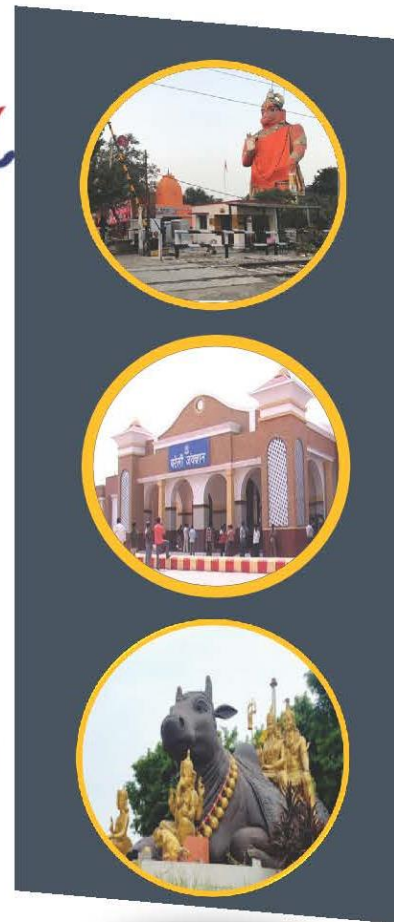
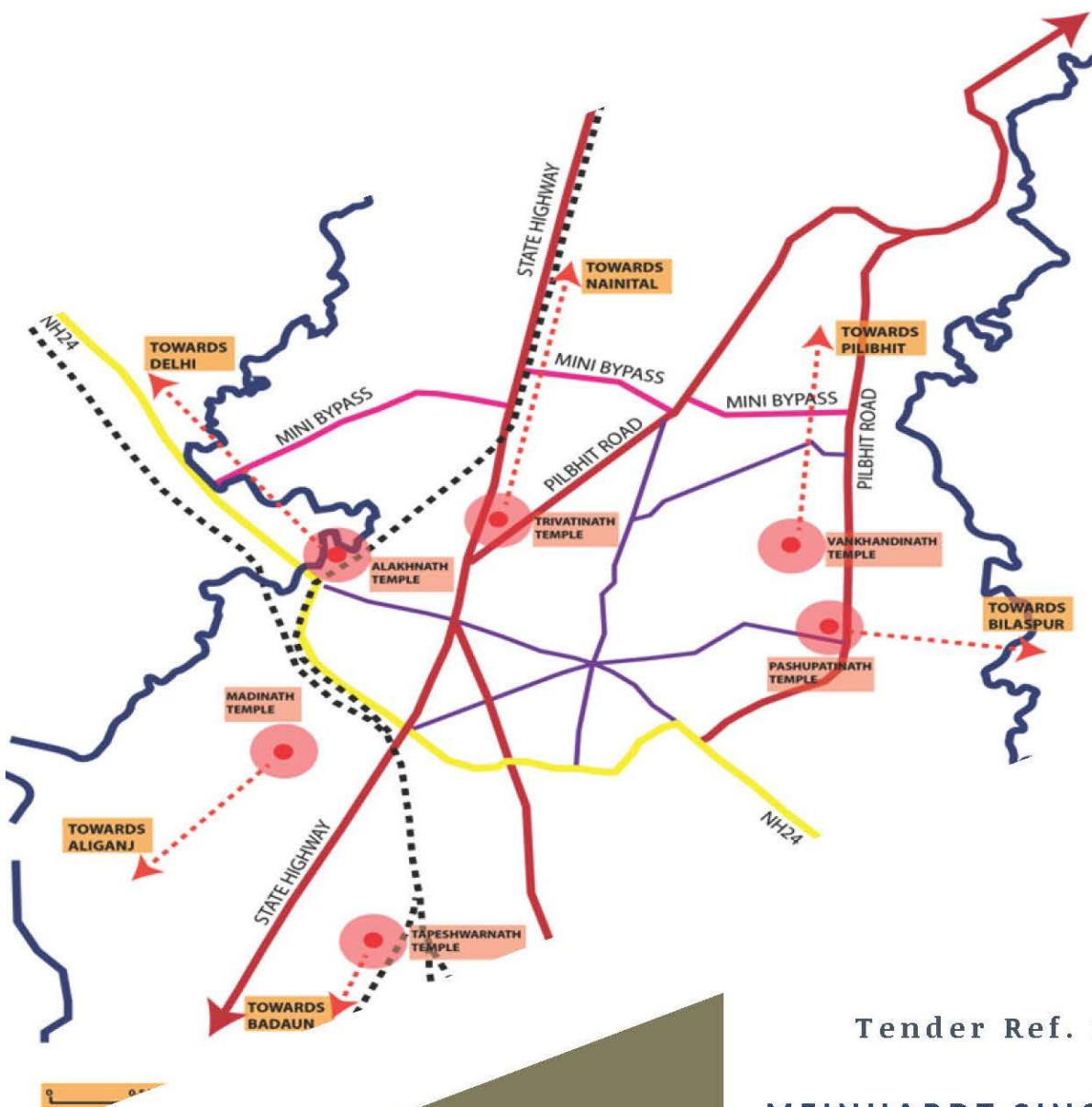


Vision, Implementation Strategy and Integrated Infrastructure Plan, Bareilly, 2071

EXISTING SITUATION ANALYSIS REPORT



D - 2: Final Report

June, 2023

Tender Ref. no.12-802021/BDA

MEINHARDT SINGAPORE PTE. LTD.

in association with

Mahindra Consulting Engineers Ltd

Ernst & Young Global Ltd

Tethys Development Services Pvt. Ltd.



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Chapter 1. INTRODUCTION

1.1 Project Overview

This consultancy project is supported by the Government of Uttar Pradesh which envisions the betterment of the city of Bareilly by enhancing its comprehensive development of physical, social, and economic infrastructure by modern and innovative urban planning principles. The project is meant to deliver a Vision, Implementation Strategy, and integrated Infrastructure Plan to support objectives of holistic, sustainable, and planned development of Bareilly city. It requires taking a much broader view of planning to allow for more integrated land use and infrastructure development schemes. The project is expected to drive economic growth, improve the quality of life of people by strengthening the city's inherent potentials, innovative models for diversifying economy and augmenting its existing infrastructure. It should also contribute to enhancing the resilience of the city by incorporating policies to enable the city in coping with urban risks and climate change mitigation and adaptation. The Vision, Implementation Strategy, and integrated infrastructure plan for Bareilly in Uttar Pradesh will further pave the way for project development, management, and project implementation support.

1.2 Project Background

In view of the growing urban requirements, government in Uttar Pradesh has come up with a plan to develop 14 major cities of the state include Lucknow, Kanpur, Chitrakoot, Gorakhpur, Varanasi, Prayagraj, Agra, Jhansi, Saharanpur, Mathura, Bareilly, Meerut, Moradabad and Gautam Buddha Nagar (Noida). Taking fresh view of the increasing population, growing number of houses, burgeoning volume of vehicles and ever-escalating future needs, there is need to revisit the city's demand. In this regard Bareilly Development Authority is initiated the project to prepare vision plan for the holistic development of the Bareilly City.

1.3 Project Objectives

The **key objectives** of the assignment are:

- A Vision Plan leveraging the industrial, educational, medicinal and tourism potential clean green domains of the city has to be prepared which has to be in consonance with the principles of economy and sustainability as main drivers of urban growth. This Vision Plan will be prepared through a rigorous assessment of the current situation of the city in terms of its physical, social and economic aspects.
- A comprehensive and holistic approach for development, needs to be adopted for the city to improve quality of life, creation of opportunities for employment, enhance regional development, improved socio-economic and financial planning to guide city's planned expansion in the future.
- A list of projects needs to be identified for achieving the vision planned for the city of Bareilly. Along with carrying out pre-feasibility studies denoting the level of effort required for each of these projects, these projects need to be further prioritized and an integrated infrastructure development strategy and action plan needs to be formulated which will act as a guide for the city officials to plan investments accordingly through appropriate institutional mechanisms.
- The whole process needs to be followed in a highly participatory manner where consultation with stakeholders, institutional arrangements and resource requirements adopting project structuring mechanism shall be done.



1.4 Scope of Work

A vision plan for the future development of the city will be captured through consultative process with relevant stakeholders. It presents the current stage of the city's development

- where are we now? It sets out the source of change
- where do we want to go? It identifies the thrust areas in the direction of change
- what do we need to address on a priority basis? It also suggests alternative routes, strategies, and interventions for bringing about the change
- what interventions do we make in order to attain the vision? It provides a framework and vision within which projects need to be identified and implemented. It establishes a logical and consistent framework for the evaluation of investment decisions. It aims to promote growth, regulate present and future development of towns and cities and identify lands to various uses of land.



1.5 Expected Outputs

The total time for the preparation of the Vision Plan is set out to be completed in 20 weeks, excluding the time taken by the Authority in providing the requisite documents or in conveying its comments on the draft reports or maturation of the stakeholder consultative process.

Table 1.1: Deliverables

Sr. No	Activity / Deliverables	*Time Duration (Week No.)
1	Inception Report	2
2	Existing Situation Analysis Report	4
3	Demand Assessment Report	9
4	Vision Plan	13
5	Draft Pre-Feasibility Report	15
6	Draft Integrated Infrastructure Development Strategy and Action Plan	17
7	Draft Business Plan	18
8	Final report on 1. Identified Bouquet of projects 2. Integrated Infrastructure Development Strategy and Action Plan 3. Business Plan	20



1.6 Report Structure

The previous report D1 (Inception Report) have been discussed all the possibilities and features of the city Bareilly. This report includes the Existing Situations Analysis of the city in all areas. As per the ToR / RFP the suggested ToC of the Existing Situation Analysis Report is as mentioned below in the table below:

- Urban Planning
- Transport Planning
- Physical Infrastructure
- Economy
- Urban Regeneration & Heritage of Bareilly
- Environment.



Chapter 2. CITY PROFILE

2.1 Geographic Setting

2.1.1 Location

Bareilly is a city in Uttar Pradesh, India, located 28°1' to 28°10'N and 78°58' to 79°47'E on the banks of Ramganga River. It lies at an altitude of 252 metres (827 feet) above mean sea level. The city is located in the Indo-Gangetic Plains, around 252 kilometres (157 miles) north of Lucknow, the state capital, and 250 kilometres (155 miles) east of New Delhi, the national capital. It falls under the historical-geographical region 'Rohilkhand.' It serves as the capital of the Bareilly division and is one of the prominent metropolises in Western Uttar Pradesh. The city's urban area is 106 square kilometres (41 square miles), while the metropolitan area is 123 square kilometres.

2.1.2 Regional Setting

Bareilly is the fourth largest city in Uttar Pradesh located on the Ramganga River. Bareilly district shares its eastern boundary with Pilibhit and Shahjahanpur. Rampur district covers the western border while Badaun district lies in the south. Geographically, it serves as a gateway to the state of Uttarakhand. District Udham Singh Nagar of Uttarakhand state lies in the north. It has a level landscape with various streams that flows through it, and it normally slopes to the south. Bareilly District serves as the capital of the Rohilkhand division. For administration, it is delineated into six tehsils and fifteen development blocks. Bareilly city is the administrative headquarter of the district.

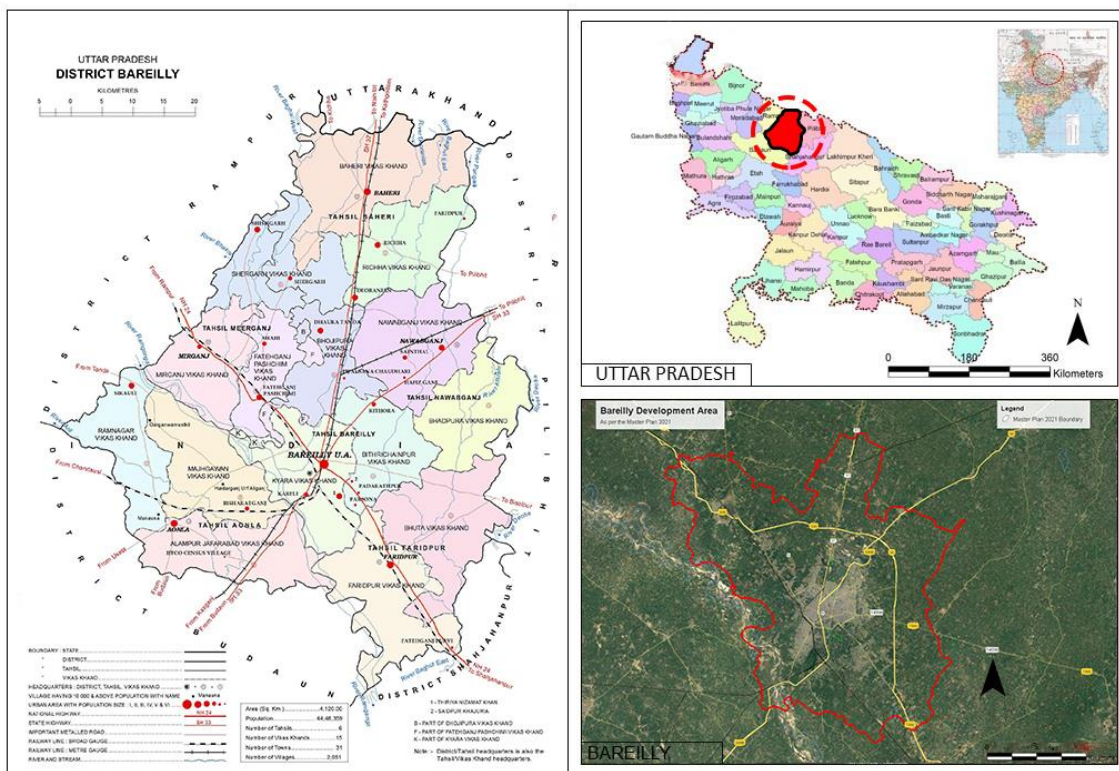


Figure 1 Bareilly Regional Connectivity



2.1.3 Regional Connectivity

Bareilly city is well connected to the region and prominent locations with road and rail networks. It is located on the National Highway 30, which connects Uttarakhand's Sitarganj with Andhra Pradesh's Vijaywada. The 2040-kilometer (1267.5-mile) highway begins at the NH 9 junction at Sitarganj and runs through Bareilly. Bareilly is connected to Pilibhit by National Highway NH30 and Shahjahanpur by NH730C on the east. National Highway 530B passes to the west of the city and connects the Badaun district. It is connected to the national capital New Delhi with NH530 till Rampur and with NH9 from Rampur to New Delhi passing through Moradabad. In the north lies Nainital which is connected with State Highway 39 till Kichha and with National Highway 109 hereafter.

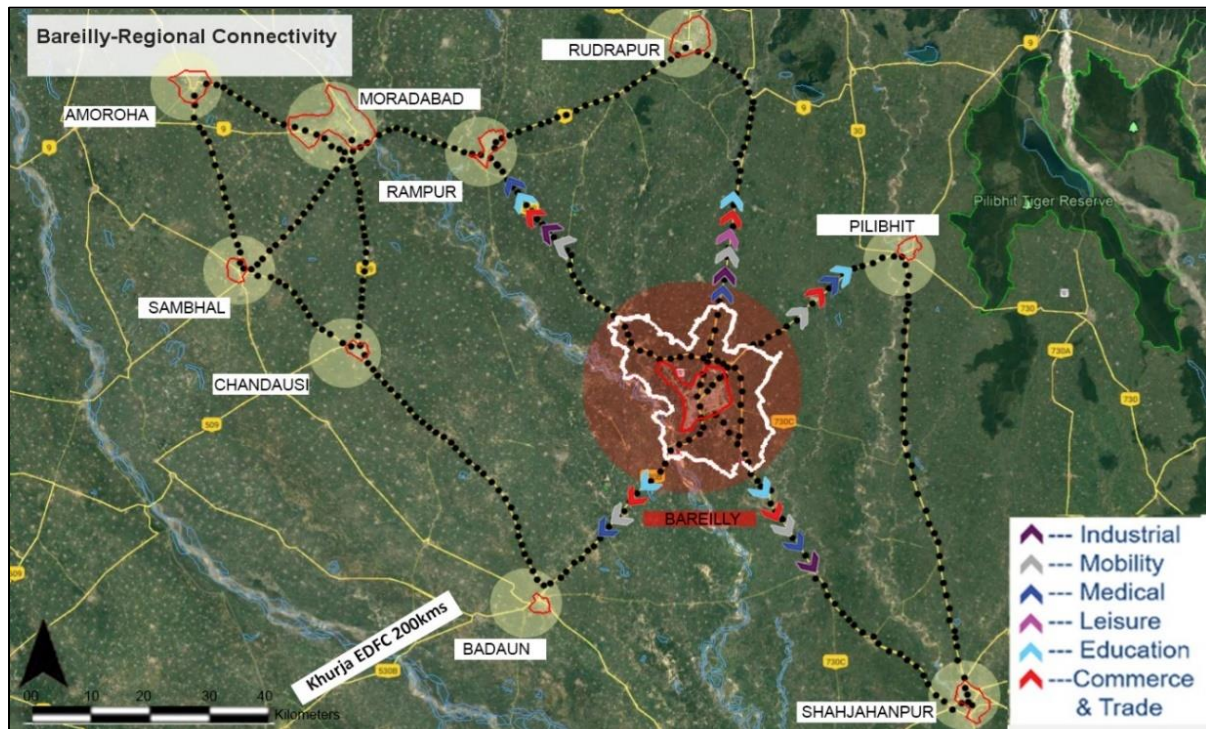


Figure 2 Regional Setting of Bareilly

Since the 19th century, Bareilly has been connected to the rest of India by rail. During the twentieth century, Bareilly was a major railway junction that connected the city to the rest of the country and is located on the Lucknow-Moradabad Line and the Lucknow-Kasganj Line. Bareilly is also on the route from Uttarakhand to Agra and Mathura via Budaun. Trains from the north (including Jammu Tawi, Amritsar and Delhi) travelling east and northeast (to Gorakhpur, Howrah, Guwahati, and Dibrugarh) pass through the city. There are six railways stations which are:

- Bareilly Junction (serving both the Broad and Standard gauge)
- C.B. Ganj Station (serving the Broad gauge)
- Chenheti Station (serving the Broad gauge)
- City Station (serving the Metre gauge)
- Izzatnagar Station (serving the Meter Gauge & Broad gauge-recently introduced)
- Bhojipura Station (serving the Meter Gauge & Broad gauge-recently introduced)



Trishul Air-base is an Indian Air Force base in Izzatnagar, on the outskirts of Bareilly which earlier was accessible for some high ranking officials and is now open for civil aviation but has limited connectivity for now. Airport Authority has further plans to provide air connectivity to major destinations of India as well. Indira Gandhi International Airport in New Delhi, some 250 kilometres to the west, is the closest international airport.

Khurja Node of Eastern Dedicated Freight Corridor which is a 1800 km length corridor lies 200 kms from Bareilly City via Badaun.

2.1.4 Regional Ecological Features

The Ramganga is the district's primary river, which enters from the west and runs south-east. The Sidh Dejora, Bahgul, Sankha, Aril, Deoha, Deoanian, and Nakatia rivers, as well as their tributaries, all start in tarai and flow across the district in southern and south-eastern directions before joining it. In terms of geology, the district is alluvial. The district is separated into three sub-micro areas based on geology, soils, terrain, climate, and natural vegetation:

- I. Bareilly Tarai
- II. Bareilly Plain
- III. Ram Ganga

Bareilly Tarai: The region is located in the district's northwestern corner, encompassing a small portion of Baheri tehsil. It is the Tarai tract, where various streams flow in a north-south direction. The majority of them are from the Nainital tarai belt. Although it is a rice-growing region, productivity is dependent on rains due to a lack of irrigation.

Bareilly Plain: The tehsils of Baheri, Bareilly, Nawabanj, Mirganj, and Faridpur are located north of the Ram Ganga and cover the majority of the district. It is a flat plain with a north-south slant. The drainage patterns in the northern and southern parts of the area differ slightly. The frequency of the stream is higher in the north, while its offshoots diminish towards the south. Geographically, the area is made up of alluvium and Dun gravels (recent).

Ram Ganga-Aril Interfluvial Plain: It covers Aonla tehsil as well as parts of Bareilly, Fridpur, and Mirganj tehsils in the district's southern reaches. In terms of soil, drainage slope, and river characteristics, the region is physiographically distinct from others. The river Ram Ganga, which enters the region from the North-West and flows to the South-East, is a governing element in this stretch. The Aril and Pairiya rivers run parallel to the Ramganga soil as well. Soil erosion is especially noticeable along the Aril and its tributaries. The area is made up of alluvium and Dun gavel (recent) formations geologically.

2.2 Climate

2.2.1 Temperature

Climatic conditions of Bareilly can be classified as humid subtropical climate because it witness cold winters from November to February and hot summers from March to October. The yearly average temperature of the city is found to be 25°C. June month records an average temperature of 32.8 °C and is the warmest month of the year. January is the coldest month of the year with an average temperature of 15 °C. The relative humidity is at its highest during the peak monsoon season (August and September) and the mid-winter season (December), ranging between 79 and 84%. During the peak summer months of April and May, it drops to roughly 38%.



2.2.2 Rainfall

On average, Bareilly receives 1038.9 mm of precipitation each year. It falls from a high of over 1250 mm in the extreme northeast to a low of less than 950 mm in the extreme south. The summer monsoon, which lasts from mid-June until mid-October, is the main source of rain. The wettest months are July and August, with 319.6 mm and 312.1 mm of rainfall, respectively. The month with the least precipitation on average is November, with 5.1 mm on average. There are an average of 37.7 days of precipitation per year, with the greatest precipitation (10.3) occurring in August and the least precipitation (0.5 days) occurring in November. Although rain falls throughout the year, the summer is substantially wetter than the winter.

2.2.3 Wind Pattern

The wind direction is the same as that of the other sub-Himalayas districts of U.P. Generally, the wind is light or calm. From October to April, westerly and north westerly winds are more common, but by May, the wind zone shifts and east south-west winds predominate, which lasts through the rainy season. The average annual wind speed is 4.8 kilometres per hour, with the highest (7.3 kilometres per hour) and weakest (2.2 kilometres per hour) winds occurring in June and November, respectively. During the monsoon season, which runs from mid-June to mid-September, the air is extremely humid. April to June is the driest month of the year, with humidity levels as low as 20%.

2.3 Morphology and Growth of the City

2.3.1 Morphology

The city of Bareilly being strategically placed at the midpoint along the **Delhi - Lucknow Corridor** (the connection between the national capital and the state capital) has undergone many phases of developments and morphosis. The city has four distinct urban patterns and forms owing to the eras and nature of development it has witnessed. The oldest of all being the city core witnesses the densest fabric which becomes less dense and punctured with open spaces as we move away from the city core. The growth pattern of the city has always been radial in nature with major arteries converging at the core city.



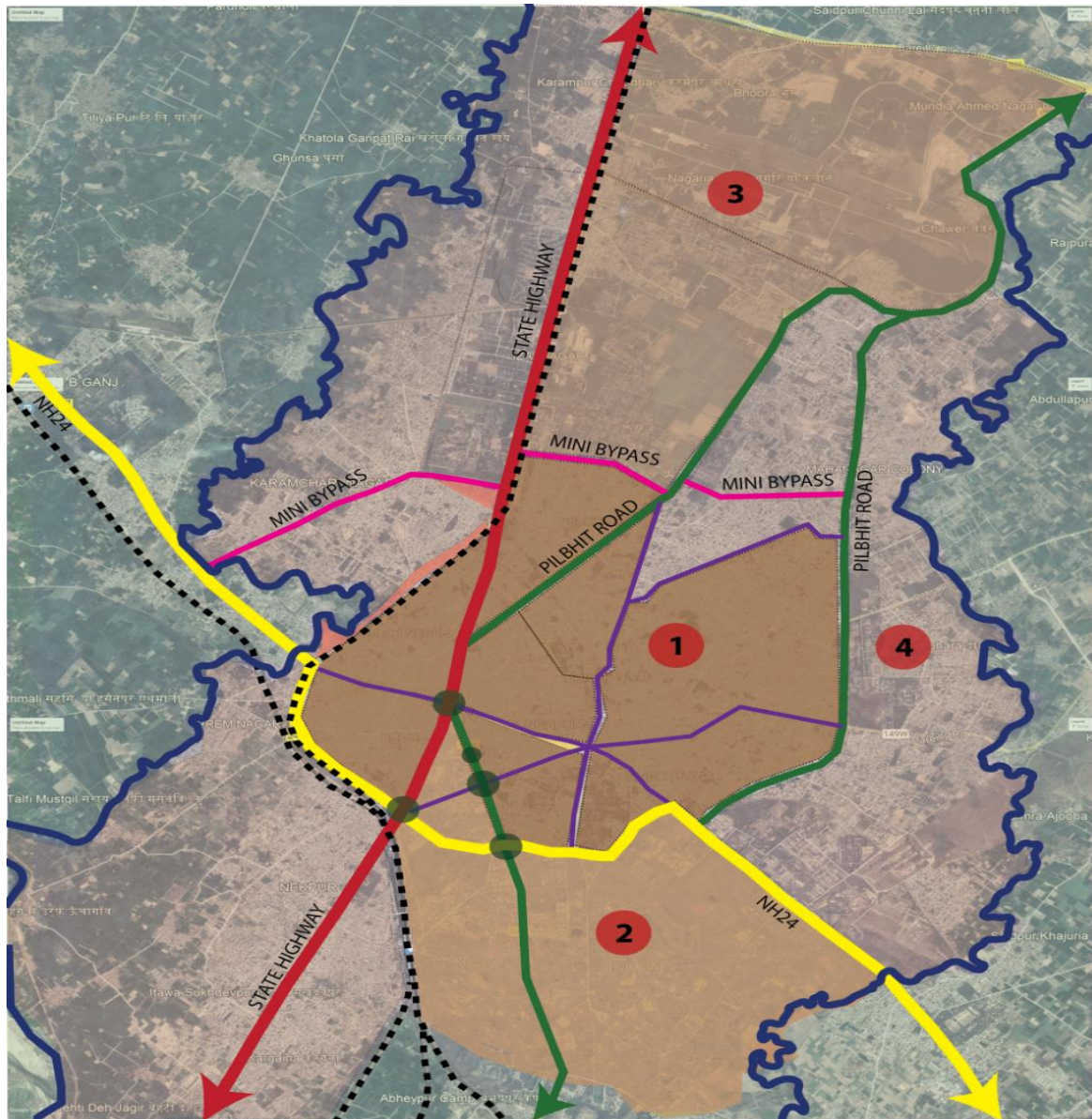


Figure 3 Character Description Map, Bareilly
(Source: Consultant Analysis)

- DENSE CITY CORE
- CANTONMENT AREA
- INDUSTRIAL AREA
- NEW SETTLEMENT AND FUTURE GROWTH AREAS



2.3.2 City Fabric Analysis

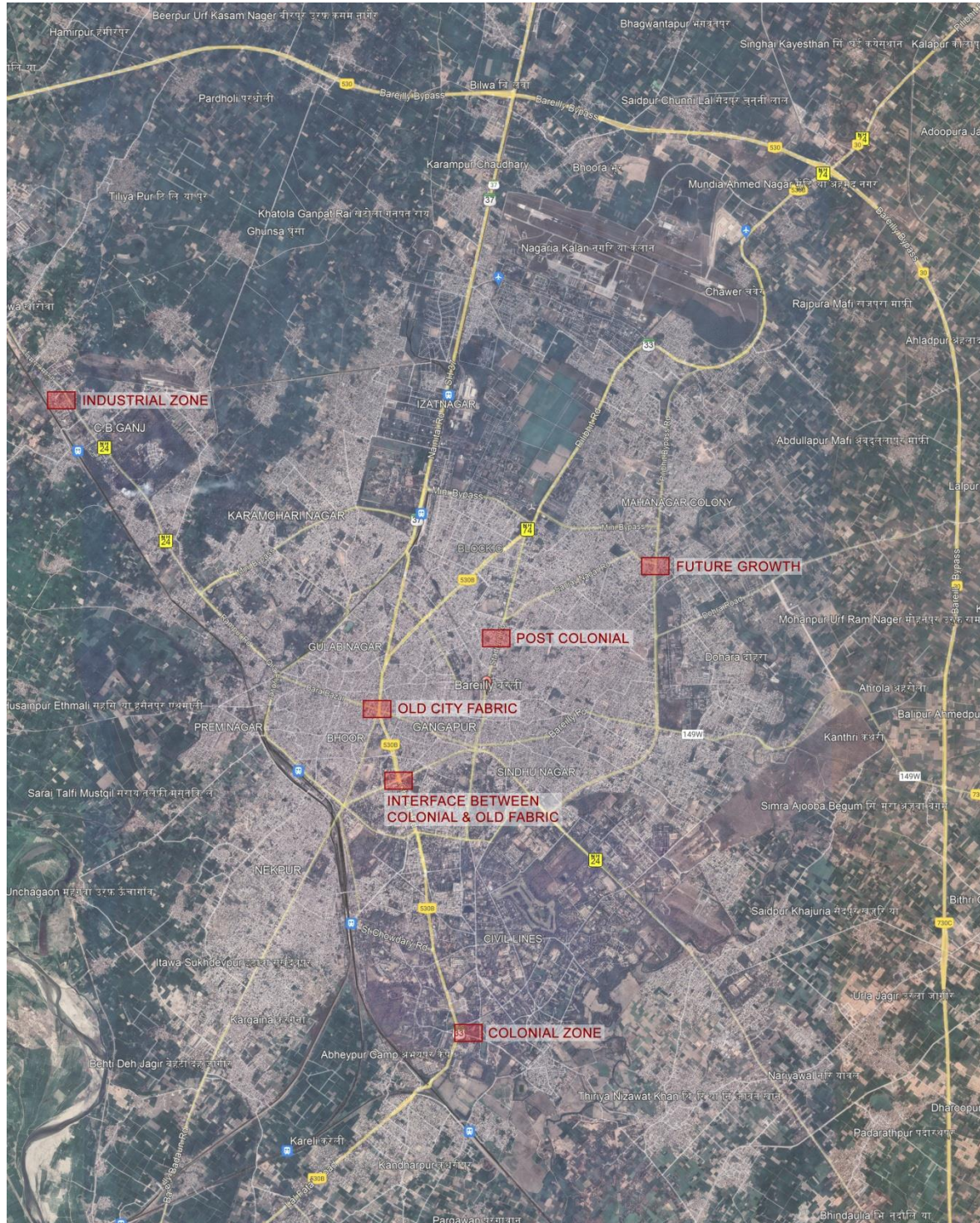
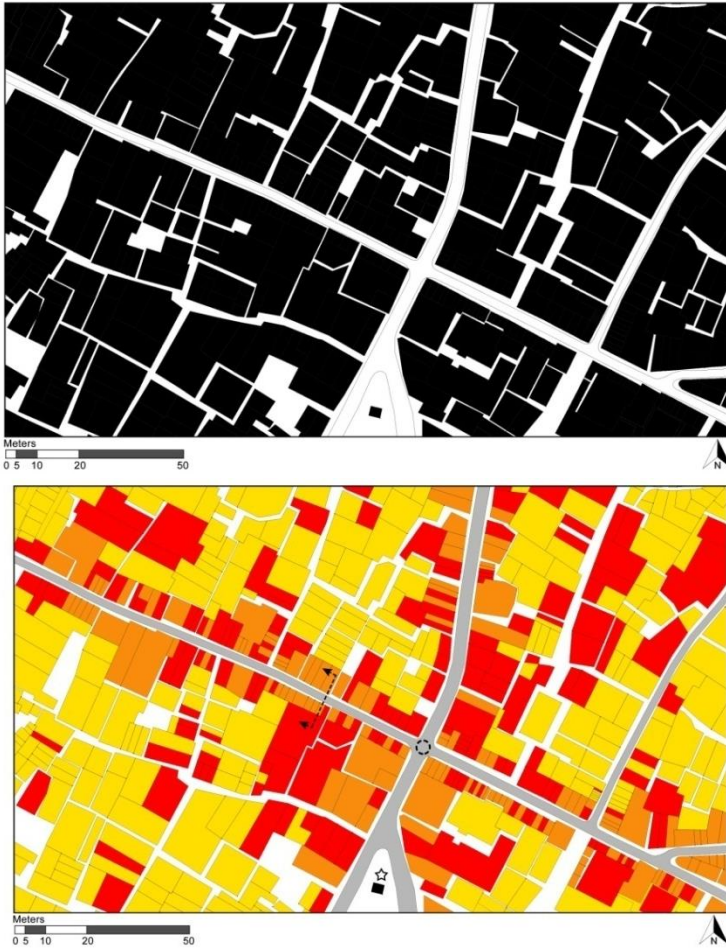


Figure 4 Key Map for defining Fabric Types, Bareilly

(Source: Consultant Analysis)



2.3.3 Old City Fabric – Bada Bazaar



The built-open analysis of the fabric of Old city around the Bada Bazaar suggests the presence of a highly dense fabric with minimal open spaces other than the narrow streets. Therefore, intersections and streets harbour every kind of urban activity. Furthermore, it clearly depicts the development spine where mixed use development and commercial activity is present in the Bada Bazaar street flanked by smaller galis leading to the dense residential area. The intersections become nodes featuring public activity due to high commercial activity and converging of mixed use streets (specialised merchandise) therein. The street also feature open drains on both sides where the shopkeepers use flexible metal steps that act as frontage during the day and are closed upwards along with the shops at night.

