-conforming zones; encroachments; high density/ commercial development along roads in predominantly residential areas etc. are observed.

15.3.3.2 ***Policy***

- The unauthorized residential colonies which have come up in non-residential areas should be adjusted/permitted as residential land use on case by case and merit basis
- Keeping in view the tendency of developing commercial activities along the main roads under residential land use, some regional commercial land use should be proposed along the main roads of the residential area. Separate regulations to be planned in the zonal plans for commercial areas abutting roads
- In this commercial land use, commercial activities with parking facilities should be developed in a planned manner. For such areas, where there is a tendency for residential construction, a zonal plan should be prepared at the earliest.
- While preparing the zonal plan, land ownership should also be made the basis, for example land pooling can be done, so that around 60% land of each land owner can be given back as residential plot.
- Pure Residential areas to be promoted, to prevent any type of pollution.
- TDR concept to be introduced to allow the decongestion of the core residential areas (allowing incentives for developing green pockets by TDR for land owners)

15.3.4 Commercial

A commercial area in form of linear pattern, which is the modus operandi as observed in the city is proposed. Based on the current situation analyses and discussion with stakeholders, a total of 472.32 Ha is proposed including the commercial area of MP 2021.

15.3.4.1 ***Key Issues***

- From the erstwhile master plan, it is observed that the commercial developed has not taken shape as envisaged and the dedicated commercial zone is underutilized. Moreover the land use deviations have come up at many places, commercial activities on the road sides, in linear fashion, malls etc. in residential zones, the national highways are highly commercial roads. This occurred mainly due to the underdevelopment of roads the colonies or residential areas. These have created many issues, as discussed previously in the report
- The commercial development in city can be characterized as: - sparse, pocketed, linear/ strip patterned, underutilized, lesser towards fringe or pouter areas, cause congestion, disrupt parking etc.
- High intensity commercial development in found core city, as compared to sparse commercial development in outer parts of city. Medicine markets etc. are whole sale markets located near Ghanta Ghar.

- Wooden craft shops utilize wood, which is sold on the road side resulting in traffic congestions and road side/ on road parking issues

15.3.4.2 ***Policy***

- The existing commercial activities and construction and proposed commercial use should be clearly marked on the map under the policy formulation built up area.
- Provision of wood to be made for the fulfillment of businessmen working in wood work in Saharanpur
- Commercial construction has developed in a striped form along major roads. Keeping this trend in mind, some regional commercial land use centers should be proposed along the major roads, where commercial activities can be developed with parking facilities.
- **Based on this, following are proposed.**

  Bazaar Street: The road inside the built up area are proposed as Bazaar street which will inhabit commercial character. The regulations of the bazaar street shall in be in accordance to the prevalent bye laws and per mentioned in the zoning regulations. The competent authority can nominate street no less than 25 m as Bazar street , The activities and building regulations shall be as per the building bye laws.

  ***New Central Business District*:** A new CBD has to be planned on Delhi Saharanpur Road which is the upcoming hub of commercial activities. This would promote decongestion of the core commercial activities which have occurred other areas than commercial land use, in the city. The building regulations in the CBD shall be in accordance to the prevalent building bye laws and as per mentioned in zoning regulations.
- In the Master Plan 2021, Dense Market areas and Market areas were identified in Built up Areas. Similar have been carried forward for the present master plans. Restrictions for these areas are as follows.

  i. Intensive Market area

  a) Maximum ground floor coverage of 75%.
  b) Commercial/office land use will be permissible only on the ground floor. Residential land use will be allowed on the remaining floors.
  c) The maximum height of the buildings is 9 meters or 3 floors whichever is less.
  d) Building construction leaving the proposed width of the roads and set back.
  e) Basement will not be allowed.
  f) The construction in the front back will not be compoundable.
  g) The balcony will be allowed in special circumstances in the minimum front set back 1.5 meters with the restriction that construction of pillars will not be allowed from it and will be open on the first floor. After 1.5 meters front set back, commercial activity will be allowed only up to 6.0 meters depth. After 5 meters front set back, commercial activity will be allowed only up to 6.0 meters depth. In this way, after the total 7.5 meters, if the remaining depth of the plot is less than 24 meters, then its commercial use will be as per the other provisions of the building bye-laws.

  ii. Market Area

  a) The restrictions given in points 1 to 6 above of Intensive Market Area will remain in force, but up to 12 meters (including front set back and parking) depth with a minimum depth of 3.0 meters with 1.5 meters front setbacks.
  b) Business activities will be allowed. After the depth of 12 meters, if the residual depth is less than 2.4 meters, then its commercial use will be permissible. Other provisions shall be as per the building bye-laws.
  c) Construction of commercial complex will be permissible in the specified market area subject to the following conditions:

- Minimum road width 24 sq m.
- Minimum width of the plot -20 m
- Maximum depth of the plot - 100 meters

d) Maximum land cover 40 % maximum FAR-15

e) Minimum front set back 12 meters, which can be used for calculation of 50% parking. This part of 12 meters will be used for public parking. In this, any type of construction will not be permissible and compoundable.

f) Construction of basement will be allowed for parking only.

g) The minimum width of an approach road longer than 50 meters shall be 24 m. The minimum width of an approach road of less than 50 meters shall be 18 m.

h) In case of construction of commercial complex, normally effective impact rate shall be applicable.

i) Parking lot, site set back and rear set back and all other provisions will be made as per the effective bye-laws.

Parking Plaza

a) The minimum width of the approach road is 9 metres
b) Front set and site set back minimum 5 meters.
c) Maximum FAR-2 will be permissible, of which % percent commercial use is permissible
d) The use of the building up to the second floor will be for parking only.
e) Commercial use will be allowed from the second floor to the upper floors.
f) Parking will not be permitted on the upper floors of commercial use. Provision of ramp will be mandatory.
g) Other provisions shall be as per the building bye-laws.
h) Commercial activities in the proposed commercial CBD / sub centre, should be in planned manner, so that the smooth flow of traffic on the roads is not adversely affected. Following are the restrictions for the parking in such areas.
    - In front of the plot, a strip of 12 meters depth will be compulsorily left for parking. This area will be used for public parking. It will be owned by the Authority.
    - No construction of any kind will be permissible in this and construction will not be permissible.
    - At the time of calculation of land cover and floor area, this strip, left for parking, is considered to be part of the plot

15.3.5 Industrial

It has been estimated that by year 2031 year there would be additional 5.30 lac persons of work force, of which 1.13 lacs would be in core industrial sector. A density of 120 ppHA is considered to estimate the industrial density. Around 1180 Ha land is proposed for future industrial land demand in the city.

15.3.5.1 ***Key Issues:***

The current industrial land is encroached upon with other uses. Also, of the total planned industrial land use, only 17% industries have come up in the demarcated area, whereas the rest are located elsewhere in non-compatible areas such as in the green areas, agriculture zone, PSP and commercial land uses. The small enterprises sector has been eventually growing and taken shape in the core city, near respective residences. The non-compatible industries not only create nuisance is terms of homogeneity but also is major cause of pollution. The industrial units are segregated.

15.3.5.2 ***Policy***

For industrial development, locations are such that these are placed in approach to the major regional connectivity. Cluster approach is undertaken for inducing industrial development.

Wood Work Industrial Area: This area can be either developed as private industrial area, or taken up by the industrial planning authority for industrial development. The zone would be predominantly dedicated to MSME sector industries. However, these shall be taken up as per decided by the competent authority. The regulations shall be at par with the regulations or the relevant authority/ or policy.

Major industrial are planned along Saharanpur Dehradun Road where already many industries are located and is mainly developed as an industrial corridor.

15.3.6 Parks and Open Spaces

A total of 1889 Ha land is proposed under Parks and Open spaces in the city including MP 2021 area. In the Master Plan-2031, by adjusting the unauthorized urban development as much as possible, the provision of parks and open spaces has been made in such a way that its distribution is equal in different areas of the city.

Provision is made for river front development on the Hindon rover originating from the middle of the city. These shall have parks and open spaces in linear fashion. In the northern part of the city, as well as towards the central areas, provision is made for additional parks and open areas along with the existing parks and open spaces. These areas will be developed under the river centric master plan regulations. Hindon Action Plan will also be considered while developing this area.

15.3.6.1 ***Key Issues***

The development of the parks and open spaces in the city, from the last planning period, has been very low. There has been very limited private participation in this regard. Considerable encroachments in form of residential, industrial, PSP as well as commercial development have occurred in past decade, in the land dedicated for parks and open spaces.

15.3.6.2 ***Policy***

- Parks and open areas are the most important places, which provide opportunities for pure air, natural beauty, sports and exercise to the citizens, but due to their development not being economically beneficial, neither the development of this land use nor the government neither by institutions nor by private organizations.
- Three aspects are identified as significant in development of the parks and open spaces in the city:
    - identification of such structures/parcels and areas which can be developed as parks by their owners (in core areas);
    - redevelopment / revitalization of the existing parks and creating revenue streams
    - Creating/ developing new parks: river front development; mega park etc.

- **In order to encourage the development of parks and open areas in the private sector, the following are the proposals.**
    - If any private person or institution develops parks and open spaces, then on 10% of the total area being developed, permission for other activities prescribed by the government will also be given under the prescribed building bye-laws.
    - If the owner of that land does not develop the proposed park and open area or garden in the master plan, then he will make this land available to the authority or

any other agency determined by the government. In lieu of this, the land owner will be allotted additional floor area in the residential area. The use of this allotted floor area will be available to the land owner or the person/organization authorized by him at the place of his choice. The use of additional floor area will be admissible in direct proportion to the circle rate of the abandoned land and the circle rate of the land to be used. For example, if the circle rate of the abandoned land is Rs.100 per sq.m. and where the allotted floor area is to be used, the circle-rate is Rs.200/s.m.0, then the land owner will have 50% additional floor area will be allowed. The maximum floor area after the use of the additional floor area shall not exceed 1.25 times the normally permissible floor area.

- **Dhamola River Front Development: Parks/ recreational areas (Riverine area)**
  - An area is identified as the Dhamola redevelopment/ park area. The areas would accommodate activities pertaining to park and open spaces as given in the regulations. Any encroachment or the existing non confirming land use in the sadi riverine area shall be properly analyzed and shall be relocated as per the decision made by the competent authority. No new construction, except those permitted in the regulations or as approved by the authority shall be allowed in this area.

- **Mega Park**
  - A Mega-park which will provide new identity to Saharanpur, was proposed in the smart city document for Saharanpur.
  - The park will not only prove to be a breather for the city but also would provide support to the street vendors and informal employment activities.

- **Revitalization of existing parks**
- Identification of existing parks, assessment of extent of physical and structural issues. In this regards, foremost Development of Jubilee Parks and Gandhi Udhyan Park with child & Old age friendly features to be done.

- **Green Belt Buffers**
  - The green belts are planned acting as buffer spaces, and abutting the existing as well as proposed major regional roads, industrial areas and structures of archeological and historic significance such as the Bye Pass road, old and proposed industrial areas, monuments in the city etc.
  - In accordance to the decisions made by the National Green Tribunal for providing green buffers to the natural features, such consideration are made in the Master Plan. As per decision made on

Policy

- Identified green belts are represented in the Master Plan and depicted under ‘green’ land use zone. The allowable activities in the green belts are listed in the zooming regulations. No industrial activity is allowed in the green belt areas. Recreational activities to an extent are allowed.

- **Urban Agriculture**
- As a part of the Master Plan 2031, urban agriculture is also introduced. These are demarcated as ‘urban agriculture areas ‘under the land use Agriculture. These are the patches of land where agriculture is allowed in the village sprawl areas, as well the city fringe areas.

15.3.7 Agricultural Land

According to the government policy, certain activities have been permitted in the agriculture land use. However, to maintain the predominant agricultural land use, it is necessary that the activities other than agriculture shall be kept at minimum required. The activities permissible in the agriculture zone are given in the zoning regulations.

15.3.8 Public and Semi-Public Land Use

As per Master Plan 2021, there was 796.93 Ha land dedicated under the PSP Land use. For Master Plan 2031, as per the planning units gaps assessment, done previously in the report, around 400.71 ha of additional area is proposed for the PSP land use in the city. The total PSP for Master Plan 2031 will be around 1180.81 ha.

15.3.9 Miscellaneous

15.3.9.1

In the master plan - as much as possible reservoir, pond, cemetery, cremation ground, traditional or historical public place etc. have been shown, but it is not possible to show all. According to the policy of the government, their land use will remain the same. There will be no change in their land use even if some other land use of these sites is shown in the master plan format.

15.3.9.2

Maintenance of all the historical places existing in the urban area will be done. No other use will be permitted at these sites under any circumstances.

15.3.9.3

Unauthorized Colonies /Development

In the erstwhile Master Plan 2021, a decision was taken in the meeting of the Saharanpur Development Authority Board, *'notice no.24/2 dated April 19, 2006'*. It was decided in the GO that in contrast to the Saharanpur Master Plan, 2001, the sites where land use changes have been proposed in the context of unauthorized development/decisions such should be marked separately in the master plan. At these sites, if more than 50% beneficiaries apply for regularization, then after depositing the land use change fee fixed by the government, the land use determined in the new form will be valid. This decision is still prevalent and shall be taken forward in the current Master Plan 2031.

15.4 Proposed Land use structure

The proposed land use plan is depicted in Map 15-1. The Table 15-1 shows the proposed land use for the Master Plan 2031. Total 11,808 Ha land area is proposed (including 7173.39 ha of MP 2021 area) for development. The Land use structure is as follows.

Table 15-1 Land use bifurcations in proposed LU 2031

Sr. No.	Land use category	% as per norms*	% considered	Total Area requirements (Ha)-2031	MP Area as per GIS (ha)	%age	Existing Land use 2020 NRSC (within MP Boundary)	Vacant Area Available within MP 2021 (ha)	Additional Area Required (ha)
1	Residential	30-35	40	4,723.22	3,542.81	49.39	1,998.73	1,544.08	1,180.41
2	Commercial	4-6	4	472.32	180.36	2.51	64.08	116.27	291.97
3	Industrial	8-10	10	1,180.81	787.28	10.98	274.17	513.11	393.52
4	Public and semi public	10-12	10	1,180.81	780.10	10.87	332.05	448.04	400.71
5	Parks and open spaces	15-20	16	1,889.29	796.93	11.11	107.76	689.17	1,092.36
6	Traffic and transportation	18-20	18	2,125.45	1,085.91	15.14	602.46	483.45	1,039.54
7	Others	Balance	2	236.16	-	-	-	-	236.16
Total urbanizable area			**100**	**11,808.05**	**7,173.39**	**100.00**	**3,379.26**	**3,794.12**	**4,634.67**

Note- * Projected population is above 10 lakhs, so it will be considered as a Metro City. The Proposed Land use structure for Metro cities is considered as per RFP.

15.4.1 Residential Land Use

The residential land use in the PLU, occupies around 40% of the total planned area. The residential land use is bifurcated in three sub land uses. Residential area percentage is considered on higher side due to external growth factors and increasing residential trend in the city due to enhanced regional connectivity and upcoming projects.

15.4.2 Commercial Land Use

Commercial areas occupy 4% of the total proposed land under development in the master plan. Which is further divided into sub categories of commercial.

15.4.3 Industrial

Industrial areas occupy 10% of the total proposed land under development in the master plan.

15.4.4 Public and Semi-Public Land use

The PSP land use in the PLU, occupies around 10% of the total planned area. The residential land use is bifurcated in four sub land uses.

15.4.5 Traffic & Transportation

The traffic and transportation land use in the PLU, occupies around 18% of the total planned area. The residential land use is bifurcated in three sub land uses.

15.4.6 Parks and Open Areas

Parks/ Open Areas occupy 16% of the total proposed land under development in the master plan. It includes parks, open spaces, green areas and recreational areas.

15.4.7 Others

Land use such as, river, canal and other water bodies, low lying areas and other unidentified areas, are clubbed here. These occupy 2% of the total proposed land area.

15.5 Development Strategies/ Recommendations

15.5.1 Recommendations/ strategies for improvement and redevelopment

The Uttar Pradesh State Urban Housing & Habitat Policy 2014 provides strategies for the improvement and redevelopment of the internal cities. Based on the strategies proposed on the policy and the analysis conducted in the present report following strategies are proposed for the same.

- For the areas falling under such category as vacant, non-conforming land-use, and underutilized land and having an area of 1 Ha and above, in built up areas of cities, for the improvement of the built-up floor area, and provision of parks and open areas, parking and other public facilities in the said land, incentives (in form of high / mixed land use, high density and FAR, land amalgamation etc.) shall be provided to the developers.

- In urban areas less than 1.0Ha of land on which dilapidated industries, bus terminals/depots, etc. exist, according to the master plan land use keeping in view the condition and market potential of such lands reconstruction will be allowed for optimum utilization

- As per above, it will be allowed to revise the layout plans of public, private and cooperative sector plans / townships, for the 'under-utilized' land to ensure proper utilization through redevelopment. As a result of redevelopment there will be an increase in the supply of Buildable land green areas, parking and other public facilities.

- Redevelopment may include areas of such nature, for example:
  - Land acquired from Sick / closed industrial units and such industrial units, which are decided to be rehabilitated by the Government or B.F.I.R
  - Vacant/unused lands of UPSIDA, Irrigation Department and other departments.
  - Industrial units which are "non-conforming" due to pollution or environmental reasons or are willing to relocate elsewhere/outside areas due to high requirement of land for expansion., facing "sub-optimal" use of land, are congested and deprived of adequate infrastructure facilities and services.
  - Other 'non-conforming' uses such as prisons, bus terminals/depots, etc. located in densely populated/congested areas of cities.
- The norms and other conditions and restrictions for redevelopment shall be as follows:
  - The minimum area of land for redevelopment plan shall be 1.0 hectare.
  - Redevelopment plans can be made by government agencies, private developers, land owners and co-operative housing societies on the land owned by them.
  - Demolition of old / dilapidated buildings will be allowed from the competent level for the implementation of the redevelopment plan.
  - Leasehold land, leasehold Nazul land, leased land of 'Improvement Trust', land of revenue, industrial land, land allotted on lease by government agencies and also on leased land of other departments development plan will be permissible, but redevelopment will not be permissible on any type of land affected by illegal occupation/ unregistered land etc.
  - No redevelopment shall be allowed on sub-division of lands of different nature
  - The following land use will be permissible for privately owned lands under the redevelopment plan:

Area (Ha)	Land use		
	Roads, parks, open areas	Authority Land %	Land owner %
1-5	30	25	45
5 above	30	20	50

- Efforts will be made to move such polluting / hazardous industrial units located inside the city, which are harmful to human health and safety from the point of view of pollution, outside the cities in public interest. For which the share of the land owner under the redevelopment plan will be 5 percent more than the share prescribed in the above table and the share of the government agency will be 5 percent less accordingly.
- The share of the Government agency under the layout plan shall be calculated in telescopic manner keeping in view the area of the land.
- The share and layout plan of roads, parks and open areas and government agency shall be determined by the Authority, so that the said land is in a suitable location from the point of view of access and use.

➢ The incentives and other conditions to the developers , under redevelopment schemes will be as follows:

- Free land use conversion will be done to allow high use/mixed use of the land.
- 25% additional FAR to base FAR shall be free of cost, in case of construction of green building additional 5% FAR shall be provided to the developer.
- Land amalgamation allowed
- Land use conversion fee and the land falling under the park and open areas and the share of government agency in lieu of the additional FAR will be transferred free and undisputed.
- An alternative accommodation of minimum 25 sq. m. shall be provided to the legal owners of the land chosen for redevelopment.
- At the time of approval of the redevelopment plan by the developer / land owner, the development fee and other fees will be payable to the government agency as per the prevailing rules in relation to the share of the land of the land owner.

➢ Mixed use development permissible in the redevelopment areas, provided that the zonal regulations and activities as allowed, are followed.

15.5.2 Recommendations/ strategies for mixed and non-conforming land uses

Policy for Mixed uses

➢ The policies 'Uttar Pradesh State Urban Housing & Habitat Policy 2014' and planning norms, zoning regulations and building bye-laws for Mixed Use and TOD provide strategies for promoting mixed use development in the city. Strategies based on the policy analysis (done previously in the report in detail) and as per the situation analysis of the city are given below. There are two aspects to the mixed use development strategies, first the strategies for mixed uses which have come up in the predominantly residential areas (or existing mixed use development) and second strategies for promoting mixed uses in new areas/ undeveloped areas of city.

The above mentioned policies promote mixed use development in new developments of the city. Key aspects are as follows.

➢ Allowing mixed use in new developments. High density, high Far to be allowed in horizontal as well as vertical mixed-use development, with two or more uses shall be permitted;

- Mixed use can be permissible in following situations (as recommended in the Habitat Policy)
  - MRTS corridors/ transit-oriented development zones and Urban redevelopment schemes (total area can be under mixed use)
  - New townships/ integrated townships schemes; Potential locations demarcated in Master plan/ zonal development plans, Expressway, major highways proposed in development nodes (maximum 20% land area can be dedicated to mixed use)
  - Maximum permissible FAR In new developments 4.0 and in redevelopment 3.0 for mixed use
  - As pet the Habitat policy, for mixed use permissible, Minimum width of road should be 30m Minimum land area 10 acres (4 hectare)
  - As pet the Habitat policy, Maximum permissible FAR in mixed use in TOD zone to be 4 (developed areas) and 5.0 (in new or undeveloped areas)
- Planning of mixed use based on the 'development potential' of the site, level of infrastructure facilities and local needs of 'high-rise' / 'low-rise' or both can be done as a development mix.

- Mixed use in 'Transit Oriented Development' and Urban Redevelopment Plans shall be permissible over the entire area of the plan, while new townships/integrated township plans, development nodes identified along expressways/major highways and townships/plans in the master plan/zonal development plan Mixed use will be permissible on a maximum of 20 %of the area

- Maximum FAR including purchasable FAR Developed areas is 3.0 and maximum 4.0 FAR (including purchasable FAR) in new / undeveloped area. It will be permissible under this restriction that the provision of physical and social infrastructure facilities (such as drainage, sewerage, water supply, electricity supply, solid waste management, parks and open areas, educational, medical and community facilities) according to the norms of the permissible FAR and on basis of density/population to be received.

- In the existing built areas of the city, mixed use character has developed in the last plan period and is observed in the existing situation analyses. It is recommended that the mixed uses in the buildings demarcated in the mixed use zone can be maintained. Those coming up in the pure residential areas shall be restricted and relocation allowed based on the above recommendations or as per decisions by the competent authority.

- The ToD policy provides details on Land use bifurcation in industrial townships, other residential townships for mixed use development such as percentage share of activities, FAR etc. Such aspects shall be taken into consideration.

15.5.3 Strategy for decongestion and decentralization

The present report discusses in detail issues pertaining to high density development in the residential areas (the core city or the built land use area) of the city. These dense and congested developments are characterized by row type small housing units, narrow streets, traffic congestion, on street parking, mixed use including non-confirming uses at one place. IN addition to this, such areas suffer from pollution from incompatible industries, noise and disturbances due to extensive commercial development in residential area as well as improper sanitation, drainage issues etc. The encroachments have resulted in limited open spaces in the city. Thus decongestion is imperative.

- As discussed in above recommendations for redevelopment, such propositions as relocation of defunct or polluting industries, development of parks and open spaces on the land parcels or old dilapidate structures (with incentivization schemes as mentioned before) shall be considered.
  - As discussed previously in the report (Section 2 : Urban sprawl, Settlement Pattern and built-up area); it is discussed that the railway station seems to be the epicenter of the city and the city has acquired a nucleated pattern , and appears to be a transit based development concentrated highly in the core city. The land use zone provided in the erstwhile master plan were not utilized most of the commercial activities have come up adjacent to the main routes. For further development in the city, balanced planning is imperative. This is one of the key planning approaches (as discussed in the thematic concept of the Master Plan) for Saharanpur. The decentralization is proposed by proposing development towards the fringe areas, dedicated industrial zone, residential integrated township, administrative or institutional areas, CBD, parks, river front development etc. will move businesses to fringe.

15.5.4 Recommendation for Environmentally sustainable development

15.5.4.1 ***Conservation of green areas***

Recommendation for developing, and maintaining green areas in the city are as follows:

- Identifying the non-confirming uses in the green zones and strategizing the relocation/ etc. for such activities.
- Allow Mixed used development to encourage high density along the major transit corridors, in order to minimize travel demand and reduce private vehicle ownership while promoting green growth based economic activities.
- Identify strategic and important areas: revitalization and development of such natural features, as discussed in the report previously shall be prioritized. In addition new such areas need to be identified and conserved for historical, environmental relevance and redeveloped, to promote green industries and employment opportunities in the city.
- The present report identifies the Dhamola and Paondhoi River, parks and open spaces etc. which are encroached upon to be taken up as priority for redevelopment. Followed by identifying such structures which can be taken up for relocation and redeveloped as open spaces in the core city area.
- It is recommended that the progress made in conservation of the green areas, afforestation drives and revitalization of the rivers and water bodies shall be reviewed in every three years by the authority.
- Involving schools, citizens and private parties in this exercise and carry out awareness activities.
- Urban agriculture, green public spaces, urban forestry, river and lake conservation, plantation drives, green roofs in the city by involving private partners and providing incentives to citizens are recommended as a part of the master plan.
- Declare a local policy and include in the Master Planning process a mandatory three year review of the status of environment and biodiversity.