LEGEND	
■	RESIDENTIAL
■	COMMERCIAL
■	MIXED USE
■	INDUSTRIAL
■	INSTITUTIONAL
■	RELIGIOUS
	CHOWKS/ NODES
	LAND MARK

Figure 5 Map 3 Figure ground and built use plan of old city fabric around Bada Bazaar

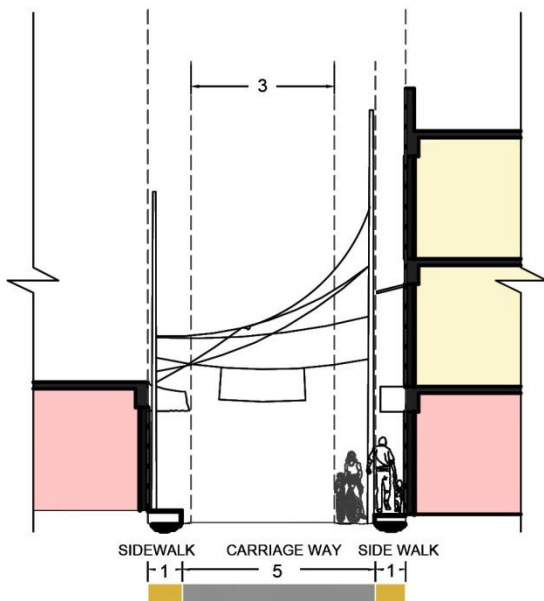


Figure 6 The street section and image showing shops opening up directly on the narrow streets
(Source: Consultant Analysis)



2.3.4 Interface Between Colonial And Old City Fabric- Patel Chowk



Patel Chowk forms an important landmark of the Civil Lines area and helps people and visitors orient themselves in the city. The built open diagram as well as the built use map clearly signifies the importance of the chowk as a converging node for many important market streets and features heavy public activity due to predominant commercial development. However, the chowk needs improvement for pedestrian and cycle movement as well as management of IPT and NMT.



LEGEND	
	RESIDENTIAL
	COMMERCIAL
	MIXED USE
	INDUSTRIAL
	INSTITUTIONAL
	RELIGIOUS
	CHOWKS/ NODES
	LAND MARK

Figure 7 Figure ground and built use plan of Patel Chowk



Image 1 Patel Chowk, Bareilly



Image 2 Patel Chowk market, Bareilly

(Source: <https://www.jagran.com/uttar-pradesh/bareilly-city-there-are-strange-stories-of-these-crossroads-of-bareilly-19947423.html>)



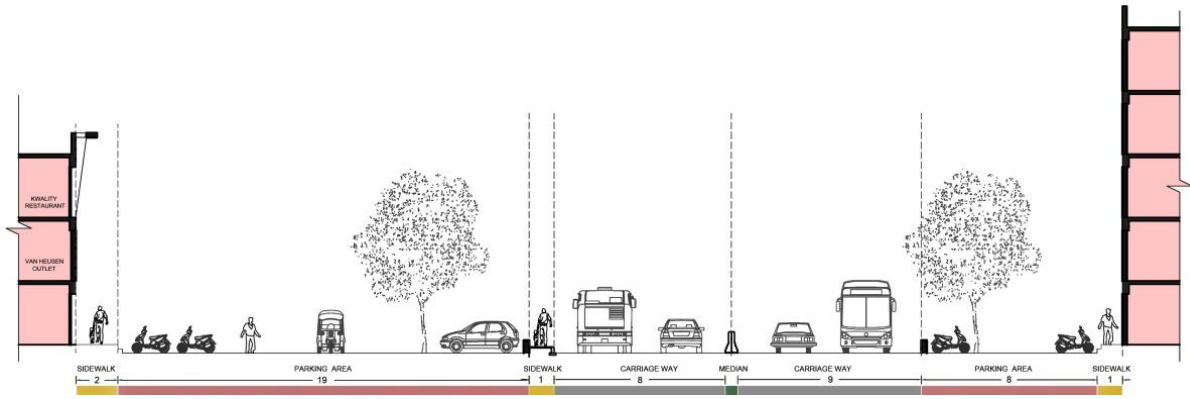


Figure 8 Key Section

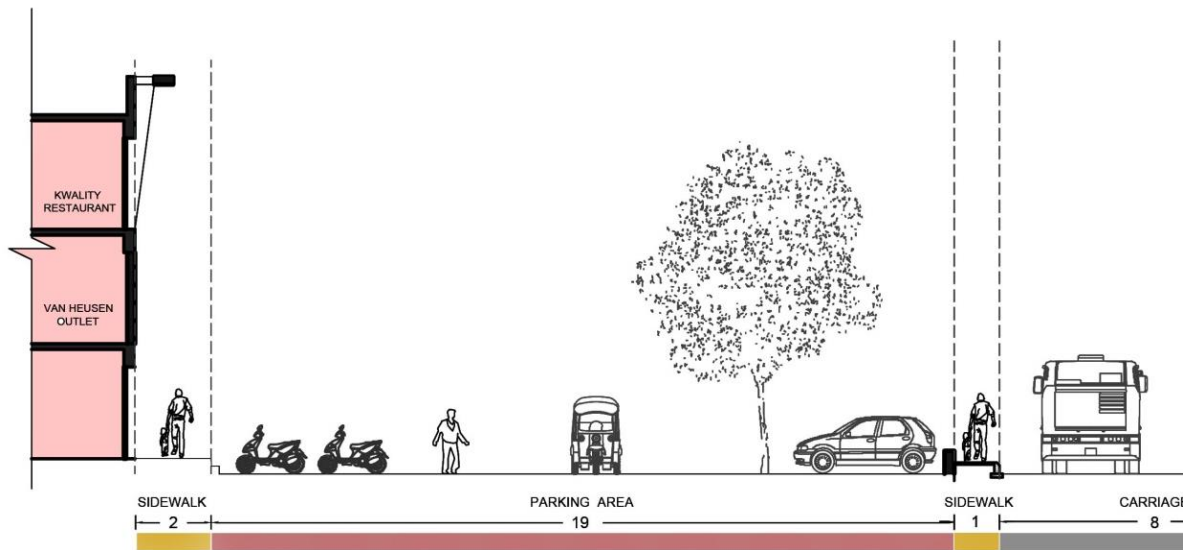


Figure 9 Section: Part A

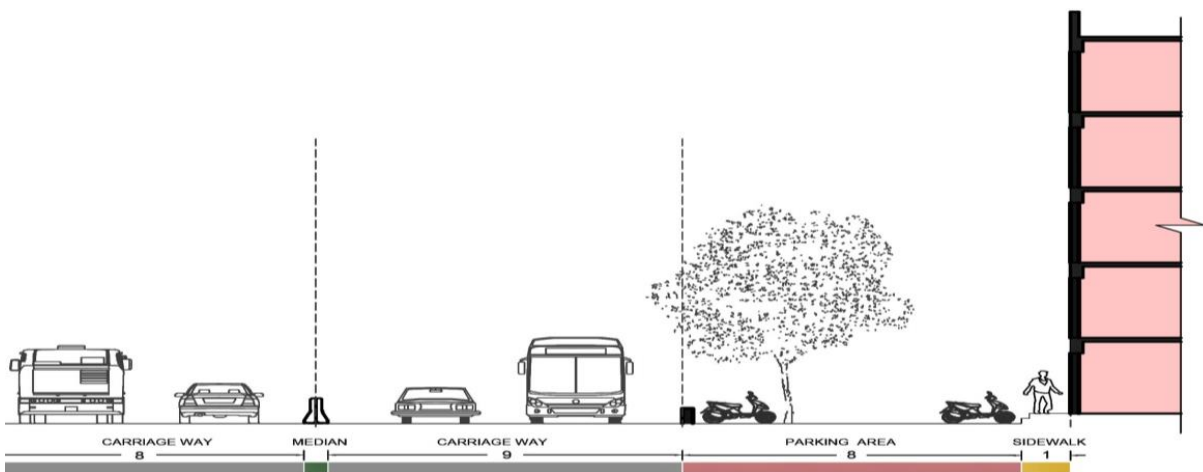


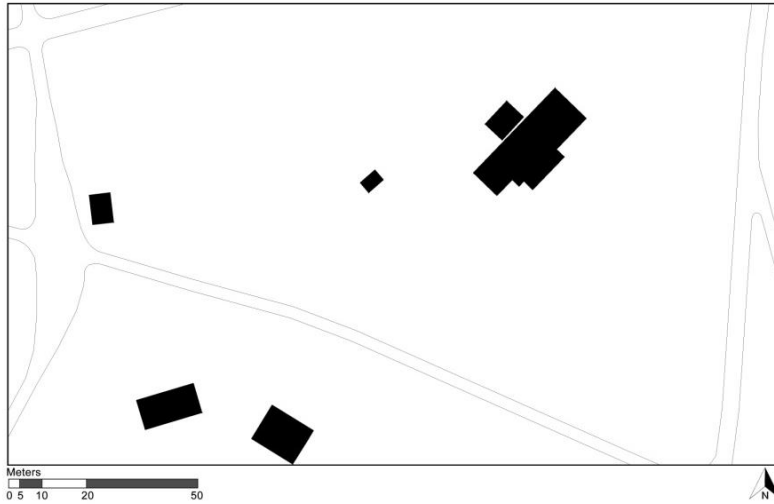
Figure 10 Section: Part B

The street section at Patel Chowk showcases large frontages along the new market typologies. These frontages can be developed into vibrant public spaces but at present these remain flogged with unorganized parking

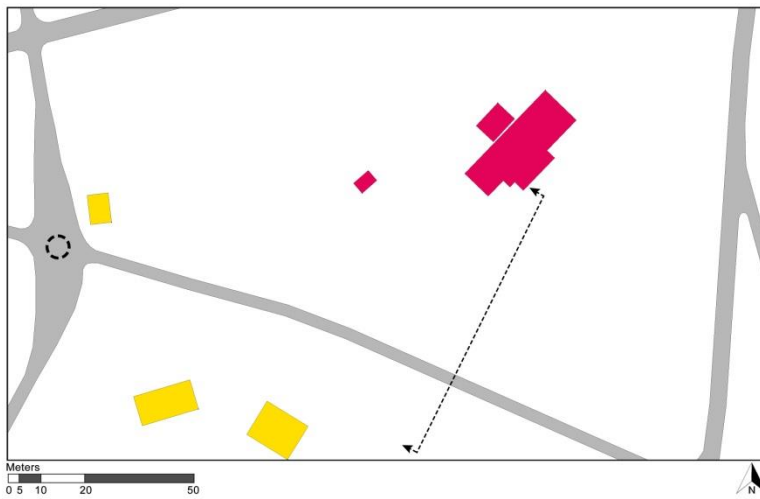
(Source: Consultant Analysis)



2.3.5 Colonial Zone - Cantonment Area



The cantonment area forms the most green and serene part of the city where streets are wide, vehicular traffic remains organized and facilitates easy pedestrian and cycle movement. The fabric here is the least dense among all fabrics within the city with large open spaces and green strips along the streets.



LEGEND	
	RESIDENTIAL
	COMMERCIAL
	MIXED USE
	INDUSTRIAL
	INSTITUTIONAL
	RELIGIOUS
	CHOWKS/ NODES
	LAND MARK

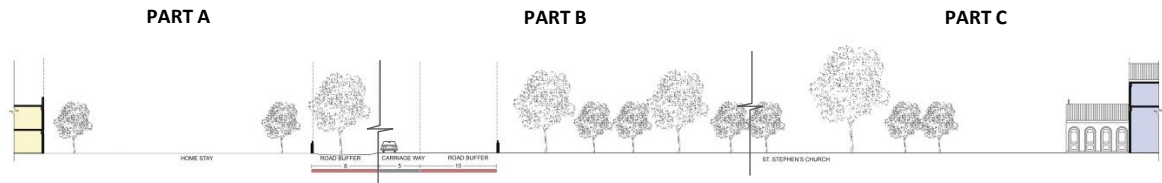
Figure 115 Figure ground and built use plan of Cantonment area

(Source: Consultant Analysis)

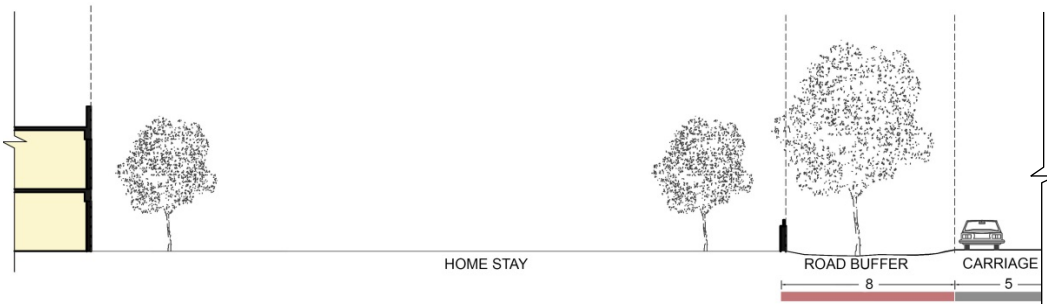


Image 3 The wide roads with green avenues on both sides

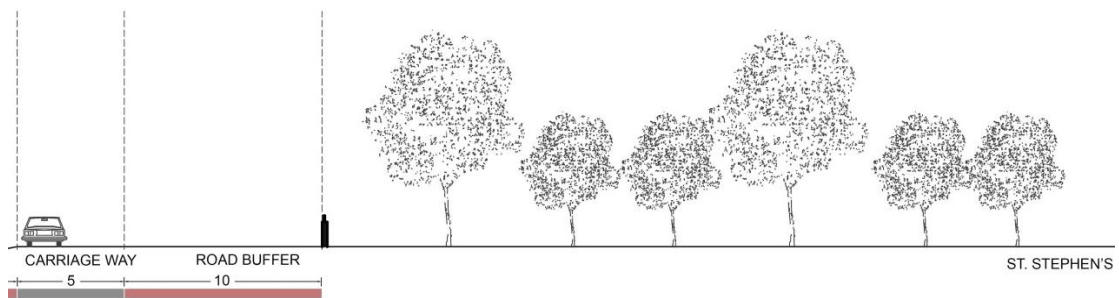




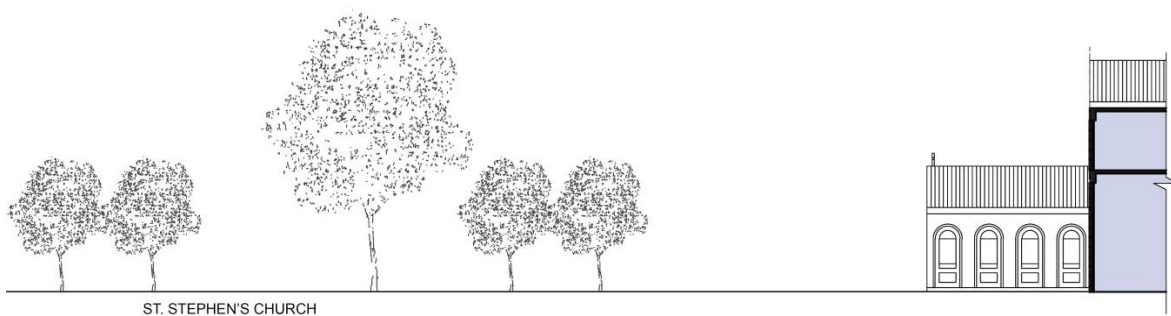
Key Section



Section: Part A



Section: Part B



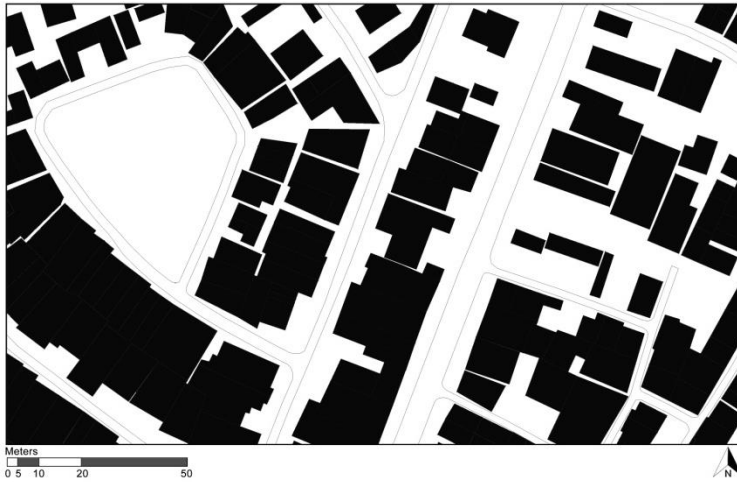
Section: Part C

Image 4 The section along cantonment area clearly shows large green strips along both sides of the street and presence of colonial structures (Churches, Schools, Convents, etc.)

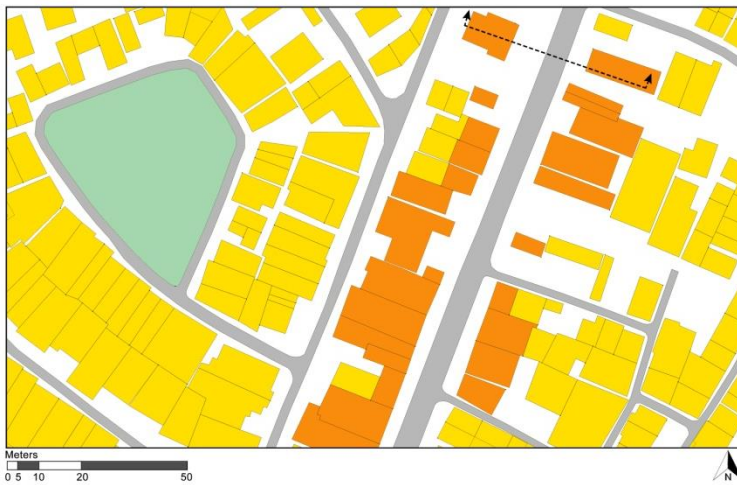
(Source: Consultant Analysis)



2.3.6 Post Colonial Area



The new settlement areas are the new residential developments that have come up in recent years along the periphery of the city. The fabric clearly signifies a planned residential area with a planned central green space surrounded by residences.



LEGEND	
	RESIDENTIAL
	COMMERCIAL
	MIXED USE
	INDUSTRIAL
	INSTITUTIONAL
	RELIGIOUS
	CHOWKS/ NODES
☆	LAND MARK

(Source: Consultant Analysis)

Figure 12 Figure ground and built use plan of post colonial area



Image 5 The Bareilly Refugees Cooperative settlement



Image 6 The Stadium Road



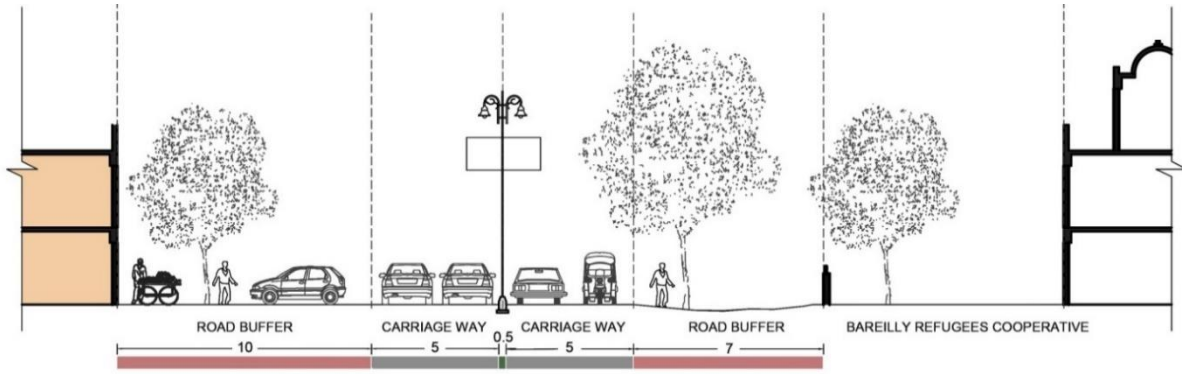
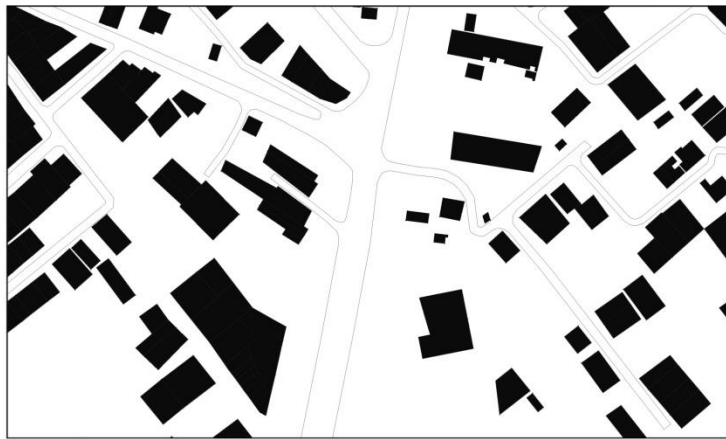


Image 7 The section showing new settlement areas
(Source: Consultant Analysis)

2.3.7 Future Growth Areas – Pilibhit Bypass



Meters
0 5 10 20 50



Meters
0 5 10 20 50

The coming up of the Airport along the Pilibhit bypass and new bypass has created a strong anchor of development along these corridors featuring commercial, institutional as well as industrial development. The fabric clearly showcases coarse grain and sparse development.

LEGEND

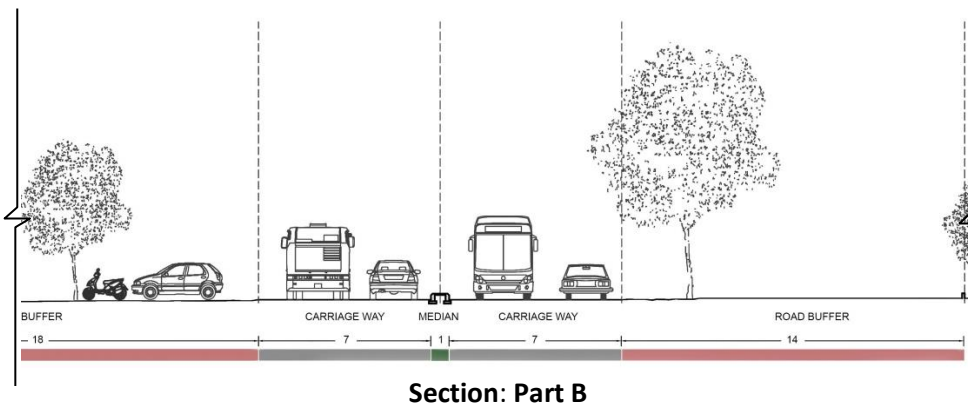
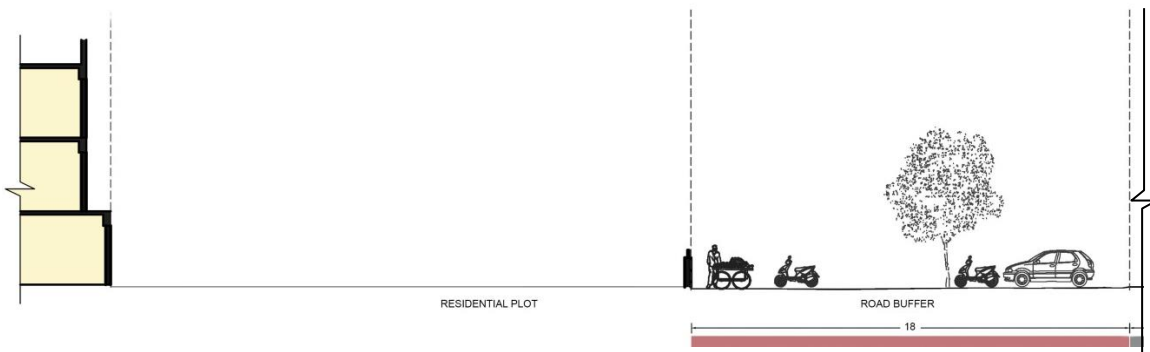
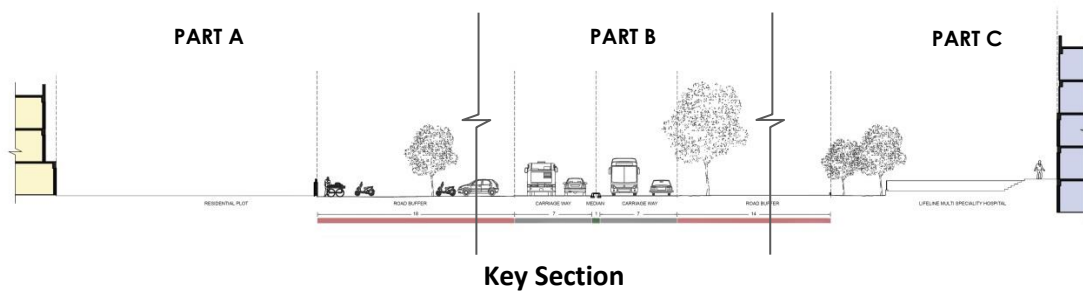
Yellow square	RESIDENTIAL
Red square	COMMERCIAL
Orange square	MIXED USE
Purple square	INDUSTRIAL
Pink square	RELIGIOUS
Circle with dot	CHOWKS/ NODES
Star	LAND MARK

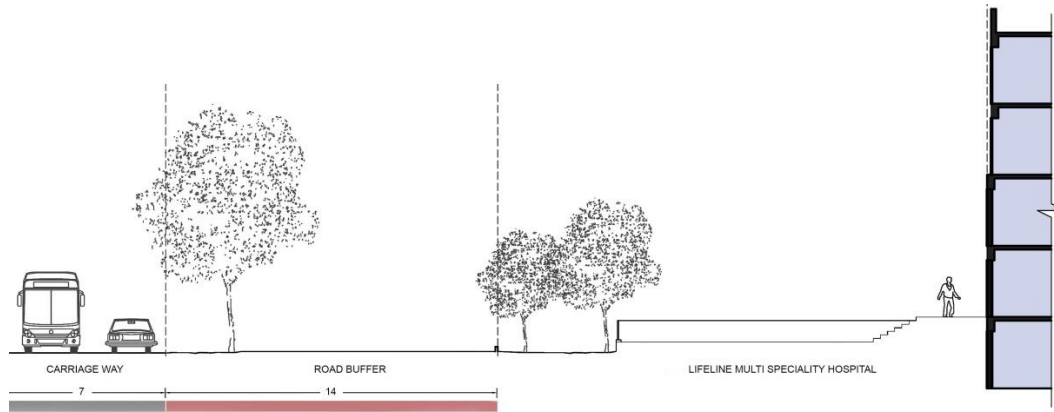
Image 8 Figure ground and built use plan of industrial area





Image 9 The Pilibhit Bypass Road



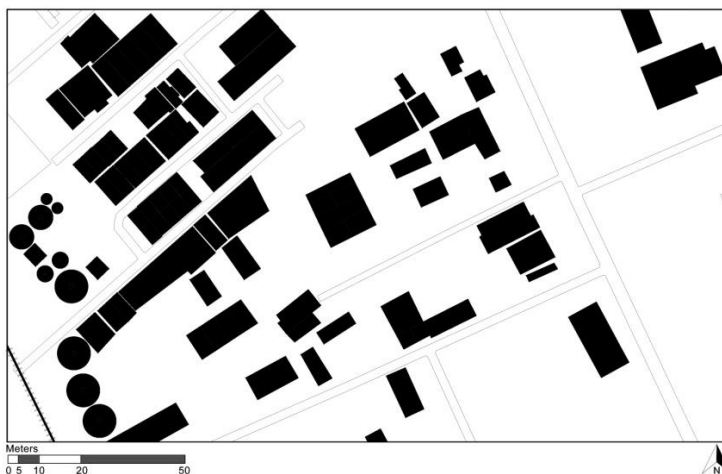


Section: Part C

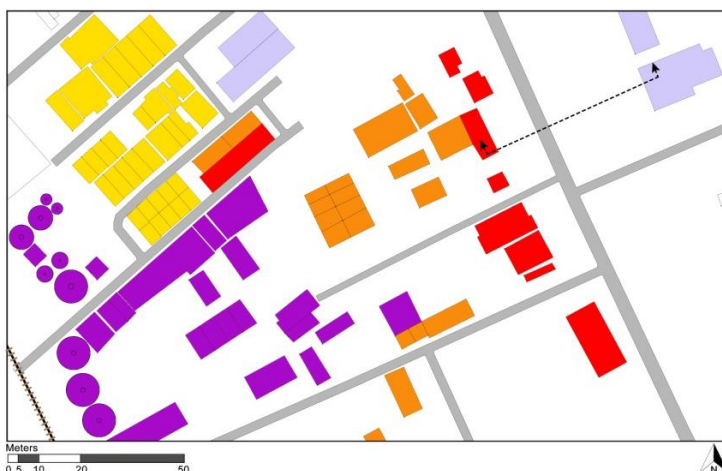
Image 10 The section represents the development along the bypass with large commercial precincts and large road buffers that can be developed as public frontages featuring public activity and safeguarding pedestrian movement along the otherwise heavy traffic of

(Source: Urban Design Team)

2.3.8 Industrial Areas - C.B Ganj



The fabric of CB Ganj represents Industrial areas with industrial buildings surrounded by residences of people working in these areas. The fabric is coarse and sparse in nature with the residences around the industries eventually developed as mixed use structures and the development along the main road remains predominantly commercial. The industries are facilitated by the highway and the railway line on either side.