15.5.4.2 ***Conservation of energy***

- As per the Smart City proposal document for Saharanpur, any smart city has at least 10% of its electricity generated by renewable energy sources. Presently, city does not have any renewable sources of energy and there is no commitment to promote this for the foreseeable future. Following recommendations are based on Govt. Urban Housing and Habitat Policy.

- In order to promote solar energy in the housing sector, the establishment of solar power plants/plants to be encouraged to meet the partial electrical load in housing and commercial complexes, government and non-government offices and buildings of 5000 square meters and above area. Necessary provisions in the bye laws to be made.
- Use of solar water heating systems and solar lighting to be encouraged
- Special efforts will be made for efficient use and conservation of energy as per the provisions of the Energy Conservation Act, 2001.
- 5% additional free FAR is suggested to be awarded to encourage construction of 'Green Buildings' will be permitted. "Green building" means a building which has less water use than conventional building, proper energy efficiency, conservation of natural resources, and minimum generation of waste and healthy environment available to the occupants.
- Use of materials and renewable materials to be promoted in construction.
- All new developments in the planning area shall be encouraged to be energy efficient. Existing institutions in the city, which are shall be directed to install Solar Rooftops.
- Installation of Solar LED Street lights all over the city shall be promoted.

15.5.4.3 ***Conservation of water***

- The city faces crucial issues in water management Such as there is no accounting for water produced, water supplied or wasted. No metering for water connection, absence of separate waste water treatment plant and storm drainage network. Rain water harvesting is not a prevalent concept in the city. Treated water from existing STP of 38 MLD is discharged in Dhamola River. Hence to avoid water pollution and save water, following recommendations are done.
- Installation of Rain Water Harvesting system for recharging of ground water- and promoting effective implementation of RWH to be to conserve water and water sources in buildings.
- SCADA based monitoring to keep a tap on unaccounted for Water to be promoted.
- As per the Smart city proposal, reuse of treated water by existing ITC Cigarette Factory and Star Paper Mill can be done.
- Waste water recycling to be implemented, reduction of water supply demand by providing recycled water for informal usage.
- Smart water management initiatives shall be implemented in the city with zone based industrial development, such as treated water can be used in industries.
- Policy of Zero Liquid Discharge to be implemented in industrial areas. Zero liquid discharge (ZLD) is a strategic wastewater management system that ensures that there will be no discharge of industrial wastewater into the environment. It is achieved by treating wastewater through recycling and then recovery and reuse for industrial purpose.
- Measures to be taken to conserve the existing ponds/reservoirs in the colonies to be developed in urban areas to prevent degradation of ground water level as a result of continuous water exploitation in urban areas
- n the layout plans of various schemes for conservation and proper water management of ground water sources, it should be mandatory to make new reservoirs under parks and open areas and roof-topping in buildings of all uses of area of 300 square meters and above
- Promotion of afforestation along the banks of the water bodies and roads and proper maintenance of parks in open areas and green belts. Citizen participation should be enhanced.

- Revitalization, redevelopment and conservation of water bodies, especially rivers shall be prioritized

15.5.4.4 ***Solid waste management***

Following recommendations for SWM are given.

- Developing a generation to disposal effective solid waste management system for the city.
- Promotion of waste segregation at source.
- 100% waste collection, transportation and recycling at Pan City Level to be promoted.
- Using smart solutions of GPS and RFID BINS
- Waste to Compost & Plastic processing plant and Bio Gas Plants as per the smart city proposal for the city to be prioritized.
- Provision of Public Toilets in the city, especially along Paondhoi river, Dhamoli river
- Establishing 100% coverage of Sewerage Network at Pan City Level.

Zero Waste policy is recommended in the URDPFI guidelines. The 'Zero waste'/'Zero Land-fill' concept is gaining ground as being practicably achievable in Indian cities too, and has been implemented in cities such as Ahmedabad, Bhopal and Trivandrum completely.

Zero land-fill can be achieved by adopting systematic approach of segregation at source by planning, by collection facilitation and most importantly by public awareness. The green waste can be converted into fuel cakes, kitchen waste into manure, construction & demolition waste into bricks, plastic waste into oil, paper, glass and steel back into the same and all residuary inert materials can also be converted into bricks. Achieving zero land-fill is more conveniently possible, if (a) the collection is made from house to house and some segregation is done at household level and (b) the recycling is done at decentralized, say, ward or even lower levels.

15.5.5 Integration of land use plan with Traffic and Transportation Plan and Infrastructure Plans

National Urban Transport Policy (NUTP), 2006 has highlighted the need for integrating land use and transport planning. Land transport integration benefits in making investment decisions in transport infrastructure and services, which in turn are linked to economic, social and environmental outcomes. It also helps in determining the optimal use of land in the influence zones of the transit corridors. Land transport integration would involve two mutually supportive processes:

(a) Organizing the physical form and land use pattern of a city such that the travel demands, trip lengths and travel times are minimized, while accessibility, comfort and efficiency are maximized.
(b) Organizing all systems of transportation from pedestrian pathways to mass transit systems such that they integrate well with each other and enable the harmonious establishment of land use around them, in the process generating a city form that is sustainable

It is recommended that a comprehensive mobility plan shall be prepared for the city in conjunction to the land use plan and basing the transportation and traffic studies and relevant proposal made under the master plan.

The design and planning integration of land use with transport systems can be called as "Transit Oriented Development", which is essentially "any development, macro or micro

that is focused around a transit node, and facilitates complete ease of access to the transit facility thereby inducing people to prefer to walk and use public transportation over personal modes of transport". The Master Plan proposes development of industrial and residential areas along the connectivity. In addition as per the Mixed Use and ToD policy of the state, this would incur and support the compact city idea for the development of the city. It is recommended that at the time of preparation of zonal development plans, as per the planning area, regulations shall be made so as to be in accordance with the ToD and mixed use policy.

Following aspects can be considered: addition of dedicated pedestrian tracks, to provide space for vulnerable road users and promote walkability; Development of Internal roads with trees for shade along river Paondhoi and East West Drain passing through city area; Marked Pedestrian Crossings, Pelican crossings; Promoting Walkability through pedestrinazation of Market areas such as Cloth and ready-made garments etc.

15.5.6 Urban Form

Urban form is the physical characteristics that make up built-up areas, including the shape, size, density and configuration of settlements. It can be considered at different scales: from regional, to urban, neighborhood, 'block' and street. Saharanpur in last many years has acquired a typical form with largely concentric densities (high-density inner area; medium density outer-central areas/ colonies; low-density suburbs). In the present Master plan, the city edge green lungs and green belt are proposed. The city's morphology will be affected by the new developments that are proposed along the connectivity and transport corridors, future residential and industrial areas in the city around the present highly dense city area. The Transit Oriented development entails planning for compact cities and reducing haphazard urban sprawl and dependency on the large scale developments in the periphery which induce shift from non-motorized to motorized modes of travel. Approach to TOD highly depends on establishing mixed land use zone as part of strategic densification.

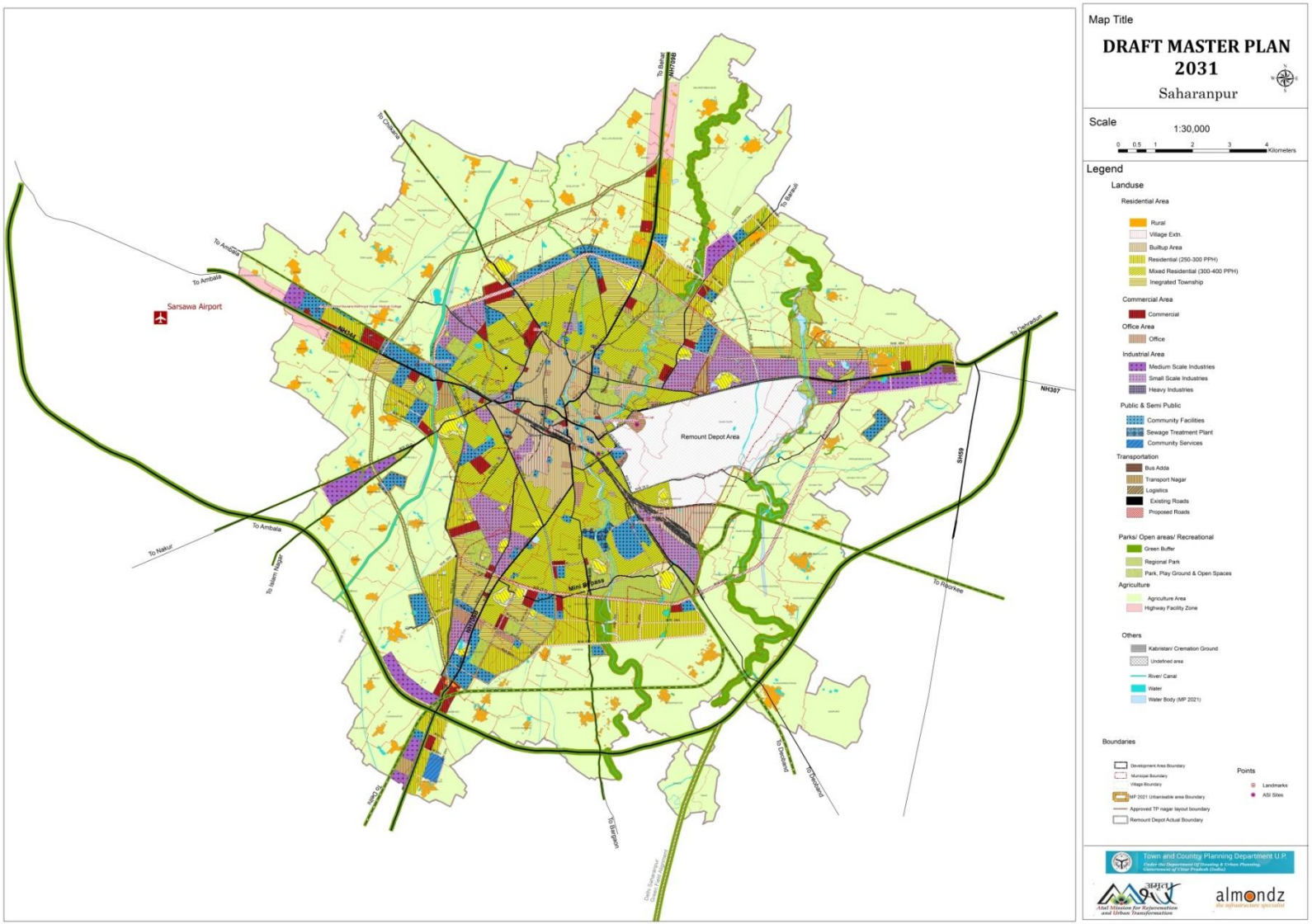
15.5.7 Proposals/Suggestions to be incorporated in Master Plan 2031

There are few proposals and suggestions to be incorporated in the Master Plan 2031 given by the consultant, CERC committee, SDA and the other key stakeholders. As changes are suggested inside the urbanizable area limit of Master Plan 2021, the proposals or suggestions has to be approved by the Saharanpur Development Board and through public in objections and suggestions of the proposed Master Plan 2031. The key proposals to be incorporated are:

- Remount Depot Actual boundary to be incorporated in the Draft Master Plan 2031.
- Transport Nagar Actual boundary is incorporated in the Draft Master Plan 2031.
- Part of Old Proposed Bypass road in Master Plan 2021 is to be removed from the Draft Master Plan 2031.
- 2 Non Utilized Dumping Grounds marked in Master Plan 2021 is to be removed from the Draft Master Plan 2031.
- Additional Commercial Streets to be incorporated inside the existing Built up Area.
- The Mixed Residential, Integrated Township Area, Residential (250-300 PPH), Residential (300-400 PPH), Residential Expansion area marked in Master Plan 2021 is to be converted as single land use of "Residential".

After the approval of the above mentioned suggestions and proposals, the Map of Draft Master Plan 2021 will be changed accordingly.

Map 15.1 Land Use Proposed for Master Plan 2031



Chapter 16
Analysis & Compliance of Govt. Policies

16 Analysis & Compliance of Relevant Government Policies

This chapter covers the assessment of the relevant government policies, to lay base for the future framework for the possible zonal plans and development of the city. Delineation of zones, their functional characteristics, strategy for their development and zoning regulations and development controls are discussed.

ANALYSIS

16.1 Uttar Pradesh State Urban Housing & Habitat Policy, 2014

Published In	March 2014
Department	**Housing and Urban Planning Department, Uttar Pradesh**
Vision / Mission	– Pleasant Habitat for all – Provision of quality life and equitable housing for all sections of the society especially economically backward and urban poor.
Aims	– Promoting steady and planned urban growth – equitable housing for all sections of the society especially economically backward and urban poor – Providing measures for land assembly and acquisitions to facilitate proper housing and infrastructure development – Promoting PPP in housing and infrastructure development – Utilizing land as a resource in resource mobilization for infrastructure development – Promoting inclusive development in provisioning of basic amenities – Emphasizing on energy and water conservation – Promoting private investments in land development – Capacity development and information system management in government agencies
Key Characteristics	*The policy gives a menu of actionable points which inter-alia includes Public-Private-Partnerships, conservation of natural resources and formulation of regulations & bye-laws that are environment friendly, investment-friendly and revenue-generating. This Policy seeks to emphasize appropriate fiscal concessions for housing and infrastructure.* **Key Characteristics, Strategies and focus areas of the policy** **1. Organized and Planned City development** • **Promoting sustainable development** through focusing on Greenfield development, integrated townships, growth centres etc. Strengthening urban rural linkages and promoting catalytic development of the backward areas / underdeveloped areas so as to foster growth in rural areas • **Allowing mixed use in new developments**. High density, high Far to be allowed in horizontal as well as vertical mixed-use development, with two or more uses shall be permitted; • Mixed use can be permissible in following situations ○ MRTS corridors/ transit-oriented development zones and Urban redevelopment schemes (total area can be under mixed use) ○ New townships/ integrated townships schemes; Potential locations demarcated in Master plan/ zonal development plans, Expressway, major highways proposed in development nodes (maximum 20% land area can be dedicated to mixed use) ○ Maximum permissible FAR In new developments 4.0 and in redevelopment 3.0 for mixed use ○ For mixed use permissible, Minimum width of road should be 30m

Minimum land area 10 acres (4 hectare)
  - Maximum permissible FAR in mixed use in TOD zone to be 4 (developed areas) and 5.0 (in new or undeveloped areas)
- **Promoting ToD**, implemented with road hierarchies and zoning regulations
- **Promoting redevelopment** and densification in urban areas by incentivizing provision on public utilities / open areas in non-confirming land uses with area min 1 Ha; allowing redevelopment in areas (>1 Ha) with old industries / terminals etc in accordance with new master plans
  - Redevelopment of underutilized areas and non-conforming land uses
  - Redevelopment conditions such as min area to be 1 Ha, and to be allowed by land owned by private developers, govt. agencies, housing societies etc. The policy provides percentage land under developer, utilities and govt. on redevelopment.
  - **Incentives offered under redevelopment** are focused such as free of charge land conversion to higher/ mixed land use; additional 25% of base FAR and additional 5% for green building; etc. are suggested under the policy to promote redevelopment
- **Master Planning** cities would lay emphasis on GIS based planning, superimposition on revenue maps, planning in accordance to Indian standards, sustainability-based planning strategies such as preparation of city mobility plan, infrastructure plan, schemes for development of peri-urban areas etc.; exhaustive stakeholders discussions are focused in the policy
- **Introduction of transferable development rights** for lands in green area, amenities etc.; incentivizing schemes for land use changes etc.
- As part of master plan zoning regulations; **following are permissible** in agricultural areas without land use conversion charges and payment of 'impact fees' such as SEZ; high tech educational and health facilities, agricultural processing and storage units, rice mills flour mills are units, amusement parks, warehousing; cold storage etc.
- **Zonal development plans** for detailed planning of the proposed road, financing plans for implementation by the authorities etc. are further proposed.

2. **Land Assembly and management**
- The policy promotes sustainable methods for land acquisition such as land pooling scheme; direct purchase of land by the government/ semi govt. etc. agencies; transferable development rights,
- Minimum area for land pooling 10 acres
- Reservation of 10% for open areas and public utilities for 35% of the pooled land
- Land given back to land owners shall not be less than 25% of the scheme
- No development charges to be paid by the owners for the allotted land
- Public areas under roads etc. with minimum 2000 sq. mt. can allow for TDR
- TDR is allowed in areas with premium FSI
- No compensatory FAR permitted while applying TDR
- Authorities to follow land record system and more land assembly methods to be explored
- Promotion of high rise, group housing, by allowing 3 FAR with 30 m road and min area 4 Ha

3. **Affordable Housing**

The policy promotes affordable housing by encouraging the implantation and convergence of central policies, emphasizes on slum free city policies, financial incentivization, self-help housing by government agencies, 20% reservation for EWS and LIG govt., private housing

4. **Legal and regulatory framework**
- Promote systematic planning by establishing single window system for

	master plan / building plan approval; land conversions, regulations for TDR and land pooling; etc. The policy focuses on legal penalties and administrative aspects to be follows in systematic city planning • Creating adequate housing stock both on rental and ownership basis with special emphasis on improving the affordability of the vulnerable and economically weaker sections of society through appropriate capital or interest subsidies. • Zoning regulations to be formulated for industrial development schemes (to include 10% land for staff housing); promoting mass transit and mixed uses and provisioning multi-level and terrace parking ; regulations for conservation of heritage sites; regulations for street vendors; slum redevelopment etc. ; rental accommodation; hostel accommodation and rental housing (land area min 150 sq. m and road 9 m for rental housing); stilt parking; paying guest accommodation etc. in zooming regulations **5. Infrastructure development and management** infrastructure development through governmental agencies new proposals, promoting PPP mode and etc. are included in the policy **6. Urban transport** • Preparation of city mobility plans, comprehensive mobility plans, infrastructure plans are promoted • Emphasis on non-motorized vehicle transport, development of highways, expressways and by passes; • High density transit corridors developed on PPP and such schemes • Pedestrianisation, parking management, traffic management, multi-level car parking at specific location (with cross subsidy and additional FAR etc. such incentives), etc. • IT based monitoring etc. for traffic managements **7. Resource management for housing and infrastructure** Introduction of Self sustainable revenue methods; applicability of Premium FSIs in potential areas such as transit corridors etc.; implementation of impact fees; regulation for development charges etc., land use change charges; stamp duties for TDR; betterment levy; non-conforming land use charge; parking charges etc. NRI housing schemes; private investments; **8. Technological support** Low-cost housing techniques; disaster planning regulations, industrial building codes, low-cost construction materials, etc. for affordable housing and industrial sectors; urban planning with aerial mapping, GIS mapping etc. GIS enables plans, use of plastics in road construction etc. technological innovations **9. Forging strong partnerships in private and cooperative sector** • Forging strong partnerships between public, private and cooperative sectors for accelerated growth in the Housing Sector and sustainable development of habitat • Incentivizing PPP based development and redevelopment schemes with high Densification, high FSI etc. and land use change • Private investments promoted by license model based Integrated township policy • Private and cooperative housing land assembly by PPP/ joint venture schemes • FDI in redevelopment promoted **10. Environment Conservations and upliftment** • Green lungs in master plans: green corridors open spaces parks etc. buffer areas; 15% city area to be for green areas such as multipurpose open areas parks playgrounds (except water bodies); • Revitalization and conservation of water bodies • Rain water harvesting, recycling, ground water recharging promoted • EIA encouraged as per integrated township policy etc.

	• Mass transit and CNG; Compatible land use planning; Forestation in green strips, adjacent to roads etc., water bodies, transit corridors In addition to above the policy also focusses on the **Conserving flood lands of rivers** by implementation regulation in the master plans and identifying such water bodies and projects for redevelopment and revitalization of water bodies **11. Promoting Renewable energy source; Rural and urban integrated development and Capacity building and management information** systems are also focused in the policy document. The policy includes roles of state government, governmental agencies, and private and cooperative societies in implementation of the policy.
	Areas / FSI regulations given in policy: (discussed above) Minimum areas required for TDR; ToD, Mixed Use development and respective permissible FSI; percentage areas for EWS and LIG housing; land pooling schemes; redevelopment FSI incentives etc.
Takeaways for Saharanpur Master Plan	• Land use planning: Mixed Use development and FSI incentivization • High Density and compact development • Use of non-conforming land uses and incentivizing schemes • Areas proposed for redevelopment • Zoning regulations for mixed uses, mass transit, TOD areas in respect with FSI, densification, land assembly, TDR etc. • Environmental and ecological focus • Permissible land uses in agricultural lands and densification strategies • Land management strategies and revenue generation for authorities • Planning green lungs of city: buffers, playgrounds, open areas etc.
Link Online	***http://awas.up.nic.in/policy.html***

16.2 Integrated Township Policy (License Based System)

Published In	March 2014
Department	**Housing and Urban Planning Department, Uttar Pradesh**
Background	An updated version of the ITP Policy published in year 2005 was published in year 2014, to streamline the practical issues faced in the earlier version including licensing, investment etc. such aspects. The updated policy includes regulatory frameworks, consortiums MoU formats, licensing formats etc.
Key Requirements	• An Integrated Township means, self-contained planned and developed township which have all the physical and cultural development facilities including areas for live, work learn and play. • The minimum area for Integrated Township is 25 Acres and maximum can be 500 Acres. • Direct Access to main road, proper provision of apt water and power supply • Locations such as fast-growing areas near urban mass transit corridors; growth centers, urbanizing areas in master plans etc. Developers' qualifications for applying for license • Private builders. Land owners registered or non-registered developers with land to develop either by whole or assembled, or willing to join land • Consortium to be formed of all the parties, with lead member to have more than 26% of the shareholding and should be a company; all the parties to disclose their net worth and turn over (irrespective of sectors) etc. • The turnover of last year should be 20% of the average of last three years; for each 50lac INR, one acre license for 1 acre shall be awarded • The financial capacity f the lead has to be more than the cumulative financial capacity of the other members

Key Characteristics	**Key Features** • The policy provides own detail the necessary documentation and agreement, format etc. required by the developing consortium for applying for license of the Integrated township; the license application and approval/ issuance process etc., license fees, approval authority • The consortium prerequisite to apply is such that 60% of the area applied for license is assembled, the land should be continuous parcel, and well connected • **Land Assembly Process** o The land assembly should be done by developers; in case land acquisition policy and state rules shall be applicable o The consortium shall pay for direct purchase of land o The consortium land assembly shall follow the applicable SC ST land related rules, rural policies for land under public utilities, etc.; resettlement for affected people as per relevant R&R policy of UP; o Incentives to Developers o Only consortium owns the development rights in the proposed area o Land pooling agreement / developer agreements are allowable by consortium with villagers/ land owners o High standards for Flexible land use and FARs are set for such a development o For Master Plan based land use conversion rates, 50% discount shall be given for an urban population less than 5 lac and 25% for 5 to 10 lacs population o Developer can be a part of more than one consortium and hence such developments • **Farmers and Land owners' rights** o The farmers may not directly sale the land and instead get into land pooling/ developer agreements o The village habitation in the township area shall be provided with link roads, health and educational facilities, water supply, sewerage etc. by the developers o The villages not included in the township areas will be developed by the authorities, for which the developer has to pay charges to the authority • **Land planning, FAR and density** o City level facilities and utilities shall be provided in the township, for provisions such as open areas, parks, bus terminals, fire station, STP, public facilities 10% of the licensed area shall be reserved o The development of the public facilities, open areas etc. shall be done by the developers o Land uses such as residential (max. 50%); mixed (max. 20%); commercial (max. 10%); non-polluting industries, institutional public, semi-public, utilities and recreational areas (min. 10%); parks, open areas, water bodies (min 10%) and roads, parking etc. (min 15%) shall be planned in the township o In case any zonal plan is applicable in the license area, then the net plot area is used for calculation (deducting the roads); however, the license fees is applicable for complete area. • **Density** o 150 units residential /Ha for plotted development o 200 units residential /Ha for group housing (on 12 to 18m roads) o 250 units residential /Ha for group housing (on 18 to 24m roads) o 330 units residential /Ha for group housing (on 24m roads and above) • **FAR** o Plotted Development: 65% max. land cover; 2 max. FAR o Group Housing: 35% max. land cover; 2.5 max. FAR o Commercial 2500 sq. m area and below: 50% max. land cover; 1.5 max. FAR o Commercial 2500 sq. m area and above: 50% max. land cover; 2.5 max.