LEGEND	
■	RESIDENTIAL
■	COMMERCIAL
■	MIXED USE
■	INDUSTRIAL
■	INSTITUTIONAL
■	RELIGIOUS
●	CHOWKS/ NODES
★	LAND MARK

Figure 13 Figure ground and built use plan of industrial area





Image 11 The Delhi-Lucknow Highway with C.B Ganj industrial area

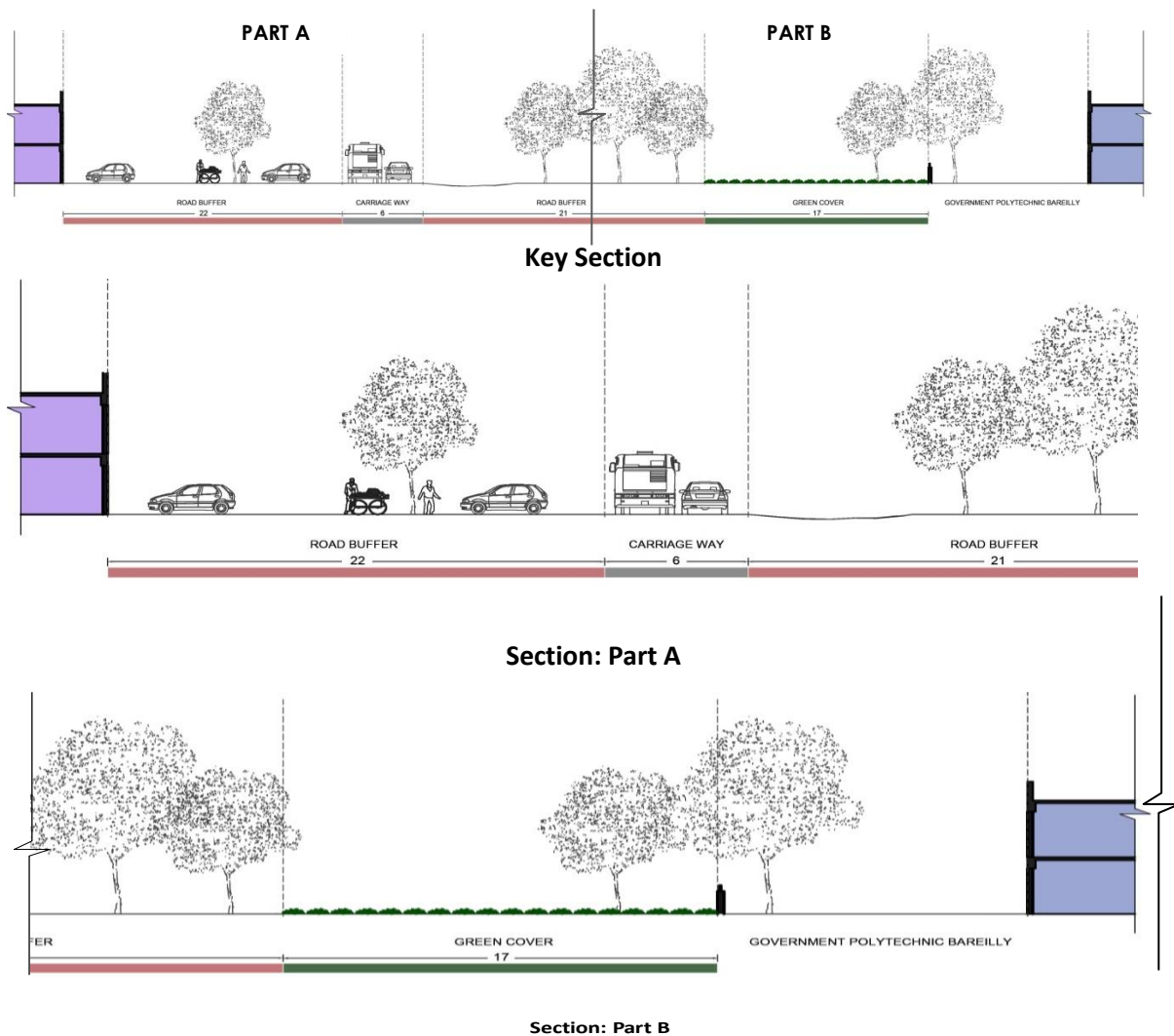


Image 12 The section along the Industrial area of CB Ganj showcases large road buffers that can ideally be developed as green strips to minimize the polluting effect of industries



Urban Planning

Bareilly city is identified as the counter magnet of the National Capital Region along with nine other cities including Lucknow and Jaipur. The city has immense potential of growing as the major service provider in the region. It is also known as the educational and healthcare service hub to the surrounding districts of Uttar Pradesh and neighboring state Uttarakhand. It has a rich cultural history dating back to Mahabharata which is well depicted by Nath Temples. Bareilly is also base of industrial units producing various types of products ranging from chemicals, plastic agro etc.

2.4 Approach and methodology

Our strategy and planning will revolve around achieving envisioned outputs towards components of Vision Development. To achieve successful vision planning and development, these components will be studied in detail and form a part of our approach:

- Spatial Planning
- Tourism sector & visitor approach
- Industrial and Economic Base
- Heritage and cultural resource mapping
- Linkages of the proposed project, programs/schemes and strategies
- Stakeholder analysis and participation

2.5 Morphology and growth of the city

2.5.1 Origin of the City

Draupadi, who was referred to as 'Panchali' by Lord Krishna, was born in the Bareilly district as per the Mahabharat. According to legend, Gautama Buddha paid a visit to the ancient fortified city of Ahiccatra in Bareilly. At Ahichhatra, the Jain Tirthankara Parshva is reported to have attained Kaivalya. Until the 6th century, it was ruled by several dynasties like the Nanda, Maurya, Gupta, and Maukharis. Later, until the invasion of the Delhi Sultanate (Mughals) in the 13th century, the region was ruled by various Rajput clans such as Bachal, Gaur, Chauhan, and Rathor. To disrupt the revolt in this region, the Mughals leased territory to Afghan villages (known as Rohilla Afghans). The encouragement was extended beyond 1700, and as a result, this tribe grew stronger, and the surrounding area became known as Rohilkhand.

Basdeo, a Katehriya Rajput, founded the city of Bareilly in 1537, but Mukrand Rai set the basis for the modern city of Bareilly in 1657. Bareilly was named the capital of the Budaun province in 1658. In 1857, during India's First War of Independence, Bareilly (Rohilkhand) was a prominent centre. Despite having been disarmed, the Rohillas participated actively in the 1857 fight of independence against the English. In the 1857 Indian insurrection against the British, Khan Badur Khan Rohilla, the grandson of Hafiz Rahmat Khan, created his own government in Bareilly. When the Indian Rebellion of 1857 failed, Bareilly was conquered as well. On February 24, 1860, Khan Bahadur Khan was sentenced to death and hanged in the Kotwali. At that time, Bareilly thrived as a trading and market centre because of the surrounding agricultural activity, but it became economically unsustainable throughout the revolt and independence period. Later, Bareilly became the capital of the Rohilkhand area, passing through the hands of Nawab Vazir of Awadh, the East India Company, and finally India.

In the early nineteenth century, industries existed, the most prominent of which was a "Khandsari" (indigenous sugar) unit on the city's outskirts. Bareilly's woodworking and furniture industries were



also found at that period. Another major industry for which Bareilly is known throughout the country is the fabrication of 'surma' (antimony shaped into fine powder for beautifying or medicating the eyes). The workshop of the Rohilkhand and Kunaun Railways was established at Izzatnagar in the early twentieth century, resulting in the establishment of several small-scale ancillary units and, later, the

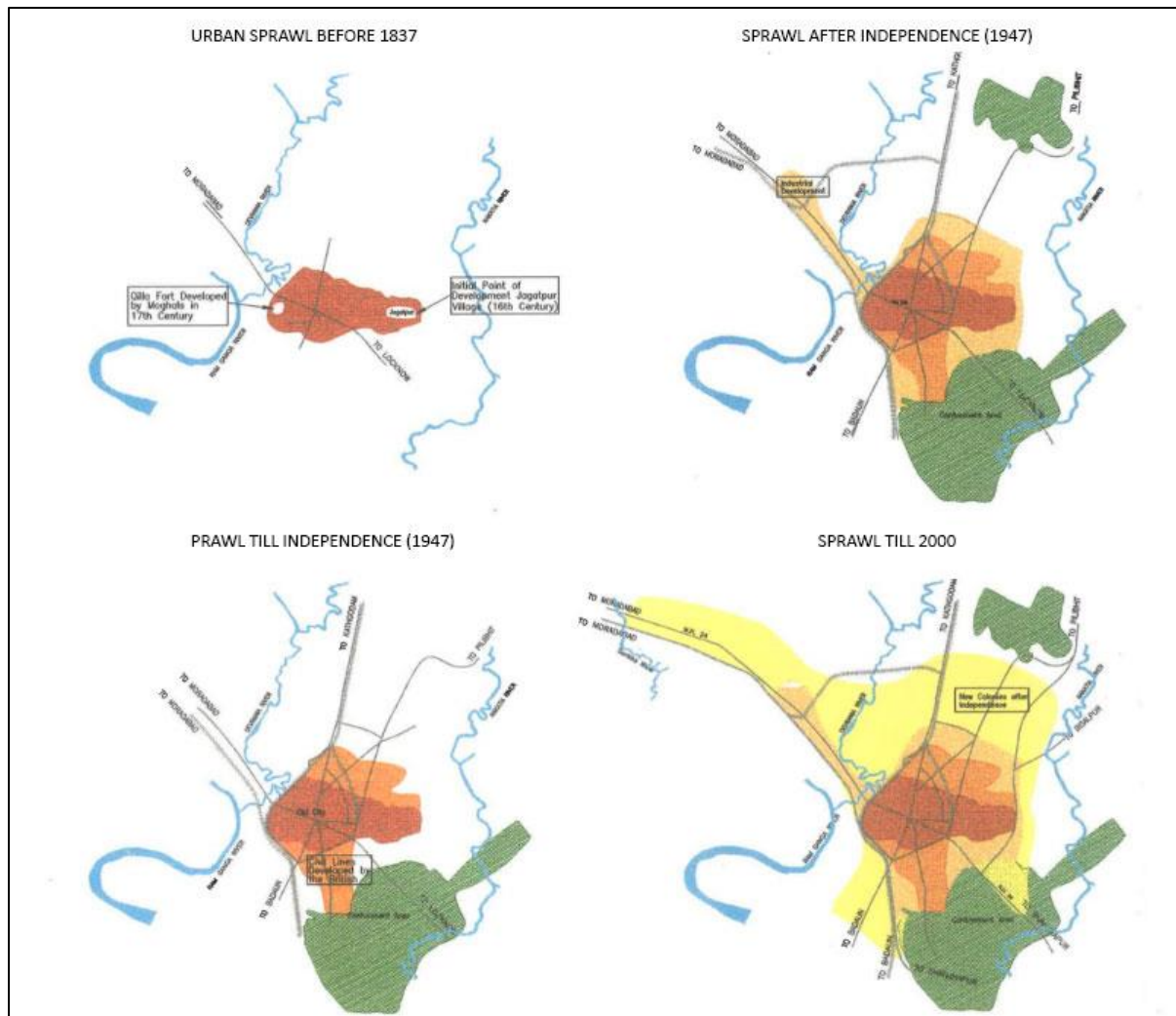


Figure 14 Origin of the City

National Brewery Company due to the availability of molasses in large quantities in Bareilly from Khandsari units. The Indian Wood Product Limited was founded in 1919 in Izzatnagar to extract 'catcheu' and "cutch" on a large scale from the 'Khair' tree that grows in the Himalayan foothills, and the Western India Match Company was founded in 1930 in Clutterbuckganj with raw materials sourced from the terai forests. With the establishment of these industries at Izzatnagar and Clutterbuckganj, these two points quickly developed as important industrial focal points of the town, providing for the development of small-scale industries as well as trade and commerce activity, and thus providing the necessary impetus to industrial growth in the city.

With the establishment of a sleeper creosoting plant in 1954 for treating wooden sleepers, R.R. Engineering Company for producing Sugar Machinery, Synthetics and Chemicals for manufacturing Synthetic rubber from alcohol, and camphor and allied products. Industrial area of Bareilly flourished with setting up of industries which produced varied products ranging from chemicals, plastic and agro products. The city became an industrially prominent town among the cities of Uttar Pradesh. City's



industrial history also witnessed cases of shutting down of some major industries including rubber factory which was a major economy generator of the city. On the other side, owing to its industrial potential, major industries such as Vadilal, Coco-Cola, B.L. Agro set up their large-scale industrial units and are operating from Bareilly. The Bareilly city is now recognised as one of the fastest growing economies.

2.5.2 Determinants of Urban Expansion

Bareilly has emerged as a major city in the region. The city has flourished along the major arterial roads/highways which connects various towns and districts and invites an influx of population to the city area. As Bareilly acts as an educational hub for the entire region, so various prominent educational institutes and supporting infrastructures such as hostels and housing can be seen in the peripheral areas of the town which play an important role in urban area expansion. Natives of the surrounding village also migrate and settle in Bareilly to enjoy better job opportunities, healthcare facilities and educational facilities. Apart from these factors other major factors which foster the urban expansion are:

- Bareilly has been identified as one of the nine counter magnets of the National Capital Region along with Dehradun, Kanpur and Lucknow. It is selected on the parameters of location, the potential of growth, population.
- It is the capital of the Bareilly division and is of historical importance and also served as the capital of Rohilkhand region.
- Connectivity to national capital New Delhi and state capital Lucknow, famous tourism destination Nainital through road and railways.
- Major Industrial area in the region with industries like Coco-Cola, Vadilal, BL Agro. Bareilly city also has 1380.23 acres of vacant government industrial land in CB Ganj. This land is vacant because of shut down of rubber industry.
- Potential of setting up food processing and packaging industries.



2.5.3 Extent of Spatial Growth

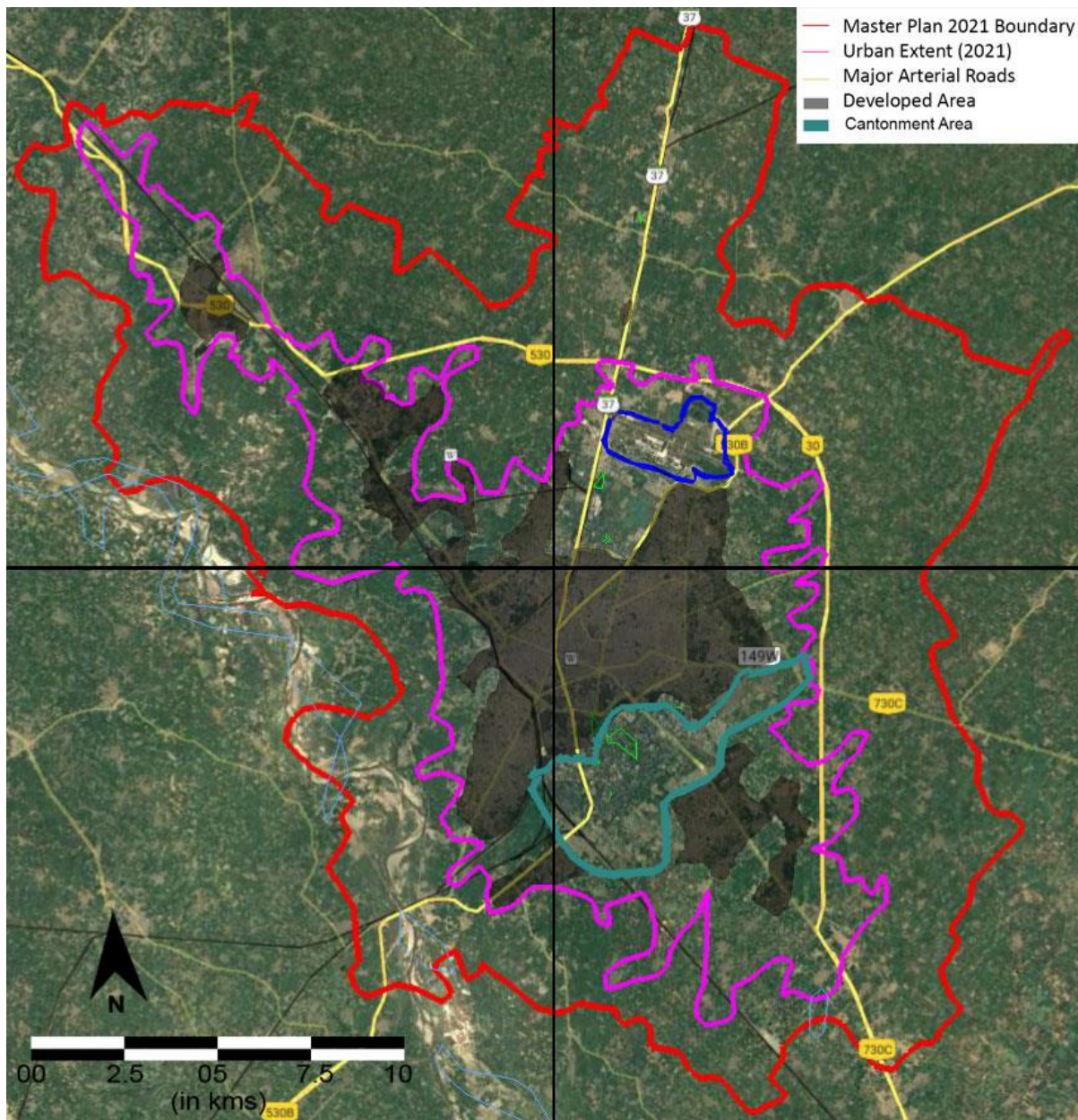


Figure 15 Quadrant wise Urban Extent of Bareilly City

Bareilly's extent of urban expansion for the year 2021 is 8027.61 hectares or 39.03% against the area of 20563.82 hectares of development area boundary as sanctioned in Master Plan 2021.

North West Bareilly city can be considered to be developing in a liner form because of major Industrial area in this quadrant which flourishes within 1-2 km radius parallel to National Highway 530 whereas, North-East part of Bareilly city organically shows evidence of development and small residential patches can be seen around the bypass roads which better the connectivity of this zone but is hindered by Airport.

South West region witness concentration of population and is reflected by coverage of more area. Ramganga river on the west is a major factor that limits the urban expansion in this direction. South-East part of the city is highly concentrated and the extent of the urban expansion is most in this



quadrant only. It also houses major educational institutes which are located at the cordon point of the main arterial road and bye-pass road.

2.6 Demographic profile

2.6.1 Census of India Figures

The decadal rise of the population of Bareilly city has shown variable patterns, as indicated in table 1.1. During the decades 1931-41 and 1951-61, it increased by 33.78 percent and 31 percent, and during the decades 1971-81 and 1981-91, it increased by 37.82 percent and 36.07 percent, respectively. However, throughout the decades 1901-1911 and 1911-1921, the population of city fell by 2.70 percent, while the population of the state fell by 4 percent, due to a plague epidemic at the time of the 1911 census and an influenza pandemic in 1918-19.

Table 0.1: Decadal Population of Bareilly City

Census Year	Population	Decadal Population Increase (In No.)	Decadal Population growth rate (in Percentage)
1901	133167		
1911	129462	-3705	-2.78 %
1921	129459	-3	0.00 %
1931	144031	14572	11.26 %
1941	192688	48657	33.78 %
1951	208083	15395	7.99 %
1961	272828	64745	31.11 %
1971	326106	53278	19.53 %
1981	449425	123319	37.82 %
1991	607652	158227	35.21 %
2001	748353	140701	23.15 %
2011	903668	155315	20.75 %

The population of Bareilly city grew at a slower rate during the decade 1941-51, with a growth of just 7.99 percent compared to 33.78 percent and 11.26 percent during the decades 1921-31 and 1931-41, respectively.

This was due to the fact that once the country was partitioned in 1947, there was greater population emigration from Bareilly to Pakistan than refugee inflow from there.

The next decade, 1951-1961, had a significant increase of 31.11 percent, but it then dropped to 19.53 percent in 1961-71. It happened because Moradabad city which is another prominent city in the region attracted more migrants than Bareilly owing to its proximity to Delhi and established it as a trade and commerce center. During this decade Moradabad city experienced a sharp rise of 42.13 percent as compared to decadal growth rates of 13.1 percent and 18.52 percent during the 1941-51 and 1951-61 decades. However, from 1971 to 1981 and 1981 to 1991, Bareilly city grew at a stable pace of 37.82 percent and 25.21 percent, respectively.



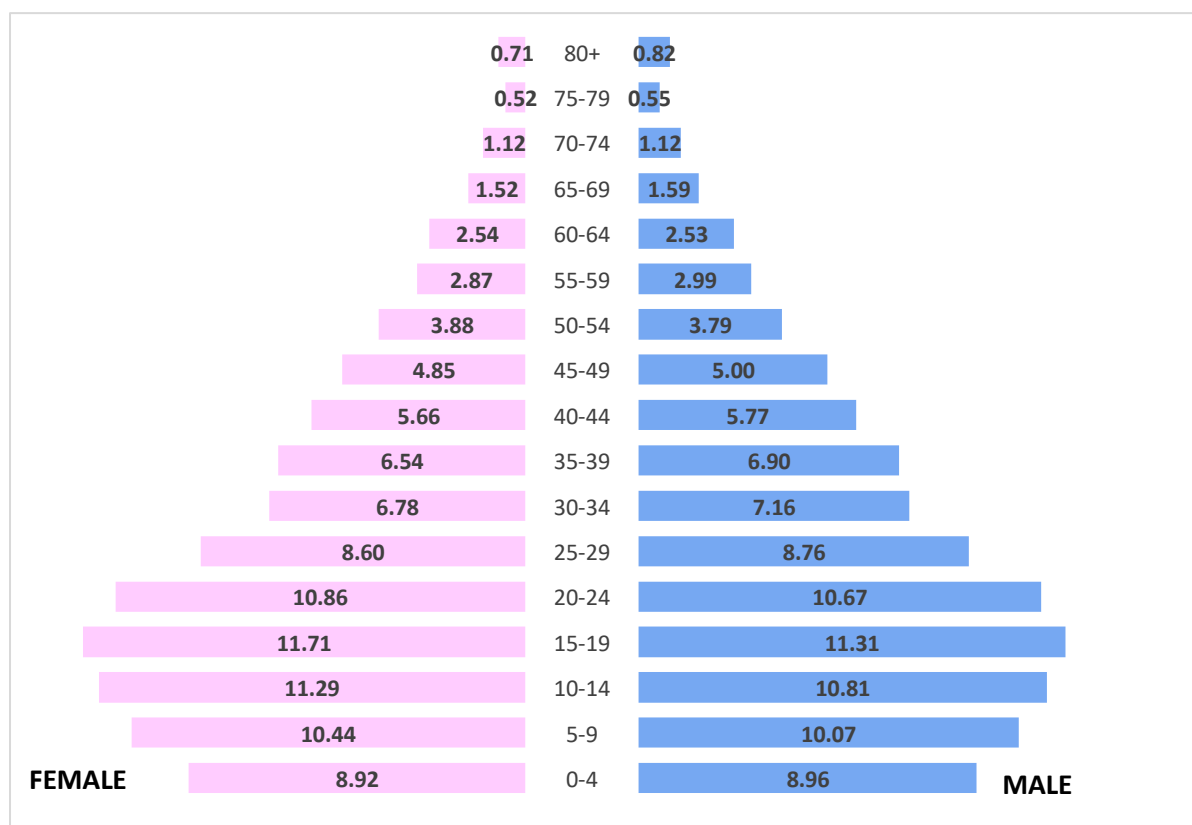
During the decade of 1991-2001 and 2001-11, the city witnessed growth rate of 23.15 percent and 20.75 percent respectively.

2.6.2 Age Sex Composition

According to the 2011 census, there were 895 females for every 1000 males in Bareilly, which is lower than the state urban average of 912 and the national urban average of 940. As compared to the last decade it is stagnant as in 2001, the sex ratio was also 895. While in 1991 and 1981, it was 882 and 830, respectively. Girls have a child sex ratio of 890 to 1000 boys.

Table 0.2: Sex Ratio of Bareilly City

Sr. No.	Year	Population	Males	Females	Sex Ratio
1	1981	394938	210208	184730	830
2	1991	590661	313991	276670	882
3	2001	720315	379871	340444	895
4	2011	903668	476927	426714	895



The population pyramid is similar to the phenomenon of a developing city as it has a wider base. Around 30 percent of the population is under 15 years of age. 63.55 percent males and 62.94 percent belong to working-age group that is between 15-59 years. 22 percent of the population belongs to the age group of 15-24 years. The dependency ratio is found to be 53.22 percent for Bareilly city. The life expectancy of females in the age bracket 70 and above is found to be more than males.



2.6.3 Literacy Rate

Literacy is used as a measure of a city's increasing urbanisation rate. As the urban population grows, so does the demand for qualified employees, both technical and non-technical. Furthermore, the urban population is more exposed to and willing to provide educational institutions of all grades and disciplines to their children and youth than the rural population.

In terms of education, the city of Bareilly has a total of 5,63,619 literates, with 3,16,385 men and 2,47,234 females. Bareilly's average literacy rate is 70.17 percent, with male and female literacy rates of 74.06 and 65.75 percent, respectively. The average literacy rate in slums is 51 percent.

2.6.4 Household Size

The household size in the year 1981 with population of 4,49,425 and total no. of household 51,055 was 5.91 which increased to 6.43 for the year 1991 for population of 607652. In the year 2001, average household size dropped to 6.20 and in year 2011 it further declined to 5.42 against the national average of 5.00 persons per household. Decline in the household size can be attributed to the shift from joint family to nuclear family.

Table 0.3: Household Size of Bareilly City

S.no	Year	Population	No. of HHs	Average HHs Size
1	1981	449425	51055	5.91
2	1991	607652	94401	6.43
3	2001	748353	102483	6.20
4	2011	903668	166447	5.42

2.6.5 Density

Density of 1981 for city was 90 pph which increased to 122pph in the year 1991. In the year 2001, because of the population increase Bareilly city became denser and density increased to 150pph. The core built up area density was 500pph in 2001.

2.7 Workforce Characteristics

Table 0.4: Workforce Characteristics of Bareilly City

Year	Population	Growth Rate	WPR (Work Participation Rate)
1991	165827		27.3%
2001	206247	24.40%	27.6%
2011	303392	47.10%	33.6%
2021	330474	21.90%	33.6%

Workforce is a metric that is used to determine the total number of potential workers in a given economy. For Bareilly city in the year 1991, when population was 1,65,827 WPR was 27.3 percent which shows a stagnant growth to 27.6 percent in the year 2001. In the year 2011 WPR increased to



33.6 percent for which credit can be accredited to major increase in manufacturing and retail business sector.

2.7.1 Occupational Structure

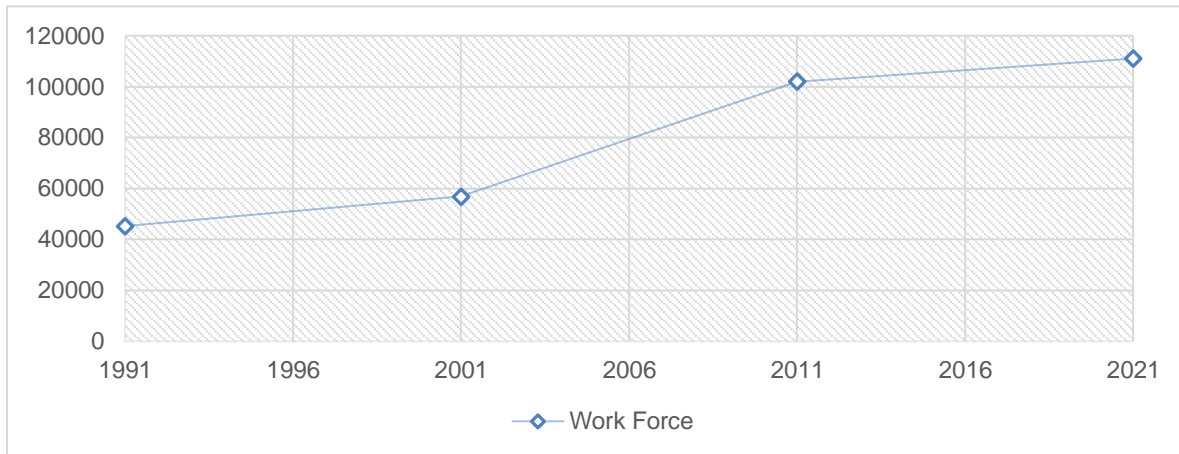


Figure 16 Work Force participation decadal growth

Table 0.5: Decadal employment in various sector

S.no	Economic Activity	1981	1991	2001	2011
		As per Census			
1	Primary Services	3472	15006	16500	21237
2	Manufacturing	31731	28326	30937	48543
3	Construction	5373	7906	10312	15170
4	Retail	22352	35421	41249	60678
5	Transport and Communication	18610	15929	24750	36407
6	Others	38343	63239	82498	121357
	Total	119881	165827	206246	303392
	Population	449425	607652	748353	903668

Occupational structure stages the type of economic activities prevailing in the city. Census of India till 1991 provided 6 fold classification for category of workers which are Primary Services, Manufacturing, Construction, Retail, Transport and Communication, Others. Master Plan 2021 projects different sectors of workers for 2011, 2021.



Table 0.6: Category of Workers

Category of Workers	Cultivators	%	Agricultural labourers	%	Household industry workers	%	Other workers	%	Total	%
Male Workers	3933	1.99	7943	4.01	20117	10.16	165932	83.84	197925	65.24
Female Workers	843	2.23	1230	3.25	7738	20.46	28000	74.05	37811	12.46
Total Main workers	4776	2.03	9173	3.89	27855	11.82	193932	82.27	235736	77.70
Male Marginal	968	2.11	3942	8.61	4574	9.99	36314	79.29	45798	15.10
Female Marginal	495	2.26	765	3.50	3633	16.62	16965	77.61	21858	7.20
Total Marginal workers	1463	2.16	4707	6.96	8207	12.13	53279	78.75	67656	22.30
Total	6239		13880		36062		247211		303392	100

As per the census 2011, there are 77.7 percent main workers and 22.30 percent marginal workers. Main male workers are 1,97,925 and 37,811 are main female workers which accounts to 65.24 percent and 12.46 percent respectively of the total working population. Major share in this main workers is of other workers contributing to 83.84 percent followed by household workers 10.16 percent. There are 48,798 male marginal workers i.e., 15.10 percent and 21,858 female marginal workers i.e., 7.20 percent of the total working population.

2.7.2 Workforce Participation Rate

Workforce Participation rate for the year 1991 is 27.3 percent which increased slightly to 27.6 percent in the year 2001. WPR in 2011 increased to 33.6 percent which is ahead of Uttar Pradesh state's (Urban) WPR, i.e. 31.2 percent. This is a positive indication for exploring activities that will help in fostering economy of the city as well as region. Female FWPR that is 19.7 percent lies much ahead of the states average FWPR i.e. 11.3 percent. It will reduce the share of the dependent population and thus will help in economic growth.

2.8 Stakeholder Mapping

2.8.1 Statutory Agencies

State Urban Development Agency (SUDA)

The State Urban Development Body (SUDA) has been established as the nodal agency in the Uttar Pradesh government under the Urban Employment and Poverty Alleviation Program Department. With effect from November 20, 1990, this agency is registered under the Societies Registration Act. At the district level, District Urban Development Agencies (DUDAs) have been established.

Various initiatives are being undertaken for the social and economic upliftment of the urban poor. The District Magistrate serves as the ex-officio chairman of the district's Urban Development Agency. Its members are the presidents of all of the district's municipal authorities.



Bareilly Development Authority

Bareilly Development Authority (BDA) established in 19th April 1977 under the Uttar Pradesh Urban Planning & Development Act 1973. BDA is the principal agency of the Government of Uttar Pradesh responsible for taking ahead the tradition of planned and sustainable development of Bareilly.

Bareilly Development Authority is responsible for preparation and implementation of master plan for the development area. It takes up the infrastructural and basic amenity development for Bareilly besides environment conservation and development of rural areas around the mother city.

Bareilly Nagar Nigam

BNN (Bareilly Nagar Nigam) is a local government entity dedicated to delivering essential community services such as health care, sanitation, education, and housing. The city is organised into four zones and 80 wards, each of which has its own councilor.

Bareilly Cantonment Board

Under the provisions of the Cantonment Act, 2006, the Bareilly Cantonment Board is an autonomous organisation under the Ministry of Defense of the Government of India that performs mandatory and discretionary functions such as education, water supply, birth and death registration, etc.

2.8.2 Urban Development and Infrastructure development agencies

National Highway Authority of India

The Ministry of Road Transport and Highways manages the National Highways Authority of India (NHAI), which was founded in 1988 by an Act of Parliament. The National Highways Authority of India (NHAI) was founded by the Indian government as a central authority to build, maintain, and manage the National Highways entrusted to it. In February of 1995, the authority, on the other hand, commenced activities. Major highways passing from the Bareilly city are under the jurisdiction of NHAI.

Uttar Pradesh State Highway Authority (UPSHA)

U.P. State Highways Authority (UPSHA) works for the development, maintenance and management of state highways and related works. U.P. State Highways Authority is constituted by Uttar Pradesh under UP act no. 19 of 2004 dated Aug'13, 2004. All the state highways passing from Bareilly are under UPSHA.

Bareilly Smart City, Bareilly

Smart City, Bareilly is a Special purpose vehicle established as a company incorporated under the companies Act, 2013 and works under MoHUA. The SPV main function is to plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the Smart City development projects. Smart City, Bareilly works as a SPV which is headed by a full time CEO and have nominees of Central Government, State Government and ULB on its Board.

UP Housing and Development Board

The UP Housing and Development Board is in charge of enacting and enforcing housing and some urban planning laws and policies. The board is also in charge of providing affordable housing to those in need through the Uttar Pradesh Housing and Development Board.

UPRERA (Uttar Pradesh Real Estate Regulatory Authority)

As a government agency, the State Real Estate Regulatory Authority aims to protect homebuyers while also assisting in the growth of the real estate business. It makes recommendations to the appropriate government on issues concerning the development and promotion of the real estate industry.



2.8.3 Industrial Development

District Industries Centre

The District Industries Centre (DIC) is a government relevant government aimed at fostering small village and cottage industries in a certain area. The DIC was founded in 1978. The District Industries Centres, which are located at the district level, provide all of the required services and support to help entrepreneurs develop MSMEs (Micro, Small and Medium enterprises).

Uttar Pradesh State Industrial Development Authority

The Uttar Pradesh State Industrial Development Authority (UPSIDA), originally the Uttar Pradesh State Industrial Development Company, is a government-owned corporation that supports industry and builds industrial infrastructure in Uttar Pradesh. The Uttar Pradesh State Industrial Development Authority is a Government of Uttar Pradesh Public Sector Undertaking. It fosters the development of industrial infrastructure in Uttar Pradesh, as well as assisting in the development of industrial zones and delivering iconic industrial locations. UPSIDA's mission is to enable entrepreneurs establishing enterprises and factories in Uttar Pradesh with modern infrastructure facilities and services.

2.8.4 Tourism Development

Archaeological Survey of India

The Archaeological Survey of India (ASI), which is part of the Ministry of Culture, is the country's leading archaeological research and preservation body. The ASI's primary focus is the preservation of ancient monuments, archaeological sites, and national-historical relics. Furthermore, it governs all archaeological operations in the country in accordance with the rules of the Ancient Monuments and Archaeological Sites and Remains Act, 1958, as amicable under the AM & ASR (Amendment & Validation Act 2010). The Antiquities and Art Treasure Act of 1972 is also governed by it. ASI for its effective work is branched into various circles. Bareilly city is currently part of newly formed Meerut ASI Circle.

Airport Authority of India

The Airports Authority of India (AAI) is a statutory agency that is controlled by the Directorate General of Civil Aviation of the Ministry of Civil Aviation of the Government of India. It is in charge of developing, improving, maintaining, and managing India's civil aviation infrastructure. Bareilly civil airport which is a wing of Trishul Air Base is governed by Airport Authority of India.

UP Tourism

Uttar Pradesh Tourism Department is a state government body in India that is responsible for tourism promotion in the state of Uttar Pradesh. The department is also in charge of designing and implementing Uttar Pradesh's tourism policies, which include heritage, air service, and eco-tourism regulations.

2.8.5 Private Sector Associations

Indian Industries Association

The Indian Industries Association (IIA) is a powerful representative organisation for Micro, Small, and Medium Enterprises (MSME). It works with business, governmental, academic, and other thought leaders to influence global, regional, and industry agendas. In today's ever-changing and increasingly competitive industrial climate, IIAs focuses on creating an enabling environment for the development of MSMEs. In Bareilly, there IIA functions through its local chapter which has 360 registered units. Bareilly chapter actively participates in works related to industrial development. It also supports its member in getting finance, incentives through state and central policies, advocacy, etc.



Indian Medical Association

The Indian Medical Association is the only body in Bareilly which is a national level volunteer organisation of doctors practicing the Modern Scientific System of Medicine. Its primary function is to promote and enhance medical and allied sciences in all of their forms, as well as to improve public health and medical education in India.

Confederation of Real Estate Developers' Associations of India (CREDAI)

The Confederation of Real Estate Developers' Associations of India (CREDAI) is India's top association of private real estate developers. This is an organization which is working in Bareilly to promote with the goal of changing the face of the real estate business with a mandate to promote housing and habitat.

2.9 Planning Boundary and Area

2.9.1 Bareilly Development Authority

To govern the development and expansion of the city under proper planning, on November 1, 1971, regulated area of Bareilly city was declared under the Uttar Pradesh (Regulation of Construction Works) Act, 1958. This was enacted to limit the unauthorized use and development of land, as well as the increasing tendency of unplanned construction of buildings and low-level colonies. Bareilly development area boundary included the area of municipality and 198 surrounding revenue villages outside the municipality. Aggregately, an area of 36,558.70 hectare was included in the limits of the development authority. In May 2008, the development area of Bareilly was expanded to include an additional 66 revenue communities. As a result, the Bareilly development area encompasses a total of 264 revenue villages.

2.9.2 Bareilly Nagar Nigam

In the year 1858, Bareilly Municipal Board was constituted with the purpose to provide basic services. Now, Bareilly Nagar Nigam (Municipal Corporation) is spread in an area of 106.41 sq.km. or 10641 hectares. For efficient performance and better administration, it is divided into 4 zones, these zones are sub divided into 80 wards.

2.9.3 Bareilly Smart City

Bareilly Smart City works under two heads, Area Based Development and Pan City Development. Bareilly Municipal Corporation in consultation with citizens identified an area of 50 acres for redevelopment. This redevelopment will result in the replacement of the present built-up environment, as well as the co-creation of a new layout with improved infrastructure through the use of mixed land use and higher density. Pan City Development, which focuses to strengthen city wide infrastructure covers an area of 276 sq.km.

2.9.4 Bareilly Cantonment Board

Bareilly Cantonment Board is an organisation under Ministry of Defense which was established in 1811 for administrative and civil representation purposes. It covers 4259.42 acres, with a notified civil area of 139.5026 acres included. The board has been divided into seven wards.



2.10 Past and Current Planning Initiatives

2.10.1 Statutory Master Plan

Master Plan which acts as the statutory document to guide the regulated development of area and to develop different sectors have been formulated and are listed as follows:

Bareilly Master Plan 2001

The first master plan of Bareilly was made in 1971 for the year 1999 which was later revised in the year 1986 and was proposed for year 2001. Before this, the development of the city took place in small pockets all across the city. Development area for the proposed Master Plan 2001 was proposed for 10,500 Hectares to accommodate the projected population of 9.10 lakhs.

Bareilly Master Plan 2021

Master Plan 2021 which was enacted in 2008 was proposed for the year 2021. It aims to facilitate projected population of 14.21 lakhs and covers a total area of 16721.83 hectares (as per Master Plan 2021) and area of 20563.82 (as per the GIS Survey carried out for making Master Plan 2031) . This Master Plan was prepared by Town and Country Planning Department and Bareilly Development Authority.

Bareilly Master Plan 2031 (Draft)

Master Plan 2031 for Bareilly development area is proposed for a population of 18,94,211. Proposed Master Plan covers an area of 22815.76 Hectares

Other Planning Initiatives

Apart from the Master Plan there are several other planning initiatives which focuses on different sectors.

City Development Plan (2003-2023)

City Development Plan with a horizon year 2023 was prepared by Wilbur Smith Associates in association with Bareilly Development Authority.

Slum Free City Plan of Action (Bareilly)

The Indian government launched the "Rajiv Awas Yojana" (RAY) to envision a slum-free India. Under this scheme Slum Free city plan of Bareilly city was prepared Regional Centre for Urban And Environmental Studies – OU, Hyderabad. The plan of action included line estimates for housing and infrastructure shortages, as well as civic amenities proposed in accordance with RAY principles. The report also requested approval and action to produce DPRs.

City Wide Sanitation Plan

The National Urban Sanitation Policy launched during 2008 envisages "All Indian cities and towns become totally sanitized, healthy and livable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women." In the same line City wide Sanitation Plan have been prepared by Administrative Staff College of India in partnership of Uttar Pradesh Government and Nagar Nigam Bareilly.

2.10.2 Infrastructure Development Schemes

The following are the various infrastructure development schemes for various sectors:

Atal Mission for Rejuvenation and Urban Transformation (AMRUT):

AMRUT was established in June 2015 with the goal of establishing infrastructure that would allow for appropriate and reliable sewage networks and water supplies for urban transformation through the implementation of urban revival projects.



Smart Cities Mission: It was launched on June 25, 2015, with the goal of promoting cities that use 'smart solutions' to offer basic infrastructure, a clean and sustainable environment, and a reasonable quality of life for their residents.

Housing Schemes:

- Pradhan Mantri Awas Yojna (Housing for All)
- Manyawar Shri Kanshiram Ji Shahri Garib Awas Yojna
- Asra Yojna
- Ramganga Nagar Awasiya Yojna
- Rajiv Awas Yojna (RAY)

Commercial Schemes:

- Transport Nagar, Bareilly
- Commercial area in Ramganga Nagar Scheme

2.10.3 Industrial Development Scheme

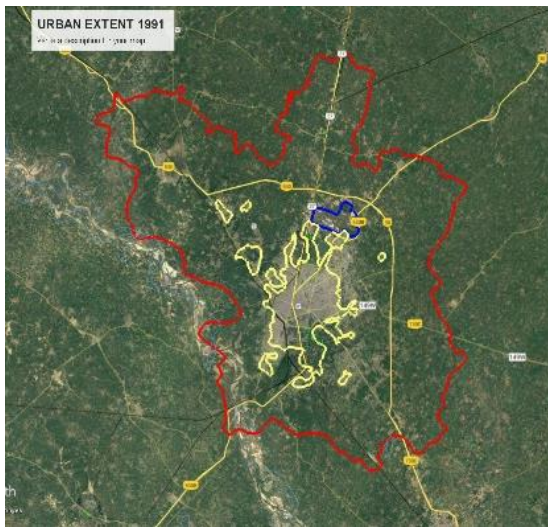
The different industrial development schemes are listed below:

- One District One Product (ODOP)
- Mukhyamantri Yuva Swarojgar Yojana, U.P
- Prime Minister's Employment Generation Programme (PMGEP)
- District Skill Development Plan for Bareilly

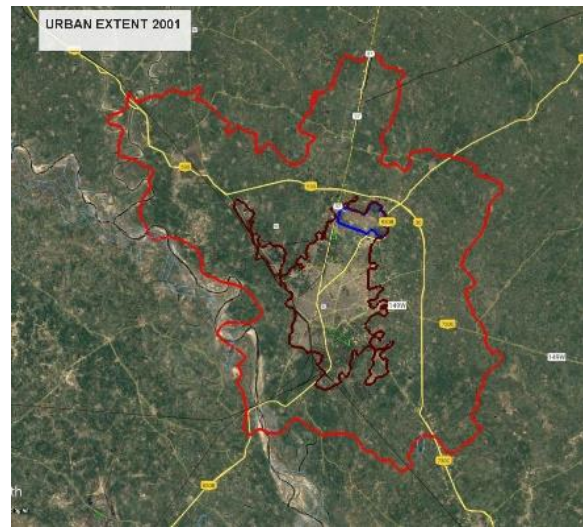
2.11 Urban Sprawl and Mapping

As per the historical imagery it can be traced out that in 1991, city was concentrated in the core area with some prominent growth centers in the south east and south west area. In 2011, City started growing linear towards the North West taking CB Ganj and Paraskhera Industrial area in the extent of urban expansion. In 2011, there were major expansion witnessed in the city considerably in South West and South East. Growth in North East part of the city was limited and no major growth happened in that area. As per the current status in 2021, urban expansion has followed the same pattern as before and continued to grow linearly on North West side parallel to Nation Highway connecting to Delhi. Major development currently taking place is in South East and South West. Development on the North East can now be traced to be developing at a very slow pace.





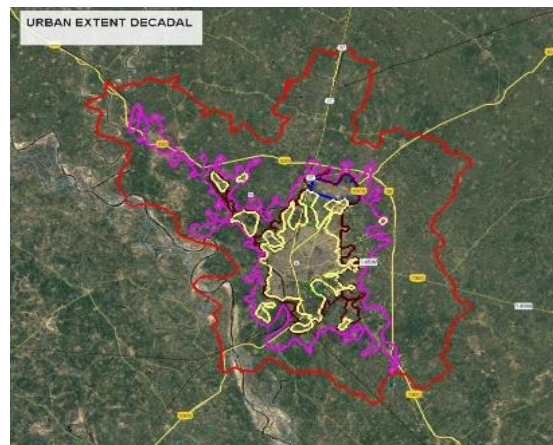
Urban Extent 1991



Urban Extent 2001



Urban Extent 2011



Urban Extent 2021

Figure 17 Decadal Urban Extent of Bareilly City

2.12 Statutory Plan Analysis

2.12.1 Master Plan 2001

Main Proposals

1. Development area was divided into 29 zones called 'Development Zones' for which development plans were prepared.
2. Master Plan was again reviewed and revised in 1986, and industrial sector was given a thrust by increasing industrial landuse to 18.8 percent.
3. The revised Master Plan also emphasized on recreational and open areas, thus landuse was increased to 17.32 percent.

Land use breakup (existing and proposed)



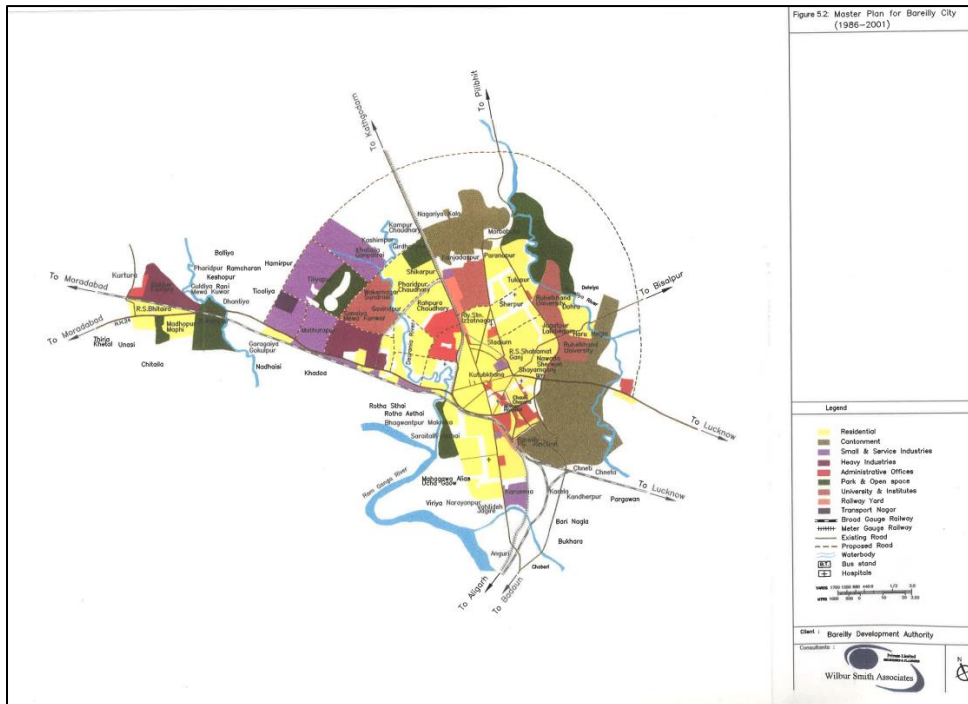


Figure 18 Land use distribution in 1971 and Proposed Land use 2001



Table 0.7: Land use distribution in 1971 and Proposed Land use 2001

S. No.	Landuse	Existing Landuse 1971	Proposed Landuse 2001
1	Residential (Built-Up Area)	732.10	3390.00
2	Commercial	58.60	308.90
3	Industrial	53.90	1919.00
4	Official	69.70	252.00
5	Public and Semi Public	217.5	1344.00
5	Traffic and Transportation	199.4	1090.00
6	Parks and Recreational	42.50	1769.00
7	Railways	-	220.00
	Total	1373.40	10211.00

As per the Master Plan 2021 total 10,211 hectares of land was covered under the development area and landuse for the same was proposed. This Projected population for 2011 was estimated to be 9.10 lakhs.

Residential Landuse

As per the Master Plan 2001 proposed residential area was 3390.00 hectares which accounts to 39.17 percent of the total area which very narrowly exceeds the URDPFI guidelines which recommends residential use to be 36-38 percent.

Industrial Landuse

As Industries are the major economy generator and major industrial cities have an average of 18-20 percent as existing industrial landuse. 1919 hectares i.e. 19.17% of the total landuse with a vision to develop the city as major industrial city.

Residential Density

Projected population for the year 2011 was 9.10 lakhs. Proposed residential area was 3390 hectares. Taking both figures into consideration net residential density is reckoned to be 270 pph.

Other Special Uses

Open Areas or Parks accounts to 1769 hectares i.e. 17.32 percent. One of the special uses that is mentioned in the Master Plan 2001 is Railways which was allocated 220 hectares.

2.12.2 Master Plan 2021

Main Proposals

1. The roads partly owned by Bareilly Development Authority, U.P. developed by Housing and Development Council or any other agency and the adjoining plot is allotted for residential use. The land use will not be considered commercial.
2. The right of way area of the market road is minimum 12 meters or the width proposed in the master plan, whichever is more, will be considered.
3. Depth of commercial use on the plots located on different right of way from the middle of the road one and a half times of the proposed right of way or the depth of the land owned by the landowner as of January 2007 (whichever is less).



4. Commercial on the ground floor and first floor in the market road, residential will be allowed on the upper floors.
5. For plots of area more than 500 sq.m., basement will be allowed as per rules.

There are proposals related to different landuse which are detailed in their respective landuse analysis.

- a) **Sub Urban Centres:** In order to reduce the increasing pressure on the city area, 08 suburban centers have been proposed with population ranging between 20 thousand to 1 lac. A provision of about 168.0 hectare area has been made under the suburban center land use.
- b) **Storage Facility:** About 106.16 hectares of land was proposed to conduct the activities of storage/warehouse/warehouse smoothly in the city.
- c) **Hospitality / (Town Centre):** A Hospitality center in the middle of Kathgodam road and Pilibhit bypass road is proposed, under which about 65.12 hectares of land has been allocated.
- d) **City Center:** A city center has been proposed between Kathgodam road and Moradabad road for which about 366.16 hectares has been kept reserved.
- e) **Knowledge Park:** A knowledge park has been proposed in the middle area between Kathgodam road to Moradabad road under public and semi public landuse, under which about 369.70 hectares of land has been earmarked.