	FAR ○ Mixed: 40% max. land cover; 3.0 max. FAR (with minimum req. road width 30m) ○ Institutional / Administrative: 35% max. land cover; 2.5 max. FAR ○ Non-Polluting Industries: 50% max. land cover; 2.0 max. FAR ○ Public Semi Public: 35% max. land cover; 2.0 max. FAR ○ Recreational: 20% max. land cover; 0.25 max. FAR ○ (50% is saleable FAR, with maximum permissible 4 FAR; except for plotted dev.) • The developer shall prepare DPR for the township area and provide provision for all the trunk infrastructure, public facilities and utilities in time and well phased manner • The time period allowed for 50-acre scheme (including completion of EWS and LIG housing etc.; public facilities and amenities, village provisioning etc.) is 8 years; for 51 to 100 acres is 9 years; for 100 to 200 acres is 10 years and above 200 acres is 12 years • The policy details out the features such as performance guarantee by the developers, proper disposal/ allotment of the properties etc. • **LIG and EWS provisions** ○ BUA for EWS In plotted development: 30 to 35 sq. m In Group Housing: 25-35 sq. m ○ BUA for LIG In plotted development: 40 to 50 sq. m In Group Housing: 35-48 sq. m – The LIG and EWS housing shall be constructed by the developers – As part of the Master Plan of the scheme the EWS LIG shall constitute 20% of the total scheme area (10% each) – The policy provides details on the expectations, roles and responsibilities of the developer towards sustainable development, inclusive planning and provision to the villagers as a part of the scheme
	Areas 1. Minimum land areas required for Integrated township 2. FAR, Land use maximum permissible cover, FAR maximum permissible, density etc. 3. Planning mix and provisioning for common areas; land use conversion in case of Master planning area etc.
Takeaways for Saharanpur Master Plan	Possible provisions of Integrated township (license based) scheme which reflects on the land pooling scheme can be made in the proposed master plan area where proper direct access and future growth centre can be envisaged; can be proposed as decongesting character to the city and can be a possible location for developer consortium to take up.
Link Online	***http://upavp.in/post/en/pol-planning***

16.3 Draft Policy for Promotion of Private Investment in Development of High-Tech Townships in Uttar Pradesh

Published In	Year 2003, and amended in 2006, 2007
Department	**Housing and Urban Planning Department**
Background	With the current policy of economic liberalization and stress on privatization, the government has to resume the role of a catalyst and "facilitator" in housing sector rather discharging the traditional role of being a "provider". Therefore, there is urgent need to make vigorous efforts to create an enabling environment for the same.
Key Requirements	• **Prerequisite for developers** ○ Minimum investment of Rs.1000 crores (during the five-year time frame) ○ **Minimum land area of about 1500 acres, and no upper limit as prescribed in amended policy of 2007 (as per year 2006 policy the maximum areas was maximum 5000 acres and extendable)** ○ The above larger area would facilitate creation of housing stock in well planned manner **Financial aspects** ○ Minimum annual turnover of Rs. 100 crore for the last three years with positive net profit; the company should be listed in SEBI within five years of the selection ○ Any individual developer can take part no need of consortium, MoU required in case of consortium ○ The share capital of the consortium members untied shall be 51% of the total; all members shall be **Selection** ○ Selection of companies would be by tender based and selected by high level committee of govt. officials; the selection process would be scoring based for example, 25 marks for financials; 10 and 15 marks for conceptual plans and pre-feasibility reports; past experience scoring etc.
Key Characteristics	**Developer -Land acquisition** ○ Each developer can partake in two such township developments ○ Land shall be acquired by the development authority/ Housing Board or any other state agency, under the provisions of Land Acquisition Act, 1894 or U.P. Housing and Development Board Act 1965 ○ Total cost of land to be borne by developer company, in case of LA stamp duties, 10% to be waived off; 12% lease premium to be paid by developer in case of for freehold conversion/ sale (for first 500 acres no fees) ○ Direct purchase of land required for 60% of first 500 acres, remaining as per LA process of Development authority **Location** ○ The township can be proposed in any city/ region of the state except greater Noida and Greater Noida notified areas ○ The land proposed for such township would be primarily in agricultural zone in city scale master plan, once the township is approved, the land conversion would be done by the developers with respective fees paid and the respective changed will be made in the city master plan ○ Each city can have maximum two such townships and for outside development authority area, within 10 kms range another township can be proposed ○ Townships proposed in NCR shall be as per the regulations as prescribed by NCRPB for the said area **Timelines** ○ The authorities inform the developer for selection within 90 days ○ Present MoU within 30 days of the offer acceptance ○ Present conceptual DPR within 180 days of forming the MoU ○ Approval process in 30 days by authorities ○ The launching, booing pre-launch etc shall be allowed only after the

	approval of the DPR **DPR Requirements** ○ A financing plan has to be presented by the developer including venture capital, loans, debt service ratio, cash flow- outflow, break even, year on year balance sheets, IRR etc. such aspects ○ The township shall follow URDPFI guidelines, BIS, IS codes ○ The DPR would be conceptual plan including layout plans, infrastructure loans, O&M plans, standards and case studies etc., phasing plans, this would help the developer in procuring financial instruments, etc. **Other** ○ The developer shall follow the resettlement rehabilitation policies and relevant policies for the village, backward classes communities for the said areas ○ The developer shall acquire minimum of 60% of the land at first, with minimum area of 300 acre and prepare detailed layout plan (foreseeing a pollution of 25000 in such area) and further on, and present it to the governmental agencies, a development agreement shall be awarded by the govt agency ○ The development of the township shall follow all the planning norms such as provision of public utilities, services, provisions for the village communities, resettlement aspects, proving green buffers, open area, LIG and EWS accommodation up to 20% minimum etc. ○ As per the amendment in the 2007 policy, the developer if purchases land from the scheduled tribes and schedules caste, shall provide/ purchase for similar land area near the proposed township ○ Those townships which were approved as per the 2003 policy shall follow the latest amendment under 2007-year policy
	Areas ○ FAR and density have not been mentioned in the policy ○ Minimum land area required is 1500 acres, for which a detailed layout plan shall be made for every 300 acres ○ No maximum limit is prescribed for the township
Takeaways	Such type of developments can be proposed in the peri urban areas / fringe areas of the master plan, location which foresees a future development, can be a secondary magnet where the connectivity can be strengthened and the city can provide linkages to major urban centres nearby, industrial centres, proposed industrial zones etc. live work learn play kind of development
Link Online	***http://awas.up.nic.in/policy.html***

16.4 Policy for Sustainable Ground Water Management in Uttar Pradesh

Published In	Year 2013
Department	**Ground Water Department, Uttar Pradesh**
Background	• In view of the importance of integrated management of ground-water resource and continuously increasing dependency on ground-water in different schemes, the State Government has come out with a comprehensive ground-water management policy in the state. • The policy aims to implement the rain water and recharge programs in integrated manner and to effectively minimize the existing level of ground-water withdrawals through efficient water use and techniques • The policy paper describes its strategy and main action points in nine different subheadings, starting with the aquifer mapping to monitoring and review
Vision	Setting of goals based on the principle of sustainable ground water management in the state, according to different hydrogeological conditions and implement these goals.

Strategies/ Actions required as per Policy/ Key Features	**1. Aquifer Mapping and Aquifer-based Ground-water Management** • The National Program of Aquifer Mapping and Aquifer based Management is proposed to be taken-up on a big scale for overall management of ground water resources; as a result of this program , management of ground water will be done as single aquifer unit. • Emphasis will be given to aquifer-wise ground water management by adopting the participatory approach **2. Optimum Use of Ground-water and Planned Management of its Exploitation** • Concrete interventions are required for the judicious, optimum and efficient use of water including planned development / abstraction; as such water waste occurs due to field losses while taking the water from tube-wells to fields, excess irrigation than the water really required to crop, etc. • **Management Interventions for Urban Areas** ○ Emphasis on checking about 40% losses due to leakage in water supplies ○ Proposes to work out the need-based drinking water requirement and the arrangements like rostering for controlling exploitation of ground-water. ○ While the existing tube-wells in major cities need be closed in phased manner, the new tube-wells be constructed in second aquifer group, marked as alternate aquifer. ○ For the cities situated on the bank of river Ganga, the policy suggests the construction of tube-wells in the first aquifer group located up to 150 meters. • **Management Interventions for Rural Areas** ○ policy suggests a number of interventions like 'pipe irrigation' to check leakages, promoting sprinkler system, conjunctive use of canal water and ground-water, promote low-water consuming crops and encourage use of canal water for ○ irrigation in over-exploited areas. In this regard, a proper collaboration between the Department of Agriculture and Irrigation Department is necessary **3. Rain Water Harvesting and Ground-water Conservation/Recharge** • Ground water conservation in urban areas ○ Emphasizes on roof-top rainwater harvesting systems on buildings along with combined recharge systems to be implemented by the Housing and Urban Planning Department. ○ The possibility of conserving surplus run-off through, ''the pavement storm water harvesting'' need to be assessed and promoted by the Urban Development and Housing and Urban Planning Department. O It also gives the details of the recharge techniques for urban areas and the guidelines for implementation of roof-top rain water harvesting • Ground water conservation in rural areas ○ The emphasis is more on rehabilitation of village ponds and reservoirs for water storage and conservation. 'Recharge Activity Core Team' constituted in the stressed-districts will be made more effective and to speed up the rain-water harvesting program, "the Ground Water Recharge Task Force" constituted at state level, will provide the required technical cooperation • Ground water conservation in industrial areas ○ The polluted effluent of industries be treated for its maximum reuse and recycle. Due to risk of ground-water pollution, 'recharge well method' should not be encouraged • Adoption of micro-water-shed and micro-basin approach for comprehensive planning of rain-water harvesting and ground-water recharge. The aim is to saturate each micro-water-shed by suitable recharge structures **4. Setting of Ground Water Regulation Processes** • As of today, no legal system exists in the state for 'Ground-water Management and Regulation'. However, there do exist certain guidelines in this regard, such as, ○ No government scheme of tube-well construction should be implemented in the over-exploited / critical blocks ○ The installation of roof-top rainwater harvesting system has been made compulsory with certain provisions in the building by-laws

	○ The policy envisages the formulation of practical and acceptable regulation process separately for both urban and rural areas ○ The policy suggests that the pollution control board/ environment department should consider development of an initiative for monitoring and control system for ground-water pollution under environment protection act **Other provisions detailed out in the policy document** • Continuous monitoring of ground-water quality and environment protection • Water quality review committee • Ground-water data bank and information system • Water management plan • Formulation, inter-departmental cooperation and implementation of schemes • Comprehensive ground water policy monitoring and review committee
Takeaways	The policy emphasizes upon the urgent need for the enactment of appropriate rules and regulations for ground water development in the nearest future
Link Online	***http://upgwdonline.in/groundwater_policy.html***

16.5 Planning norms, zoning regulations and building bye-laws for Mixed Use and TOD – 2015

Published In	March 2015
Department	**Housing and Urban Planning Department**
Background	***UP TOD Policy consists of the guidelines, norms and standards for the following special activities along the transit corridors in Uttar Pradesh.*** a. Transit Oriented Development b. Mixed Land Use c. Provisions for land assembly
Key Features / bye laws of ToD Zones	*The UP-TOD Policy underlines the following criteria for implementing Transit Oriented Development (TOD) in Uttar Pradesh along the transit corridors:* • The influence areas of MRTS/Transit/Metro Corridors to be earmarked as TOD Zones in the Master Plan/Zonal Development Plan • TOD Boundary can extend up to 500 m on either side of the MRTS/transit/metro corridor whereas near metro stations, based on local conditions and development potential, the delineation could be more than 500 m • TOD Zone shall be earmarked based on physical features such as roads, railway line, river/drain/canal etc. • The zoning regulations and planning norms for all developments in the earmarked TOD Zones shall be as per norms prescribed in Mixed Use development • According to the policy, a maximum purchasable FAR of 4 is permitted in developed and built-up areas on a minimum plot size of 0.5 ha while a maximum purchasable FAR of 5 is permitted on a minimum plot size of 4 ha in the TOD zones. The document also lists the bye laws for TOD Zones.

Bye laws for mixed use in ToD

Development Type	*Built/ Developed Area*	*New /Non-Built Area*
Minimum land area	*0.5 Ha*	*4 Ha*
Access Road Min Width	*18m*	*30m*
Basic FAR	*2.0*	*2.5*
Max. FAR (with premium)	*4*	*5*
Ground Coverage	*50%*	*40%*
Set backs	*As per prevalent building bye laws*	
Parking	*1.5 ECU for each 150 sq. m* *For vertical mixed use, additional 2 sqm for 01 cycle parking for each residential unit*	

Bye Laws for other than mixed use in ToD

Max permissible FSI in built/ developed areas for institutional, industrial (non-polluting), group housing would be 4 and in non-built / new development would be 5 (including premium FSI)

Whereas,

1. *The land uses in TOD shall follow the base FAR as per prevalent bye laws, additional FAR would be purchasable*
2. *The premium coefficient would be 0.5 for calculation of premium far in mixed use in TOD*
3. *For group housing in ToD, the additional FAR would be used in terms of additional residential units, which would be other than the planned density in master plan// relevant zonal development plan*

- The planning norms and bye-laws for above mentioned special cases on mixed land use developments are given in the policy.
- The policy annexure details out the permissible and non-permissible activities in the ToD zones in vertical and horizontally mixed-use developments.

Other Requirement

- Separate access to residential apartments shall be provided in the mixed-use development, the planning of mixed use shall be such that the residential areas be separated from odour prone industrial units and likewise. Similarly, separate parking provisions shall be planned.
- In built areas, Additional FAR shall be permissible only in case of adequate provisioning of infrastructural facilities and common utilities, and bye laws such as setbacks etc are followed
- In new non built areas, such additional Far shall be permissible only in case such that all infrastructural provisions are planned as per density foreseen under additional FSI.

Key features for Mixed Use development

Mixed uses shall be permissible in following:

- Development nodes around Expressways/Major Highways
- Transit Oriented Development (TOD) Zones along MRTS Corridors
- New Township/Integrated Township schemes
- Urban Re-development Schemes
- Potential Locations earmarked in Development Plan/Zonal Development Plan

Mixed Use Zoning Regulations

Vertical or Horizontal mix use shall be allowed as per the land use affiliation, economic dependency, environmental point of view etc.; whereas non compatible such as dangerous, inflammable etc such polluting uses shall not be permitted in mixed use

Planning norms

For New Township/Integrated Township schemes, Development nodes around Expressways/Major Highways, schemes in ZDP etc, 20% of the total land is allowed for mixed use; for potential identified schemes under mixed uses can be completely developed as mixed land use. **Planning norms: -**

LU Category	*Percent*
Residential	*40 to 60%*
Institutional	*15 to 30%*
Commercial	*5 to 10%*
Industrial (non-polluting)	*5 to 10%*
Community facilities, recreation	*10-15%*

Proposed Building Regulations in TOD

Development Type	Built/ Developed Area	New /Non-Built Area
Minimum land area	4Ha	4Ha
Access Road Min Width	30m	30m
Basic FAR	1.5	2.0
Max. FAR (with premium)	3.0	4.0
Ground Coverage	50%	40%
Set backs	As per prevalent building bye laws	
Parking	1.5 ECU for each 150 sq. m	

	For vertical mixed use, additional 2 sqm for 01 cycle parking for each residential unit • *For group housing in mixed use, the additional FAR would be used in terms of additional residential units, which would be other than the planned density in master plan// relevant zonal development plan* • *The premium coefficient would be 0.5 for calculation of premium far in mixed use in TOD*
Key features for Land Assembly	**For built/ developed areas, amalgamation of plots is allowed in the ToD policy. Key features:** • The land parcels to be assembled shall be in same LU in Master Plan/ ZDP; in case of separate LU, conversion shall be done. • Land title and ownerships shall be under one entity for both parcels to be assembled • Assemble Land parcel shall be having direct access to minimum 18 m road. • Appropriate changes in the city master plan shall be made by the authority once the layout for the assembled parcel is done. • The prevalent bye laws shall be followed in developing the new land parcel and 10% of the land cost (circle rate) payable to the authority for the assemble land parcel.
Takeaways	ToD along strong linkages, location identified for integrated townships, highways and mixed-use developments in core city areas, can be proposed Future linkage to proposed industrial area in south Pilkhani can be proposed as ToD, envisaged in phased manner etc.
Link Online	

Industrial Investment and Employment Promotion Policy of Uttar Pradesh 2017

Published In	July 2017
Department	**Industrial Development Board, Uttar Pradesh**
Aims/ Objective	Aims to create a framework to stabilize and make existing industries more competitive as well as attract and realize new international and national investments in the industrial sector. It aims to • Create a framework for industrial growth that empowers people and create jobs, thus leading to a ripple effect in the economy • Create a roadmap in the State for improving its ability to attract and facilitate business • Provide a reference point for intra-governmental and public-private coordination of policies, laws and principles of economic development • Stimulate institutional learning that comprises state-industry interactions
Objective	Establish Uttar Pradesh as a nationally and internationally competitive investment destination thereby generating employment and igniting sustainable, inclusive and balanced economic growth of the state
Highlights of the Policy	**Fiscal Incentives** Stamp Duty: 100% in Bundelkhand & Poorvanchal, 75% in Madhyanchal & Paschimanchal (except Gautambuddh nagar & Ghaziabad districts) and 50% in Gautambuddh Nagar & Ghaziabad districts. **EPF reimbursement:** Facility to the extent of 50% of employer's contribution to the units providing direct employment to 100 or more unskilled workers **SGST Reimbursement:** Net SGST reimbursement as following conditions and criteria- • 90% for Small Industries for 5 years • 60% for Medium Industries for 5 years • 60% for large Industries other than Mega Industries for 5 years

	• 70% for Mega category Industries for 10 years. • Capital Interest Subsidy - 5% per annum for 5 years • Infrastructure Interest Subsidy - 5% per annum for 5 years • Industrial Quality Development - 5% per annum for 5 years • Electricity Duty – 100% exemption to all new industrial units set up in the state for 10 years. • Electricity Duty -100%, exemption to all new industrial units producing electricity from captive power plants for self-use for 10 years • Mandi fee- 100% exemption to all new food processing units on purchase of raw material for 5 years. • Incentivizing employment generation - Units generating minimum employment of 200 direct workers including skilled and unskilled will be provided 10% additional EPF reimbursement facility on employer's contribution. **Incentives for private sector industrial parks/ estate** The Government will provide following incentives to industrial parks/ estates of more than 100 acres in Bundelkhand & Poorvanchal; 150 acres in Madhyanchal; and more than 50 acres in case of Agro Parks in Bundelkhand, Poorvanchal and Madhyanchal developed by private sector Interest Subsidy reimbursement for industrial parks/ estates and Agro Parks developed by private sector • 50% of annual interest on the loan taken to buy land for 7 years • 60% of annual interest on the loan taken for building infrastructure for 7 years • 60% of annual interest on the loan taken for building Hostel/Dormitory Housing for workers for 7 years 100% exemption/ reimbursement to developer and 50% exemption to individual buyers (first) on stamp duty 100% exemption/ reimbursement to developer and 50% exemption to individual buyers (first) on stamp duty Promoting Mega Investments Projects in the mega categories (mega, mega plus and super mega) will be processed on a case-to-case basis for finalising the incentive structure.

Category	Minimum eligibility requirements		
	Paschimanchal	**Madhyanchal**	**Bundelkhand, & Poorvanchal**
Mega	Capital investment of more than Rs.200 crore but less than Rs.500 crore or Providing employment to more than 1000 workers	Capital investment of more than Rs.150 crore but less than Rs.300 crore or Providing employment to more than 750 workers	Capital investment of more than Rs.100 crores but less than Rs.250 crores or Providing employment to more than 500 workers
Mega Plus	Capital investment of more than Rs.500 Crores but less than Rs.1,000 crore or Providing employment to more than 2000 workers	Capital investment of more than Rs.300 Crores but less than Rs.750 crore or Providing employment to more than 1500 workers	Capital investment of more than Rs.250 crore but less than Rs.500 crore or Providing employment to more than 1000 workers

Source: http://www.niveshmitra.up.nic.in/

MSME related aspects in the policy **(Focus on analysing the MSME part of the**	*Uttar Pradesh has highest number of MSMEs in India. Saharanpur is a burgeoning commercial hub and a leading regional centre for wholesale and retail trade, agro based industries and industrial products. Saharanpur is well known for its agricultural produce and MSMEs. The policy intends to provide the following facilities and incentives for the holistic development of MSMEs in the state* **Improving flow of capital and credit for MSMEs: fiscal initiatives such as** A corpus fund will be created to implement

policy for present use)	• 'Vishwakarma Shram Samman Yojana' corpus fund to provide assistance in terms of margin money subsidy and interest subsidy to artisans and entrepreneurs of local traditional industries through bankable projects. • Mukhya Mantri Yuva Swarojgar Yojana to encourage the educated unemployed youth of the state to set up enterprises • SME Venture Capital Fund for promoting Start-ups and emerging SMEs • The annual service fees payable to Banks and financial institutions for availing collateral free loan up to Rs.2 crore under Credit Guarantee Fund Trust for Micro & Small Enterprises (CGTMSE) will be reimbursed by GoUP **Industrial Infrastructure and Common Facility Centres** • Private sector investment in Greenfield mini-industrial parks of 20-100 acres for MSMEs. The government will provide fiscal incentives to the developer in the form of interest subsidy along with reimbursement of stamp duty towards purchase of land. • The State will also share the cost of construction of electrical sub-stations in the park for which land will be provided free of cost by the developer. Uttar Pradesh Small Industries Corporation (UPSIC) will be the nodal agency for the purpose • The policy intends to promote **cluster-based development** in the state by encouraging formation of Special Purpose Vehicles (SPVs) and dedicated agencies like societies of entrepreneurs or artisans and providing them with common infrastructure facilities including Common Facility Centres and Raw Material Depots, etc. • The policy also details out the capacity building initiatives and quality standard improvement aspects for the MSME sector, marketing and good governance aspects.
Takeaways for Saharanpur Master Plan	Saharanpur, has a significant presence of MSME and small-scale industries, the UPSIDA also proposed a 90-acre Industrial area in Pilkhani which is 20 kms south of the Saharanpur city centre. Initiatives in MSME sector and new MSME policies such as cluster development scheme, can be promising for further growth of the city.
Link Online Source	***http://www.niveshmitra.up.nic.in/*** ***http://diupmsme.upsdc.gov.in/home/Policies*** ***U.P. State Industrial Development Authority (onlineupsidc.com)*** ***https://gis.onlineupsidc.com/*** ***https://www.amarujala.com/uttar-pradesh/saharanpur/small-industry-will-gain-momentum-in-pilkhani-saharanpur-news-mrt519567685***

16.6 Uttar Pradesh Micro, Small and Medium Enterprises Promotion Policy-2017

Published In	December 2017
Department	MSME & Export Promotion Section-2
Definition of MSME	*As per MSME Act 2006 (amendment in Year 2020 for change in criteria of MSME)*

Manufacturing Enterprises and Enterprises rendering Services		
Type	***Annual Turn Ove INR (not more than)***	***Investment in Plant & Machinery INR (not more than)***
Micro	*5cr.*	*1 cr.*
Small	*50cr.*	*10 cr.*
Medium	*250 cr.*	*50 cr.*

Key Features	• **Land Incentives:** ○ In rural areas, gram sabha land measuring more than 10 acres shall be identified and passed on in favour of industries department free of cost. ○ Land parcels measuring 5 acre or more and belonging to a gram sabha situated within a radius of five kilometers of Agra-Lucknow expressway, Poorvanchal Expressway and other such corridors being developed and 50% of plots shall be reserved for micro and small sector. ○ Minimum of 30% area would be reserved for micro and small sector in the industrial areas developed by UPSIDC and other organisations. ○ In Bundelkhand, Poorvanchal, Madhyanchal and Paschimanchal (except Gautam Buddha Nagar and Ghaziabad districts), private parties setting up industrial estates of area of more than 20 acres shall be provided incentives as per Uttar Pradesh Industrial Investment and Employment Promotion Policy, 2017 ○ Waiver of land use conversion charges for converting agricultural land to Industrial land. • **SPV Formation:** Setting up of SPVs with the participation of allottees and State Government to grant equal proportion of contribution by the allottees. • **Consultation Assistance**: Consultation facility from experts shall be provided in the district industry and enterprise promotion centres to micro and small enterprises • **Stamp Duty Exemption:** Exemption from stamp duty in accordance with the CLAUSE 5.1 of UPIIEPP 2017 • **EPF Reimbursement:** 100% reimbursement of the employer's EPF by the State Government for 5 years from the date of commencement of the unit for MSMEs. • **Other Incentives:** The incentives given in para 5.3, 5.4, 5.5, 5.6, 5.7, 5.8, 5.9, 5.10 and 5.12 of UPIIEPP 2017 will also be applicable to MSMEs. • **Land Conversion Waiver:** Waiver of land use conversion charges from agricultural to industrial being established on agriculture land development authorities for MSMEs. • **Electricity Charges Reimbursement:** Reimbursement of the fixed electricity charges at the rate of one rupee per unit for 5 years from the date of production for MSMEs. • **CGTMSE:** Payment of service fee to Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) charged by banks for collateral free loans upto Rs 2.00 crore to be borne by the State Government for MSMEs. • **Special Schemes:** Special schemes like Vishwakarma Shram Samman Yojna and Mukhyamantri Yuva Swarozgar Yojna (Chief Minister Youth Self Employment Scheme) will be applicable • **Interest Subsidy Reimbursement:** Reimbursement of interest subsidy at 5% annually for 5 years from the date of production on the expenditure on plant, machinery and equipment procured for research and development, quality improvement and product development. • **SMEVCF:** A Small, Medium Enterprise Venture Capital Fund (SMEVCF) shall be created by the State Government, with the help of other financial institutions to encourage development of start-up and upward mobile MSMEs.
Takeaways	Industrial boost to the city by backing up with the immense policy initiatives is imperative for Saharanpur, Industrial linkages, existing industries and upcoming industrial developments, future connectivity and infrastructure and support scenario of the state provide strong impetus in creating a holistic environment for industrial development, new areas to be proposed for nurturing the potential of the region, employing the skilled of the locals as well as locals from nearby areas…
Link Online Source	***http://diupmsme.upsdc.gov.in/home/Policies***