Land use breakup (both existing and proposed)

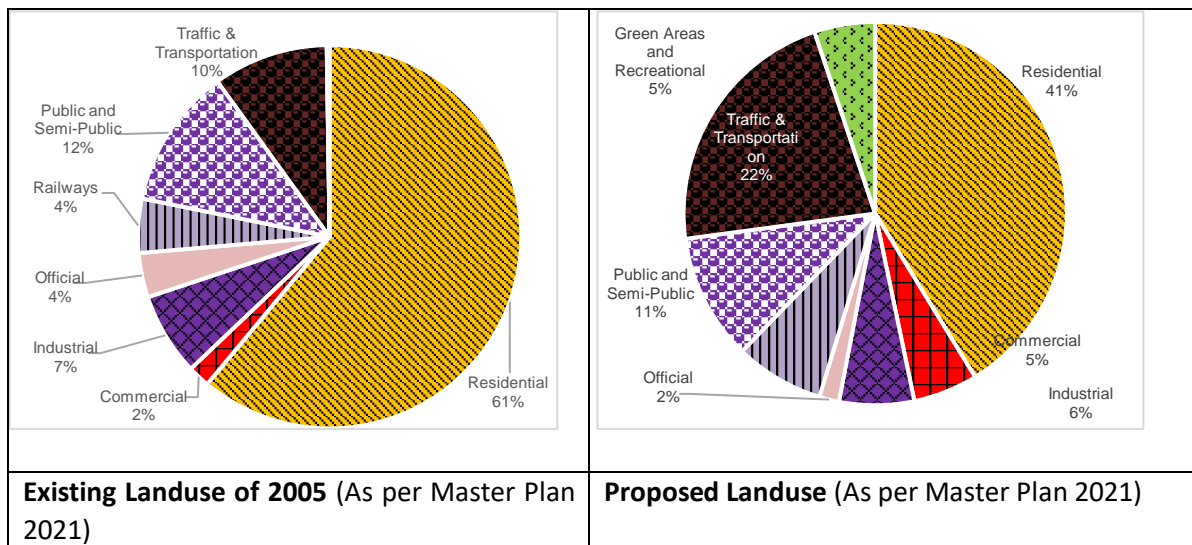


Figure 19 Graphical Presentation of Landuse



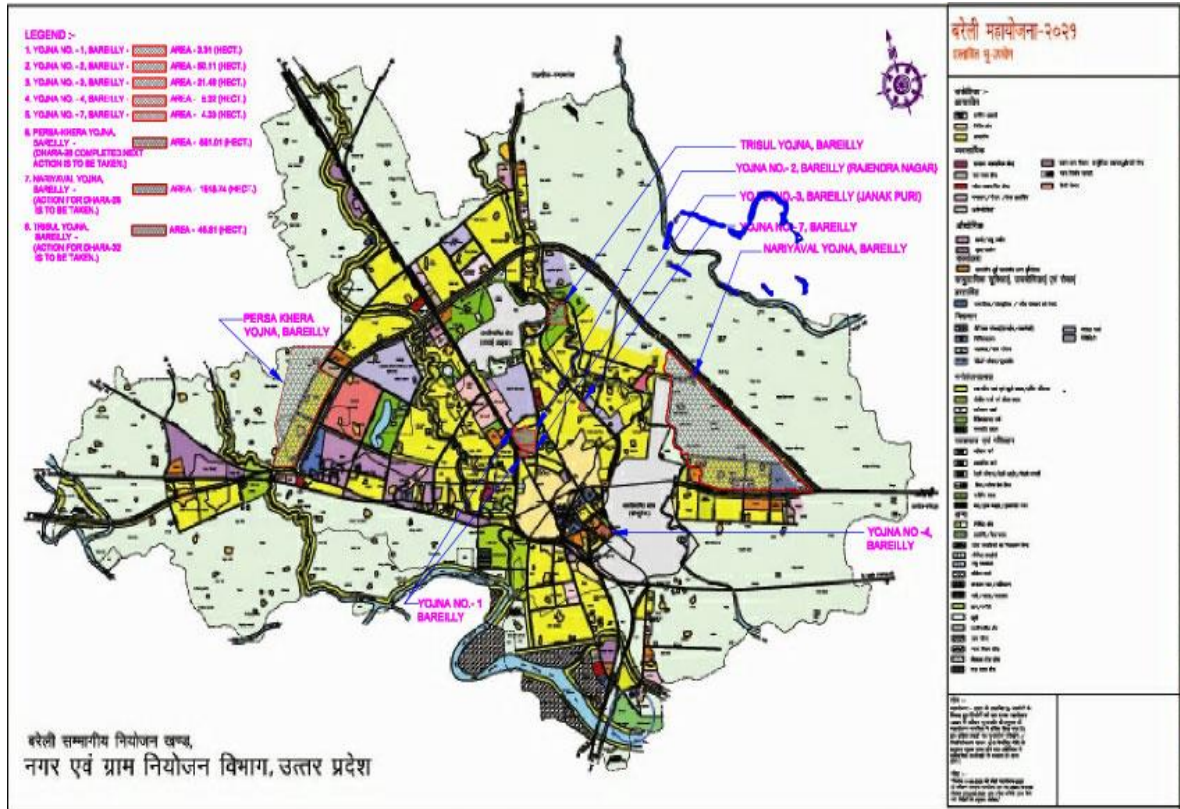


Table 0.8: Details of Notified Area

Landuse	Proposed Landuse 2021	%	Development as per Plan		Unauthorized Development		Total Development		
			%	%	%	%			
Existing Landuse compared to Proposed Master Plan 2001									
1	Residential (Built-Up Area)	6900.15	41.26	2330.00	22.82	610.56	5.98	2940.56	28.80
2	Commercial	911.20	5.45	33.44	0.33	56.38	0.55	89.82	0.88
3	Industrial	1057.42	6.32	286.40	2.80	50.44	0.49	336.84	3.30
4	Official	279.39	1.67	153.28	1.50	27.04	0.26	180.32	1.76
5	Public and Semi Public	1257.20	7.52	452.24	4.43	118.24	1.16	570.48	5.59
5	Traffic and Transportation	1782.65	10.66	468.00	4.58	-	-	468.00	4.58
6	Parks and Recreational	3675.37	21.98	11.50	0.12	-	-	11.50	0.11
7	Railways		0.00	220.00	2.15	-	-	220.00	2.15
8	Others	857.95	5.13						
	Total	16721.83	41.26	3954.86	38.73	862.66	8.44	4817.52	47.17

Residential Land use

Residential Landuse has been allocated 6900.15 hectares i.e. is 41.26 percent of the total area. Residential areas falling under the old highly populated region of the city Land, such as Sahukara, Jakati Mohalla, Kohadapir Gulabnagar, Alamgirganj, Shahbad, Shahdana, Shayamganj, Subhashnagar, and others, were included in the Master Plan 2021 plans.



Residential Density

In the entire planning area, the proposed Gross Residential Density was kept at approximately 205 persons per hectare.

Commercial Landuse

With the proposed commercial area in the Bareilly Master Plan 2001's built area, there was a high level of commercial development on a large scale along the main roads and residential areas at a rapid pace, resulting the core built up area functioning as a commercial centre for the entire city. Some of the city's old commercial neighbourhoods include Shayamganj, Bada Bazar, Shahdana Qutubkhana, Kohadapir, Chaupula Aryasamaj Gali, etc. The Master Plan 2001's proposals for the development of various levels of the business sector were not followed. The main business operations of the city of Bareilly were developed in the historic part of town, which satisfied the needs of the existing residential neighbourhoods. Aside from that, commercial development occurred along the banks of the major highways. On the city's Pilibhit road, Mandi was created on the location of a planned market. In the Master Plan 2021, a total of 911.20 hectares of land was earmarked for commercial land use.

Industrial Landuse

Industries have an important role in the process of urbanisation and population growth, which leads to economic, social, and cultural changes in cities. Industries contribute significantly to the city's economic development and the improvement of people's living conditions. The nature of services in many cities changes as a result of industrial development, bolstering the city's economic foundation as a sign of progress. Its immediate impact is reflected in an increase in the general standard of living as a result of job availability. Bareilly city's industrial development didn't advanced in a planned manner due to a lack of order. Industrial units at that time were located near Shayamganj railway station, on Rampur road, and on Badaun road. Industrial units were not developed in the proposed industrial area under the Master Plan 2001. Additionally, large-scale industrial units have been stopped functioning in the Bareilly city area. In the Bareilly Master Plan 2021, 749.10 hectares of land was proposed for small scale industries and 308.32 hectares for large industries making it to total of 1057.42 Hectares for industrial land use.

Other Special Uses

The part of the system that permits the government to carry out its policies is administration. Bareilly city, which acts as the district and divisional headquarters, is the principal administrative centre. This is where all district, local authority offices as well as state and central government offices, are located. As per the existing landuse of 2005, on 180.32 hectares of land in the city, office-related activities took place. A total of 279.39 hectares of land was proposed for the Other Special land uses in the Master Plan 2021.

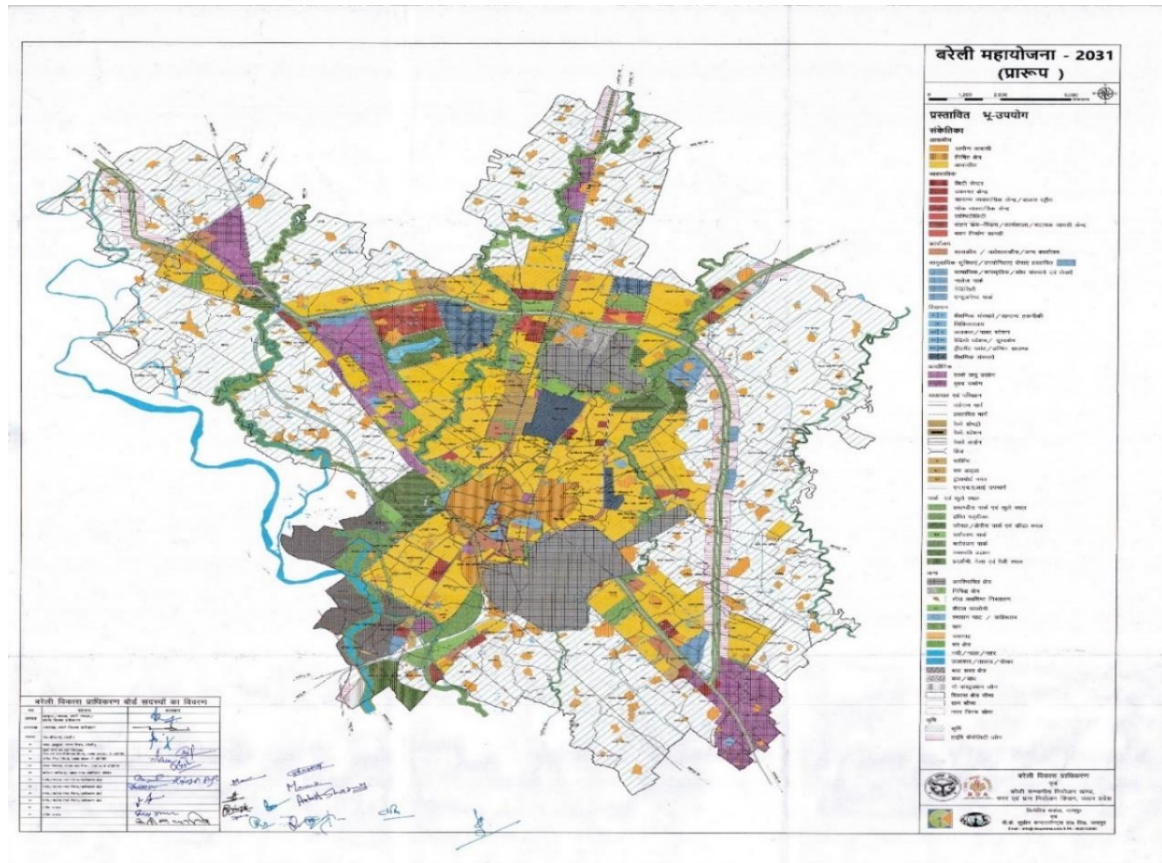
2.12.3 Master Plan 2031

Main Proposals

1. For the purpose of community facilities in Bareilly, the land use is mainly proposed on the Bara bypass road and 4 sewerage treatment plants by the Municipal Corporation, respectively 42 MLD Haroongala Village, 20 MLD Bari Nagla Village, 1 MLD Tatarpur village 35 MLD Benipur Chaudhary village and 1 main pumping station which is proposed in Nawada Jogian village. 1 dumping site is also proposed in Sathrapur village.



2. 30 m green belt is proposed on both sides of Nakatiya river, Behgul river in the south and 30 m green belt on both sides of the road leading to Lucknow (National Highway 703C) and between the railway line going to Budaun and Aligarh.
3. NHA has proposed a bypass, which will connect Badaun Road with Rampur Marg. It will a road of 60 meters and will act as a ring road for the city. Another bypass NHA will connect Bareilly to Sitarganj, whose width is proposed to be 60 meters.

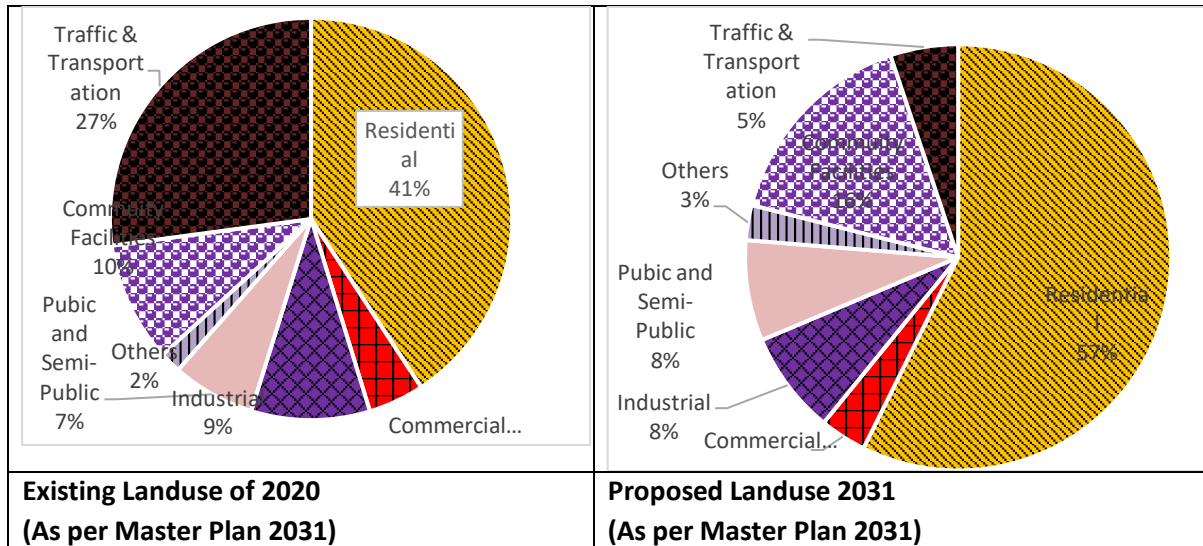


Land use breakup (existing and proposed)

Table 0.9: Proposed landuse for 2031 and existing landuse of 2021

S.No.	Landuse	Existing 2020	%	Proposed 2031	%
1	Residential (Built-Up Area)	3986.51	53.71	8580.37	37.61
2	Commercial	245.75	3.31	945.65	4.14
3	Industrial	541.62	7.30	2008.76	8.80
4	Public and Semi Public	531.1	7.16	1406.82	6.17
5	Official	184.77	2.49	360.00	1.58
5	Traffic and Transportation	1105.49	14.90	2034.72	8.92
6	Parks and Recreational	357.92	4.82	5705.74	6.17
7	Others	468.5	6.31	1773.66	7.77
	Total	7421.66	100	22815.76	100





Residential Landuse

Residential landuse has been proposed in various areas of the city for the estimated population of 1894211 people, as per the proposed land use of the year 2031. Additional to the Master Plan-2021 recommendations which proposed 8129.88 hectares of residential landuse, an extra 450.49 hectares of land has been planned. In Bareilly Nagar, residential land usage is mostly suggested north of Shahjahanpur road, on Bisalpur road, and between Nainital road. Thus, the Bareilly Master Plan proposes a total of 8580.37 hectares of land for the year 2031, which is 37.81 percent of the urbanisation area of 22815.76 hectares in 2031.

Residential Density

The proposed Gross Residential Density was kept at approximately 220 persons per hectare in the entire planning area.

Commercial Landuse

In light of the necessity and potential of various parts of the city in the intersection's business operations. Under the Master Plan-2021 recommendations, an additional 39.72 hectares of land was proposed, accommodating 905.97 hectares of land, for the commercial fulfilment of the expected population of 2031. Commercial land use in Bareilly city is mainly in the north-south of Shahjahanpur road and land is proposed for Jhumka commercial center. Thus, the Bareilly Master Plan proposes a total of 945.89 hectares of land for the year 2031, which is 4.14 percent of the urbanizable area of 22815.76 hectares in 2031.

Industrial Landuse

According to the land use of the master plan year-2031, industries have been proposed in different areas of the city for the proposed population. Under the proposals of the Master Plan-2021, which accommodated 1171.86 hectares of land, an additional land of 837.90 hectares is proposed mainly on the road leading to Lucknow in the South-East direction. As a result, a total of 2008.76 hectares of land have been suggested for Master Plan-2031, accounting for 8.80 percent of the year's urbanisation area of 22815.76 hectares.

Other Special Uses

Under the proposals of the Master Plan-2021, an additional land of 47.86 hectares has been proposed by accommodating 1358.96 hectares of land. The Municipal Corporation has proposed land use on the big bypass road and four sewerage treatment plants, 42 MLD Haroongala Village 20 ML and 42



MLD Haroongala Village 20 ML, respectively, for the purpose of community facilities in Bareilly. Village of Bari Nagla Tatarpur Village, 1 MLD 35 MLD Benipur Choudhary Village, 1 Main Pumping Station in Nawada Jogian Village, and 1 Dumping Site in Sathrapur Village are proposed. Thus, the Bareilly Master Plan proposes a total of 1406.82 hectares of land for the year 2031, which is 6.17 percent of the urbanizable area of 2031 i.e., 22815. 76 hectares of land.

2.12.4 Comparison of Master Plans

Table 0.10: Comparison of Proposed Landuse

S.No.	Landuse	Proposed 2001	%	Proposed 2021	%	Proposed 2031	%
1	Residential (Built-Up Area)	3390.00	33.20	6900.15	41.27	8580.37	37.61
2	Commercial	308.00	3.01	911.20	5.45	945.65	4.14
3	Industrial	1919.00	18.79	1057.42	6.32	2008.76	8.80
4	Public and Semi Public	1344.00	13.16	1257.20	7.52	1406.82	6.17
5	Official	252.00	2.46	279.39	1.67	360.00	1.58
5	Traffic and Transportation	1009.00	9.88	1782.65	10.66	2034.72	8.92
6	Parks and Recreational	1769.00	17.35	3675.87	21.98	5705.74	6.17
7	Others	0.00	0.00	857.95	5.13	1773.66	7.77
	Total					22815.76	100

2.13 Residential Landuse Analysis

2.13.1 Master Plan 2021

According to the Bareilly Master Plan 2001 recommendations, residential area of 2884 hectares was proposed, with 1105 hectares under low density, 1193 hectares under medium density, and 386 hectares under high density. A total of 3390 hectares of land were suggested for residential use in the master plan, with 728 hectares of urban built-up area included as well.

Illegal structures in diverse land uses have occurred in violation of the Bareilly Master Plan 2001 proposals. Residential construction has taken place on land intended for universities and research institutes. Residential development transpired in the designated green belt between Pilibhit bypass and Pilibhit road, on agricultural land near Pilibhit bypass near airport and near P.A.S on Shahjahanpur road. Residential colonies have also sprawled near Akashvani Kendra on Badaun Road, and near Alakhnath temple and Divisional park on Nainital road near airport border. Many nursing homes have developed in residential land use, due to which parking and set bank have been violated. These are the major areas where landuse deviations can be spotted.

2.13.1.1 Density

In the Bareilly Master Plan 2001, the residential proposal was shown in high density, medium density and low density, but keeping in view the proper development, the residential proposal have been kept the same in Bareilly Master Plan 2021, which means that the residential proposal is not classified as high density, medium density and low density. Residential already built area which is about 728 hectares in which the residential density is reckoned to be 500 persons per hectare, under which 3,53,000 population is accommodated. For the adjustment of the remaining population 10,58,000,



about 6174.15 hectares of land is being proposed whose residential density has been kept at 170 persons per hectare in this way. The Gross Residential Density has been kept around 205 per hectare in the entire planning area.

2.13.2 Master Plan 2031

In the current chariot, as the city's population grows, so does the population density and family size, causing the city's residential situation to deteriorate. According to a general examination of the city, the majority of the old buildings in Bareilly are in a dilapidated state, the roads are small, and the smooth flow of traffic is a major issue. The residential environment here is of poor quality; nevertheless, new residential zones have been created on the outskirts of the city by the Bareilly Development Authority, Housing Development Institute, and other private developers, which include community facilities, open spaces, and parks. The development of a proper transportation system is due to the right width of the roads.

In comparison to newly constructed areas, the old area of the city, also known as the built-up area, has a lower availability of housing, community services, parks, and open spaces. From 2010 to 2017, the Bareilly Development Authority approved the following colonies: Saidpur Hawkins, Kesar Vatika, Mega City, Tulip Gas, Affordable Housing, Harmony, Kanha Apartment, Kings Court, Sukhdevpur, South City, Sai Infra Mega Dream Homes, G.N. City, KT. India, Navjeevan, Aakash Wildtech, Mega Dream Homes Tower-1, Suryodaya, Park Avenue Regalia Garden, Inter National City. The authority's major schemes include Gandhinagar Yojna, Rajendra Nagar, and BDA Sectors 1,3,4,5,6, and 7. The biggest ones are Pilibhit Bypass Yojna, Civil Lines Yojna, and Mahanagar Colony. Aerocity, Neel Gagan Park, Park Avenue City, Ramangaga Nagar, and Royal Villa are notable residential areas, whereas Nandi Heights, Megha Dream Homes, Kamala Mansions, Rudraksh Apartment, and Safaya Apartment are important multi-story projects. By 2020-2021, residential landuse will encompass 3986.51 hectares of land, accounting for 53.71 percent of the developed urban area. Under the proposed residential land use in the Master Plan-2021, an area of 110.76 hectares has been developed under unauthorized landuse.

2.13.3 Zoning Regulations

Permissible Categories of Different Activities / Uses: The various activities/uses under the major land use zones proposed in the master plan will have the following permission categories:

Permissible Use: The activities/uses which will be ancillary to the major land-uses concerned and would normally be allowed.

Conditionally Permissible Uses: Those actions/uses which will be permissible on the basis of work fulfilment in the respective major land-uses with mandatory means and restrictions and are provided in section 6.4 of the Master Plan Document.

Permissible use with special permission of the Competent Authority: The activities/uses which are reckoned permissible during the approval process from the competent authority, based on the type of construction, infrastructure and the environmental impact on the surrounding area, shall be permissible with special conditions. These are listed in section 6.3.3 of the Master Plan Document.

Prohibited use: All activities/uses that are not permissible in the master plan's major land-uses, those listed as prohibited activities; and all such activities that are not ancillary to the main landuse or in the above three categories, or not included in the category's list of permissible actions, will be prohibited.

Floating Use: The proposal intends to improve the master plan's zoning system's flexibility. Certain activities/uses are proposed in response to a city's changing social, physical, and political context, but



are not mentioned in zoning restrictions. For example; Bus/Rail/Air terminal and Whole sale market, etc.

Rainwater harvesting: The existing actual use of natural reservoirs, ponds and lakes, etc. of one acre and above area under any land-use zone proposed in the master plans / zonal development plans of metropolitan areas, for the conservation and recharging of ground water, will stay the same or supplementary thereto. The principal land use of the properties should have been shown differently in the same master plan. After listing all such reservoirs, ponds, lakes, and other bodies of water, it will be necessary to establish appropriate measures for their protection in the master plan / zonal plan layout plan.

Impact Fee: Applications for permission of certain other activities/uses in future plans approved by the Competent Authority in planned developed areas where provision has been made for ancillary activities according to the standards will be received, as per the master plan. The regulations of the Zoning Regulations will apply to such applications. If permission for high use is given in the low land use zone, it will result in an impact on the traffic-transportation infrastructure and environment in the area concerned. The impact fee options were outlined in depth in the master plan.

Exempted Landuse Conversions:

1. For commonly permitted activities/uses in built-up area.
2. Activities to be allowed temporarily (maximum time limit one week) in various major land use zones for public and semi-public facilities.
3. Activities to be developed by government and semi-government agencies in residential land use zones / for uses.
4. There will be no impact fee charged under various policies declared by the state government, such as tourist policy, information technology policy, film policy, and others, for which activities/uses have been approved in specified land-use zones as per government directives. Hotels with a star rating and information technology units / parks with a capacity of up to 5 KVA.

Procedure for Permission:

1. In any of the major land use zones under the development area, before special permission is given for other activities by the competent authority, a committee will examine in each such case and the committee's recommendation will be presented to the authority board.

The said committee will have the following members:

- a. Chief Town and Country Planner, Uttar Pradesh or his representative
 - b. Vice-Chairman of the Development Authority or the officer nominated by him
 - c. A non-official member of the Authority Board nominated by the Chairman Development Authority
2. The applicant shall not be entitled to any action or use under the zoning regulations. permission

Other Requirements:

1. Development/construction on a site proposed for any action or specific use under the master plan's major land use zones will be permitted only if that action or specific use is relevant to the master plan's major land use zones.
2. Existing forest areas or sites associated to public services and utilities, such as parks, playgrounds, and roads, will remain the same, regardless of where in the proposed master plan they are located.



3. If the 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 specified in the zonal development plan or layout plan.
4. All development/construction works in all land use categories must comply with relevant building bye-laws under the proposed zoning regulations.

2.13.4 Core Area

Core area of the city is the old densely populated area which mainly comprises of Sahukara, Kohadapir, Gulabnagar, Alamgirganj, Shahbad, Qutubkhana, Shayamganj, Subhash Nagar and the pre-built area of Madhinath etc. Due to cluster housing, areas adjacent to the Market Centre and historic area have intensive development. This is due to the accessibility of all services, cultural attractions, and employment opportunities. Due to a lack of organised growth, this area is under development pressure.

Commercial operations have been established in the Bareilly Master Plan 2001 region by demolishing existing residential structures along the roads and in the accessible open areas, in which the traffic

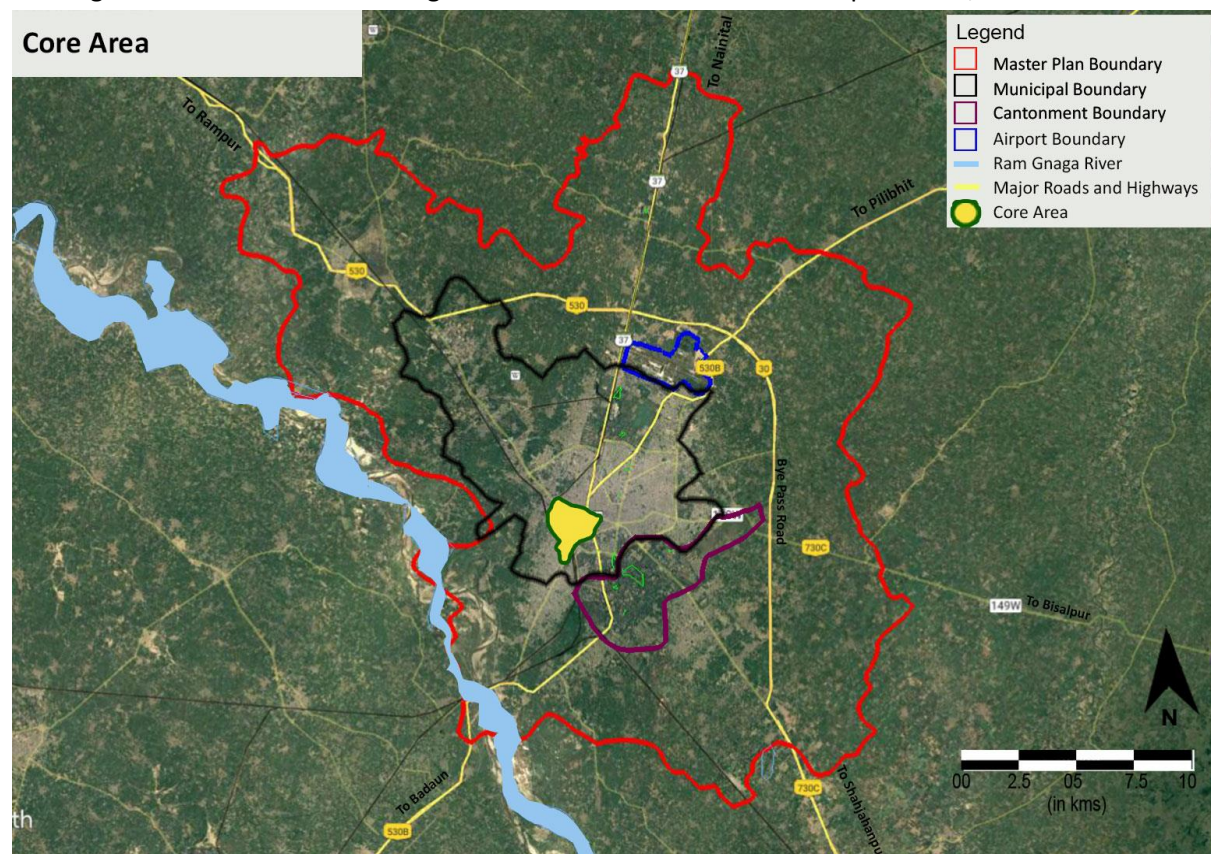


Figure 21 Core Area of Bareilly City

system has been badly affected due to a lack of adequate parking and setbacks, among other things. Determination/development in the built-up use zone under the Zone Regulation of Bareilly Master Plan is permissible on the basis of predominant land use around the site, which has resulted in more commercial development in the core area.



2.13.5 Housing Typology

Housing typology in Bareilly city can be categorised as low density low rise type of housing except for the core area where housing typology is high density low rise. Housing typology on the different major roads or highways is classified in the study.

Table 0.11: Housing Typology

Cordon Point Name	Density	Structure	Gated / Non-Gated
Pilibhit Road	Medium	G+1, Multistory	Mostly Gated
Bisalpur Road	Medium	G+1, Multistory	Mostly Gated
Shahjahanpur Road	High near Core and Low near Bye Pass	G+1	Very Few Gated Communities
Badaun Road	Low Density	G+1, G+2	Very Few Gated Communities
Rampur Road	Low	G+1	Mostly Gated
Nainital Road	Low	G+1	Mostly Gated

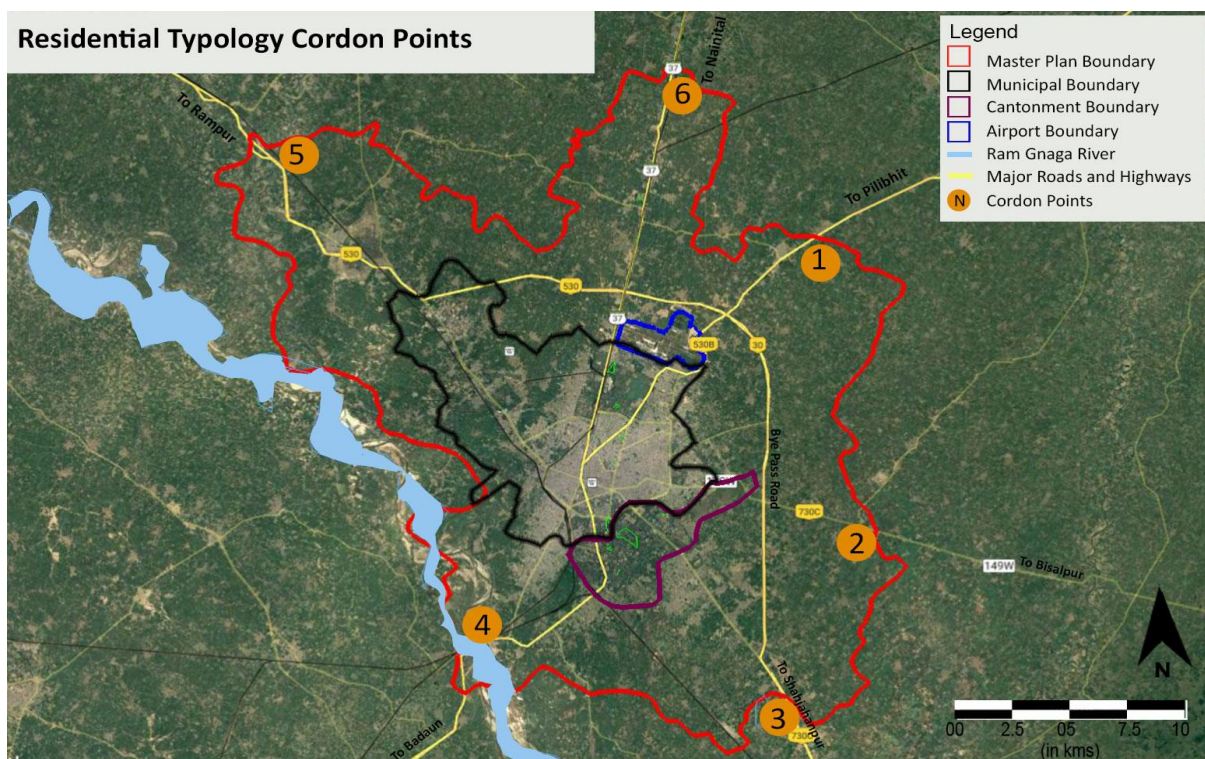


Figure 22 24 Housing Typology at Pilibhit Road: Cordon 1



Multistory Apartment: IVRI
Road



Gated Community G+1
Structure: Kurmanchal Nagar



Gated Community G+1
Structure: Jamuna Vihar



Figure 23 Housing Typology at
Bisalpur Road: Cordon 2

Multistory Apartment: Shish
Royal Towers



G+1 Structure: Green Park



Gated Community: Mega
Mansions



G+1 Structure: Padarathpur

G+1 Structure: Near Eidgah

Gated Community: International City

Figure 24 Housing Typology at Badaun Road: Cordon 4



Figure 25 Housing Typology at Shahjahanpur/Lucknow Road: Cordon 3



G+1 Structure: Kandharpur

G+1 Structure: Kandharpur

Gated Community G+2 Structure:
Doordarshan Residential Colony



Figure 26 Housing Typology at Rampur/Delhi Road: Cordon 5



New Residential Society, G+1
Structure: Central Park

G+1 Structure: Near Bye Pass

New Residential Society, G+1
Structure: Yagya Estate

Figure 27 Housing Typology at Nanital Road: Cordon 6

2.13.6 Role of various government agencies

1) Bareilly Development Authority

The primary objectives of the Authority are:

- Preparation and Implementation of Master Plan for Planned Urban Development
- Development and Control as per Master Plan
- Acquisition of Land and Management for Urban and Housing Development
- Construction and Development of Housings and Housing Schemes
- Provision of Physical and Social Infrastructure

2) Bareilly Municipal Corporation

The municipal corporation provide basic services such as water supply, waste collection, and sanitation to new residential developments. Municipal Corporation does not execute any housing projects.

3) District Urban Development Agency

Under the auspices of the State Urban Development Body (SUDA), the District Urban Development Agency (DUDA) serves as a nodal agency for the implementation and monitoring of different centrally sponsored programmes, such as Urban Basic Services for the Poor.

4) Uttar Pradesh Housing and Development Board

The state government authority intends to plan and create state-of-the-art townships with contemporary amenities, community services, hospitals, educational institutes, and neighbourhood



parks and playgrounds at an accessible price for all sections of society. Furthermore, it envisions maintaining a land bank equal to the land created the previous year and facilitating public-private partnerships (PPP) to meet the society's housing demands on time.

2.13.7 Current Housing Need

According to the 2011 census, the city's total households (HHs) are 1,66,447, with a population of 8,98,167. The average household size is 5.3. In 2001, there were 1,19,767 HHs, with a population of 7,20,315 people and a household size of 6. The reduction in household size is exactly proportional to the growth in the number of HHs.

Housing, which is one of the most fundamental services for the average person, has been given significant importance in the Rajeev Aawas Yojna and Pradhanmantri Awas Yojna-Urban plan development process. According to the population growth rate over the last three decades, there was a growth rate of 31% from 1981 to 1991, then 22% from 1991 to 2001, and finally 19% from 2001 to 2006. (2001-11). Housing was not upgraded to keep up with population expansion, resulting in a housing shortage.

In 2001, the average household size was 6, but by 2011 it had shrunk to 5. According to the Master Plan 2021, there will be a housing shortage in 2011 since the household size must be 5 instead of 5.3. As a result, the predicted shortage in 2011 is 13,186, based on a household size of 5 and a dilapidation rate of 2%. The same procedure is used to calculate additional household units for the years 2021, 2031, 2041 and horizon year 2051 based on population forecasts, with the results listed in Table below.

Table 0.12: Housing Need for Bareilly

Year	2021	2031	2041	2051
Population	11,01,582	13,43,246	16,39,412	20,03,929
Considered HH Size	5	5	5	5
Households (Proj. Pop / 5)	220316	268649	327882	400786
Additional HH's required (Current HH's – 2011 HH's)	53869	102202	161435	234339
Total Additional HH 's units required including shortage (2011)	67055	115388	174621	247525

Source: Consultant's Analysis as per Census 2011 Data

2.13.8 Current Housing Schemes

To cater for the existing housing demand in Bareilly, various housing schemes were implemented or under process by the central government, state government and local authorities. Some major schemes are discussed below:

1. Pradhan Mantri Aawas Yojna (Housing for All):

On June 25, 2015, the Pradhan Mantri Awas Yojana – Urban (PMAY-U) was launched as a flagship mission of the Indian government, which is being implemented by the Ministry of Housing and Urban Affairs (MoHUA). By 2022, the Mission will have provided a pucca house to all eligible urban households in the EWS/LIG and MIG categories, including slum dwellers, addressing the urban housing shortage. It is a Centrally Sponsored Scheme except for Credit Linked Subsidy (CLS) and implemented in three phases. Based on PMAY guidelines, the four verticals are as follows:

- **In-situ Slum Redevelopment using land as Resource:**



Slums must be selected irrespective of the ownership and financially viable slum redevelopment projects must be implemented using FAR, FSI and TDR as tools.

- **Credit Linked Subsidy:**

LIG and EWS will receive a 6.5 percent interest subsidy for a period of 15 years or for the duration of the loan, whichever is shorter. The interest subsidy's Net Present Value (NPV) will be calculated using a 9% discount rate.

- **Affordable Housing Partnership:**

It is a supply-side intervention that provides central assistance to EWS houses being built with different partnerships by States/UTs/Cities at the rate of Rs.1.5 Lakh per EWS house.

- **Beneficiary-led individual house construction or enhancement**

It targets individuals eligible for EWS to either construct new houses or enhance existing houses on their own by availing central assistance of Rs.1.5 lakhs.

2. Asra Yojna: Residential Housing scheme of Uttar Pradesh Government launched in 2013 with an aim to provide low cost affordable housing to minorities and slum dwellers.

3. Ramganga Nagar Awasiya Yojna: Ramganga Nagar Awasiya Yojana is an ambitious project of the Bareilly Development Authority (BDA). It began in 2004 where a total of 12 sectors were developed with a plot size ranging between 72.50 to 1000 square metres.

4. Asra Yojna: Residential Housing scheme of Uttar Pradesh Government launched in 2013 with an aim to provide low cost affordable housing to minorities and slum dwellers.

2.13.9 Issues and Constraints

1. There have been deviations in the Landuse Plan.
2. Residential development in the form of unauthorised colonies in non-conforming zones.
3. There has been an increase in slum as the city continues to attract new migrants, many of whom end up in informal communities.
4. In the inner city because of the increasing population pressure, natural growth has occurred, as well as the lure of low rentals and significant numbers of migrant families.

2.14 Industrial Landuse analysis

2.14.1 Main Industrial products

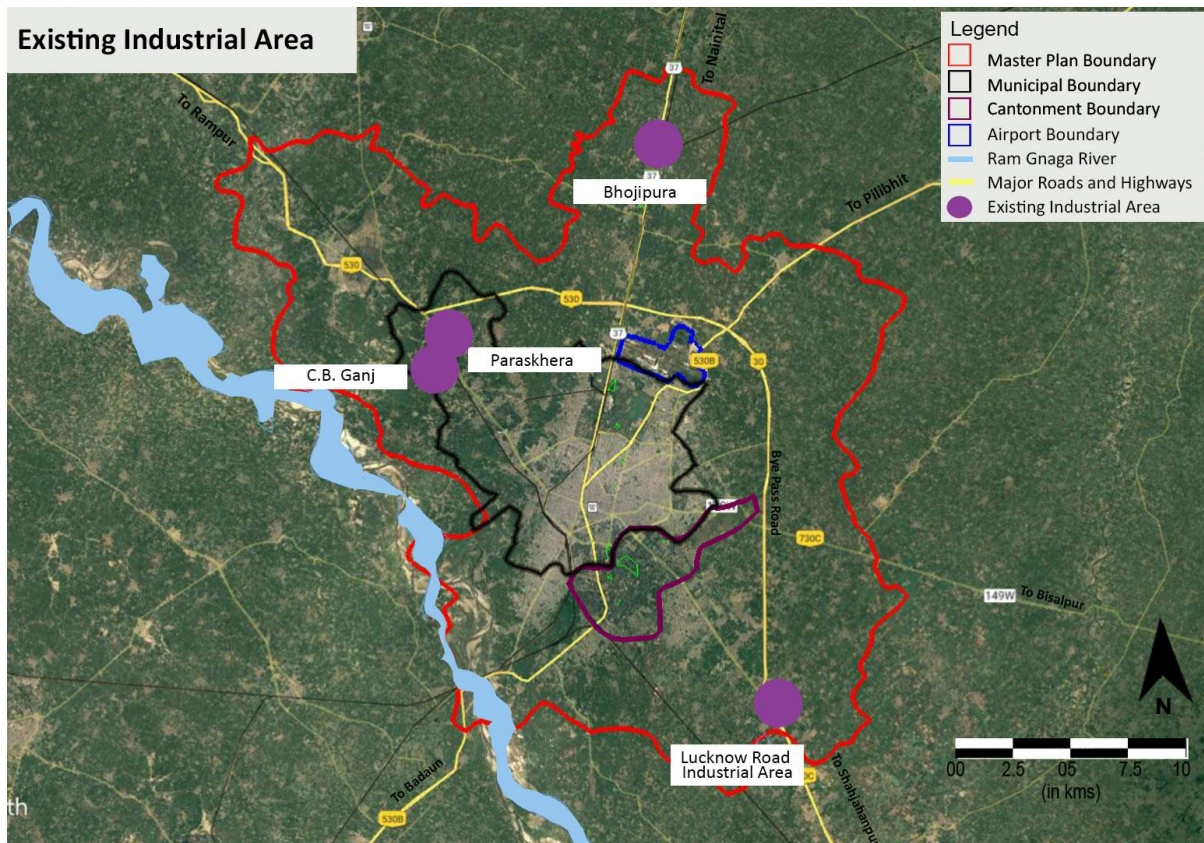
1. Agro Based Products
2. Chemicals
3. Cotton Textile (Zari Zardozi)
4. Rice
5. Mentha
6. Manjha
7. Surma

2.14.2 Main Industrial Zones

S. No.	Name of Industrial Area	Land acquired (In Acre)	Land developed (In Acre)	No. of Plots	No. of Vacant Plots	No. of Units in Production
1	Paraskhera	367.00	367.00	286	00	286
2	CB Ganj	16.9	16.9	73	00	37
3	Bhojpura	38.3	38.3	89	00	28



Figure 28: Existing Industrial Area



Paraskhera Industrial Area

Paraskhera Industrial area which is a major industrial area in Bareilly was established by Uttar Pradesh State Industrial Development Authority (UPSIDA) in 1980. The industrial area covers an area of 367.00 acres with 286 plots. No. of Industrial plots which are occupied and are producing goods or products are 286. Major Industries such as Coco Cola, Bharat Petroleum LPG Bottling Plant, Vadilal Ice Creams have their large scale industries in this area only.



CB Ganj Industrial Area

Starting in 1920's, a number of industries were established here, including the Indian Turpentine & Rosin Company (established in 1926) and the Western Indian Match Company (WIMCO; established in 1937), resulting in C.B. Ganj being a key industrial centre of the city. Following India's independence in 1947, the UP State Industrial Development Corporation (UPSIDC) constructed an industrial estate in CB Ganj in 1958. The Indian Turpentine & Rosin Facility, on the other hand, stopped producing in April 1998, while the WIMCO factory, which used to provide matches across the country, closed in 2014. Area covered by CB Ganj Industrial area is 16.9 Acres with 37 units in production as per MSME Report. BL Agro is one of the major agro based industry in this area.



Bhojpura Industrial Area

Bahojpura Industrial Area is one of the important industrial area in Bareilly with 89 plots flourishing in an area of 38.3 acres. This area have different industrial units which produces a wide range of products such as Agro based spice industries, stone cutting and furnishing industries.

Lucknow Road Industrial Area

This is an industrial area which is not covered under any government scheme but is thriving on its own because of the private players. This area have industries which produce chemicals, construction bricks and agro based products.

2.14.3 Industrial Typology

Industries in the Bareilly have a mix typology. Large scale industries are major producer of agro based products such as beverages, oil, pickles, spices etc. Other than that, there are industries which produce chemicals and plastic products. In small scale or household industry major products are Cotton products with Zar Zardozi, Manjha, etc. Wood products specially Cane and Bamboo was once a major industry in Bareilly, but now is diminishing because of many constraints and issues.

2.14.4 Relevant Industrial Development Schemes

One District One Product (ODOP)

The Ministry of Food Processing Industries launched the 'One District, One Product' (ODOP) programme to assist districts in reaching their full potential, fostering economic and socio-cultural progress, and creating employment possibilities.

The Government of India defined various objectives of the One District One Product Programme of Uttar Pradesh that are given below:

- Preservation and development of local crafts/skills and promotion of the art.
- Increase in the incomes and local employment (resulting in a 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 the national and international level after successful implementation at the State level.

From Bareilly Zari-Zardozi and Bamboo Craft was selected under this scheme.

Prime Minister's Employment Generation Programme (PMGEP)

The Indian government has launched the Prime Minister's Employment Generation Programme (PMEGP), a new credit-linked subsidy programme aimed at creating jobs through the formation of micro firms in both rural and urban areas.

The different objectives to develop the industrial sector of India are as follows:

- To generate employment opportunities in rural as well as urban areas of the country through setting up of new self-employment ventures/projects/micro enterprises
- To bring together widely dispersed traditional artisans/ rural and urban unemployed youth and give them self-employment opportunities to the extent possible, at their place



- To provide continuous and sustainable employment to a large segment of traditional and prospective artisans and rural and urban unemployed youth in the country, to help arrest migration of rural youth to urban areas
- To increase the wage-earning capacity of artisans and contribute to an increase in the growth rate of rural and urban employment

Mukhyamantri Yuva Swarojgar Yojana, U.P

This scheme focuses on self-employment to the youth, by providing a loan of amount up to 25 lakhs per case. Young people native of the state will be able to take loans at low interest and start their own employment.

District Skill Development Plan for Bareilly

A plan for skill gap assessment & action plan for Bareilly was prepared by Industrial training institute in partnership with Uttar Pradesh Government which mapped existing infrastructure and analysed aggregate demand in employment sector.

2.14.5 Proposed Industrial Development Schemes/Projects

Smart City Incubation Centre-

Under smart city, incubation centre project is proposed to promote entrepreneurship in colleges and among the city's young is planned, with the goal of triggering and enabling the successful creation of sustainable start-ups in every field of business, as well as reducing outbound migration.

2.14.6 Enabling Industrial Infrastructure

1. Raw Material Availability

Industries in Bareilly produce wide range of goods. For Agro based products some industries procure raw material from the agriculture produce of surrounding areas and some large scale industries such as BL agro etc. import it from various parts of the country. Bamboo Industry and Cotton industry get raw material from the surrounding areas as well as import it from the various parts of the state as well as neighbouring states. Similarly, different industries of Bareilly get raw material from different sources as per the need and availability.

2. Waste Disposal

There are 16 Water Polluting Units in the catchment area of Bareilly out of 16 units, 02 Distillery units based upon Zero Liquid Discharge into any surface water. Rest of 14 units of Bareilly are discharging treated effluent in 2 drains, out of which the Sugar, Waste Paper based Paper units mostly recycle entire treated effluent or use it for irrigation but still there is possibility of discharge to overflow. 3 industries discharge 0.75 MLD treated industrial effluent into Dveraniya Drain, 3 industrial unit discharge 1.6 MLD into Nakatiya Drain. Both these drains carry industrial waste along with domestic waste and are untapped drains with no barmesh installed. As per the Desk Inventory of UPPCB, there are total 20 units producing hazardous waste generating units which produce 767.95 tons/annum out of which 20.9 tons is incinerable hazardous waste, 657.86 tons is land fillable waste and 90.00 tons is recyclable waste. As per the UPPCB report, there is no gap in compliance of the norms and standards in industries of Bareilly city.



2.14.7 Logistics and Transportation

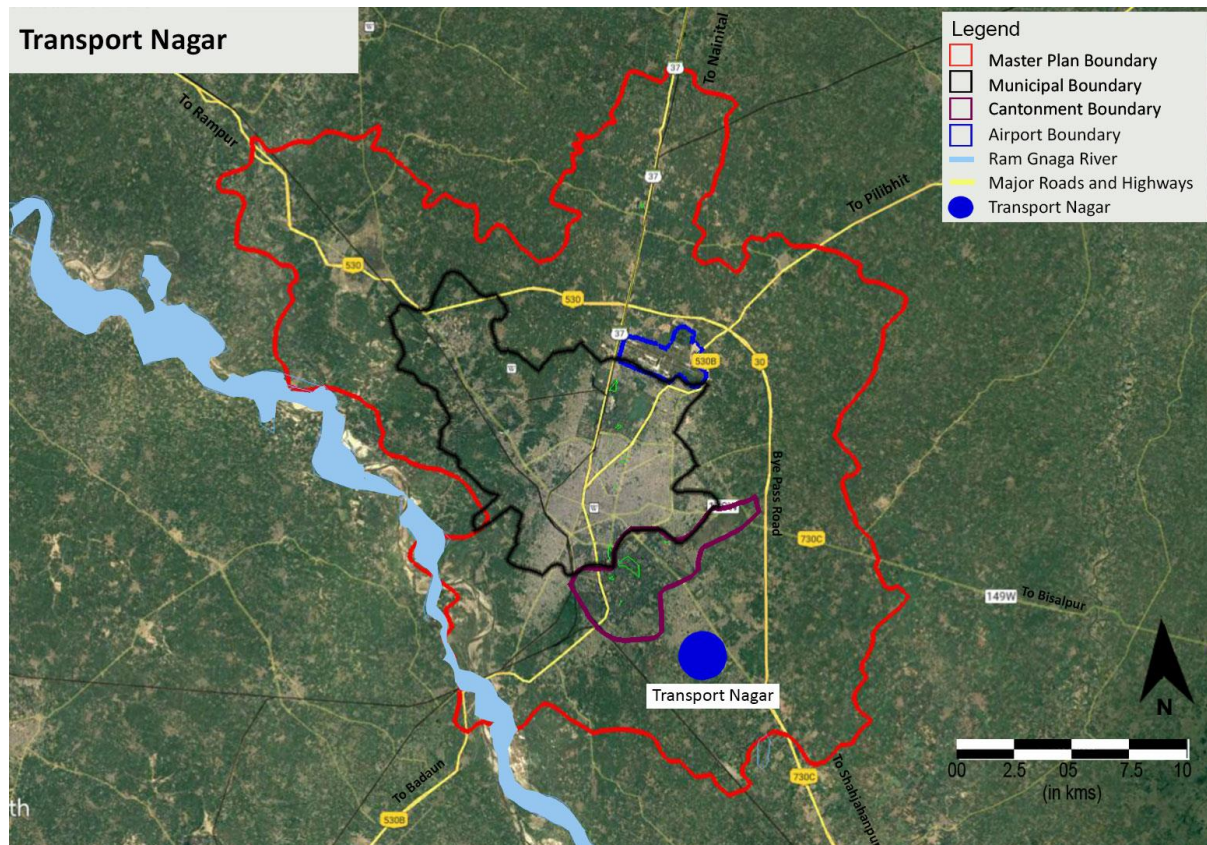


Figure 29 Transport Nagar, Bareilly

As Bareilly is a producer of Industrial products of various segment, it requires supporting infrastructure to transfer goods and services. Transport Nagar in Bareilly is located on the Lucknow Highway and is a dedicated facility for Transport services.

3. Common Facility Centres

Under the ODOP scheme, a CFC (Common Facility Centre) for readymade garment is been set up with a total budget of 690.60 lakhs. As per the policy CFC should have following facilities:

- Testing Lab
- Design Development and Training Center
- Technology Research and Development Center
- Product Demonstration cum Sale Center
- Raw-Material Banks/Common Resources Center
- Common Production/Processing Center
- Common Logistics Center
- Information collection, analysis and broadcasting Center
- Packaging, Labelling and Barcoding Facilities
- Nodal organization for the development of the selected products for the concerned district to provide services and guidance to completter the missing links of the Value chain

The project is been Implemented by Uttar Pradesh Trade Promotion Authority (UPTPA).



4. Incubation Centers

Rohilkhand Incubation Foundation: Mahatma Jyotiba Phule, Rohilkhand University, Bareilly, founded the Rohilkhand Incubation Foundation (RIF), a Section 8 company. RIF is a non-profit organisation that promotes innovation, incubation, and entrepreneurship. Angel Investors, Start-Ups, Entrepreneurs, Incubatees, Innovators, Creative Minds, Investors, Corporate Partners, Academic Associations, Professional Resources, Mentors, Experts, Consultants, and Advisors are all part of a nationwide network. RIF strives to create and distribute resources like as space and infrastructure, as well as access to business support services and training programmes to help entrepreneurs, incubates, and start-ups improve their abilities. RIF strives to bring together, synergize, and leverage the numerous strands of excellence that drive innovation and entrepreneurship in a dynamic ecosystem that includes research, innovation, industry interactions, and incubation across industries. It is also registered with Government of Uttar Pradesh under Start in UP scheme.

Icon Creatos Incubator Center:

It is the second registered incubation center in Start in UP Scheme and is recognised as incubator under Department of IT & Electronics, GoUP.

CARI - Agribusiness Incubator:

CARI-Agribusiness Incubator and Institute Technology Management Unit are established by Central Avian Research Institute to serve farmers, stockholders and anyone interested in poultry and allied ventures aimed at promotion of poultry & allied businesses through commercialization of technologies and skill development of entrepreneurs through hands-on training.

5. Other Infrastructure

Paraskhera Industrial area which is under UPSIDA has good internal road connectivity but lacks connectivity to the transport nagar because of poor road infrastructure and non-functional railway goods line. CB Ganj Area and Lucknow road industrial area which is been setup privately lacks enabling infrastructure such as roads, drainage etc.

There is also a need to strengthen the supply links for these industries so as to increase the efficiency and boost economy generation.

2.14.8 Stakeholder Engagement and Analysis

The following are the important stakeholders who play a significant role in the growth of industry in Bareilly:

1) Uttar Pradesh State Industrial Development Authority (UPSIDA):

The Uttar Pradesh State Industrial Development Authority (UPSIDA), originally the Uttar Pradesh State Industrial Development Company, is a government-owned corporation that supports industry and builds industrial infrastructure in Uttar Pradesh. Roads, drainage, internal power lines, street lighting, and other infrastructural facilities are available in its industrial zones. UPSIDC's mission is to enable entrepreneurs establishing enterprises and factories in Uttar Pradesh with modern infrastructure facilities and services.

2) IIA (Indian Industries Association):

The Indian Industries Association (IIA) is the apex representing body for micro, small, and medium-sized businesses in India (MSME). IIAs motto is to create an enabling environment for the development of MSMEs in today's ever-changing and extremely competitive industrial scenario. All major industries in Bareilly are member of Indian Industries Association.



3) District Industries Centre (DIC), Bareilly:

The District Industries Centre is a key government department that oversees industrial activity in any district. It covers Zari Zardozi, Cane, Bamboo and other household clusters. It is also liable to implement central and state government schemes in the city.

As per the stakeholders there is a need for the following interventions.

1. Provide supporting infrastructure for the industrial area.
2. Lucknow Road industrial area needs to be regularised and provided with robust infrastructure.
3. Logistics and Warehousing facilities to be provided.
4. As the transport nagar (which is the dedicated facility for transport of goods) lies opposite to the major industrial area so there is a need for new dedicated transport area near to the already existing industrial areas.

2.14.9 Potential Industrial Products

1. Food Packaging Industry
2. Agro based products
3. Readymade Garments
4. Cane and Bamboo Products
5. Mint (Mantha)

2.14.10 Issues and Constraints

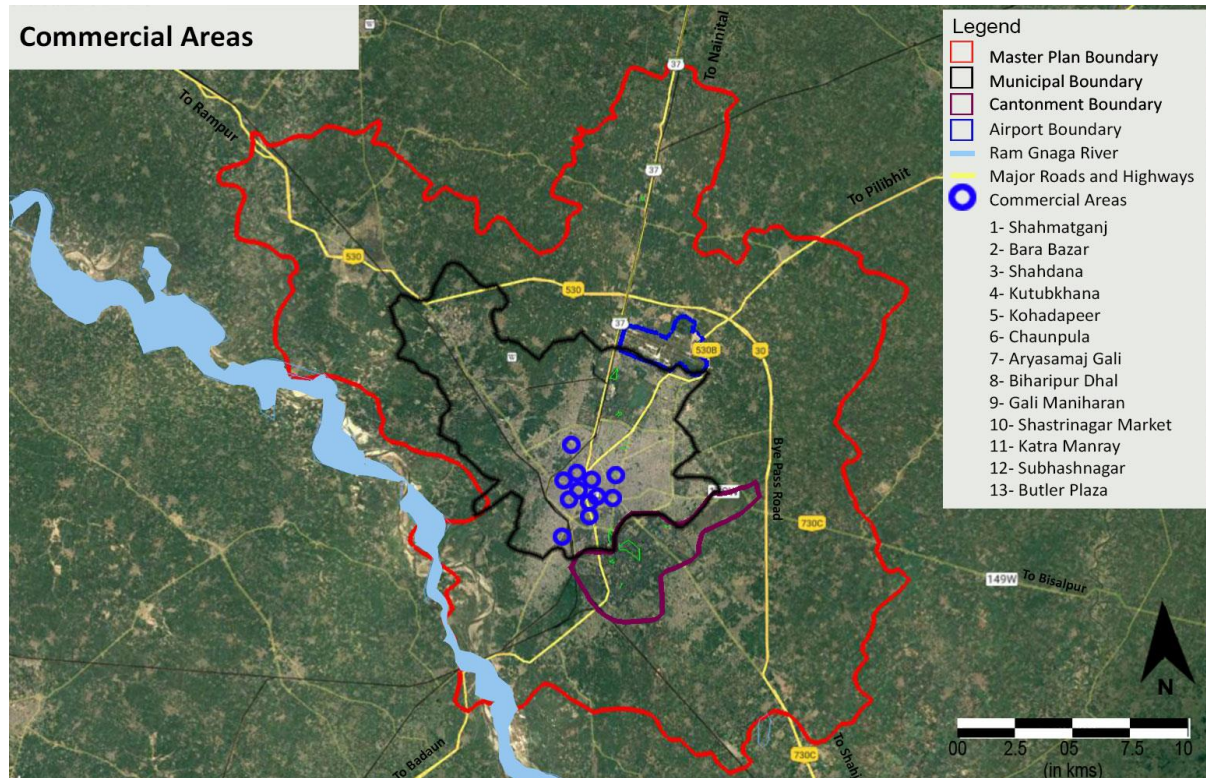
- There is a need for setting up of industrial area for economy generation.
- There is a need to strengthen enabling infrastructure in the industrial area.
- Transport Nagar situated at the opposite direction of the Paraskhera and Industrial area poses a challenge for transportation of goods.
- There is a demand from the stakeholders to connect the industrial areas with the rail transport system.
- For efficient production industries require uninterrupted power supply at lower rate.
- Industrial areas especially Lucknow road industrial area requires better road connectivity.
- Various central/state departments run similar activities/schemes with varied subsidies/limits, which need to be integrated.



2.15 Commercial Zone analysis

2.15.1 Main Commercial Areas

As per the existing landuse, 245.75 hectares of land comes under commercial land use in the year 2020, which is 3.31 percent of the total urbanized developed land. Commercial Activities are



increasing in old city area as well as in newly developed residential areas. Old commercial areas

Figure 30 Commercial Areas in Bareilly

include:

1. Shayamganj Square
2. Fort Crossing to Bada Bazar Square
3. Bade Bazar Square to Shahdana Square
4. Bade Bazar Square to Novelty Cinema Square
5. Bade Bazar Square to Kohadapir
6. Gali Navadan
7. Qutubkhana to Chaupula Square
8. Aryasamaj Gali
9. Biharipur Dhal from Jasauli
10. Gali Maniharan and Shastri Market
11. Shayamganj Square to Shahdana Square
12. Katra Manrai Gali, Sailani Bazar
13. Navelty Crossing to Bareilly College Road
14. Subhashnagar
15. Shayamganj to Roadways Workshop
16. Mechanier Road
17. Kohadapir to Kudeshia Gate



18. Kohadapir to Rajendra Nagar Railway, etc.



Figure 31 Existing Situation of Commercial Areas in Bareilly

2.15.2 Commercial Zone Typology

Retail Markets: The main production and business of Bareilly city is the trade of cane, bamboo furniture, cotton, grain and jaggery. The main market is located near Shayamganj intersection. Bada Bazar as the name suggests is a huge market which caters to the demand of middle income group people. In this market, Tailor Chowk is a very famous market which supplies all items of daily needs. Municipal Corporation's Shastri Bazar is located in the middle of the city and is the main center of trade, which provide garments, crockery and household groceries. Qutubkhana market being a prominent market which caters to all segment with garments, cosmetics, hardware etc. faces severe traffic congestion. This market is also a center of attraction for tourists. Rajendra Market, Kohadapir Market, Civil Lines Market and other Urban Haats are also the main centers of commercial activities.