16.7 Uttar Pradesh Warehousing & Logistics Policy

Published In	Year 2018
Department	
Background	• UP is home to second highest number of MSMEs in India. The exports from the state recorded 13.26% CAGR from year 2012 to year 17. With largest consumer base of over 200mn population, the logistics industry has set its foot to grow in the state • The long-term strategy of the GoUP is to create a connectivity web of air, water, road and rail network t support state's industries and manufacturing units switch seamlessly between different modes of transport as they export goods. • A vibrant warehousing and logistics sector would increase the competitiveness of goods produced in the state, both in the domestic as well as export market. The sector has high potential to boost manufacturing and job creation.
Key Features	**1. Logistics Park** A logistics park that includes Container Freight Station (CFS) and/or Inland Container Depot (ICD) and/or Air freight stations and/or Warehouses and/or Cold Chains and related infrastructure, developed on at least **25 acres** of land area is eligible for incentives under this policy. Such parks will include • **Logistics services**: cargo aggregation/segregation, distribution, intermodal transfer of material and container, open and closed storage, material handling equipment, and business & commercial facilities and common facilities. • **Supporting infrastructure**: including internal roads, communication facilities, open and green spaces, water pipelines, sewage and drainage etc. **2. Logistics Units** Minimum facilities to attain investments as per this policy: • **Container Freight Station (CFS) or Inland Container Depot (ICD)** with minimum investment of INR 50cr. and minimum area of 10acres. • **Warehousing facility** with minimum investment of INR 25cr. and minimum area of 1lakh sq. Ft • **Cold chain facility** with minimum investment of INR 15cr. and minimum area of 20,000sq. ft **3. Fiscal Incentives for Logistics Park** • **Capital Interest Subsidy:** reimbursement to the extent of 5% per annum for 5 years (min. 2 cr. to max 10cr.) • **Infrastructure Interest Subsidy: reimbursement** to the extent of 5% per annum for 5 years (min. 2 cr. to max 10cr.) • **100% Stamp Duty exemption** • **100% Electricity duty exemption** • **Incentives on purchase of Transport Vehicles** • **EPF reimbursement facility:** to the extent of 50% of employer's contribution • **Land use conversion charges:** 50% concession on land use conversion charges • **Development Charges:** In case the unit is in master plan area of the developing authority only 25% of the development charge to be paid, such facility is not available in case the trunk infrastructure is available beyond 50mtr • **Skill Development incentives:** Fiscal incentive per person trained in warehousing and logistics management etc. • **Incentives for Intelligent Logistics:** Interest subsidy to the extent of 5% per annum subsidy in form of reimbursement on loan taken for setting up automated supply chain technology in material handling, cargo transportation and de-congesting cargo traffic at Multimodal Transport Hubs or Logistics Parks or CFS/ICDs, subject to maximum ceiling of INR 1 cr. per park **4.** Logistics Units shall also receive such similar kind of incentives, detailed out in the aid policy, these including reimbursements of 50% of cost for quality certification of the units **5.** Additional incentives are provided for logistics units and logistics parks to be set up in the Bundelkhand, Purvanchal regions and notified logistics zones
Takeaways	
Link Online Source	***http://diupmsme.upsdc.gov.in/home/Policies***

16.8 Scheme for promoting establishment of Private Industrial Parks

Published In	July 2018
Department	Infrastructure and Industrial Development Department, UP
Background	– Industrial Parks provide integrated facilities to industries and robustness of available infrastructure facilities in these parks contribute towards the increase in industrial efficiency and capacity building. – In view of the requirement of industries to set up world class industrial parks in the state, as provisioned in the Industrial Investment and Employment Promotion Policy of Uttar Pradesh of 2017
Key Features	**Eligibility for Private Industrial Park** **1. Land requirements** Private Industrial Park means an industrial estate/ park of: - • **more than 20 acres** in Bundelkhand & Poorvanchal; • **30 acres** in Madhyanchal and Pashchimanchal; and • **more than 50 acres** in case of Agro Parks in Bundelkhand, Poorvanchal & Madhyanchal, **2. Units**: The industrial park/ estate shall have a minimum of 10 units, with minimum total area of40%, out of which, no single unit should be occupying more than 40% of the total allocable area for industrial use. **3. Net Worth**: Minimum net worth of the applicant should be 25% of the estimated project cost in Detailed Project Report (DPR) and minimum annual average turnover should be equivalent to estimated project cost. **4. Layout Plan** • A Global FAR of 2 will be permitted in the industrial park; out of which Hostel/ Dormitories for workers of the industrial should not occupy more than 30% of the permissible FAR; Commercial spaces, if any, set up within the Industrial Park should not occupy more than 2.5% of the permissible FAR • In case, the private developer forms a Special Purpose Vehicle (SPV) with farmers/Bhumidhars contributing more than 50% land for the park, an additional 1% area can be utilized for commercial purposes. Residential facility for workers of industrial park will be provided • A minimum of 30% of total land area should be dedicated to all open and green spaces and area for circulation, common utilities, waste management and other minimum infrastructure facilities mentioned in the scheme • The Private Industrial Park/Estates are required to have minimum infrastructure facilities **5.** The Layout Plan of the Private Industrial Park and the building plan of the individual units within the park will be approved by UPSIDA. **6.** The Private Developer may form a consortium with no upper limit of members (including farmers) and set up a Special Purpose Vehicle in case of developing eligible private industrial park. The minimum equity share of the Lead Member of the Consortium shall be 26%. Fiscal assistance in terms of interest subsidy, stamp duty exemption, are provided under this policy. The policy document provides details on the subsidies as well as procedure for application for such an industrial park, proposal and process to apply for the said incentives
Link	***http://diupmsme.upsdc.gov.in/home/Policies***

16.9 Film Policy 2015

Published In	Year 2015
Department/ Background	**Setting up of Film Bandhu** • For ensuring availability of all the film production related facilities under a single roof, the "Film Bandhu, Uttar Pradesh" has been constituted as a nodal agency under the chairpersonship of Principal Secretary, Information.
Key Features	**1.** The **Film Bandhu** will work in the direction of developing Uttar Pradesh as a hub of film production by generating a friendly climate and promoting film related activities in a big way in the state **1.** A **Film Development Fund** will be operated by the Film Bandhu, for financing the films. The fund will be utilising for sanctioning subsidy to the regional and Hindi films produced in the state, scholarship to the students making film their career, ensuring development of cinematic talents, arrangement of film equipment, setting up of film training institutes, organisation of film festivals, financial assistance on film processing in the state itself and financing for film awards etc. **2.** A state level **Film Development Council** will also be constituted to ensure long term and meaningful development of the film sector in the state **3. Fiscal Benefits for the investors** • 50% subsidy of the total cost for Awadhi, Braj, Bundeli and Bhojpuri films and maximum of 25% of the total cost for Hindi films. • Subsidy of INR 1 Cr for films which have been shot for at least a half of its total shooting days in Uttar Pradesh • The films for which two-third of its total shooting days are in Uttar Pradesh is entitled for a subsidy up to a maximum limit of INR 2 Cr • Once, a film producer avails the amount of subsidy on the basis of making a film in the state under the Film Policy, following subsidies will be available for the film maker's subsequent films: such as a grant of 1.25 cr for shooting half fim, 2.5 cr for shooting two thirds of the film (further more subsidies are prescribed in the policy for making second/ third movies and for international and nationally acclaimed creators) • Additional subsidy of up to a maximum of INR 50,00,000 will be provided in case all the artists hail from UP. • If any film producer, shoots and processes the film in the state, 50% of the processing cost or INR 50, 00, 000, whichever is less, will be sanctioned as additional subsidy for the film. • If any Investor establishes a film training institute in any major city (excluding Noida/ Greater Noida), 50% of its cost or a maximum of INR 50 lakh, whichever is less, will be provided • If any film producer shoots or produces a film on the tourism sites, cultural theme/ heritage of the state, an amount of INR 50 lakh will be provided. **4.** The state govt shall provide land in industrial areas for establishing film cities and support in the infrastructure development
Takeaways	
Link Online Source	Business in UP | Film Bandhu | Official Website of NRI Department, Government of Uttar Pradesh, India | UPNRI

16.10 Freehold and Redevelopment policy

Policy announced in Dec 2014 to enable freehold and redevelopment of lands occupied by sick/defunct/polluting industries and other vacant/underutilized lands within city core. Policy aims at augmenting buildable land for residential/commercial/institutional/mixed use, green area, parking and public amenities in the old built-up areas of cities. Simplified procedure for conversion to freehold and developers offered incentives in the form of free conversion to higher land use, high density, free additional FAR and permission for amalgamation of properties.

16.11 Norms for Affordable housing scheme

- Area of scheme minimum 5 Acres, maximum-100 Acres.
- Minimum 60% area shall be used for affordable housing and carpet area of dwelling unit shall not exceed 75 sqm.
- 40% area may be utilized for HIG, commercial, Institutional, recreational and community facilities.
- Minimum 20% houses shall be provided for EWS and LIG against HIG units but not compulsory in an exclusive affordable housing scheme
- Ceiling cost of affordable house in NCR-Rs 3000, Metro cities Rs. 2800 and other towns Rs. 2500 per sq. ft. on super built-up area (to be revised annually based on cost index.)
- Ground coverage: Grouphousing-50%, Row Housing-70%
- Affordable Housing Segment FAR-2.5
- Density-450 Dwelling units per Hectare.
- Parking-01 ECS for every 100 sqm. Of floor area.
- Roads, parks/open spaces and community facilities and services shall be provided as per applicable Bye-law
- Foot-paths and cycle tracks shall be provided as per norms.

16.12 Environment Policy 2006

For the purpose of better understanding NEP, 2006 defines the term environment to comprise all entities, natural or manmade, external to oneself, and their interrelationship, which provide value, now or perhaps in the future to humankind. The main aim of the NEP, 2006 is to provide better and livable conditions to the human being. It focuses on the conservation of critical environmental resources to protect and conserve critical ecological system and resources, and invaluable natural and manmade heritage, which are essential for life-support, livelihood, economic growth, and a broad conception of human well-being.

Intra generational equity : livelihood security for poor to ensure equitable access to environmental resources and quality for all sections of society, and in particular, to ensure that poor community, which are most dependent on environmental resources for their livelihood, are assured secure access to their resources. By implementing the environment policy we can ensure the safe stay of poor people in the city. As Meerut is a rapidly growing toward the industrial growth so it becomes very important to save the environment conditions and this policy will going to help in this.

16.13 Tourism policy

The vision of the state tourism policy is to establish Uttar Pradesh as a preferred tourism destination in India, and archives country's highest tourist arrival and tourism reception and ensuring best visitor experiences. The mission of this policy is to drive a sense of inclusive tourism development in the local community of Uttar Pradesh, and make optimum use of

tourism experiences across vibrant cities, attractions, nature, wildlife, adventure, food, heritage, religion and culture of Uttar Pradesh. There are many tourist places in Meerut (Like augharnath temple, Hastinapur wildlife sanctuary, bhole ki jhaal etc.) Development of roads for activities related to tourism industry, development of parks, beautification and development of tourism industry, detailed action plan proposals related to reservation of land for development will be included in the master plan. Tourism activities promote the growth of the area but these should be regulated properly and this can be done by implementing the tourism policy in the master plan. Because this policy provides proper guidelines to promote the tourism in the area according to the conditions of the area.

16.14 RAIN WATER HARVESTING POLICY

Water is an essential natural resource for the existence of life and environment, but due to over-exploitation of ground water resources in an arbitrary manner, the ground water level is falling rapidly and it is impossible to provide proper drinking water to the growing population of cities. In such a situation, if balance is not established by proper water management in the use of pageal and conservation of ground water sources, economy, water use and recharge, then there is a possibility of a huge crisis of drinking water in the near future, hence the need for water resources. Simple efficient and low-cost method of rainwater harvesting needs to be adopted for safety and security.

Apart from this, under the provisions contained for the conservation and recharge of ground water, such as the construction of pond reservoir for groundwater recharge on minimum 5% land in the trial map of various schemes of area of 20 acres and above and all forms of 300 square meters or more area. Action will be ensured to collect rain water received from students and open places in the plots and group housing. To manage the upcoming situation of water resource reduction can be maintained by implementing this policy in the master plan.

COMPLIANCE

16.15 Compliance to Government Policies

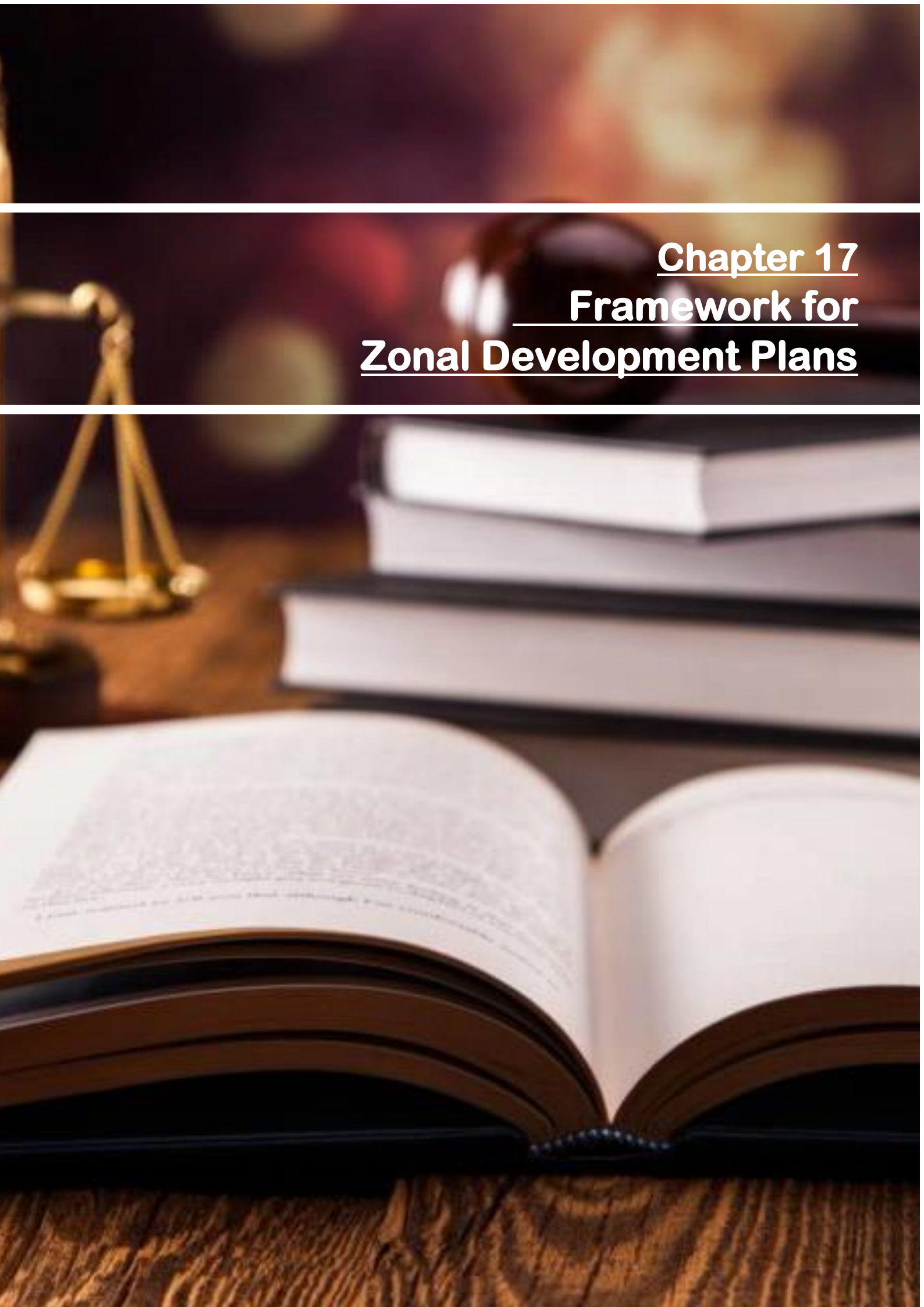
In previous section, a detailed analysis on the relevant polices is done. The specific aspects which are related to the planning proposal for the city are highlighted below.

Uttar Pradesh State Urban Housing & Habitat Policy, 2014	• Mixed use developments are made permissible in the Mixed-use Land use zone as per the Policy, vertically as well as horizontally, with permissible high density and high FSI where two or more uses can be allowed. • The redevelopment of the specific areas in city and buildings which are dilapidated, sick or old and defunct industries relocation and redevelopment, incentivization are as per compliance to the policy and shall be in accordance with the provisions made for redevelopment under the policy • The policy promotes ToD based development with regulations such like mixed use is to be followed for new developments. The master plan strategies focus on the promotion of industrial and residential areas with direct approach to the regional connectivity, hence promoting ToD in the city. • Relocation of the industries and incentivizing for the same • Recommendations for sustainable compact city development, are based on the policy proposal for city such as Saharanpur • The policy is relevant and provides strategic recommendations for the urban issues such as solid waste management, water management, energy conservation. Etc. Specific and relevant recommendations have been made for Saharanpur • The development of green areas in accordance to National Green Tribunal decisions as well as the habitat policies are taken as reference. Environmental conservation, development of green spaces, parks and playgrounds, etc. • The policy is referred for above aspects and necessary recommendations as discussed above are enumerated in Land use chapter of this report. • Following are permissible in agricultural areas without land use conversion charges and payment of 'impact fees' such as SEZ; high tech educational and health facilities, agricultural processing and storage units, rice mills flour mills are units, amusement parks, warehousing; cold storage etc. • In addition to above the policy also focusses on the Conserving flood lands of rivers by implementation regulation in the master plans and identifying such water bodies and projects for redevelopment and revitalization of water bodies • Public areas under roads etc. with minimum 2000 sq mt can be allowed for TDR, TDR suggested for areas in green belt
Integrated Township Policy (license-based system)	• The erstwhile master plan proposed an integrated township on the north east side of the city, with approach from the National Highway. • The policy provides relevance in terms of the land pooling mechanism and involvement of the private parties directly for acquisition of land. This not only supports the idea of a holistic and win win situation for private players and rural population, but also is a speedy process as compared to conventional schemes of land pooling. • The policy details are relevant in planning for the required basic area of 25 to 500 acres. Such townships are further proposed as a part of decongestion strategy in the city and promoting mixed use

	development • Possible provisions of Integrated township (license based) scheme which reflects on the land pooling scheme can be made in the proposed master plan area where proper direct access and future growth center can be envisaged; can be proposed as decongesting character to the city and can be a possible location for developer consortium to take up. • The minimum area for Integrated Township is 25 Acres and maximum can be 500 Acres; minimum requirements are, such as direct access to main road, proper provision of apt water and power supply. locations such as fast-growing areas near urban mass transit corridors; growth centers, urbanizing areas in master plans etc. • This policy confers a quick process within land pooling mechanism, such as implementation by direct sale, intervention of govt. in the sale process. Incentivization on land conversion is given for inviting developers. Flexible land uses are permitted.
Draft Policy for Promotion of Private Investment in Development of High-Tech Townships in Uttar Pradesh	• Such High-Tech township is a large-scale developer-based development of an integrated township. The allowable planning area is anything above 1500 acres, as per the latest amendment no upper limit to area has been set • The policy provides details such as percentage land use of the amenities and areas to be provided, also includes the component of housing for economically weaker and backward classes • Such townships are [promoted in the master plan for the purpose of creating the housing stock as per the gap • Such type of developments can be proposed in the peri urban areas / fringe areas of the master plan, location which foresees a future development, can be a secondary magnet where the connectivity can be strengthened and the city can provide linkages to major urban centers nearby, industrial centers, proposed industrial zones etc. live work learn play kind of development can be promoted • The above larger area would facilitate creation of housing stock in well planned manner Involves resettlement and rehabilitation of the backward
Policy for Sustainable Ground Water Management **And** **Rain Water Harvesting Policy**	• The policy emphasizes upon the urgent need for the enactment of appropriate rules and regulations for ground water development in the nearest future • Detailed assessment of the water supply is done in the Master Plan report, it is found that that the major source of water supply is ground water from last two decades the tube wells or hand pumps have been the sole source • Ground water management is critical and the policy analysis supports the proposition of effective water management for the city for future, which would be critical in coming years. This will be more significant viewing the increasing population of the city.
Planning norms, zoning regulations and building bye-laws for Mixed Use and TOD – 2015	• TOD along strong linkages, location identified for integrated townships, highways and mixed-use developments in core city areas, can be proposed • Future linkage to proposed industrial area in south Pilkhani can be proposed as ToD, envisaged in phased manner etc. • ToD is the basis of compact city planning. The policy provides background to the same and similar aspects have been discussed in regards to ToD, mixed use and land assembly for the city
Industrial Investment and Employment Promotion Policy of Uttar Pradesh 2017	• As a part of the Industrial Investment and Employment Promotion Policy of Uttar Pradesh 2017, Private sector investment in Greenfield mini-industrial parks of 20-100 acres for MSMEs encouraged. The government will provide fiscal incentives to the developer in the form of interest subsidy along with reimbursement of stamp duty towards

And **Scheme for promoting establishment of Private Industrial Parks**	purchase of land. • The State will also share the cost of construction of electrical sub-stations in the park for which land will be provided free of cost by the developer. Uttar Pradesh Small Industries Corporation (UPSIC) will be the nodal agency for the purpose • The policy intends to promote cluster-based development in the state by encouraging formation of Special Purpose Vehicles (SPVs) and dedicated agencies like societies of entrepreneurs or artisans and providing them with common infrastructure facilities including Common Facility Centers and Raw Material Depots, etc. • Based on the discussed background factors, industrial development and promotion is envisaged for the city for formation of wood work based industrial hub • The policy is relevant in terms of benefits which can be incurred in MSME sector as offered by the government under this policy provisions • Saharanpur, has a significant presence of MSME and small-scale industries, the UPSIDA also proposed a 90-acre Industrial area in Pilkhani which is 20 kms south of the Saharanpur city center. Initiatives in MSME sector and new MSME policies such as cluster development scheme, can be promising for further growth of the city. • The industrial areas proposed in master plan can be developed under either policy • Scheme for promoting establishment of Private Industrial Parks, requires a minimum of Private Industrial Park means an industrial estate/ park of: - more than 20 acres in Bundelkhand & Poorvanchal; 30 acres in Madhyanchal and Pashchimanchal; and more than 50 acres in case of Agro Parks in Bundelkhand, Poorvanchal & Madhyanchal, A Special Purpose Vehicle can be formed with farmers.
Uttar Pradesh Micro, Small and Medium Enterprises Promotion Policy-2017	• Uttar Pradesh Micro, Small and Medium Enterprises Promotion Policy-2017 provides Waiver of land use conversion charges for converting agricultural land to Industrial land; In rural areas, gram sabha land measuring more than 10 acres shall be identified and passed on in favor of industries department free of cost. • Industrial boost to the city by backing up with the immense policy initiatives is imperative for Saharanpur, • Industrial linkages, existing industries and upcoming industrial developments, future connectivity and infrastructure and support scenario of the state provide strong impetus in creating a holistic environment for industrial development, new areas to be proposed for nurturing the potential of the region, employing the skilled of the locals as well as locals from nearby areas…
Uttar Pradesh Warehousing & Logistics Policy	• Uttar Pradesh Warehousing & Logistics Policy, defines logistics park and logistics units. • Logistics Park, at least 25 acres of land area is eligible for incentives under this policy. • The policy is analyzed to understand the relevance for developing warehousing and logistics facilities. However, it is envisaged that at the onset of such industrial development, large scale warehousing a logistics are not feasible. • However, logistics units can be feasible as per the industrial demands in future. Logistics Units, Minimum facilities to attain investments as per this policy are, such, Container Freight Station (CFS) or Inland Container Depot (ICD) with minimum investment of INR 50cr. and minimum area of 10acres; Warehousing facility with minimum investment of INR 25cr. and minimum area of 1lakh sq. Ft; Cold chain facility with minimum investment of INR 15cr. and minimum area of 20,000sq. ft.

Film Policy 2015	• The city is strategically located between Delhi and Dehradun which is the first step to many famous beautiful cities. The policy provides a future indication for the city, however is not directly relevant in the present scenario. It is understood that the government is providing huge initiatives incentives under this policy. Hence in future Saharanpur can be an intermediary station for development of ancillary facilities for Film City due to its connectivity
Freehold and Redevelopment policy	• Policy announced in Dec 2014 to enable freehold and redevelopment of lands occupied by sick/defunct/polluting industries and other vacant/underutilized lands within city core. Policy aims at augmenting buildable land for residential/commercial/institutional/mixed use, green area, parking and public amenities in the old built-up areas of cities. Simplified procedure for conversion to freehold and developers offered incentives in the form of free conversion to higher land use, high density, free additional FAR and permission for amalgamation of properties.