Fruit Market: There is also a fruit market in Sindhu Nagar near the fruit market and Bareilly college, which is known as Bareilly college vegetable market. Rahman & Punjabi Market is located on Gangapur Road while Sirhind Market is located on Pilibhit Road.

Wholesale Markets: There is one whole sale market in Bareilly which has an area of 4 hectares and is located on Pilibhit road.

Shopping Mall and Complexes: Phoenix United Mall is a well known multi storey mall located in Mahanagar Colony. Sky Bareilly, Novelty Plaza, Bansi Tower etc. are the major shopping complexes in Bareilly city.

2.15.3 Master Plan 2021-2031 Proposals

Master Plan 2021

- a) **General Business Center:** For commercial activities, common commercial centers have been proposed at 04 places, for which a provision of 83.72 hectares of land has been made.
- b) **Wholesale Business Center:** In addition to the above mentioned places in the master plan, a proposal has also been made for wholesale business and mandis. In this regard a provision of 62.50 Hectares is made in the Master Plan.
- c) **Motor Market:** An area of 62.30 hectares has been proposed in the Master Plan-2021 for the sale of motor vehicle workshop and parts, which is Kathgodam Marg, Pilimet Marg, Proposed on Shahjahanpur Marg and Rampur Marg.
- d) **Building Material Site / (Suburban Centre):** Due to the storage of building materials located at different places along various roads, there is a lot of inconvenience to the traffic in the urban area and at some places there is a lot of traffic congestion. Keeping this in view, a site of about 16.64 hectares is proposed for building construction material on Kathgodam road. The land has been



offered. This will provide convenience in the traffic of the city and building materials will be available at one place only.

Draft Master Plan 2031

a) Jhumka Commercial Center

2.15.4 Stakeholder Engagement and Analysis

The following are the important stakeholders who play a significant role in the growth of commercial areas in Bareilly.

Udhyog Vyapar Mandal: It is an elected body which takes care of the demands and needs of the commercial traders and represent their viewpoints in meetings to various bodies.

As per the Stakeholders there are suggestions which are listed below:

1. There is a suggestion to propose commercial landuse along the major arterial roads of the city.
2. Road and Transport network of the core city should be addressed.

2.15.5 Issues and Constraints

1. There has been unplanned development in the whole city which have attracted development of unauthorized business activities and commercial activities along the main roads.
2. Traffic congestion problem due to lack of parking and setback.

2.16 Social Infrastructure

2.16.1 Education

Educational infrastructure includes school education, college education and university level educational institutions. Under school education, there are 422 primary, 175 secondary and 82 higher secondary / inter college level schools in Bareilly Development Area. There are 18 colleges imparting education in Arts, Science and Commerce at the undergraduate level. There are 11 Engineering Colleges, 3 Polytechnic Colleges and 3 Colleges Management Colleges, 3 Medical Colleges in Bareilly city that are imparting professional education. In Bareilly, there are 18 Vocational Training / I.T.I. Industrial Training Institutes, 12 centres providing informal education and 1 school providing education to differently abled persons.

Table 0.13: Status of Educational Institute

Educational Institute	Number
Primary School	422
Secondary Institute	175
Higher Secondary / Intermediate College	82
Degree College / Post Graduate College of Arts	18
Engineering College	11
Medical College	3
Management Institutes/ Colleges	9
Polytechnic Institutes	3
I.T.I./ Vocational Training	18
Informal Educational Institute	12
School for Differently abled	1

Bareilly city houses 4 Universities respectively Mahatma Jyotirao Phule, Rohil Khand University, Invertis University on Pilibhit Bypass Road. Indian Animal Science Research Institute which is a deemed



university) is located in Izzat Nagar at 12 kms on Bareilly-Lucknow (National Highway-24). Bareilly International University is located in Chandrapur, Bichpuri.

2.16.2 Health

Along with many hospitals and clinics in Bareilly Nagar, the Health Examination Welfare Department of the Government of Uttar Pradesh is providing important contribution in health services. Bareilly has 7 general hospitals, p multi-specialty hospitals, 60 dispensaries/health centres, 29 family health and wellness centres, 15 maternity and child welfare centres, 13 veterinary hospitals, 29 charitable hospitals/nursing homes, 1 mobile health centre, 430 medicine shops.

Table 14: Status of Healthacre Facilities

Facility	Number
General Hospitals	7
Multi-Specialty Hospitals	9
Dispensary / Health Center	60
Family Health / Wellness Center	29
Maternity and Child Welfare Center	15
Veterinary Hospital	13
Charitable Hospital / Nursing Home	29
Mobile Health Clinic	1
Medical Shop	430



Figure 32 Healthcare Facilities in Bareilly

2.16.3 Other

Police Stations: Bareilly city have 29 police stations and outposts along with DIG and A.D.G. of Uttar Pradesh Government office in the city.

Fire Stations: There is only 1 fire station under fire service in Bareilly city, which is located in Civil Lines.

Post Office: There are total 25 post offices in the planning area, Civil Lines post being the main post office in the city

2.16.4 Master Plan 2021-2031 Proposals

Master Plan 2021

Medicity: Medicity center has been proposed in the middle area from Pilibhit bypass road to Kathgodam road, under which about 88.40 hectares of land has been proposed



2.16.5 Stakeholder Engagement and Analysis

The following are the important stakeholders who play a significant role in the growth of commercial areas in Bareilly.

Indian Medical Association: The Indian Medical Association (IMA) was founded in 1928 as a nationwide volunteer organisation of physicians in India. It has its office in Bareilly which is actively working for the fraternity.

As per the stakeholders, these are the following suggestions:

1. Nursing homes in residential areas should be shut down as these facilities don't abide by the law or should be regularised with charges of impact fees.
2. Possibility of healthcare facilities related to alternative medicine can be looked upon.
3. Medicity in Bareilly is a suggestion so as to cater the regional healthcare needs and to provide tertiary level healthcare.

2.16.6 Issues and Constraints

According to the Masterplan 2031, approximately 1257.20 Ha of land was demarcated for the use of public and semi-public requirements but around 531.1 Ha (7.16%) of land has been developed as per master plan 2021.



Chapter 3. TRANSPORT & MOBILITY INFRASTRUCTURE

3.1 Bareilly – A counter Magnet City

Bareilly is the fast-growing city and commercial centre in the northern part of Uttar Pradesh. It is the present headquarter of Bareilly District and gateway to enter Uttarakhand State. The city is well known as Bans-Bareilly, due to bamboo trade & markets. Bareilly acts as counter-magnet city between New Delhi and Lucknow.

Bareilly is surrounded by districts sharing boarder are Pilibhit, Shahjahanpur and Rampur on the western side, Udham Singh Nagar District (Uttarakhand state) in North and Badaun district in South. The Bareilly city is about 252 km distance from Lucknow, 250 km from New Delhi with total population of 898,167 in 2011.

The Bareilly city plays an important role in contribution towards overall economic development of the northern region of UP. There are several industries located in Bareilly, which includes National Brewery Company, Ice Factory, Flour mill, Wood products, Turpentine & Rosin, Sugar Factory and educational Institutions. Bareilly city is well connected by road/rail/air to major cities like New Delhi, Lucknow, Agra and other cities.

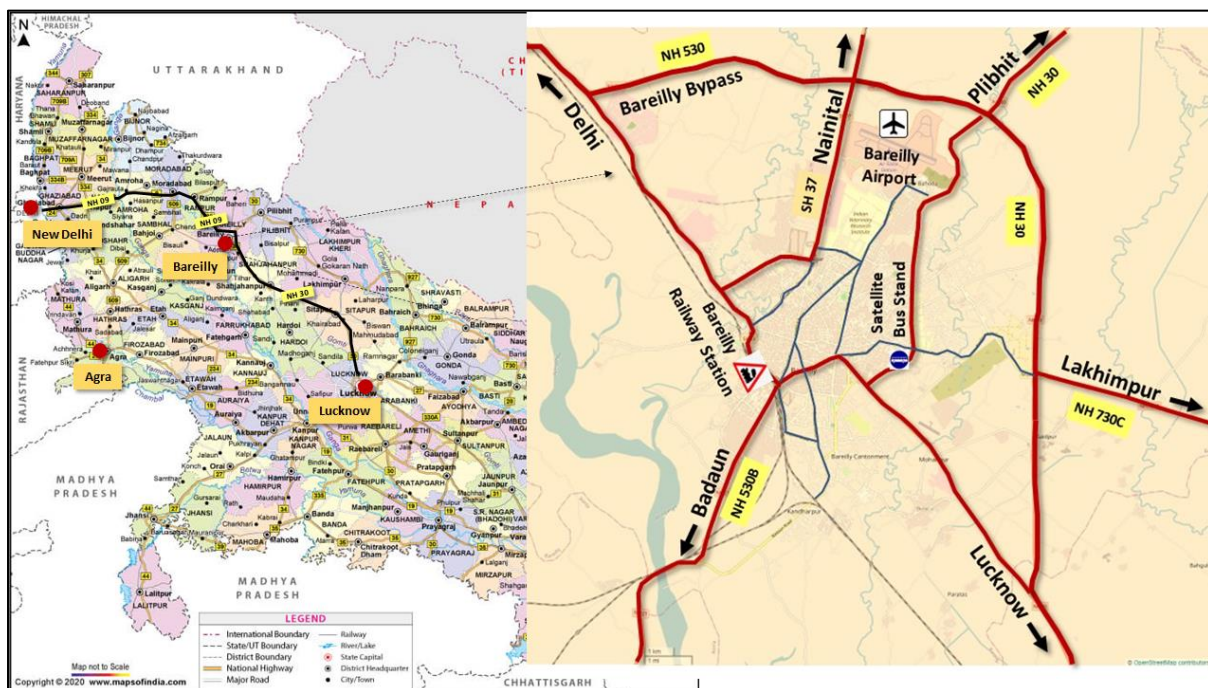


Figure 33 Location & Connectivity map of Bareilly

3.2 Proposed Developments around Bareilly city

3.2.1 Ganga Expressway

The proposed Ganga Expressway is a greenfield project with 6 lane connecting western part of the UP with eastern part with total length of 594 km. The expressway will cover Meerut, Bulandshahr, Hapur, Amroha, Sambhal, Badaun, Shahjahanpur, Hardoi, Unnao, Rae Bareilly, Pratapgarh and Prayagraj. The Ganga Expressway will link-up with other expressways in the state like Lucknow-Agra Expressway, Purvanchal Expressway, Ballia Link Expressway.



The distance between Bareilly to Badaun is only 50.0 km and as per news article the connectivity to Bareilly city is 36 km (Approx.) from expressway.

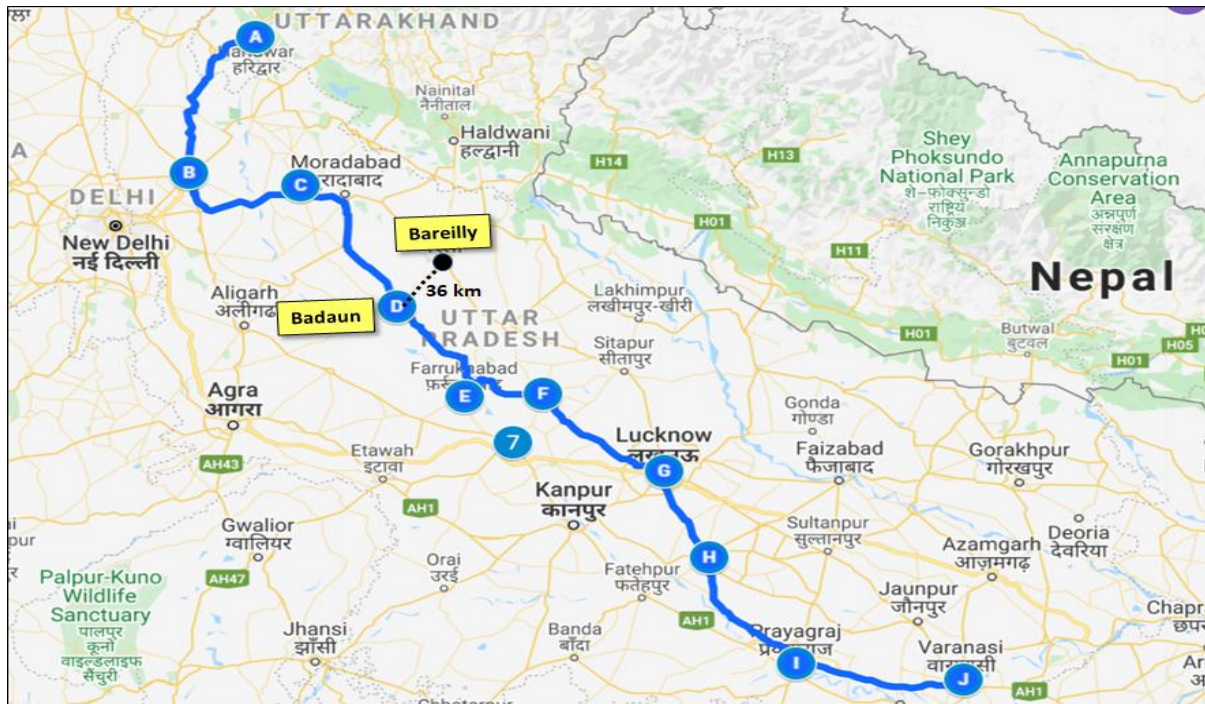


Figure 34 Ganga Expressway Alignment

3.2.2 Rail Land Development Authority (RLDA)

The Indian railways has a proposal for residential development of 62780 sqm of land at Chaupla Railway colony, Izzat Nagar. The land area is divided into two parts, 1966 sqm to be redevelopment of railway assets and 62780 sqm is to be developed for residential area. The land parcel is a residential cum commercial neighbourhood located beside the police line and Ayub khan market.

3.2.3 Ramganga Housing Scheme

Bareilly Development Authority has proposed expansion of Ramganga Nagar Housing scheme on 745 hectares of land. BDA has acquire the land of 12 villages in 2004. BDA has given two option to the farmers, first according to the guidelines of the government, they can take four time the circle rate of the land. Secondly, und the land pooling scheme, he can partner with the BDA of his own free will. BDA will develop their land and will give about 25 percent of the land to the farmers.

3.2.4 Parsakhera Industrial Area

UPSIDC has developed Parsakhera industrial estate near Bareilly. UPSIDC has 367 acres of acquired land out of which 273 acres area allotted plots. The parasakhera industrial estate is 98% allocated to the industries of various small and medium scale.

3.3 Vehicle Growth in Bareilly

In Bareilly, the registered vehicles have been increased moderately over the past decade. It is significant to note that about 14 to 19% of the vehicle's growth in the past decade. The increase of two-wheelers could be attributed to the comparatively better economic status of people and lack of city-wide good PT system. The increase of private modes demands more road space and has resulted in dense concentration of traffic on roads with limited right of ways.



Table 3-1 Vehicle registration data for Bareilly

Vehicle Registration Data for Bareilly							
Year	Two-Wheeler	Car	Bus	Truck	Others	Total	Growth
2014-2015	47932	5329	72	981	1203	55,517	
2015-2016	47440	6155	79	998	1135	55,807	1%
2016-2017	54016	7146	144	1235	1210	63,751	14%
2017-2018	62757	8592	323	1773	2727	76,172	19%

Source: Bareilly RTO

3.4 Transport system & connectivity

The existing transport system of Bareilly city, comprises of road, rail and air transport services. For the purposes of existing situation analysis of the prevailing transport infrastructure, the transport infrastructure can be broadly subdivided into the following components.

3.4.1 Air Connectivity

At present, the Bareilly airport is a civil terminal located in Izzat Nager, which is located 6 km from north of Bareilly city. The terminal building is 2500 sqm, and can handle 150 passengers during the peak hours. In future, a new apron 9500 m provides parking space and 150 cars parking is expanded. A new terminal building was inaugurated in 2021 as a part of airport expansion. The building is spread over 3020 sqm and has a capacity to accommodate over 300 passengers. At present, Bareilly is connected with Delhi, Bangalore, Mumbai.

3.4.2 Rail Connectivity

Bareilly Junction railway station is the major railway station serving city. Bareilly railway station connects the Lucknow-Moradabad line and Lucknow-Sitapur-Lakhimpur-Pilibhit-Bareilly-Kasganj Line. The Bareilly Railway station is well connected to Lucknow, New Delhi, Amritsar, Ambala, Jalandhar, Pathankot, Gorakhpur, Howrah and other major destinations. Other railways station like Bareilly Cantt, Bareilly City, Bhojipura Junction, CB Ganj, Bohna, Izzatnagar, Parsakhara, Ramganga Bridge secondary railways stations in Bareilly area.



Figure 35 Railway Line Connecting With Bareilly



3.4.3 Road Connectivity

Bareilly has a radial pattern of road network. National Highways in Bareilly is well connected with its surrounding urban agglomeration, 4 major NH sections pass through Bareilly city are NH-30, NH 530, NH 530-B, NH 730-B and SH 37. The NH 30 is part of Bareilly Bypass section connects Sitarganj on the north and Lucknow, Allahabad on the south. NH 530 connect Bareilly to Rampur Road, NH 530-B connecting Bareilly to Mathura highway, NH 730-B connects (Bareilly to Bisalpur highway. UP state highway no 37 starts from Bareilly to Nainital Road. Bareilly Bypass section starts at Dhantiya village to Rajau Paraspur with total length of 30.1 km.

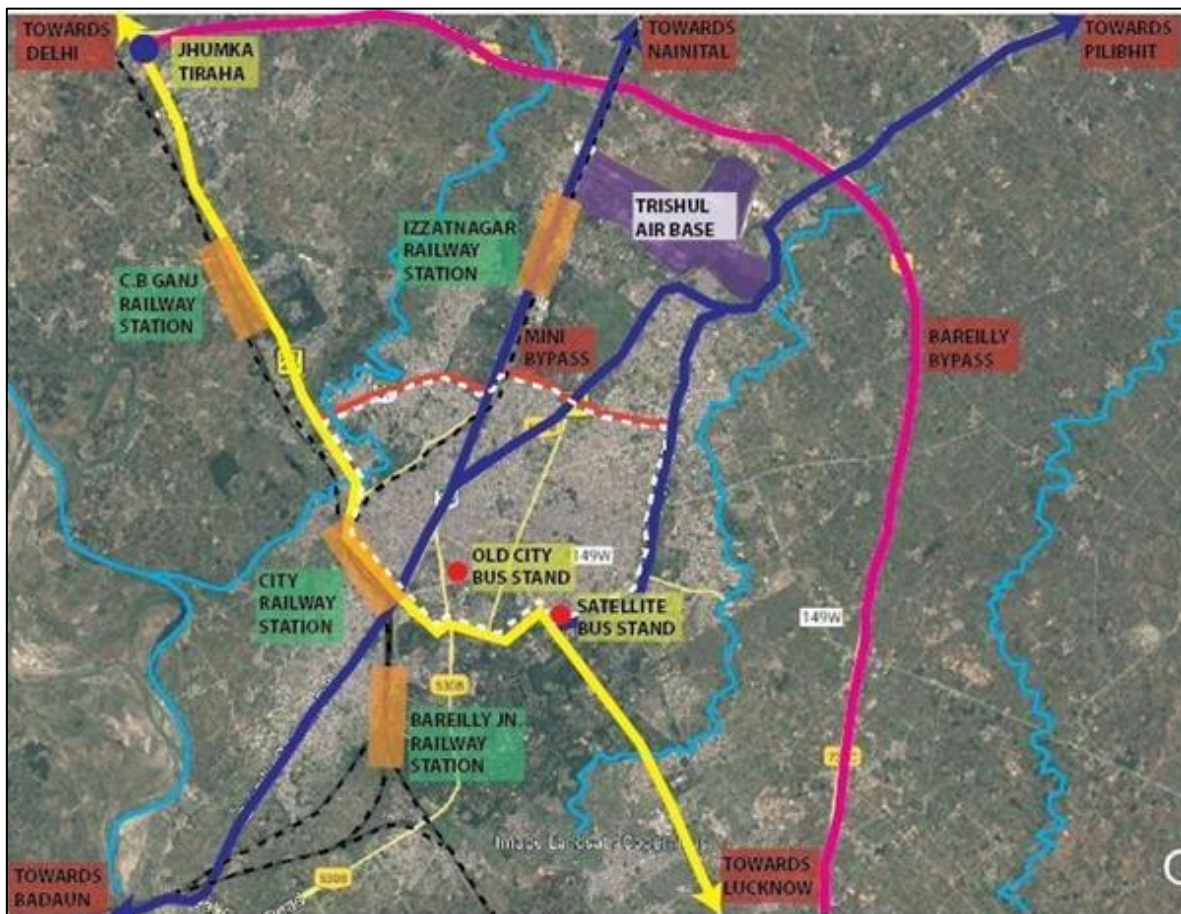


Figure 36 Major Road Network In Bareilly City

3.4.4 Major road corridor within Bareilly City

Some of the major roads within the Bareilly city is bearing the impact of traffic are

- Stadium Road: Connecting Philibhit Road to Shyam Ganj
- Macnair Road connecting Naintal Road to Stadium Road
- Pilibhit Bypass road connecting Pilibhit road to Lucknow road
- Sh-33 connecting Bareilly to Mathura
- Mini-bypass connecting Delhi road to Nainital Road
- Shyam ganj to Patel Chowk to CB Ganj
- Shyam Ganj to Chaupla Road
- Civil Lines Road



3.4.5 Parking System in Bareilly

At present situation in Bareilly city, on-street parking has been observed along the major connecting roads/market areas. which reduces the efficiency of road carriageway and leading to the road congestion. In the site reconnaissance survey, major locations like Kutub Khana Road, Choupla Road, Bareilly Railway Station Road, Mini-bypass Road, Satellite Bus Stand area, Ganta Ghar, Gandhi Udhyan and other areas.



Image 13 On-street parking at Mandi Area



Image 14 On-Street parking near Choupla Chauraha

3.4.6 Major Junctions within Bareilly City

Some of the Junctions within the Bareilly



Junction at 100 Futa tiraha (delapeer)

- **Name of the Junction:** 100 Futa Tiraha (Delapeer)
- **Type of Junction:** 3 arm
- **Directions of the road**
 - **Eastern side:** Towards Pilibhit Bypass
 - **Northern side:** Towards Airport
 - **Southern side:** Towards Delapeer
- **Traffic Signal:** Yes; recently installed
- **Condition of the road:** Fair (Construction Work for road widening)
- **Lane Marking:** No; Marking is faded.
- **Availability of Footpath:** No;
- **Street Lighting:** Yes;
- **On-street Parking:** No; No spaces provided for parking
- **Encroachment:** Yes; Temporary Fruits sellers' encroachment





Junction at Bisalpur Chouraha

- **Name of the Junction:** Bisalpur Chouraha
- **Type of Junction:** 4 arm
- **Directions of the road**
 - **Eastern side:** Towards Bisalpur
 - **Western side:** Towards Jagatpur
 - **Northern side:** Towards Pilibhit
 - **Southern side:** Towards Satellite
- **Traffic Signal:** Yes; recently installed
- **Condition of the road:** Fair
- **Lane Marking:** No; Marking is faded.
- **Availability of Footpath:** No
- **Street Lighting:** Yes;
- **On-street Parking:** Informal Parking in the side of the road
- **Encroachment:** No.



Junction at Patel Chowk

- **Name of the Junction:** Patel Chowk
- **Type of Junction:** 5 arm
- **Directions of the road**
 - **Eastern side:** Towards Nagar Nigam
 - **Western side:** Towards Choupla Chowk
 - **Northern side:** Towards Civil Lines Market
 - **Southern side 1:** Towards Chowki Chouraha
 - **Southern side 2:** Towards Car Bazar
- **Traffic Signal:** Yes; But Not working.
- **Condition of the road:** Bad (Under Construction)
- **Lane Marking:** No; Marking is faded.
- **Availability of Footpath:** only on one road
- **Street Lighting:** Yes
- **On-street Parking:** Informal Parking in the side of the roads
- **Encroachment:** No.





Chowki Chowraha

- **Name of the Junction:** Chowki Chowraha
- **Type of Junction:** 5 arm
- **Directions of the road**
 - **Eastern side:** Towards Gandhi Udhyan Chowk
 - **Western side:** Towards Railway Junction
 - **Northern side 1:** Towards Patel Chowk
 - **Northern side 2:** Towards Bareilly College
 - **Southern side:** Towards Cantt
- **Traffic Signal:** Yes;
- **Condition of the road:** Fair
- **Lane Marking:** No; Marking is faded.
- **Availability of Footpath:** Available but do not have proper movement.
- **Street Lighting:** Yes
- **On-street Parking:** Informal Parking in the side of the roads
- **Encroachment:** No.



Delapeer Tiraha

- **Name of the Junction:** Delapeer Tiraha
- **Type of Junction:** 3 arm
- **Directions of the road**
 - **Eastern side:** Towards Airport
 - **Western side:** Towards IVRI Road
 - **Southern side:** Towards Stadium Road
- **Traffic Signal:** Yes; Recently Installed
- **Condition of the road:** Fair
- **Lane Marking:** No; Marking is faded.
- **Availability of Footpath:** Available but only on one side
- **Street Lighting:** Yes
- **On-street Parking:** Informal Parking in the side of the roads
- **Encroachment:** Yes; Temporary Fruits sellers' encroachment
- **Issue:** Traffic Junction





Selection Point Chowk

- **Name of the Junction:** Selection Point Chowk
- **Type of Junction:** 4 arm
- **Directions of the road**
 - **Eastern side:** Towards Stadium Road
 - **Western side:** Towards Sheel Chowraha
 - **Northern side:** Towards Delapeer
 - **Southern side:** Towards Koharapeer
- **Traffic Signal:** Yes; Recently Installed
- **Condition of the road:** Fair
- **Lane Marking:** Yes;
- **Availability of Footpath:** Not Available;
- **Street Lighting:** Yes;
- **On-street Parking:** Informal Parking in the side of the roads.
- **Encroachment:** No.
- **Issue:** Improper Circulation of Traffic.



Sheel Chouraha

- **Name of the Junction:** Sheel Chouraha
- **Type of Junction:** 4 arm
- **Directions of the road**
 - **Eastern side:** Towards Selection Point Chowk
 - **Western side:** Towards Janakpuri
 - **Northern side:** Towards Rajendra Nagar
 - **Southern side:** Towards Ram Janki Mandir
- **Traffic Signal:** Yes; Recently Installed
- **Condition of the road:** Fair
- **Lane Marking:** Yes; Marking is faded.
- **Availability of Footpath:** Available on one road.
- **Street Lighting:** Yes;
- **On-street Parking:** Informal Parking in the side of the roads.
- **Encroachment:** No.
- **Issue:** Improper movement for pedestrians





Circuit House Chouraha

- **Name of the Junction:** Circuit House Chouraha
- **Type of Junction:** 4 arm
- **Directions of the road**
 - **Eastern side:** Towards Circuit House
 - **Western side:** Towards SSP office
 - **Northern side:** Towards Chowki Chowraha
 - **Southern side:** Towards Post office
- **Traffic Signal:** Yes; Recently Installed
- **Condition of the road:** Fair
- **Lane Marking:** Yes;
- **Availability of Footpath:** Available on 2 roads.
- **Street Lighting:** Yes;
- **On-street Parking:** Informal Parking in the side of the roads.
- **Encroachment:** No.
- **Issue:** Improper vehicular movement



Gandhi Udyan Chouraha

- **Name of the Junction:** Gandhi Udyan Chouraha
- **Type of Junction:** 4 arm
- **Directions of the road**
 - **Eastern side:** Towards Satellite
 - **Western side:** Towards Chowki Chowraha
 - **Northern side:** Towards Shyamganj
 - **Southern side:** Towards Cantt
- **Traffic Signal:** Yes; Recently Installed
- **Condition of the road:** Fair
- **Lane Marking:** Yes; Marking is faded.
- **Availability of Footpath:** Available on 1 road.
- **Street Lighting:** Yes;
- **On-street Parking:** Informal Parking in the side of the roads.
- **Encroachment:** No.
- **Issue:** Improper vehicular movement





Choupla Chouraha

- **Name of the Junction:** Choupla Chouraha
- **Type of Junction:** 5 arm
- **Directions of the road**
 - **Eastern side:** Towards Chowki Chowraha
 - **Western side:** Towards Qila
 - **Northern side 1:** Towards Ghantaghar
 - **Northern side 2:** Towards Patel Chowk
 - **Southern side:** Towards Railway Station
- **Traffic Signal:** No
- **Condition of the road:** Bad; Under Construction
- **Lane Marking:** Not Available
- **Availability of Footpath:** Not Available
- **Street Lighting:** Yes;
- **On-street Parking:** Informal Parking in the side of the roads.
- **Encroachment:** No.
- **Issue:** Improper vehicular movement



Satellite Chowraha

- **Name of the Junction:** Satellite Chowraha
- **Type of Junction:** 3 arm
- **Directions of the road**
 - **Eastern side:** Towards Shyamganj
 - **Northern side:** Towards Pilibhit Bypass
 - **Southern side:** Towards Lucknow Road
- **Traffic Signal:** Yes; Recently Installed
- **Condition of the road:** Poor
- **Lane Marking:** Yes; Marking is faded.
- **Availability of Footpath:** Available on 1 road.
- **Street Lighting:** Yes;
- **On-street Parking:** Informal Parking in the side of the roads.
- **Issue:** Improper vehicular movement
Congestion



	<ul style="list-style-type: none"> ● Name of the Junction: Jhumka Chowk ● Type of Junction: 3 arm ● Directions of the road <ul style="list-style-type: none"> - Eastern side: Towards Lucknow - Western side: Towards Delhi - Southern side: Towards Bareilly ● Traffic Signal: No ● Condition of the road: Bad; Under Construction ● Lane Marking: Not Available ● Availability of Footpath: Not Available ● Street Lighting: Yes; ● On-street Parking: Informal Parking in the side of the roads. ● Encroachment: No. ● Issue: Entry Point of Bareilly
<p>Jhumka Chowk</p>	

3.5 Public Transport System in Bareilly

At present in Bareilly city, 2 no of bus stands (Old bus stand and Satellite Bus Stand). Both the Bus Stand are in functional, as most of the Bus frequency is from Satellite Bus Stand. The old Bus stand is located in civil lines cater bus plying on routes towards Moradabad, Haldwani, Delhi, Naintal, Dehradun, Agra, Jaipur areas. Satellite bus station caters the bus services towards long distance to Kanpur, Lucknow, Prayagraj, and others.