Chapter 17
Framework for Zonal Development Plans

17 Framework for Zonal Development Plans

The Chapter provides framework for zonal development plans for the city and an overview of the key characteristics of the zones.

17.1 Delineation of Planning Area into zones

Zonal Development plan of a City is a comprehensive micro level detail plan document to guide the long-term physical development of a specified area of the city. It needs to be viewed as an integral part of an overall master plan development strategy, i.e., recognizing the intrinsic and symbiotic relationship of the city and its functional region.

In order to effect detailed physical planning of the Region and the area within, 12 Planning Zones have been formulated. The area of the region has been subdivided into zones which would enable each zone to have a certain character and also emphasize on the self-sufficiency of the particular zone.

Detailed development plans of all Zones shall be prepared further to achieve equitable distribution of social and physical infrastructure. Self-contained zones will be formed along with interdependency of various facilities by bridging existing gaps amongst planning zones, including already developed areas. Development control shall be formed to further strengthen the use premises interpretation in the Zonal development plans. The salient features of Zonal Development plans are:

- The planning region is divided into 12 sustainable and self-sufficient planning zones based on its special characteristics and, in most cases taking major roads character as physical boundaries.
- Planning Zones have been delineated for the purpose of preparation of Zonal Plans. These zones are tentative and shall be finalised in consultation with the authority.
- The core city areas/ or the built areas (nirmit khstra) shall act separate zone as its character and type of zoning regulations would vary from other parts of the city.
- For the zones outside the city or at the peripheral areas, the outer bye pass road or planning boundary shall be the respective zonal boundary.
- The decision of the competitive authority shall be final in case any changes in the zonal boundaries are done.
- The following figure depicts the zones for the city. Zone 1 is the internal city area with predominant residential and built area development. At the time of developing the zonal development plan of the built area, special consideration to the existing structures, their redevelopment etc. shall be considered.
- The zones physical boundaries are formed as per the existing roads/ railway line and canal in the city, as per applicable.

Figure 17-1 Zoning in erstwhile Masterplan 2021

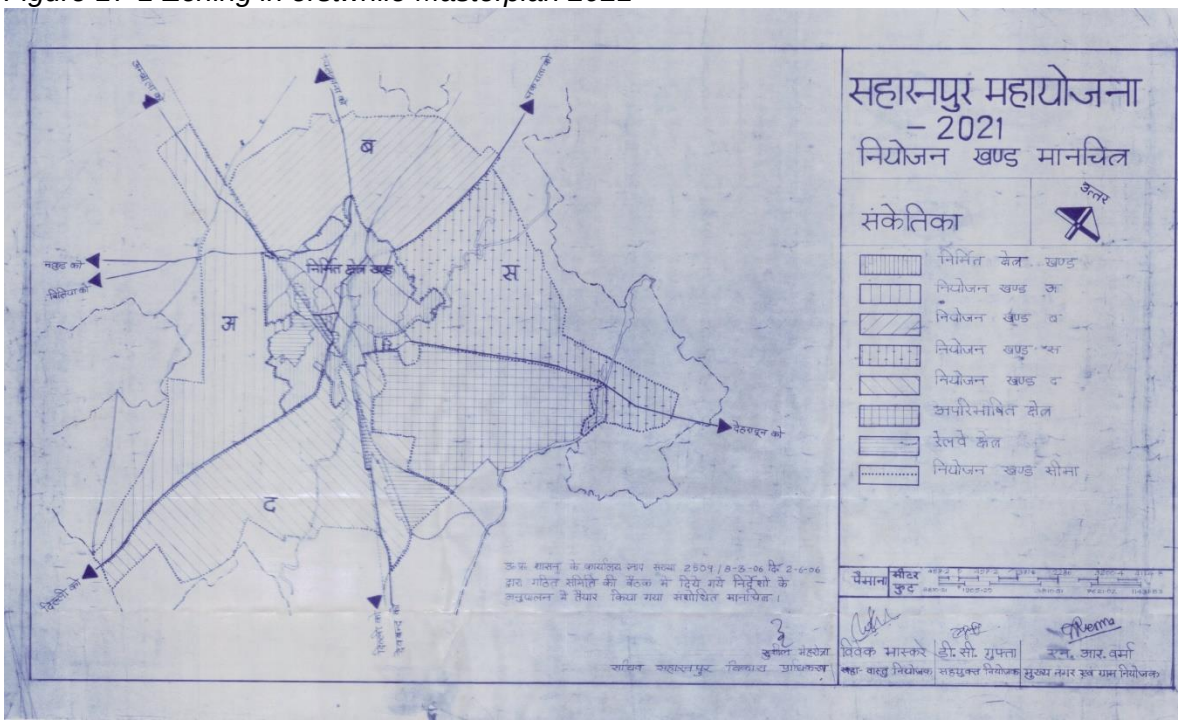
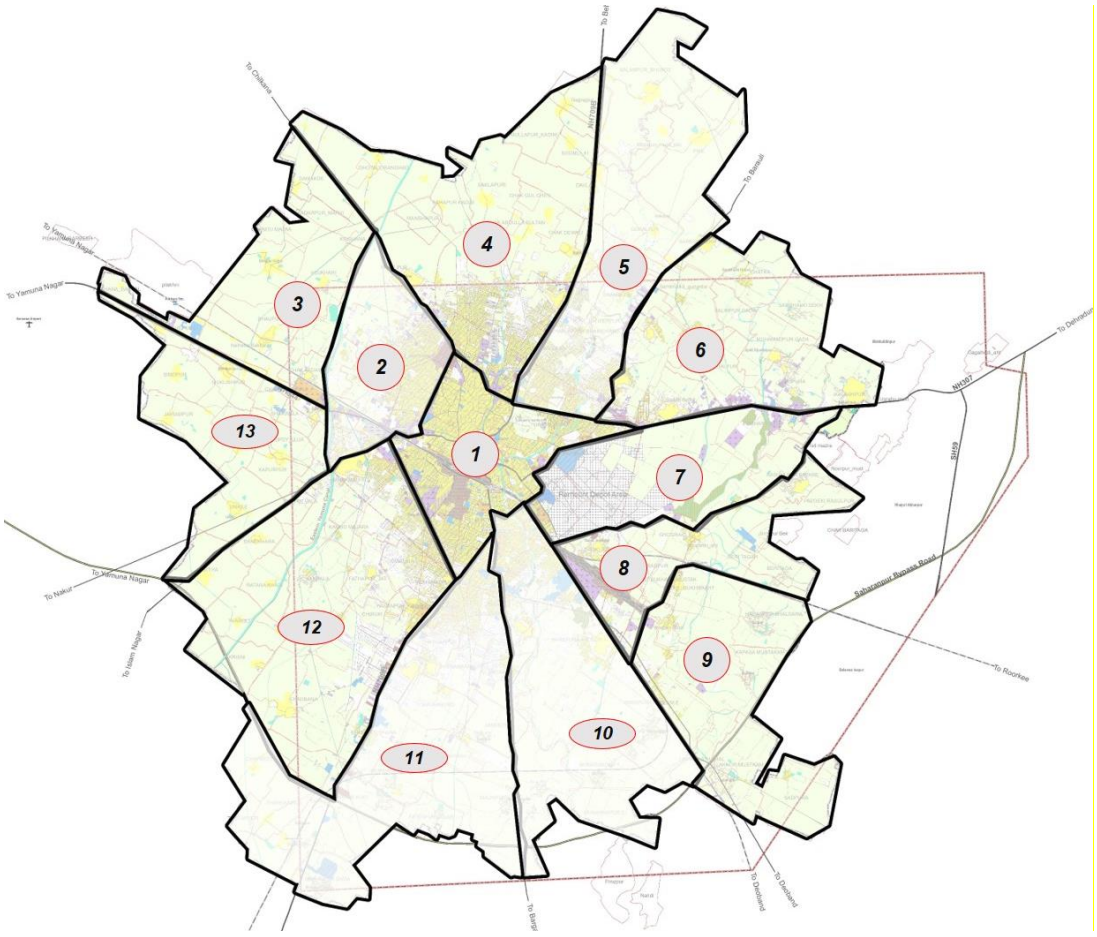


Figure 17-2 Proposed zones in Saharanpur city



Source: Consultants' analysis

17.2 Area and functional characteristics of zones

Zone 1: The zone is of approximately 256 Ha. Internal city area with predominant residential land use. Located as the epicentre of the city. Railway Station, Ambedkar Stadium, ITC Cigarette Industry, Company garden are the key structures of this zone. Adarsh Nagar, Bijupuri, New Patel Nagar Khalasi Lines Model Town Bapu ji Nagar are the key colonies in this area. The zone boundaries are formed by Delhi Saharanpur high in the south east, Sadar Patel Marg in the south west and Nh 344 in the north.

Zone 2: This zone is of approximately 912 Ha. Chilkana road forms the north boundary, the Yamuna canal is on the west and south west; Saharanpur Naka Gangoh Thana Marg on the south and Ambla road on the east. NH 73 and railway lines pass through the zone. The southern side of the railway station and the north eastern area of the zone are predominantly residential and mixed use. The north east corner of the zone has Krishi Upaz Mandi. Many neighbourhood parks, ponds, religious structures such as Eidgah Masid Bistiyan etc.; and Kamal colony, Nisar Colony, Salamat colony etc are present in this zone.

Zone 3: Lies in the western part of the Yamuna Canal and up to the boundary of the Planning area. The zone is predominantly agricultural in land use with small pockets of residential, religious (institutional) structures. South of the zone is marked by NH 344 and north by Chilkana road.

Zone 4: The zone occupies an inverted triangle shape, located in the north most part of the planning area. Towards the conical south of the zone, lies the predominantly residential and core-built area of the city. The character towards north of it is more agricultural and green area. Or low development zone. The zone can be further divided in two parts as per decided by the competent authority. Shah Amin road runs in north boundary, the Patni / Chilkhana road is in the south- south west and Delhi Saharanpur highway forms the western boundary of the zone. Paondhoi River which is an important natural feature seems to bifurcate the zone into two parts. Commercial Street is proposed in this zone.

Zone 5: Adjacent to zone 4 and north of the zone 1, the zone 5 is predominantly agriculture, green zone with pockets of residential, commercial and institutional land uses. River Dhamoli passes through this zone, the lake paon dhoi is a prominent water body here. Salempur, Mirzapur Mazra, Soomli, Gokulpur, Madh are some of the settlements in the peripheral area.

Zone 6: This zone is predominantly proposed as industrial land use. There are villages settlements, towards the peripheral. Nh 307 Saharanpur – Dehradun forms the south boundary, chilkhana road toward west and south west and th peripheral road of the planning area lies to the north of the zone.

Zone 7: This zone is the area between the NH 344 and the Bijoria road, which is a link road encompassing the remount training school and dept. area, central jail. Towards the west end of the zone, industrial land use, green belt are proposed. Presently the zone is predominantly agricultural and green zone.

Zone 8: This zone towards the south of the zone 7 includes the railway lines interjection. The railway line forms the zone boundary in south, south east parts. The zone has predominantly industrial and logistics land uses. Transport Nagar is present in this zone. In future also, industrial is the major use in this zone. Star Paper Mill is located in this zone.

Zone 9: This is peripheral and fringe zone, with at present agricultural areas as predominant land use. In future, an industrial linear development continued from zone 8 and along

Transport Nagar and railway line is proposed here. There are few village settlements also in this zone. Bye pass passes towards western end of the zone.

Zone 10: This zone towards the south of the planning area and forming conical shape is predominantly green. There are many open green pockets, river dhamoli/ Hindan passes through this zone; IIT Roorki Central pulp and paper institute, Polic line helipad, are prominent. Delhi Saharanpur which is highly commercial in character forms the western boundary of the zone, on east railway line and Paper Mill road and towards south the bye pass roads forms the boundary of the zone. Railway line runs almost parallel to the bye pass in this zone towards south.

Zone 11: This zone is also conical in shape occupying areas between the bye pass towards the south, eastern boundary is the state highway Shamli-Saharanpur road, and towards west is Delhi Saharanpur highway and in north Sardar Patel road. In addition, area beyond bye pass road and towards south till the planning area extent is also a part of this zone. The zone towards the central core is residential with new colonies, towards south of the railway station. Eastern Yamuna canal passes through this zone. The is currently proposed to have pockets of industrial areas towards the Delhi – Saharanpur highway

Zone 12 and 13 are the peripheral zones for the planning area. These occupy mostly the villages settlements, the agricultural green zones. Eastern Yamuna canal passes through the zone 12. Residential pockets are present towards the north east part, towards the city core area.

17.3 Strategy for development of zones

Development strategy is the process of formulating a strategy for bridging the gap between where the city is and where it wishes to go which depends entirely on the context and initiative of each city. it consists of, planning strategies and development policies.

The most important step for development is the provision of urban infrastructure, initially physical infrastructure. Connectivity in the form of road network, provision of water supply, electricity triggers growth in any area. Road network would lead to development of economic activities further leading to development of settlements. To enable easy development of upcoming areas, accessible and cheap public transportation plays an important role. It is necessary to have excellent and cheap connectivity with mother city i.e., from private vehicle dependent city to public transport-oriented development.

Planning Strategy for zonal plans:
Master Plan: The Master plan for any town is a long-term plan meaning thereby that the implementation will take a long period of10 to 20 years. This document is also a generalized document and gives broad scheme of different land uses. Such proposals need to be detailed out so that these can be implemented in a phased manner. The detailing of such proposals and final implementation goes through different stages / levels of planning. The planning levels can be

- Preparation of Zonal Plans
- Preparation of Sector Plans
- Preparation of Schemes

Zonal Plans: The Zonal Plan is a comprehensive plan conceived within the framework of current Master Plan, showing therein the existing and the proposed location and general layout of:

- Residential areas

- Commercial areas
- Industrial areas
- Public parks, playgrounds and other recreational facilities
- Public and semi-public uses
- Transportation Network
- Other land uses which are necessary

Priority of selection of zonal plan is done in accordance with the phasing of Development as proposed in Master Plan.

Once the Development plan is prepared, its proposals can be further implemented by preparing Local Area Plan. This plan can be either Zonal Development Plan or Local Area Scheme and these can have the following contents:

17.3.1 Contents of Zonal Development Plan

1. *Introduction*
   - *A brief introduction to the city comprising its regional setting, functional character growth trends.*
   - *Development plan / Master Plan context*
   - *Interdependence of Zones on other parts of the city*

2. Site Background & Analysis
   - *Land use distribution and analysis*
   - *Population and density*
   - *Built-up area, character, extent and delineation*
   - *Transportation: Circulation network, traffic flow (people and goods) and terminal facilities*
   - *Physical and social infrastructure*
   - *Land ownership*
   - *Slope analysis*
   - *Micro-zoning hazard mapping*
   - *Green cover: parks/open spaces, forest, orchards, green belts, etc.*
   - *Site potentials and constraints*
   - *Security mapping: specifying relatively safe and unsafe areas, streets etc.*
   - *Types of housing subsystems: low-cost housing, affordable housing*

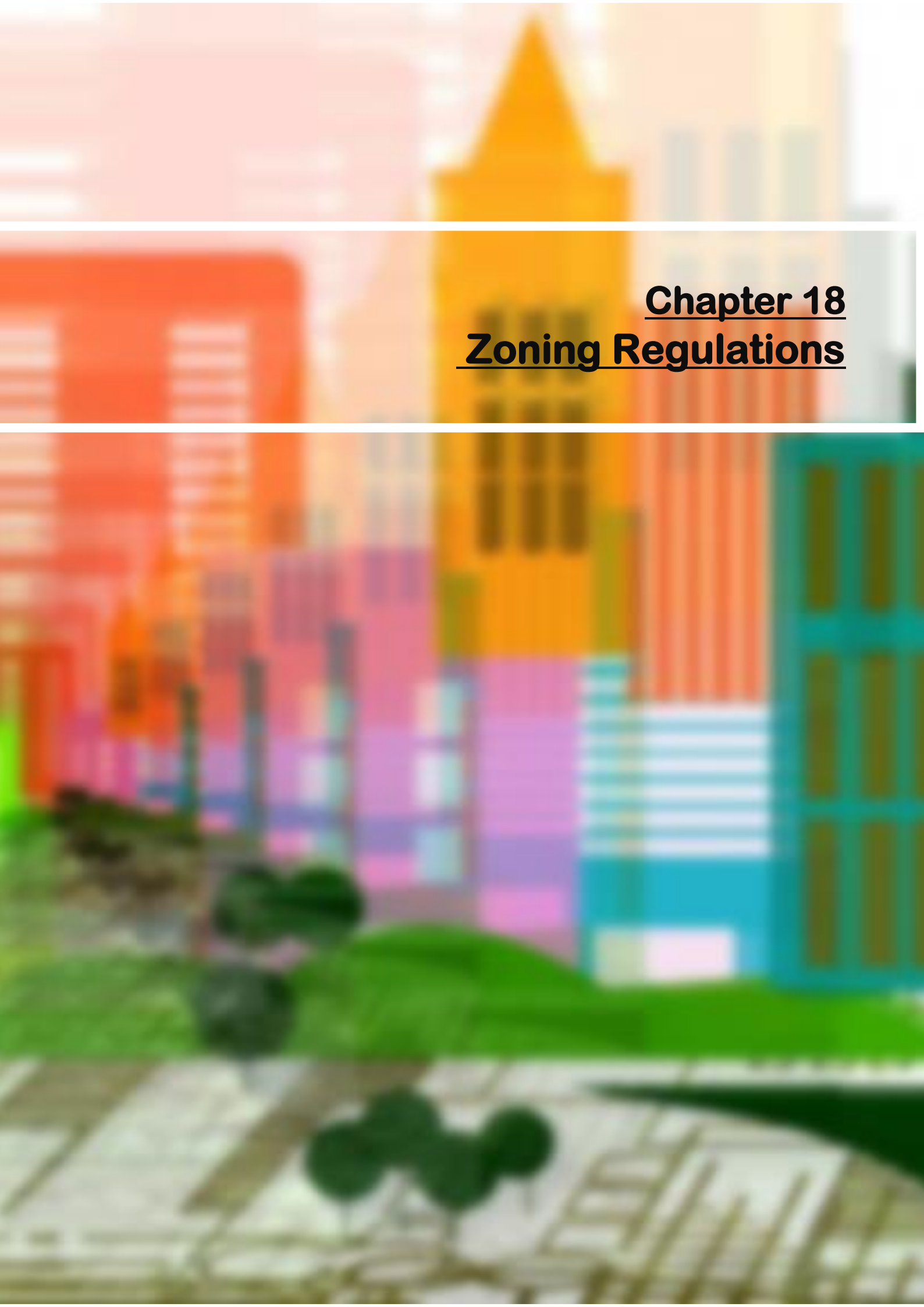
3. Conceptual Framework
   - *Planning parameter*
   - *Planning concept & hierarchy till community level*
   - *Projected requirements*
   - *Urban design framework*

4. Proposals and development strategy
   - *Land use plan*
   - *Proposed circulation system*
   - *Proposals for physical infrastructure*
   - *Proposals for community facilities*
   - *Strategy for new development, redevelopment and improvement*
   - *Proposal for integrating and developing urban villages*
   - *Proposals for informal sector*
   - *Strategy for rehabilitation/regularization of unauthorized colonies*
   - *Strategy for maintenance of services*
   - *Provision for facilitating physically challenged and disabled in urban development*

17.4 Zoning Regulations & Development Controls

The permissible & non permissible activities for the land uses in the planning area are included in the zoning regulations. The following chapter details out the zoning regulations

and land use wise activities for each land use. Further at the time of preparation of the zonal development plans, the activities shall be in accordance to these regulations. The building bye laws for these areas shall be as per the prevailing bye laws of the development authority, and updated in case of any amendment.



Chapter 18
Zoning Regulations

18 Zoning Regulations

This chapter provides zoning regulations for the proposed master plan area. The zoning regulations are prepared with standard regulations available on the Urban Housing & Planning department for Uttar Pradesh.

18.1 Introduction

18.1.1 Aims & Objectives

The Master Plans, for any urban area, in general, depict the major land use bifurcations such as residential, commercial, industrial, institutional, parks and open spaces and likewise. However, it is not possible to show the type of activities that are permissible or non-permissible or entirely prohibited, on the map. For facilitating the planning and approval mechanism for any such activities in the proposed zones or land uses, the zoning regulations, are formulated. The competent authority shall make such provisions for any such ancillary/incidental activities in construction and development of any new projects in accordance to these zoning regulations and respective building bye laws.

This regulatory mechanism ensures synchronization in urban development and curbs the misuse of land through rational and orderly development of built environment. Looking at the far-reaching impact and implications of the development controls on the growth and development characteristics, as well as urban fabric of a city, these need to be framed with extensive detail and caution. Formulation of development controls should satisfy the basic requirements of human development such as health, safety, convenience, economy and physical & social provisioning.

18.1.2 Salient features of the zoning regulations

The development of various activities/ uses is a continuous process in the varying physical, social and economic environment of the cities. In the present zoning regulations, appropriate regulations are prescribed for ensuring the applicability and permissibility in accordance to the context and for simplifying the approval processes. The salient features of the zoning regulations are as follows:

- The conventional complexities of the zoning regulations are eliminated. For this, the permissible and non-permissible activities, in the respective land uses, of the proposed Saharanpur Master plan, are presented in a graphic format.
- In place of conventional regimented land use planning parameters, flexible and mixed-use zoning is allowed.
- The permissions for the mixed uses are made in accordance to their relevance and applicability so that the compatible land uses be benefitted from each other and the basic nature of the land persist.
- On the basis of the zooming regulations, impact fee for permissible activities is proposed, which would facilitate the authority/ corporation with additional revenue sources.
- Concept of floating land use is adopted in the zoning regulations, which allows development of such activities which are not envisaged in the master plan/ zonal development plan. Such activities, on the basis of merits and demerits, would be further amalgamated in the master plan.
- A transparent process is laid down for granting approvals for various activities/uses in major land-use zones and arrangements for the formation of a committee to test the

permitted uses with special permission and recommend to the Development Authority Board has been done.

18.2 Permitted Categories of Various Activities / Uses

Under the Major Land Use Zones proposed in the Master Plan, the following categories of permitted activities/uses shall be –

18.2.1 Permitted Uses

Those activities/uses which will be incidental to the major land-uses shall be permissible

18.2.2 Conditionally Permissible Uses

Those activities/uses which will be permissible with the mandatory conditions and restrictions in the respective major land-uses. Mandatory conditions and restrictions are given in Part-3.

18.2.3 Uses permissible with special permission of the Competent Authority

The activities/uses which, during approval process from the competent authority, are deemed permissible, as per the type of construction, infrastructure and the environmental impact on the surrounding area, on approval of the said authority shall be permissible with special conditions. The mandatory conditions and restrictions will be as per Part-3.

18.2.4 Prohibited use

Those activities / uses, which are not permissible in the major land-uses of the master plan, those listed as the prohibited activities; and all such activities, other than listed prohibited, and are not ancillary to the main land use or (a) (b) above, or (c) not included in the list of permissible actions of the category, will not be allowed.

18.2.5 Floating Use

In any approved Master Plan, there are certain activities/use, which are proposed in accordance to the varying social, physical and political environment of a city, but are not enumerated in the zoning regulations. Such uses may include Bus/Rail/Air terminal, Whole sale markets, public utilities and services, and electrical sub-stations, treatment plants, etc. To allow such actions, sometimes it becomes inevitable to adopt the process of land conversion, under the Act, which is otherwise not impermanent in every case. Therefore, the concept of "floating use" has been adopted to allow such activities/uses as per the requirement.

It has been proposed that that information about such floating use/actions shall be available only after the developer/manufacturer submits the application for such a permission along with its performance standard of the applied activity.
Due to the adoption of 'floating use' concept, there will be flexibility in the zoning system of the master plan. It will also have the advantage that non-use zone in any one go-use zone. Hence with the use of floating uses, there would not be concentration of a single use in any land use. In approval for floating use, the decision of the competent authority shall be final.

18.2.6 Rain water harvesting

For allowing ground water conservation and recharging, for all the water bodies such as natural reservoirs, lakes or ponds, with area 01 acre and above shall continue with their use, irrespective of the land use where the water body is located.

18.2.7 Impact Fee

Application is received for permission to certain other activities/uses in future or under the plans approved by the Development Authority / Housing and Development Council or Competent Authority / in planned developed areas where provision has been made for allied activities as per the planning standards. Such applications will be subject to the provisions contained in the zoning regulation, if high use is allowed in the low land use zone, it will result in impact on the traffic infrastructure and environment in the area concerned. Therefore, the effect fee will be payable by the applicant at the time of such permission. In the undeveloped area shown in the master plan, in which the plan approved by the development authority or the competent authority was not implemented, if any action is received separately in place of the major proposed use-in-use action incidental to the major land use. And this action is permissible as per the provisions contained in the zoning regulation and even if this action is of higher than the major land use, impact fee will be payable. For example, if the map of any commercial activity in residential land use is obtained separately for approval by not being part of residential land use, then the impact fee will be payable. If the map of business activity is sent for approval as part of residential land use, then the impact fee will not be payable. 90% of the impact fee will be deposited in the Infrastructure Development Fund of the Development Authority / Housing and Development Council. It is clarified that in cases where land-use change is involved under the Uttar Pradesh Town Planning and Development Act, 1973, land-use change fee will be payable. Whereas on the basis of zoning regulation, impact fee will be payable for permissible uses only.

The impact fee will be assessed on the basis of the current sector rate of the Development Authority / Housing and Development Council, in the absence of the rate of the Authority / Council, on the basis of the current circle rate fixed by the District Magistrate for the existing land use of the land.

Impact fee will not be payable in the following circumstances:

- Impact fee is generally permissible and conditionally permissible or for activities/uses permitted with special permission in the built up area.
- Impact fee is not applicable in public and semi-public facilities to be developed by government and semi-government agencies and charitable institutions in pure / mixed residential land use zones.
- It is not applicable for temporarily permitted activities in various major land use zones.

18.2.8 Approval Process

- Other than the original use / use in pre-developed plans / areas under the Major Land Use Zone (As per the zoning regulation, such activities / use is generally permissible / conditionally permissible / permissible with opposition permission the objections/suggestions from the public will be invited through proper channels by providing a time period of one month to be allowed and only after the disposal of these objections/suggestions, the process of acceptance/rejection will be taken. The disposal of the application related to the permission will be ensured within a maximum of 60 days from the date of receipt.
- Before special permission is given for other activities by the competent authority in any major land use zone under the development area / special development zone, a committee will examine in each such case and the recommendation of the committee will

be presented to the Authority Board. The committee shall consist of the following members.

- Chief Town and Country Planners, Uttar Pradesh or their representatives
- Designation to the Development Authority or the officer nominated by him.
- One non-official member to the Board of Authority nominated by the Failure Development Authority.

- Permission for any activities or use shall not be obtained by the applicants as a right.

18.2.9 Other facilities:

- Development / construction on a site proposed for any action or specific use under the major land use zones identified in the master plan will be permissible only according to the relevance of that action or specific use.
- Existing forest area or sites related to public facilities and utilities, such as parks, playgrounds and roads, etc., will remain the same, irrespective of the land use these are located in the proposed master plan.
- If zonal development plan or layout plan of a site/ plot has been approved by the competent authority, then in such a case the permissible land use of the said site / plot would be as per specified in the zonal development plan or layout plan.
- Under the proposed zoning regulations all the development / construction works in all land use categories shall be as per relevant building bye laws.

18.3 Definitions

- **'Competent Authority'** for these Regulations means the Saharanpur Development Authority Board, Saharanpur declared under the Uttar Pradesh Town Planning and Development Act, 1973.
- "**Built area**" means areas as defined in the master plan as built-up residential areas
- **"Developing/ Undeveloped areas**" means those areas which are outside of the built areas but come under the developing authority area.

18.4 Definitions of Land Use premises/activities

18.4.1 Residential Land Use

- **Pure Residential Area**
  Master Plan / Zonal Plan / Sector Plan, such residential areas where other than the general permissible and conditionally permissible land uses, no other land use or conversion use is allowed.

- **Mixed residential areas**
  Such residential areas where in addition to the permitted land uses with conditional and special permission, land-use conversion is also permissible as per relevance.

- **Single dwelling**
  Premises consisting of independent dwelling units (housing units).

- **Group Housing**
  Premises consisting of a building consisting of two or more story and independent dwelling units on each floor, sharing and co-ownership of land & services, open spaces and means of transport.

- **Ancillary Staff Accommodation**
  A premise in which provision of residential units for employees working in a major land use is made either in form of independent units or as a group housing.

- **Chowkidar / Sentry Residence**
  The premises in which residential arrangements have been made for persons related to the security and maintenance of ancillary use.

18.4.2 Commercial Land use

- **Retail Shops**
  Premises where essential commodities are sold directly to the consumer.

- **Showroom**
  The premises where goods are sold and stored with the arrangement for displaying them to the consumers

- **Flour Mill**
  The premises where dry food items like wheat, spices, etc. are ground and prepared for daily use.

- **Wholesale Market / Trading**
  Premises where other goods are sold and delivered to wholesalers. The complex also includes storage and godowns and loading and unloading facilities.

- **Cold storage**
  The premises where perishable goods are stored in a covered space using mechanical and electrical means to maintain the required temperature etc.

- **Hotel**
  Premises which are used for lodging, with or without food charges.

- **Motel**
  The premises which are situated on the side of the main road of the city limits and where arrangements for catering for the convenience of the passengers and parking for vehicles are provided.

- **Canteen**
  The premises used for arranging food items including cooking facilities for the employees of the organization, it may have a seating area.

- **Restaurant/ Canteen**
  Premises used for arranging food items on commercial basis including cooking facilities. The seating area can be covered or open or both.

- **Cinema**
  Premises having facilities for the projection of films including covered space for the seating of spectators.

- **Multiplex**

The premises in which provision of entertainment facilities including latest technology of film screening and allied business activities are arranged in a complex.

- P.C.O./Cellular Mobile Service
  The premises from where, local, inter-state, country-abroad etc. can be arranged on telephone or cellular by paying a fee.

- Petrol / Diesel Filling Station
  Premises for selling petroleum products to consumers, which may also include servicing of automobiles.

- Gas godown/Gas installation
  Premises where cooking gas or gas cylinders are stored.

- Junkyard
  Premises where covered or semi-covered or open storage is carried out including sale and purchase of disposable goods, articles and materials.

- Warehouse
  Premises used only for the storage of goods and articles as per the requirement of the goods concerned. Such premises include facilities for loading and unloading goods by road transport or rail transport, as the case may be.

18.4.3 Industrial Landuse

- **Mining Industry**
  Premises in which excavation and processing of stone and other underground materials are carried out

- **Software / Information Technology Park**
  The premises where computer software used in information technology, other software of the latest technology of this area, etc. is manufactured.

- **Oil Depot**
  Premises where petroleum products are stored with linen related facilities.

18.4.4 Offices /Institutional Landuse

- **Government Offices**
  Premises used for Central / State Government offices.

- **Local Bodies Office**
  The premises used for the offices of local bodies.

- **Semi-Government Office**
  The premises which are used for the offices of any agency, body, council etc. established under any Act

- Private Office

Premises in which consultancy / service is provided by any one or a small group for commercial purposes such as Chartered Accountants, Advocates, Doctors, Architect Designers, Computer Programmers, Tour and Travel Agents etc.

- Bank
  Premises in which arrangements are made for carrying out the functions and operations of banks.

- Commercial / Commercial Office
  Premises used for offices of commercial establishments.

- Workers Welfare
  A premise where facilities are provided for promoting the welfare and development of workers.

- Research & Development Center / Research Center
  The premises where facilities for research and development are arranged for the general public and for the special category.

- Meteorological Research Center
  The premises having facilities for the study/research and development of MeSAM and its related data.

- Microwave and Wireless Center
  Premises used for communication purposes, including towers.

18.4.5 Public and Semi-Public Facilities Landuse

- Guest House / Inspection House
  Premises where government / non-government undertakings, company employees and other persons are accommodated for a short period.

- Dharamshala
  Premises in which short-term temporary accommodation is provided on a not-for-profit basis.

- Boarding / Lodging House
  Premises whose rooms are rented for long term for residential facility.

- Orphanage
  The premises where facilities are provided for the stay of orphan children. There may also be provision of educational facilities in it

- Rain Basera
  This complex, which has night time accommodation at no cost or nominal charges.

- Correctional Premises
  A premise with facilities for the detention and correction of criminals

- Handicapped Children's House

Premises where there is provision of facilities for correction and medical treatment of differently abled and mentally challenged children. It can be managed by any one person or organization on commercial or non-commercial basis.

- Day Care Centre
  Premises having nursery facilities for babies during the day. The management of the center can be done on commercial basis by any one person or any organization.

- Higher Secondary / Inter School
  This campus, where there is provision for teaching and sports facilities for students up to class 10th / 12th.

- College
  The campus where there is provision for teaching and sports and other related facilities for undergraduate / postgraduate courses under a university.

- Polytechnic
  Campus having provision of training facilities for courses in technical field up to Diploma level. This will include technical schools, industrial training institutes.

- Medical / Dental College
  The premises where the treatment of diseases, dental operations, etc. and teaching and research work is done under Anthropology

- Higher Technical Institute
  The premises where there is provision for education and training facilities up to graduation or post-graduation in technical field

- Cottage Industry Training
  Premises where training in domestic / small / service industries such as sewing, weaving, embroidery, painting, computer, tour and travel etc. is given.

- Management Institute
  The premises where there is provision for teaching/training facilities in the management area

- General Educational Institution
  The premises where non-technical education is imparted.

- Post Office
  Premises where facilities are provided for the transmission of mail for the use of the public.

- Post and Telegraph
  The premises where there is provision for postal and telecommunication facilities for the use of the public.

- Telephone Office/Centre

This premises having facilities for central operation of telephone system for the area concerned.

- Radio and Television Center
  The premises where facilities are provided for recording and broadcasting news and other programs through the medium concerned

- Prison
  Premises where facilities are provided for the detention, imprisonment and correction of criminals under law.

- Police Station
  The premises where facilities are provided for the local police office.

- Nursing Home
  A premise having medical facilities for indoor and outdoor patients up to 30 beds and managed by a doctor or group of doctors on a commercial basis.

- Hospital
  A premise where provision of general or specialized type of medical facilities is provided for the treatment of indoor and outdoor patients.

- Clinic/Polyclinic
  Premises where facilities for the treatment of outpatients are arranged by a doctor/group of doctors

- Health Center / Family Welfare Center / Health Center
  The premises where facilities are provided for the treatment of indoor and outdoor patients up to 30 beds. The health center may be managed on a non-commercial basis by a public or charitable or other organization, this includes the Family Welfare Center.

- Dispensary
  A premise having facilities for medical consultation and provision of medicines and which is managed by public or charitable or other institutions.

- Pathological Laboratory
  Premises having facilities for carrying out various tests to detect the symptoms of disease.

- Assembly Hall, Community Hall
  The premises where arrangements are made for meeting, social and cultural activities.

- Yoga, Meditation, Spiritual, Religious Discourse Center / Satsang Bhawan
  The premises where facilities related to self-realization, attainment of higher qualities of intellect and body, spiritual and religious discourses etc. are arranged.

- Religious Building
  The premises which are used for worship and other religious programs.

- Social and Cultural Institution / Building
  A premise where facilities are provided for socio-cultural programs mainly by the public or voluntarily by any person/institution on non-commercial basis.

- Cultural Center
  The premises where facilities are arranged for cultural services.

- Baraat-ghar / Banquet Hall
  This premises, which is used for matrimonial functions and other social functions.

- Auditorium
  The premises where there is a stage and seating arrangement for various performances such as concerts, plays, musical performances, etc.

- Open air Theater
  This premises, where arrangements are made for the seating of the audience and stage facilities, etc., for performances in the open.

- Theater / Natyashala
  Premises having facilities for seating and performance of spectators.

- Museum
  This complex with facilities for collection and display of objects such as of antiquities, natural history, art etc.

- Art Gallery/Exhibit Center
  A premise where facilities are provided for the exhibition and decoration of paintings, photography, sculpture, murals, handicrafts or products of a particular class.

- Music / Dance / Theatrical Training / Art Center
  The premises where there is provision for training and teaching of music, dance and theatrical arts.

- Library / Library
  Premises where there is a provision for the collection of books for reading and reference for the general public or a particular category.

- Reading Room
  The premises where there is provision for reading newspapers, magazines, etc. for the public or a particular category.

- Information Center
  The premises where facilities are arranged for information on various activities of the State and the country.

- Fire Station
  The premises where there is provision for firefighting facilities

- Social Welfare Center

A premise where facilities are provided for promoting the welfare and development of the society and it is run by a public or charitable or other institution

- Electric crematorium
  The premises where facilities are provided for the burning of dead bodies by electric incinerators

- Cremation
  The premises where facilities are provided for performing the last religious ceremony by burning dead bodies

- Cemetery
  The premises where facilities are provided for the burial of dead bodies.

- Dumping Ground
  The premises where solid waste from different areas of the city is collected and deposited till its final treatment.

- Sewage Treatment Plant
  The premises where solid and liquid wastes are made harmless by technical chemical reaction.

- Buildings / establishments related to public utilities and services
  The premises where water is stored and supplied for public use, overhead / underground tanks, pump houses, etc., oxidation ponds related to sewerage, septic tanks, sewerage pumping stations, etc. be. It also includes public toilets, urinals and dustbins.

- Electricity Power Plant/Power Station/Sub-Station
  Premises where electrical installations, etc., for generation/distribution of electricity are located.

- Fair Site
  The premises where facilities for exhibition and decoration and other cultural/religious activities are arranged for a group of participants

- Dhobi Ghat
  The premises used by washermen for washing and drying clothes.

18.4.6 Traffic and Transport Landuse

- Parking area
  This premises used for parking of vehicles

- Bus stand
  The premises used by a public transport agency or any institution for plying of buses for short duration for public convenience and service.

- Motor Garage / Service Garage and Workshop

Premises in which servicing and repair of automobiles are carried out

- Taxi/Tampo/Rickshaw Stand
  Premises used for parking of intermediate public transport vehicles operating on commercial/non-commercial basis.

- Motor Driving Training Center
  The premises having facilities for training in driving automobiles.

- Transport town
  A premise used for short- or long-term parking for trucks. In this, the office of the truck agency, repair and servicing of vehicles, claims. There may also be spare part shops and godowns, etc

- The premises of Dharmakanta.
  Where the weight of loaded or empty trucks is measured.

- Bus Depot
  Premises used by a public transport agency or any other similar agency for the purpose of parking, maintenance and repair of buses. There can also be a workshop in this.

18.4.7 Parks, open spaces, green belts and sports venues Landuse

- Parks
  The premises in which there are lawns for recreational activities and open space. There should be similar arrangements for greenery etc. This may include arrangements for the requirements related to landscape, parking facilities, public toilets, fencing, etc.

- Club
  This complex with all related facilities, used by a group of people for social and recreational purposes

- Playground
  Premises used for outdoor games, provided with parking, public toilets, etc.

- Amusement Park
  The premises where there is a park or grounds for recreational purposes, parks and facilities suitable for recreation.

- Stadium
  Enclosure with provision of pavilion building and stadium , Complex with provision for seating of spectators and proportionate facilities for the players

- Traffic Park
  The premises in the form of a traffic pal park with facilities for providing information and education to the traffic and safety personnel.

- Swimming pool
  Complex with provision for swimming, dressing rooms, seating and ancillary services such as toilets etc.

- Picnic site/camping site
  Premises within a tourist or recreational centre, used for recreational or leisure purposes for a short period of stay.

- Flying club
  Those premises used for training purposes of small aircrafts, and gliders and fun riding.

- Shooting range
  Premise used for training / pruritus from firing two different types of pistols, shooting etc.

18.4.8 Agriculture Landuse

- **Nursery / Nursery**
  Premises where facilities for growing and selling small plants are found

- **Dairy Farm**
  The premises having facilities for manufacturing and preparation of dairy products. It may contain a temporary structure for the animal shed

- **Poultry Farm**
  The premises where facilities are arranged for the business of products like chicken, duck, etc., eggs of birds etc. It may have bird sheds.

- **Farm House**
  This premises, where there is a residential building on the same agricultural land for the use of the owner of the farm

- **Garden**
  The premises used for planting flowering and fruit bearing trees/ plants.

- **Milk Collection Center**
  The premises where milk is collected from the area concerned for a given town

- **Repair and servicing of agricultural equipment**
  The premises used in agriculture and servicing of mechanical / electrical equipment such as tractors, harvesters, etc.

- **Green Belt Buffer**

18.4.9 Other Premises

- Forests
  Premises having natural or planted trees. This will also include urban forests.

- Smarak
  Premises with all facilities for visitors to structures belonging to the past or tombs, mausoleums or monuments in memory of an important person.

- Zoo
  A zoo premises which is used as a garden or park or a zoo with all related facilities for exhibition and study with a group of land and water animals, fauna and birds.

- Bird sanctuary
  Premises in the form of an extensive park or forest for the preservation and rearing of birds with all related facilities

18.4.10 Floating use

The use for which no separate area is reserved in the Master Plan / Zonal Plan / Sector Plan / Layout Plan, but which will be determined on the application of permission by the Developer / Constructor.

18.5 Mandatory conditions and restrictions for conditionally permissible activities /uses in major land use zones:

1. Chowkidari / sentry residence on the ground floor
2. Accommodation on the upper floors except the ground floor, as per the provisions of the bye-laws of group housing.
3. Only for the concerned employees up to 5% of the total area of the scheme.
4. Maximum 0.4 hectare of the total area of the scheme or 5& of the total area, whichever is less.
5. 10 percent of the floor area of the subsequent floors excluding the ground floor only for the concerned employees.
6. Minimum 12 meters wide road.
7. Minimum 18 meters wide road.
8. Minimum 24 meters wide road.
9. Minimum 30 meters wide road.
10. Up to a maximum of 20 beds on a minimum 12-meter-wide road.
11. Up to a maximum of 50 beds on a road with a minimum width of 18 meters.
12. Only under the wholesale commercial center sites identified in the master plan.
13. Only in the schemes of weak / low-income group (as per Annexure 2).
14. Storage of articles other than inflammable, perishable and emergency items.
15. Only outside the developed population of the city.
16. Up to five horse power (as per Annexure 2).
17. Outside Right of Way.
18. Up to a maximum of 5 horsepower on a minimum 12 m wide route.
19. 25% of the permissible F.A.R. or 100 square meters
20. 10 percent of the maximum permissible land cover
21. For incidental use only
22. Only in open form and temporary
23. Infectious diseases only
24. Up to 3 stars only on a route with a minimum width of 12 meters
25. More than 3 star on a route minimum 24 meters wide.
26. Up to 10 horse power (as per Annex 3
27. As part of the new township / scheme
28. According to the bye-laws prescribed for the market area in the master plan
29. According to the landscaping of the traffic city and bus stand

30. 10 percent of the permissible FAR or 100 square meters, whichever is less, only for the display and sale of the product of the industrial unit.
31. In line with the policies of the Master Plan.

18.6 Requirements for Activities which can be allowed with Special Permission

In major land use zones, activities permitted with special permission shall be permitted by the Competent Authority under the following circumstances and conditions and restrictions.

1. In any major land use zone under the development area / special development zone, before allowing other activities in special circumstances by the competent authority, in each such case, the following committee will be examined. The recommendation of which will be presented before the Authority Board and permission will be granted only after the approval of the Board.

   (a) Vice-Chairman of the Development Authority or an officer nominated by him.
   (b) Chief Town and Country Planners, Uttar Pradesh or their representatives.
   (c) a non-official member of the Board of Authority nominated by the Chairman Development

For actions permitted with special permission, in each case on the basis of merits and demerits But the following arrangements will be ensured by the above committee.

i) The basic infrastructure of the major land use zone and water supply, drainage, sewerage, electricity supply, open space and traffic, parking etc. should not be adversely affected.
ii) Lighting and operation and privacy should not be disturbed in the private premises of adjacent plots/buildings due to the proposed action.
iii) There should not be any possibility of pollution of any kind of noise / smoke / odor etc. in the major land use zone due to the proposed action.
iv) The proposed activity should be located as far as possible on the main road or separately on the outer side of the main land use.
v) Approval of the proposed action shall be given with the condition that the maximum FAR and height of the building is within the provisions of the major land use or the proposed activity, whichever is less.
vi) If any action is allowed with special permission in major land-use such as agricultural green belt, green belt, park and open area which is normally proposed as open area, then acceptance of the proposed action with the condition Provided that the maximum coverage and maximum FAR of the proposed action will be permissible as per the proposed policies in the master plan.

2. In case any action is permitted with special permission in any major land use zone, the land shown in the parking / set bank etc. will have to be transferred free of cost by the applicant to the authority if needed for future road expansion / public parking etc.

3. In addition to the activities shown in the zoning regulations, other activities incidental to the main land use, which are not mentioned, can also be allowed on the basis of merits and demerits by the competent authority with special permission.

Note:

(1) In the event of permission by the competent authority in the zoning regulations, the maps of all the activities/uses, in-charge of building construction and development shall be approved as per the bye-laws. In relation to the activities / uses for which there is no provision in the building bye-law regarding land cover, FAR set back, parking etc., keeping in view the nature of the action, the recommendation will be submitted by the said committee to the Authority Board.

(2) The Competent Authority shall not be bound to allow any use/action with special permission and the applicant shall not be able to demand it as a right.

18.6.1 Major Land Use Zones

For directed development in the present urban structure and future form, the complete master plan area has been divided into the following major land use zones:

1. Built up area
2. Market area / Intensive market area
3. Mixed residential
4. Residential
5. Professional
6. small scale industries
7. Heavy Industries
8. Office
9. Public Amenities and Services
10. Transport - Bus Stand / Transport City Parks
11. Park and recreational facilities
12. Rural Population / Future Expansion
13. Agriculture
14. Highway Facility Corridors

Zoning has not been prescribed for Agriculture area - Railway area and undefined area. *Please Refer Section18.9 to 18.11 for types of shops and small industries permissible in commercial areas*

The permission for different uses for the Development Rights Zone (TOD) will be as follows.

- Permissible use
  Group accommodation, Hostel, Nursery, Primary school, Nursing home/Hospital, Social and cultural facilities, Hotel, Restaurant, Commercial shops and Business and professional offices (as planned complex), Petrol filling station (45 m wide) On the road), schools, colleges, research institutes, state, central and local offices, resort institutions, bus stops for passengers, parking, utility facilities. Planned layout will be mandatory to allow any action.

- Prohibited activities
  Industry, wholesale shops, warehouses, warehouses and markets related to meat and fish, warehouses related to petroleum and other inflammable materials, truck terminals, all such activities which cause harmful noise. Vibration, gas, fumes, odour, generating dust and other harmful conditions, warehousing, junk yard.

- Permissible use in special circumstances by the Development Authority

All other activities other than the activities mentioned in the above prohibited use

18.7 Different activities in Major Land use zones

DIFFERENT ACTIVITIES IN LAND USE ZONES				Indicators	
Abbreviations				*Permissible use*	
Built up area (B. P)	Pure Residential (P.R)	Public Facilities (P.F)	Rural Population / Future Expansion (F.E)	*Conditional Permissible use*	*Code*
Market area (M.A)	Mixed Land use (M.L)	Traffic and Transportation (T&T)	urban Agricultural area (U.A.A)	*Use permitted with special permission*	
Residential (R)	Commercial(C)	Parks and open spaces (P.O.S)	Agricultural area (A.A)	*conditionally permitted with special permission*	*Code*
Offices (O)	Industrial (I)	Green Belt (G.B)	*Refer section 18.5for conditions of for conditionally permissible activities and for landuses 18.6.1*	*Prohibited Use*	

Activities	Built up area	Land use zones Developing/undeveloped Areas

Sr.No.	Abbreviations	B.P	M.A	R	P. R	M.L	C	I	O	P.F	T&T	P.O.S	G.B	F.E	U.A.A	A.A
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	**Residential (R)**															
1.1	Single dwelling					1	1	3	3	3	1	1	1			
1.2	Group Housing	7	7				2	5	5	5						
2	**Commercial**															
2.1	Retail Shop	31	28	6				27	27	27	27					
2.2	Showroom	6	28					30			29					
2.3	Weekly Market													6	22	22
2.4	Wholesale Market						11								31	31
2.5	Auction Market					7	7								22	22
2.6	Bakery & confectionary, Flour mill(up to 10 HP)		28	6												
2.7	Coal and wood mound	7	28	7										6		
2.8	Agricultural Produce sales													6	31	31

Sr.No.	Abbreviations	B.P	M.A	R	P. R	M.L	C	I	O	P.F	T&T	P.O.S	G.B	F.E	U.A.A	A.A
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	centre															
2.9	Cold storage						11								31	31
2.1	Resort					7	7								31	31
2.11	Hotel	24	24	24				24							31,25	31,25
2.12	Side restaurants (Dhaba)														31	31
2.13	Restaurants							27	27	27	27	31.27	31		25	25
2.14	Cinema, Multiplex	7	7	7											31	
2.15	Exhibition, circus	7	7	8						8	7	22	22	6	22	22
2.16	P.C.O, Cellular mobile service														21	
2.17	petrol/diesel filling stations	7	7	8									31		31	31
2.18	Gas stations	7	7	8										6		
2.19	Gas Godown															
2.2	warehouse, Storage centre					14	14	14							31	31
3	**Industrial**															
3.1	Cottage Industry	16	16	13											31	
3.2	Information Technology /software Technology	18	18	18											31	
3.3	Small Industry					26	26							26	31	
3.4	Sugar Mill, Rice mill, Agro based industries														31	31
3.5	Hazardous Industry														31	31
3.6	Mining															
3.7	L.P.G Filling plant														31	31
3.8	Large Industry														31	
3.9	Power generation plant centre														31	31
4	**Public and semi public**															

Sr.No.	Abbreviations	B.P	M.A	R	P. R	M.L	C	I	O	P.F	T&T	P.O.S	G.B	F.E	U.A.A	A.A
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4.1	Centre-Government, State-government, Local Office etc.	6	6	7						21	21					
4.2	Private offices	20		20						21	21					
4.3	Banks	6	6,28											6	31	
4.4	Commercial/Business offices	6	6,28					27	27		29					
4.5	Labour welfare centre															
4.6	P.A.C/ Police line															
4.7	Meteorological research centre, Observatory															
5	**Public and semi-public facilities**															
5.1	Guest house	6	6	7										6		
5.2	Dharamshala, Doss house	6	6	7										6		
5.3	Hostel	6	6	6											31	
5.4	Orphanage														31	
5.5	Jail															
5.6	Handicapped children house	6	6	6												
5.7	Nursery															
5.8	Old age homes															
5.9	Primary educational institution	6	6	6												
5.1	Higher, Secondary, Inter College	6	6	7										6		
5.11	University															
5.12	Medical, Dental, Engineering college															
5.13	Polytechnic , ITI															
5.14	Management Institutes															

Sr.No.	Abbreviations	B.P	M.A	R	P. R	M.L	C	I	O	P.F	T&T	P.O.S	G.B	F.E	U.A.A	A.A
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
5.15	Telephone exchange	6	6	7												
5.16	Post office	6	6													
5.17	Police station, police Chowki	6	6													
5.18	Library	6	6													
5.19	Health Centre	10	10	10												
5.2	Hospital							11	11					11		
5.21	Nursing home	10	10	10				11	11							
5.22	Clinical Laboratory															
5.23	Health Club															
5.24	Electric cremation, Crimination ground															
5.25	Dance academy	6	6	6												
5.26	Sewing, Knitting, Embroidery, Computer Training etc.			20										6		
5.27	Auditorium	6	6	7								22		6		
5.28	Religious building	6	6											6		
5.29	Community centre	6	6	7										6		
5.3	Banquet Hall	7	7	7		7	7	7		7					7	
5.31	Conference hall	6	6	7				27	27	27	27				27	
5.32	Museum															
5.33	Art gallery	22	22	7								22				
5.34	Radio station															
5.35	Research and development centre							21								
5.36	Social welfare centre															
5.37	Satsang hall	6	6	7								22		6	22	22
6	**Public Utilities**															

Sr.No.	Abbreviations	B.P	M.A	R	P. R	M.L	C	I	O	P.F	T&T	P.O.S	G.B	F.E	U.A.A	A.A
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6.1	Sewerage Treatment plant							15		15						
6.2	OHR, Tube wells															
6.3	Water works															
6.4	Microwave centre															
6.5	Compost plant															
6.6	Slaughter house															
6.7	Cellular mobile tower centre															
7	**Traffic and transportation**															
7.1	Parking										16	31				
7.2	Taxi stand	6	6	7							16					
7.3	Transport nagar															
7.4	Bus stand	7	7	7		7	7	7	7	7	16			6		
7.5	Bus terminal															
7.6	Motor garage		7											6		
7.7	Motor driving training centre															
7.8	Loading unloading facilities	7	7											6		
7.9	Railway yard terminal															
7.1	Religious thorn	7	7			7	11	7		7				6	31	31
7.11	Airport															
8	**Park and open spaces**															
8.1	Parks and play grounds															
8.2	Multipurpose open space	7	7	7										6		
8.3	Golf course															
8.4	Stadium															
8.5	Picnic place											22				
8.6	Traffic park															

Sr.No.	Abbreviations	B.P	M.A	R	P. R	M.L	C	I	O	P.F	T&T	P.O.S	G.B	F.E	U.A.A	A.A
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
8.7	Entertainment park	6		7								22				
8.8	Club, swimming pool	6	6	7												
8.9	Zoo															
8.1	Helipad							22	22	22						31
8.11	Shooting range															
9	**Agriculture**															
9.1	Horticulture, laboratory, garden, forest, Botanical garden															
9.2	Farm House															
9.3	Pasture															
9.4	Laundry bay															
9.5	Bee keeping, Animal Cultivation and Breeding Centre															
9.6	Agricultural equipment repair															
10	**Floating Use**															
10.1	Public utilities															
10.2	Commercial															
10.3	Transportation															
10.4	Industry															
Note:- Refer to Annexure-3 to explain this matrix																
Refer to Part-16.3 for the conditions and restrictions laid down for the permission of the conditionally permissible uses.																

18.8 Hierarchy of the Land Use zones and Process of determining Impact Fees

6. भू–उपयोग जोन्स का निम्न से उच्च कम एवं प्रभाव शुल्क (Impact Fee) का निर्धारण

प्रभाव शुल्क से छूट	
गैर–व्यवसायिक एवं चैरिटेबल कियाएं/उपयोग	1
सेवा एवं कुटीर उद्योग	2
सम्बन्धित उपयोग के प्रयोजनार्थ समूह आवास	3

संकेत	
प्रभाव शुल्क लागू नही	
प्रभाव शुल्क देय नही	
प्रभाव शुल्क देय	

	कियाएं (Activities)/उपयोग श्रेणी (निम्न से उच्च कम में)	निर्मित क्षेत्र	भू–उपयोग जोन्स: विकासशील/अविकसित क्षेत्र (निम्न से उच्च कम में) → कृषि, ह,पट्टी, पार्क,कीड़ास्थल	सार्वजनिक सुविधाएं	यातायात एवं परिवहन	औद्योगिक	आवासीय	कार्यालय	व्यवसायिक
			1	2	3	4	5	6	7
1	कृषि, हरित पट्टी (ग्रीन वर्ज) पार्क, कीड़ास्थल								
2	सार्वजनिक एवं अर्द्ध–सार्वजनिक सुविधाएं		0.25 (1)				0.25 (1)		
3	यातायात एवं परिवहन		0.30	0.10					
4	औद्योगिक		0.40 (2)	0.25 (2)	0.25 (2)				
5	आवासीय		0.50	0.40	0.40	0.25 (3)			
6	कार्यालय		1.00	0.75	0.75	0.75	0.50		
7	व्यवसायिक		1.50	1.25	1.25	1.00	1.00	0.50	

टिप्पणी : 1. विभिन्न भू–उपयोग जोन्स में अनुमन्य कियाओं/उपयोगों हेतु निर्धारित "प्रभाव शुल्क गुणांक" की वैल्यू उन प्रकोष्ठों में दी गई है जहाँ प्रभाव शुल्क देय है।

2. सामान्यतः अनुमन्य एवं सशर्त अनुमन्य कियाओं/उपयोगों हेतु प्रभाव शुल्क 25 प्रतिशत तथा विशेष अनुमति से अनुमन्य कियाओं/उपयोगों हेतु 50 प्रतिशत देय होगा तथा प्रभाव शुल्क का आंकलन सम्बन्धित भू–उपयोग जोन हेतु निर्धारित गुणांक की वैल्यू के आधार पर निम्न फार्मूला के अनुसार किया जाएगा:–

2.1 सामान्यतः अनुमन्य एवं सशर्त अनुमन्य कियाओं हेतु:– भूखण्ड का क्षेत्रफल x सर्किल रेट x गुणांक x 0.25

2.2 विशेष अनुमति से अनुमन्य कियाओं हेतु :–भूखण्ड का क्षेत्रफल x सर्किल रेट x गुणांक x 0.50

3. प्रभाव शुल्क का आंकलन विकास प्राधिकरण/आवास परिषद की वर्तमान सेक्टर (आवासीय) दर, प्राधिकरण/परिषद की दर न होने की दशा में भूमि के विद्यमान भू–उपयोग के लिए जिलाधिकारी द्वारा निर्धारित वर्तमान सर्किल रेट के आधार पर किया जाएगा।

प्रभाव शुल्क के आगणन हेतु उदाहरण

उदाहरण–1

मिश्रित आवासीय क्षेत्र में नर्सिंग होम की अनुज्ञा हेतु :

भूखण्ड का क्षेत्रफल = 350 वर्ग मीटर

प्राधिकरण की वर्तमान आवासीय दर = रु0 2000 प्रति वर्ग मीटर

देय प्रभाव शुल्क = भूखण्ड का क्षेत्रफल x सेक्टर रेट x गुणांक x 0.25

अर्थात् 350 x 2000 x 0.25 x 0.25 = रू0 43,750

उदाहरण–2

कृषि भू–उपयोग जोन में विशेष अनुमति से पेट्रोल पम्प की अनुज्ञा हेतु :

भूखण्ड का क्षेत्रफल = 500 वर्ग मीटर

कृषि भूमि का सर्किल रेट = रू0 200 प्रति वर्ग मीटर

देय प्रभाव शुल्क = 500 x 200 x 1.5 x 0.5 = रू0 75000/–

Zoning regulations for Bazar streets and Highway Facility corridors

B.S	Bazar street	Permissible Use	
H.F.C	Highway Facility Corridor	Conditionally Permissible use	Code
		Use permitted with special permission	
		Prohibited use	

Activities		Built up area	
		B.S	H.F.C
Sr.No.	1	2	3
1	**Residential (R)**		
1.1	Plotted Housing		
1.2	Group Housing	26	
1.3	watchman/ related worker		
2	**Commercial**		
2.1	Retail Shop		
2.1.1	Weekly Market		
2.1.2	Bakery & confectionary, Flour mill(upto 10 HP)		
2.2	Daily shops		
2.3	Showroom(Except Motor vehicle)		
2.4	Showroom for Motor vehicle	8	
2.5	spare parts shops for Motor vehicles		
2.6	Wholesale		
2.7	Auction Market		
2.8	Coal and wood mound		
2.9	Agricultural Produce sales centre		
2.10	Cold storage		
2.11	Resort		
2.12	Hotel	8	
2.13	Motel, Side restorants (Dhaba)		
2.14	Restaurants		
2.15	Cinema, Multiplex	8	
2.16	P.C.O, Cellular mobile service		
2.17	petrol/disel filling stations		
2.18	warehouse, Storage centre		
2.19	Gas stations, Inflamable, Hazardous material		
2.20	Service Appartment		
3	**Industrial**		
3.1	Cottage Industry		
3.2	Information Technology /software Technology		
3.3	Small Industry		
3.4	Large Industry, Sugar Mill,Rice mill,Agro based industries		

Activities		Built up area	
		B.S	H.F.C
3.5	Hazardous Industry, Polluting Industry		
3.6	Mining		
3.7	L.P.G Filling plant		
3.8	Milk storge Plants		
3.9	Power generation plant centre		
3.1	Logistic Park		
4	**Office**		
4.1	Centre-Government, State-government, Local Office etc.		
4.2	Private offices		
4.3	Banks		
4.4	Commercial/Business offices		
4.5	Labour wellfare centre		
4.6	P.A.C/ Police line		
4.7	Cyber Café		
4.8	Biotech Park		
4.9	Business Park		
4.10	Data processing Centre		
4.11	Call Centre		
4.12	B.P.O		
4.13	research lab	8	
4.14	Meteorological research centre, Observatory		
5	**Public and semi-public facilities**		
5.1	Guest house		
5.2	Dharamshala, Doss house		
5.3	Hostel		
5.4	Orphanage		
5.5	Jail		
5.6	Handicaped children house		
5.7	Nursery		
5.8	Oldage homes		
5.9	Primary educational institution		
5.10	Higher, Secondary, Inter College	8	
5.11	College		
5.12	University		
5.13	Medical, Dental, Engineering college		
5.14	Polytechnique, ITI		
5.15	Post office		
5.16	police station, police chowki		
5.17	Library		
5.18	Helath Centre		
5.19	Hospital		

Activities		Built up area	
		B.S	H.F.C
5.20	Nursing home		
5.21	Clinical Laboratory		
5.22	Health Club		
5.23	electric cremation, Cremenation ground		
5.24	Dance academy	8	
5.25	Sewing, Knitting, Embroidery, Computer Training etc.	8	
5.26	Oditorium	8	21
5.27	Satsang Bhavan, yoga centre	8	21
5.28	Religious building		
5.29	Community centre		
5.30	Banquet Hall		
5.31	Conference hall		
5.32	Museum		
5.33	Art gallery		
5.34	Radio station		
5.34.1	Research and development centre		
5.35	Social welfare centre		
5.36	Dumping ground		
5.37	OHR, Tube wells		
5.28	water works		
5.39	Microwave centre		
5.40	Compost plant		
5.41	Sewerage Tratment plant		
5.42	Dustbin		
5.43	Public Toilet		
5.44	A.T.M		
5.45	Public Facility Centre		
5.46	Knowledge park		
5.47	slaughter house		
5.48	Waste recycling		
6	**Traffic and transportation**		
6.1	praking		
6.2	taxi stand		
6.3	transport nagar		
6.4	bus stand		
6.5	bus terminal		
6.6	motor garage		
6.7	Motor driving traning centre		
6.8	loading unloading facilities		
6.9	Railway yard terminal		

Activities		Built up area	
		B.S	H.F.C
6.10	weighing Bridge		
6.11	Airport		
7	**Park and open spaces**		
7.1	Parks and play grounds		
7.2	Multipurpose open space		
7.3	Golf course		
7.4	stadium		
7.5	Picnic place		
7.6	Traffic park		
7.7	Entertainment park		
7.8	club, swimming pool		
7.9	Zoo		
7.10	helipad		
7.11	Shotting range		
8	**Agriculture**		
8.1	horticulture, laboratory, garden, forest, Botanical garden		
8.2	Farm House		
8.3	pasture		
8.4	Laundry bay		
8.5	Bee keeping, Animal Cultivation and Breeding Center		
8.6	agricultural equipment repair		
9	**Flotting Use**		
9.1	Public utilities and services		
9.2	Wholesale commercial		
9.3	traffic and transportation		
9.4	Cottage industry		
9.5	Special use(Hazardous/dangerous/polluting		
10	Temporary activities		
10.1	weekly market		
10.2	temporary cinema, circus, exibition, mela		
10.3	welding zone		

18.9 List of shops of daily use (maximum number of workers two)

1. General provision store
2. Daily use items and milk, bread, butter, eggs etc.
3. Vegetables and fruits
4. Fruit juices
5. Sweets and Beverages
6. Paan, Bidi, Cigarette
7. Medical Store/Clinic
8. Stationery
9. Typing, Photostat, Fax etc.
10. Books / Magazines / Newspapers etc.
11. Sporting Goods
12. Telephone Booth , PCO
13. Readymade Garment
14. Beauty Parlor
15. Cosmetics
16. Hair Dressing
17. Tailoring
18. Watch Repair
19. Embroidery , Knitting & Painting
20. Cable TV Operation
21. Video Parlor
22. Plumber Shop
23. Electrical Appliances
24. Hardware
25. Tire Puncutre

Similar shops of other daily utilities

18.10 List of permissible service industries in the residential sector (up to 10 horsepower)

1. Laundry
2. Dry Cleaning
3. Servicing and Repair of TV
4. Radio etc.
5. Milk Products, Ghee, Butter Making
6. Servicing of Motor Car, Motor Cycle, Scooter, Cycle etc.
7. Printing Press and Book Binding
8. Gold and Silver Work
9. Embroidery and Knitting
10. Shoes Lace Preparation
11. Tailoring & Boutique
12. Carpentry ,
13. Blacksmithing
14. Clock , Pen , Glasses Repair

15. Sign Board (excluding Iron Board)
16. Photo Framing
17. Shoe Repair
18. Electrical Appliance Repair
19. Bakery Confectionery
20. Flour Mill Repair (Up to 10 HP)
21. Furniture

Equivalent Service Industry

18.11 Pollution free small scale industries (up to 10 horsepower) allowed with special permission in commercial area

22. Flour Mill
23. Groundnut Drying
24. Chilling
25. Sewing
26. Cotton and Woolen
27. Woven Clothing
28. Textile Industry
29. Handloom
30. Shoe Lace Preparation
31. Gold and Silver
32. Wire and Zari Work
33. Leather Shoes and other leather products not including tanning
34. Preparation of mirrors and photographs from glass sheets
35. Manufacture of musical instruments
36. Sports goods Bamboo and cane products
37. Cardboard and paper products Insulation and other coated paper
38. Science and math instruments
39. Steel and wooden furnishings
40. Preparation of household electrical appliances
41. Radio, TV, Repair
42. Repair of watches
43. Glasses
44. Surgical bandages
45. Spinning & weaving
46. Ropes making
47. Assembling of cycles and other non-motorized vehicles
48. Manufacture of electronics equipment
49. Manufacture toys
50. Candle making
51. Jigsaw machine Excluding carpenter Oil extraction (except refining)
52. Ice cream making
53. Mineralized water
54. Jabbing and machining Iron chests and suitcases

55. Paper pins and U-clips
56. Preparation of blocks for printing
57. Glass frames
58. Manufacture of scissors
59. Textile printing work
60. Other pollution free industry

Chapter 19
Phasing & Resource Mobilisation

19 Phasing of Master Plan

This chapter discusses the phasing significance in the master planning process and phases for development of the proposed Master Plan.

19.1 Introduction

To ensure the balanced and organized development as per the Master Plan, it is necessary to divide the long-term period into different phases, to determine the priorities of development activities and accordingly the regional, so that the development of infrastructure facilities can be done in a phase-wise manner. According to the proposals of the long-term development plan prepared for the development of the urban area, the planning and implementation of development works is very important. In this, to use the land in the prescribed form, according to the accepted policy, the commitment and respect for the master plans in the implementing institutions is the ultimate.

Phasing is done to ensure the planned development. The Saharanpur Master Plan is being prepared for the interval of 10 years so the phasing is done for the period of 5-5 years. The first phase has to be completed in maximum 5 years interval. As in master plan phasing is done according to the need, in first phase the deviation will be estimated as it will take less time and in second phase the development work started. The Immediate Phase is 2021- 2026.

19.2 Immediate Phase 1: Key Tasks

1. Zonal Plans

- Preparation of zonal plans in the light of proposed land use in the master plan, in which detailed description of development works, implementation, priorities and programmes. The financial aspect necessary for implementing the zonal plans should also be made a part of the plan.
- To prevent unnecessary expansion of the urban area and to keep the fertile agricultural land away from urbanization for a long period of time, prepare zonal plans for the identified areas to be developed in the next five years.
- In the context of master plan and zonal plans, detailed traffic and transportation plan, water supply plan, water and sewage disposal plan and detailed plan for collection, treatment and use of urban waste are prepared on a five-year basis with the help of necessary experts.

2. Infrastructure Development and Upgradation

- To develop the infrastructure facilities by the Housing and Development Council, Saharanpur Development Authority and the Municipal Council, prepare a detailed action plan for the identification of the projects by the task force method and for implementation according to the prescribed program
- To priorities the provisioning of basic amenities and public facilities in the city

3. Clean and Green Action Plan

- To make a Clean & Green Action Plan: this shall involve identification: this shall involve identification of land parcels which can be taken up as parks in city; redevelopment of

existing parks and upgradation and developing the river front & conservation of natural features.
- To prepare environmental plans and programs in the context of future requirements by making detailed study of environment and pollution.
- Prepare feasibility reports, initiating the process of river rejuvenation

4. Private Sector Participation
- Studying the possibilities of private sector participation in all development works, identifying the responsible private institutions and determining the implementation programs and policies.

5. Built Area Action Plan/ Core City Action Plan
- Preparation of detailed plan for the development of built area of the city and action plan for identifying the structures that are in state of redevelopment
- Prepare action plan and feasibility including Urban Design proposals to tackle the traffic and transportation issues in the city

6. Monitoring of the implementation
- Appoint a dedicated committee for monitoring and implementation
- Apply GIS methods to conduct monitoring and provide required capacity building to the staff to achieve the same
- Regularly mark the development and construction works being done in line with the master plan or against the master plan, and to mark the size and nature of these works on the map

Presently it is observed that, the action plans and programs are not prepared in required time duration for the implementation of the master plan proposal. It has also been observed that local policies are followed by executive agencies for development activities, which create obstacles in the overall development of the city; this increases the time to implement infrastructure facilities and creates problems of environmental pollution in other areas. It is suggested that a monitoring committee be formed to check the implementation process.

19.3 Monitoring of Master plan Implementation

At present, in accordance with the master plan proposals or against the master plan, to regularly mark the development and construction works, to map the shape and form of their work and to determine and solve the possible problems arising out of it, a definite and regular effective monitoring is very important. Generally, the development authority does not have an assessment of the geographical and financial nature and size of the positive actions and negative problems resulting from the implementation of the master plan. Due to its absence, the need for improvement is also not properly assessed.

There are several methods of monitoring are currently available. It has latest and modern GIS technology. Using this technique, a map of development activities should be prepared and unauthorized and unplanned development and construction work should be identified and a monitoring cell should be established on the authority start for regular monitoring of the action, which is different from the enforcement section currently working. Under this the following works should be done.

- To mark all type of development and construction works in the urban area on the master plan and regional plan map.
- Preparation of detailed description of unauthorized development and construction works.
- According to the master plan, to identify the problems arising as a result of private sector participation in development and construction works and propose alternative arrangements. In most of the sectors of development the phasing is done in two phases the interval of phase depends upon the time taken to solve the problem of the area/ to resolve the deviation and the second phase is used for the development.

19.3.1.1 *Role of Government Agencies*

To ensure implementation of various schemes related to housing and infrastructure development of Central and State Sectors.

Effective implementation of the provisions of the Acts and regulatory measures (rules, mandates, guidelines, etc.) for the planned development of cities.

To control the spread of illegal / 'non-conforming' activities in unauthorized colonies, slums, illegal constructions and residential areas.

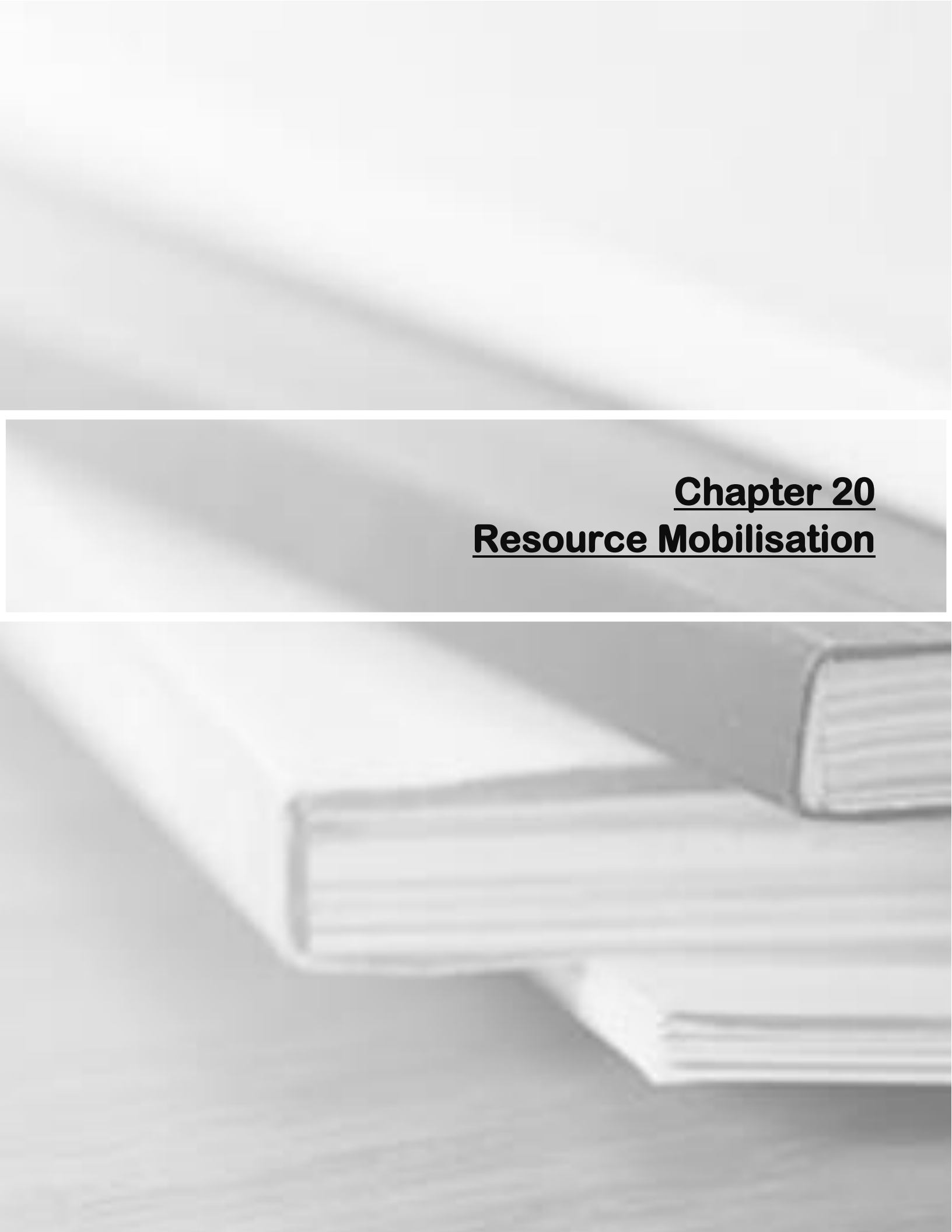
Preparation and regular updating of Zonal Development Plans in a time bound manner under the master plan and to make appropriate provision for the informal sector (slum dwellers and homeless) under them.

Preparation of Housing and Habitat Action Plan and ensuring its timely implementation by assessing the shortage and future requirement of housing for a particular city.

To implement the approved projects under the Hi-tech townships and integrated townships announced by the state government for participation of the private sector and to ensure timely compliance of social obligations of private developers.

19.3.1.2 *Suggestion for Monitoring committee*

	Recommended Post in the Committee
Vice Chairman, SDA	President
Chairman, Municipal Corporation, Saharanpur	Member
Associate Town Planner, Divisional Office, Town and Country Planning Department	Member
Nominated person by Chairman SDA	Member
President, Saharanpur Architect Association	Member
Chief Town Planner, Senior Town Planner, SDA	Planner



Chapter 20
Resource Mobilisation

20 Resource Mobilization for Implementation

This chapter discusses the Resource Mobilization for Implementation of the Master Plan.

For the implementation of the Master Plan proposals, it is necessary to have proper arrangement of land and financial resources. The present method of developing infrastructure facilities by getting budgetary support by the government and long-term loans from financial institutions by the development agencies is not sufficient in relation to the needs of future development. The development of the urban area is a continuous process in which the urban administration and development agencies will have to make extensive changes in the arrangement and management of their internal resources. Free facilities and service in the open market age will also have to be abandoned from the present mentality. The cost of expenditure for each facility and service will have to be borne directly or indirectly by the consumer himself. The participation of the private sector in the development works will have to be increased and the developers will have to be encouraged and motivated, so that the expected development can take place.

20.1 Key resource mobilization sources

1. **Establishment of land property bank:** On the basis of latest satellite image and G.I.S technology, mapping and detailed description of all the land in the development area and Municipal Corporation. By taking the actual measurement of all the land on the basis of satellite image and also-marking the additional land by matching with the revenue records. There is a lot of surplus land in each revenue village there is plan to use that land for future development. For preparing the urban land settlement on modern method and obtain it for public facilities, services and roads etc. The same thing is done through town planning scheme, which can be adopted here as well. Thus, the ownership and management of the local body and the administration will have a detailed description tier of the actual land which can be kept in the form of a land bank.
2. **On the basis of actual use Determination of compounding fee and house tax etc.:** There are many such in the urban area, which are being used for commercial purposes more than approved or completely unauthorized and it is not possible to remove these properties. All these assets should be identified and mitigated. Two times compounding fee should be fixed on non-compoundable property. The house order is to be recovered equally from unauthorized construction and authorized construction, which is not justified logically. House number to be employed
3. In urban areas, many heavy and hawker vehicles are permanently parked on public land, especially at night. Monthly rent to be collected from all these vehicles additionally on unauthorized construction.
4. Normally the maximum limit of FAR permissible in urban area should be fixed at 1. Additional F.A.R to be sold at identified locations. F.A.R can be made salable by authority from 1 to 2.
5. In case of free land being used for construction of roads, development of parks etc., and additional rent can be given to the owner, which he can use himself or should be sold to someone.
6. External development charges and betterment charges should be regularly planned on the basis of actual infrastructure expenditure.

7. Change of user fee and impact fee should be charged on the basis of actual use of land and built-up property.
8. The authority can also consider developing a free land zone, in which various activities without pollution can be allowed on the basis of additional impact fee on the basis of the actual route.

In this way, the agencies can strengthen their financial system through various means through continuous efforts and can make an active contribution in the urban area.

20.2 Land Mobilization and Management

Special emphasis will be given to use land as a resource for 'resource mobilization' for development of infrastructure facilities, so as to ensure "self-sustaining development.

20.2.1 Recommendation for Land Mobilization

A progressive land acquisition policy will be made to ensure the participation of farmers / land owners in urban development by simplifying the process of land acquisition for land acquisition / mobilization.

Under the new policy, public participation in the process of social impact assessment will be increased as much as possible and suitable provisions shall be made for compensation system and rehabilitation and resettlement of displaced persons

20.2.1.1 ***Land Pooling Scheme***

It is becoming difficult to acquire land in general through Land Acquisition Act. Legal disputes also happen and there is a delay in getting the land. Therefore, under the welfare policy of the state government, farmers have been given many options for getting land. Land Pooling is one such option. At present, the Integrated Township Policy and High Tech Township Policies are loosely based on the land pooling method, where the direct involvement of the authority or govt. agency is less. The Land Pooling has been successfully implemented in many states and is a more sustainable way of achieving development for a win-win situation for the authority as well as farmers. This also helps in speedy development and infrastructure provisioning.

Under land pooling, the layout plan is prepared by the Development Authority by pooling the lands of the selected land owners for development / redevelopment and infrastructure development is done without acquiring the land. Under the layout plan, land is reserved for roads, infrastructure facilities, parks and open areas, community facilities, etc. and some part of the land is used by the authority to meet the infrastructure development expenses, while the reconstructed plot, Whose value will increase as a result of infrastructure development. The respective land owners are redistributed in proportion to the land owned by them and the reserved land is transferred free of cost to the authority as public facilities. Under this method, well-planned urban development will be ensured with the cooperation of land owners and no funding will be required for land acquisition. The State Urban Housing and Habitat Policy recommend the land pooling scheme norms, which can be adopted.

20.2.1.2 ***Direct Land Purchase from farmers:***

For mobilization of land, this option will also be permissible that Development Authority, Housing and Development Council and other Government / I-Government agencies can buy land directly for their schemes by talking to the land owners.

20.2.1.3 ***Transferable Development Rights***

In lieu of land reserved for public facilities under the master plan, such owners are paid compensation in the form of 'Transfer of Development Rights' (TDR) who surrender land free of cost to the local agency for the development of public facilities. According to the 'Development Rights Certificate' (DRC) granted to the land owner, the Permissible Floor Area Ratio (FAR) for that land can be used elsewhere or the land owner on the said floor, which can also be transferred wholly or partly to any other person. The person who buys it can build on his land according to the additional floor area. The TDR concept is prevalent in many states in India and has been a successful process for implementing reservation areas in any planned area, where the public facilities land come sunder private property. TDR is one of the key recommendations in the present Master Plan for ensuring decongestion, redevelopment process for the core areas in the city, specifically to assimilate open space and parks.

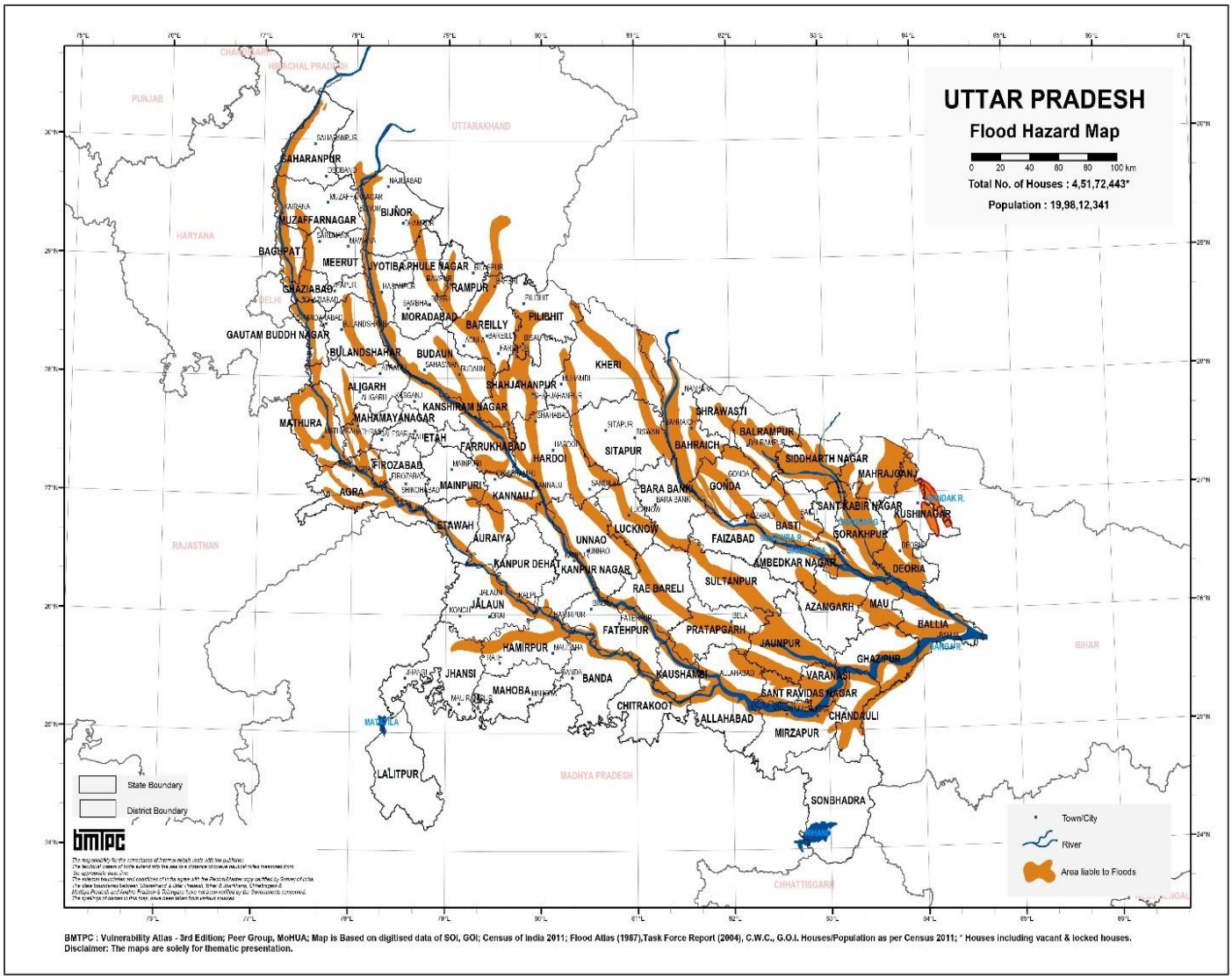
21 Annexure

21.1 Table List of villages within Saharanpur AoI

1	Abdullapur	50	Gawaleera	99	Mohd.pur bahlolpur
2	Badshahpur	51	Ghoghriki aht.	100	Mohd.pur gada
3	Bag kala lan	52	Ghoghriki must.	101	Mohiddinpur
4	Bahadaki aht.	53	Ghosipura	102	Mubarakpur
5	Bahadaki must.	54	Gokalpur	103	Mukhlispur
6	Bani kheda	55	Halalpur	104	Mullapur kadeem
7	Baritaga aht.	56	Hasanpur balaswa aht.	105	Mullapur majabata
8	Baritaga must.	57	Hasanpur balaswa must	106	Nagrajpur
9	Beedpur	58	Hasanpur kadeem	107	Nalheda bakkal
10	Bhaupur	59	Hasanpur mazra taharpur	108	Nandi aht.
11	Bityaa	60	Hoz kheri	109	Noorpur must
12	Chak abdulla sultan	61	Igari	110	Padli khushalpur
13	Chak adampur	62	Ismailpur	111	Panjora
14	Chak baritaga	63	Jairampur	112	Papda ki rasulpur ast
15	Chak gullhin	64	Jamalpur	113	Papda ki rasulpur must.
16	Chak harati	65	Jamapur bari aht	114	Paragpur aht.
17	Chak katauti	66	Jamapur bari must	115	Paragpur must.
18	Chak kazi wala	67	Jandhari	116	Piki
19	Chak khanoo	68	Kadarpur mafi	117	Pilakhna bakkal
20	Chak paragpur	69	Kailashpur (ct)	118	Pilakhni
21	Chakdevali	70	Kakrala	119	Rasoolpur
22	Chaksaid raja	71	Kamboh majra	120	Rasoolpur paphedi
23	Chaksaray bhartichand	72	Kankar kooi	121	Ratna khari
24	Chandanpur	73	Kapasa aht.	122	Roop di guzar
25	Chandu mazra	74	Kapasa must.	123	Sadak dudhli
26	Chapradi	75	Kapoorpur	124	Saidpura
27	Chatka	76	Karashani	125	Sakalapuri
28	Chhazpura	77	Khanalampura	126	Salampur bhukdi
29	Chidbana	78	Khatriwala	127	Salampur gadda
30	Chiruki	79	Khurd	128	Sambalki shek
31	Chunati gada	80	Krishanapura	129	Sambhalka gunardar
32	Dabki guzar	81	Kumhar Heda	130	Sambhalki khurd
33	Dabki junardar	82	Lakhnour aht	131	Sarakadi sheikh

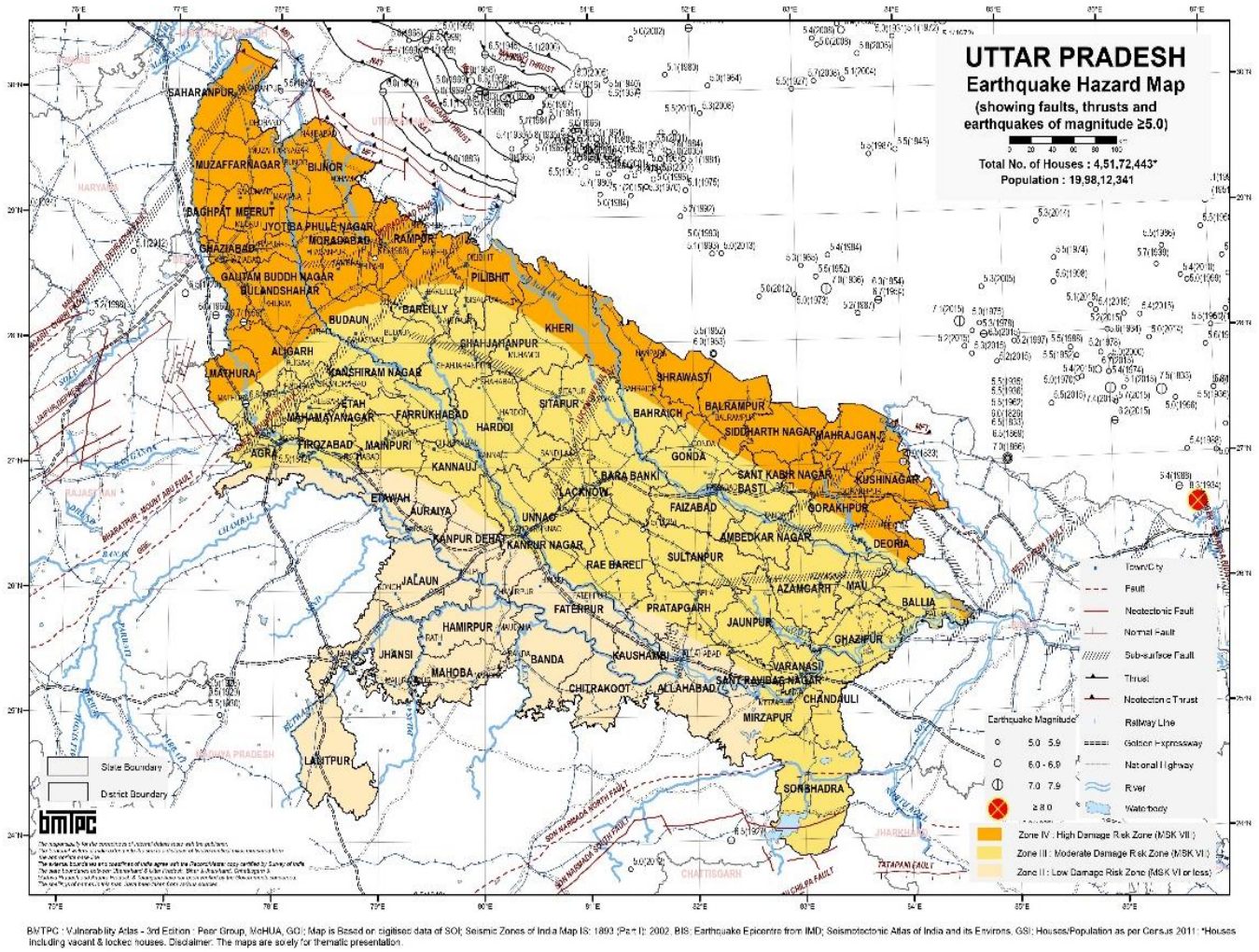
34	Damkadi	83	Lakhnour must.	132	Sawalpur nawada
35	Dara ali swad Saharanpur	84	Madh	133	Shahpur kadeem
36	Dara Kottala	85	Mahipura	134	Sheikhwala
37	Dara Milkana	86	Malhipur (ct)	135	Shekhpura kadeem
38	Dara Rajpura	87	Manak mau	136	Soomli
39	Dara shivpuri	88	Manani	137	Taharpur
40	Dargahpur	89	Mansapur	138	Teli mazra
41	Datauli rangad	90	Mathhanpura	139	Tharoli
42	Devla	91	Mavi kalan	140	Tiparpur
43	Dhamola	92	Mawi khurd	141	Tuglakpur
44	Dudhli bukhara aht.	93	Megh chappar	142	Ugrahu must.
45	Dudhli bukhara must.	94	Milk waziuddinpur	143	Ugranu aht.
46	Fatehpur guzar	95	Mirzapur mazra piki	144	Unali
47	Fatehpur jat	96	Mirzapur	145	Usufpur aht.
48	Firozpur aht.	97	Mohammadpur mafi	146	Usufpur must.
49	Gagalhedi aht.	98	Mohanpur gada	147	Wajidpur mazra sarakdi sheikh

Figure 21-1 Flood hazard map of Uttar Pradesh



Source: BMTPC (www.bmtpc.org)

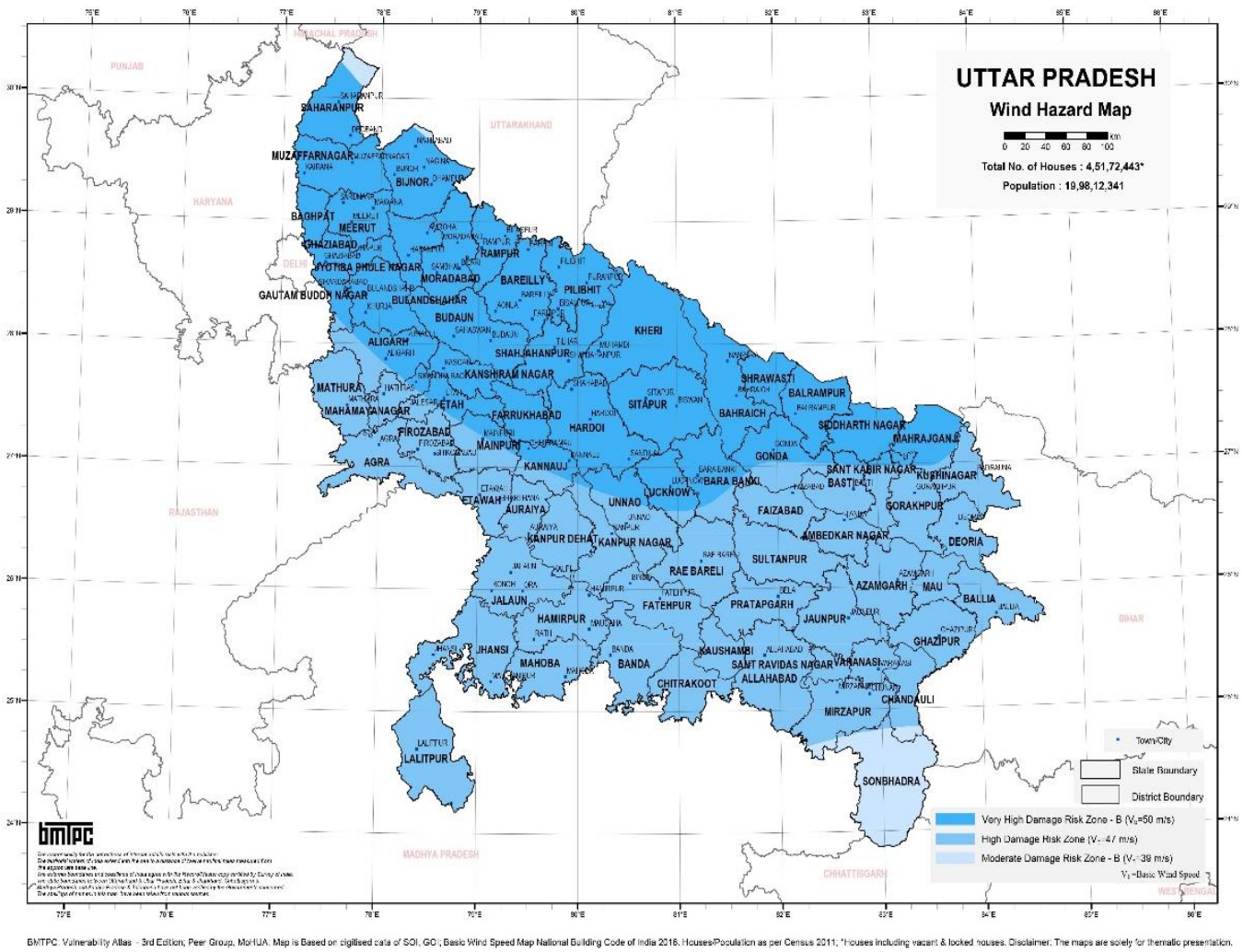
Figure 21-2 Earthquake hazard map of Uttar Pradesh



BMTPC : Vulnerability Atlas - 3rd Edition ; Peer Group, MoHUA, GOI; Map is Based on digitised data of SOI; Seismic Zones of India Map IS: 1893 (Part I): 2002, BIS; Earthquake Epicentre from IMD; Seismotectonic Atlas of India and its Environs, GSI; Houses/Population as per Census 2011; *Houses including vacant & locked houses. Disclaimer: The maps are solely for thematic presentation.

Source – BMTPC (www.bmtpc.org)

Figure 21-3Wind hazard map of Uttar Pradesh



BMTPC Vulnerability Atlas - 3rd Edition, Peer Group, MoHUA. Map is Based on digitised data of SOI, GC ; Basic Wind Speed Map National Building Code of India 2016. Houses/Population as per Census 2011, *Houses including vacant & locked houses. Disclaimer. The maps are solely for thematic presentation.

Source – BMTPC (www.bmtpc.org)

21.2 Survey Format

21.2.1 Turning Movements Count

CLASSIFIED TURNING MOVEMENT COUNT

Location: Road name: Name of Enumerator:
Direction: Date: Shift:

Time of Survey		Heavy vehicles				Light vehicles						Non-motorized			
From	To	Trucks		Bus		2-wheeler	3-wheeler	Car	Jeep	Omni bus	Taxi/ cab	Cycle	Rickshaw	Tonga/ animal cart	Others
		Public	Private	Public	Private										
1	2	3	4	6	8	3	4	6		8	9	3	4	6	8
8:00	8:30														
8:30	9:00														
9:00	9:30														
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20:00	20:30														
20:30	21:00														
21:00	21:30														
21:30	22:00														

21.2.2 Survey Format: Classified Traffic Volume Count

Trafic Volume Count

Location: **Road name:** **Name of Enumerator:**
Direction: **Date:** **Shift:**

Time of Survey		Heavy vehicles				Light vehicles						Non-motorized			
		Trucks		Bus											
From	To	Public	Private	Public	Private	2-wheeler	3-wheeler	Car	Jeep	Omni bus	Taxi/ cab	Cycle	Rickshaw	Tonga/ Animal cart	Others
1	2	3	4	6	8	3	4	6		8	9	3	4	6	8
8:00	8:30														
8:30	9:00														
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20:00	20:30														
20:30	21:00														
21:00	21:30														
21:30	22:00														

21.2.3 Survey Format: Origin - Destination Survey

Origin - Destination Survey (Passenger)

Location: **Road name:** **Name of Enumerator:**
Direction: **Date:** **Shift:**

Time of Survey		Vehicle Type	Origin	Destination	Return (Y/N)	Frequency	Passenger		Trip Length	
From	To						Occupancy	Purpose	in km	in min.
1	2	3	4	5	6	7	8	9	10	11
8:00	8:30									
8:30	9:00									
9:00	9:30									
9:30	10:00									
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5:00	5:30									
5:30	6:00									
6:00	6:30									
6:30	7:00									
7:00	7:30									
7:30	8:00									

21.2.4 Survey Format: Commuter Survey

Commuter survey

Location:
Direction:
Road name:
Date:
Name of Enumerator:
Shift:

S. No.	Age	Location of residence	Boarding location	Alighting location	Final Destination	Condition of travel	Passenger		Trip Length		How do you pay for travel
							Occupancy	Purpose	in km	in min.	
1	2	3	4	6	7	8	9	10	11	12	13

Condition of travel	
1. Fare too expensive	4. Commute takes too long
2. Lack of seating	5. Not frequent
3. Not clean	6. Not safe
	7. No feeder sevice available

Frequency
1. Daily, Daily Once
2. Weekly
3. Monthly
4. Yearly

Purpose	
1. Work	6. Recreation
2. Education	7. Health
3. Business	8. Religious
4. Social	9. Others
5. Shopping	

How do you pay for travel
1. Cash
2. Smart card

Checked by