Image 15 Existing condition of Satellite Bus Stand

UP State Transport Department has commissioned project for provisioning of electric buses in Bareilly city under FAME 2 Scheme, which will be taken up in two phases where phase 1 will house 23 locations for bus shelters and phase 2 will house 30 locations for bus Shelters. The Intra city bus route have been identified and passes throughout the Bareilly area.

Table 3-2 City Bus routes in Bareilly



City Transports Services Ltd						
Route Name	Route Descriptions	Distance (KM)	Running Time (Min)	Layoff Time	Frequency Headway (Min)	Number of Buses required
Bareilly Junction to Phonix Mall	Bareilly Junction to Air Force Station via Chowki Chauraha, Gandhi Udhyan, Satelite Bus Stand, Bisalpur Chauraha, Ruhelkhand University, Phonix Mall	11.9	60	320	20	5
Bareilly Junction to Cental Jail Colony via Swale Nagar	Bareilly Junction to Nagarya Prikshit via Chopla Chauraha, Dulha Miyan Mazar, Qila Pul, Swale Nagar Mini Bypass, Izzat Nagar Railway Station, Central Jail Colony	12.5	65	320	20	4
Bareilly Junction to Persakhada via Qila Pul	Bareilly Junction to Parsakhada via Chopla Chauraha, Dulha Miyan Mazar, Qila Pul, Satya Prakesh Park, CB Gunj Police Station	13.6	70	280	20	5
Bareilly Junction to Fruit Mandi via Delapir Chauraha	Bareilly Junction to peerbhora Air Force Station via Chowki Chauraha, Gandhi Udhyan, Vikas Bhavan, Shyam Ganj Flyover Bridge, Eit Pajaya Chauraha, Bareilly Stadiam, Delapir Chauraha, Fruit Mundi	10.8	55	280	20	6
Bareilly Junction to Badaun Road Patel Vihar	Bareilly Junction to Badaun road Hindustan Petrol Pump via City Mall Godown, Chopla Chauraha, Chaurasi Ganta Mandir	5.1	25	320	20	5



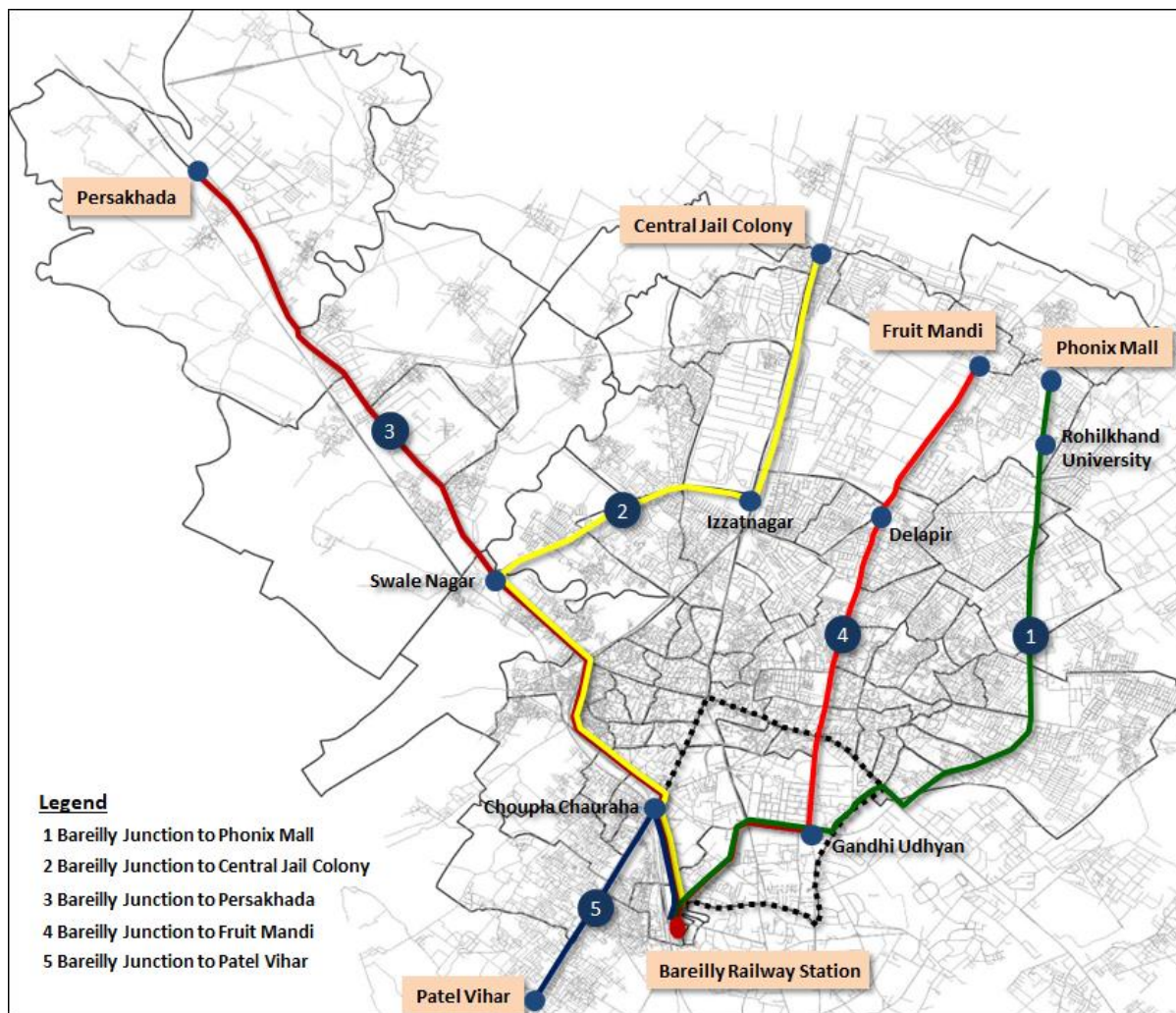


Figure 37 Location map of Bus route in Bareilly

3.6 SWOT Analysis of Bareilly Transport situation

Table 3-3 SWOT analysis of the Bareilly Transport situation

Strengths	<ul style="list-style-type: none"> a. Most of the road stretches in the Bareilly city are between 12 to 24 m RoW and thus there is a lot of scope of Development. b. It has been observed that several streets are vibrant in terms of informal sectors and there is a scope to facilitate such activities in efficiently planned manner without disturbing their order. c. Carriageway is in good condition at most of the road stretches and thus do not require intervention until it is necessary. d. A Holistic development of the roads along with the junction development project which will create a consolidated and uniform urban infrastructure system.
Weakness	<ul style="list-style-type: none"> a. Encroachment of footpath area in present state by vendors and shop owners may put the proposal at risk if enforcement is not done properly b. Irregular Parking Patterns: Common pattern noticed in Bareilly is, the citizens prefer on-street parking over off-street parking primarily because the former is cheaper than the latter. This leads to irregular parking all over the road width especially during the peak hours. In addition to this there is lack of parking bays due to which the commuter parks the car on road.



	<ul style="list-style-type: none"> c. Lack of Segregation of Traffic Modes: It has been observed in the Bareilly city that a large no. of citizens commute via two-wheelers and auto rickshaws though detailed survey of all the roads have not been done. These rickshaws tend to create a havoc on the road sides and regulate the fares according to their conveniences. Also, the citizens commuting by cars are not able to move freely due to hindrance caused by the e- rickshaws. d. Congestion during Peak Hours: The citizens generally park their vehicles on the roadsides. So, during peak hours, i.e., the morning and evening there is congestion on the roads creating unmanaged situation if not under policing. e. Lack of Pedestrian Clarity due to hawking areas: Footpaths do not exist, as they are either too narrow for people to walk on, or have been encroached by hawkers, forcing pedestrians onto the roads. f. Parking availability and the parking needs have huge gap and thus most of the roads are occupied by vehicles blocking the carriageway
<p>Opportunities</p>	<ul style="list-style-type: none"> a. Spaces along the Road carriageway could be made into public realm which will not force the pedestrian to use the roads and hence provide safety. b. There is a chance for provision for several activity zones respecting the local nature of the city and providing to all irrespective of class. c. There is an opportunity to provide designated spaces for public amenities like toilets, benches, water atms etc. d. With this proposals road can be envisioned more than just infrastructure for movement and can become one of the public spaces for the people of Bareilly e. Intelligent traffic management, clear crossings, foot over bridges, signage displays at every interval, street furniture such as dustbins bollards.
<p>Threats</p>	<ul style="list-style-type: none"> a. As it is clear the sewer trunk line shall be made before the roads proposals and the carriage way shall be disturbed. b. Encroachment on the roads needs to be controlled through effective policing. Unavailability of which may lead to design failure c. Illegal parking may continue, if parking spaces provided are not enough to cater to the demand



Chapter 4. PHYSICAL INFRASTRUCTURE

4.1 Environmental Service

4.1.1 Water Supply:

4.1.1.1 Overview Of Existing Water Supply System:

Bareilly city is provided with water supply from ground water sources such as bore wells fitted with hand pumps or power pumps. Existing installed capacity of water supply to the city is about 143 MLD, where the volume capacity is 138 MLD and overall demand for city is 154 MLD in year 2021. The water treatment plant is not in operation. Water is only supplied with all 51-percentage coverage. Total billable volume of water supply connection is 109 MLD.

4.1.1.2 Design Period:

This vision Plan has been prepared for a design period of 30 years with the initial stage taken as the year 2021, mid stage as the year 2036 and ultimate stage as the year 2051. Intermittent five years duration projection have been also assessed as under.

4.1.1.3 Population Projection:

The trend of city population based on last five decades is established below

Population Growth: The town population of Bareilly M.C. was 903,668 as per census 2011. The town has experienced positive population growth in the last decade (42.30% from 2011 to 2021), compared to 26.4 % average decadal growth from 1951 to 2021. 2021 Population has been considered by referring Master Plan population, Master Plan Bareilly had estimated population 12,91,000 which is also close referred 2021 population. 11,40,717 and following Parabola Population Projection estimation for 2051 project horizon as under.

Table 4-1 Population Growth of Bareilly M.C. Town

Year	Population (Nos.)	Decadal Growth (%)	
1901	133,167		
1911	129,462	-2.78	
1921	129,459	0.00	
1931	144,031	11.26	
1941	192,688	33.78	
1951	208,083	7.99	
1961	272,828	31.11	
1971	326,106	19.53	
1981	449,425	37.82	
1991	590,661	31.43	
2001	720,315	21.95	
2011	903,668	25.45	
2021	11,40,717	42.30	
Estimated Population			
Year	Final Population	Master Plan 2031 Estimated	Amrut 2.0



Year	Population (Nos.)	Decadal Growth (%)	
2021	11,40,717	11,40,717	10 lacs
2026	12,46,391		
2031	14,31,466	14,31,465	
2036	15,61,400		
2041	16,98,116		
2046	18,41,613		
2051	19,91,891		

Source: Census 2011 and Bareilly Master Plan 2021 & 2031

4.1.1.4 Population Forecast For Spatial Expansion:

There are total 19 census towns except M.C and Cantonment board in Project area i.e. Planning Boundary as per Enclosed list in Master Plan 2031. There are 149 villages within Project area and 54 villages are already engulfed with 2031 Master plan boundary. To account that population by following Master plan general growth method has adopted and Population estimation for Project area as under:

Table 4-2 Population Forecast for Spatial Extent and Entire Project area

Year	Municipal Area Population (Nos.)	Cantonment Board	Total Villages within Planning Boundary	Total Census Towns within Planning Boundary	Total Planning Boundary Population	Master Plan 2031 estimation of Total area
2021	11,40,717	37,388	279,655	98,273	1556033	
2026	12,46,391	41,990	314,074	110,368	1712822	
2031	14,31,466	46,591	348,492	122,463	1949012	1894211
2036	15,61,400	52,326	391,383	137,535	2142644	
2041	16,98,116	65,206	487,722	171,389	2422433	
2046	18,41,613	73,231	547,749	192,483	2655075	
2051	19,91,891	81,256	607,775	213,577	2894499	

Based on the development plan proposals, taking into consideration the present trends and absorption capacity, above pattern of population distribution over space has been identified. Although there is no major change of total requirement of area so, Master plan boundary will be useful for spatial extent for 2031 Infrastructure Plan and rest years for Visionary estimation for requirement of physical Infrastructure will be attempted.

The physical expanse of the city is expected to also incorporate as master plan suggested with the availability of physical infrastructure. As per UDPFI Guidelines Medium town density: 100-115 pph. As per trend developed area density assumed 125-135 pph (following other town with same class of population & growth pattern) New area density assumed for planning is 75-100 pph for 2036 & 2051 respectively. To account that Spatial extent of Ward level projection has been assessed as under.

Table 4-3 Ward wise Population Projection



Ward No	Ward Name	Population 2021 Adjusted as per	2026	2031	2036	2041	2046	2051
1	Biharipur Civil Lines	13674	14995	17308	18932	20641	22435	24314
2	Jatawpura	12917	14238	16551	18175	19884	21678	23557
3	Chhoti Bihar	16110	17431	19744	21368	23077	24871	26750
4	Sugar Factory	14106	15427	17740	19364	21073	22867	24746
5	Nekpur	14914	16235	18548	20172	21881	23675	25554
6	Nwada Shekhan	14643	15964	18277	19901	21610	23404	25283
7	Veer Bhatti	15842	17163	19476	21100	22809	24603	26482
8	Model Town	14922	16243	18556	20180	21889	23683	25562
9	Naumahala	14569	15890	18203	19827	21536	23330	25209
10	Badi Bihar	15981	17302	19615	21239	22948	24742	26621
11	Katra Chand Khan	13093	14414	16727	18351	20060	21854	23733
12	Sithaura	15873	17194	19507	21131	22840	24634	26513
13	Shanti vihar	13142	14463	16776	18400	20109	21903	23782
14	Bramhapura	14264	15585	17898	19522	21231	23025	24904
15	Hajiapur	16125	17446	19759	21383	23092	24886	26765
16	Sanjay Nagar	15677	16998	19311	20935	22644	24438	26317
17	Haroonagla	15799	17120	19433	21057	22766	24560	26439
18	Railway Colony Partapur	12386	13707	16020	17644	19353	21147	23026
19	Kanjadaspur	14802	16123	18436	20060	21769	23563	25442
20	Azam Nagar	13695	15016	17329	18953	20662	22456	24335
21	Subhash Nagar	15820	17141	19454	21078	22787	24581	26460
22	Khalilpur	16046	17367	19680	21304	23013	24807	26686
23	Indira Nagar	13889	15210	17523	19147	20856	22650	24529
24	Maula Nagar	12847	14168	16481	18105	19814	21608	23487
25	Madi Nath	14409	15730	18043	19667	21376	23170	25049
26	IVRI	15460	16781	19094	20718	22427	24221	26100
27	Mathurapur	16603	17924	20237	21861	23570	25364	27243
28	Faridapur Chaudhary	12284	13605	15918	17542	19251	21045	22924
29	Raipura Chaudhary	16362	17683	19996	21620	23329	25123	27002
30	Swale Nagar	12360	13681	15994	17618	19327	21121	23000
31	Kat Ghar	16518	17839	20152	21776	23485	25279	27158
32	Gandhi Udyan	13543	14864	17177	18801	20510	22304	24183
33	Bankhandi Nath	15286	16607	18920	20544	22253	24047	25926
34	Partapur Chaudhary	12618	13939	16252	17876	19585	21379	23258
35	Rampur Bagh	13705	15026	17339	18963	20672	22466	24345
36	Jauharpur	15454	16775	19088	20712	22421	24215	26094
37	Nandausi	14910	16231	18545	20169	21878	23672	25551
38	Benipur Chaudhary	15456	16777	19091	20715	22424	24218	26097
39	Kakar Tola	15612	16933	19247	20871	22580	24374	26253
40	Sahaswani Tola	12657	13978	16291	17915	19624	21418	23297
41	Biharipur Memaran	12595	13916	16229	17853	19562	21356	23235



Ward No	Ward Name	Population 2021 Adjusted as per	2026	2031	2036	2041	2046	2051
42	Chaudhary Mohalla	15473	16794	19107	20731	22440	24233	26112
43	Akashpuram	12713	14034	16347	17971	19680	21473	23352
44	Malookpur	12792	14113	16426	18050	19759	21552	23431
45	Maheshpur Ataria	13037	14358	16671	18295	20004	21797	23676
46	Gandhi Puram	14718	16039	18352	19976	21685	23478	25357
47	Kila Chhawni	13542	14863	17176	18800	20509	22302	24181
48	Nawada Jogiyan	15931	17252	19565	21189	22898	24691	26569
49	Shastri Nagar	12212	13533	15846	17470	19179	20972	22850
50	Janakpuri	12931	14252	16566	18190	19899	21692	23570
51	Nagari Parikshit	12568	13889	16203	17827	19536	21329	23207
52	Bankhana	12618	13939	16253	17877	19586	21379	23257
53	Roli Tola	15532	16853	19167	20791	22500	24293	26171
54	Bhood	14669	15990	18304	19928	21637	23430	25308
55	Saitpur Hawkins	13837	15158	17472	19096	20805	22598	24476
56	Kunwarpur	12266	13587	15901	17525	19234	21027	22905
57	Faltoon Ganj	13818	15139	17453	19077	20786	22579	24457
58	Gulab Nagar	14355	15676	17990	19614	21323	23116	24994
59	Sarania	13551	14872	17186	18810	20519	22312	24190
60	Shahdana	15628	16949	19263	20887	22596	24389	26267
61	Kanoon Goyan	13953	15274	17588	19212	20921	22714	24592
62	Chak Mahmood	15353	16674	18988	20612	22321	24114	25992
63	Sahukara	12314	13635	15949	17573	19282	21075	22953
64	Siklapur	13855	15176	17490	19114	20823	22616	24494
65	Suresh Sharma Nagar	14215	15536	17850	19474	21183	22977	24854
66	Bajari Pooranmal	12429	13750	16064	17688	19397	21191	23068
67	Awas Vikas	16071	17392	19706	21330	23039	24833	26710
68	Khannu Mohalla	16071	17392	19706	21331	23040	24834	26711
69	Sahabad	12716	14037	16351	17976	19685	21479	23356
70	Peer Bahoda	13138	14459	16773	18398	20107	21901	23778
71	Nayi Basti	15683	17004	19318	20943	22652	24446	26323
72	Alam Giri Ganj	12514	13835	16149	17774	19483	21277	23154
73	Vidhulia	14839	16160	18474	20099	21808	23602	25479
74	Kher Shekh Mitthoo	12678	13999	16313	17938	19647	21441	23318
75	Aizaz Nagar Gotia	16068	17388	19702	21327	23035	24829	26707
76	English Ganj	12232	13552	15866	17491	19199	20993	22871
77	Saudagaran	11935	13255	15569	17194	18902	20696	22574
78	Sofi Tola	15680	17000	19314	20939	22648	24442	26320
79	Chak Mahmood Nagar	15664	16984	19298	20924	22633	24427	26306
80	Rabri Tola	14150	15470	17784	19410	21118	22912	24790
	Total	1140717	1246391	1431465	1561400	1698116	1841613	1991891



So, spatial extent of the project Bareilly has three delineations:

1. Bareilly Municipal Corporation
2. Bareilly Census Villages with Extension Areas
3. Bareilly Census Towns

Table 4-4 Summary of Population Projections of Planning Boundary, 2051

	Details	2011	2021	2026	2031	2036	2041	2046	2051
A	Municipal Area	903668	1140717	1246391	1431466	1561400	1698116	1841613	1991891
B	Cantonment Board	30003	37388	41990	46591	52326	65206	73231	81256
C	Total Villages within Planning Boundary	279655	279655	314074	348492	391383	487722	547749	607775
D	Total Census Towns within Planning Boundary	98273	98273	110368	122463	137535	171389	192483	213577
E	Total Planning Boundary Population	1311599	1556033	1712822	1949012	2142644	2422433	2655075	2894499
F	Master Plan 2031 estimation of Total area				1894211				

Based on the development plan proposals, taking into consideration the present trends and absorption capacity, following pattern of population distribution over space has been identified. Although there is no major changes of total requirement of area so, Master plan boundary will be useful for spatial extent for 2031 Infrastructure Plan and followed by 2051 vision estimation has been considered.

4.1.1.5 Local Ground Water Sources:

Borewells. In addition to the three-surface water i.e., Ramganga, two water channel within city more than 150 bore wells do water supply to small-localized pockets. Service reservoirs in different colonies receive water from the bore wells and distribute this water through their distribution network. While many bore wells are fitted with submersible pumps, remaining bore wells are fitted with hand pumps. Ground water is available at a depth of 10.98 m in post monsoon to 9.80 m in pre monsoon in year 2021 (Source: <https://jjmup.org/wq/gwd.php>)

Total Supply from the bore wells is estimated to be about 143 MLD as per Nagar Nigam provided data. Due to scanty rainfall in last few years and excessive drawl to arise the water shortage, the ground water table is going down, resulting in the failure of many bore wells with hand pumps. The ground water is also reported to contain slightly high fluoride contents. The transmission mains are pre stressed concrete pipelines. There are four zones in water supply as under:

Water Availability in Project Area in year 2021

Water Supply: -

Coverage = 51%

Domestic Connection (Unmetered) = 95370

Installed Capacity for Ground Water Supply = 143 MLD

Volume of water produced through Ground Water (Power Pump) = 138 MLD



Volume of water billed from Domestic Connection = 109 MLD

Volume of water billed from Non-Domestic Connection = 1 MLD

Total Volume of water unbilled (free supplies to Public Taps) = 0.8 MLD

Water Supply frequency = 8 hours per day

*(Source SLB 2019-20)

HHs Water Demand:-

Year 2021 by considering @150LPCD= 165 MLD

Year 2051 = 301 MLD

Industrial Use:

Not available

Estimated: 30 MLD by PCB

Need Augmentation and DPR Preparation

Connection

Length of distribution network = 578.20 km



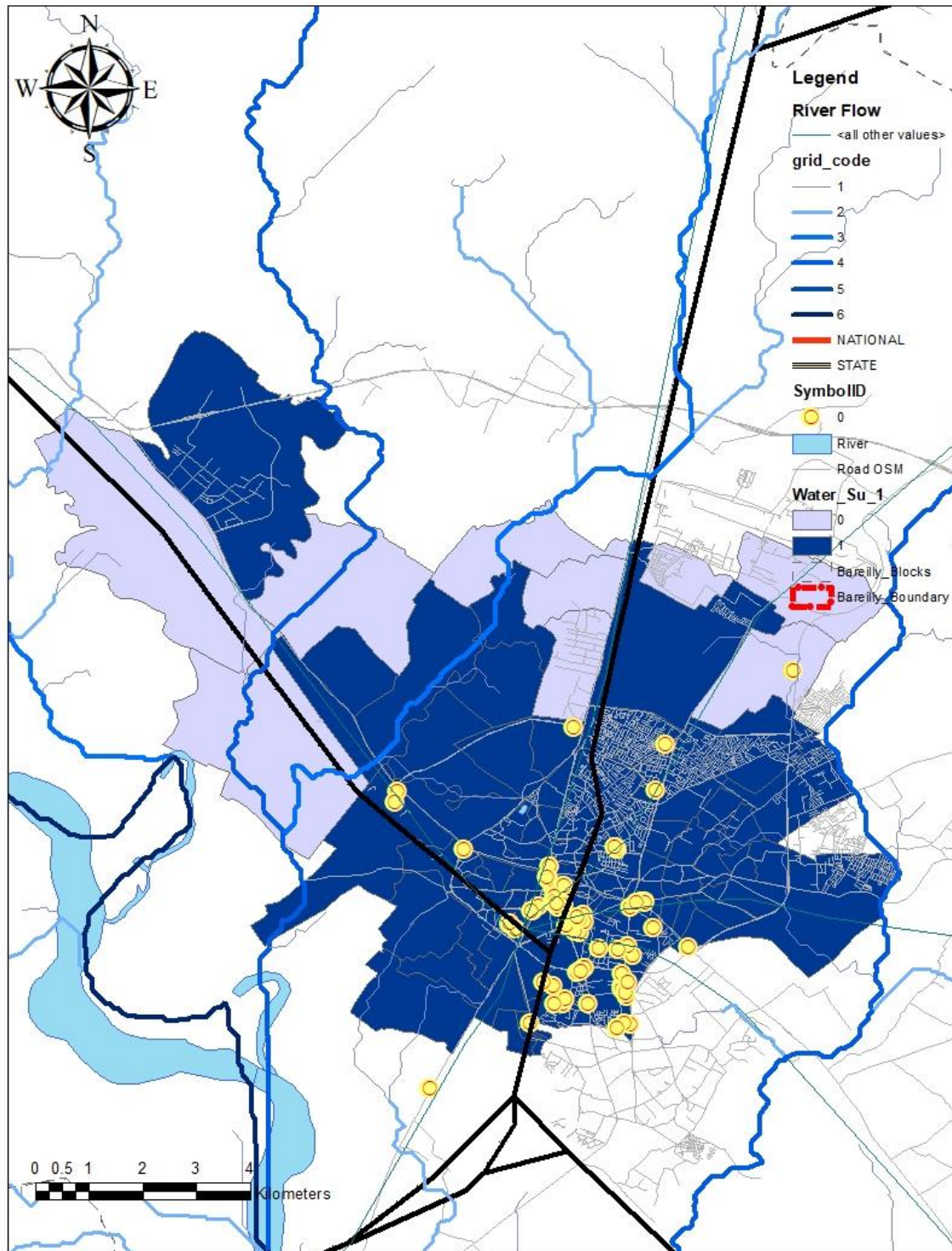


Figure 38 Water supply coverage in Nagar Nigam area within Planning Boundary

Basis of above analysis the availability of water supply is only 51% , and even per capital water availability is only 121 LPCD. Gap in water supply collection charges as per SLIP report 55%. Gap in NRW is almost 20% which includes leakage, free water supply to society on festivals, supply through stand post.

Water availability within municipal area is also different. On account there are more than 200 water bore wells serves city through network system . But total 25 elevated storage serve city as under.



The Green area is having full supply. Yellow area is under smart city area having full supply, blue and red area is having partial supply need augmentation of work.

Total Water reservoir is 42

Total Hand Punmp- 84

Total Water pump is 68

Total supply water bore wells are 17

Total mimi bore wells are 8

4.1.2 Area Wise Water Availability Analysis

Bareilly city has 80 wards. Out of total wards 38 wards are having full connection through water supply network. Addition to that in Smart city area ABD area few wards area having all 100% water supply connection. But total 7 Wards are connected partial areas and two areas still do not have any connection under Amrut 1.0. As per Nagar Nigam Water Balance report total water supply is on today is 76.29 MLD. After total Water source enhancement from 60 to 84 tubewells now per capita availability has increase as under:

Table 4-5 Availability of Physical Infrastructure

S.No	Code	Input Nomenclature		Value
	I	COVERAGE OF WATER SUPPLY CONNECTIONS	%	51.0
		<i>Water Service Coverage - Number of Connections</i>		
1	AA	Domestic Connections (Metered Functional)	Number	0
2	AB	Domestic Connections (Metered Non-Functional)	Number	0
3	AC	Domestic Connections (Unmetered)	Number	95370
4	AD	Domestic connections (Total)	Number	95370
5	AE	Bulk supply Apartments (Metered Functional)	Number	0
6	AF	Bulk supply Apartments (Metered Non-Functional)	Number	0
7	AG	Bulk supply Apartments (Unmetered)	Number	0
8	AH	Bulk supply Apartments (Total)	Number	0
9	AI	Bulk supply Layouts/Societies (Metered Functional)	Number	0
10	AJ	Bulk supply Layouts/Societies (Metered Non-Functional)	Number	0
11	AK	Bulk supply Layouts/societies (Unmetered)	Number	0
12	AL	Bulk supply Layouts/Societies (Total)	Number	0
13	AM	Others - Specify (Metered Funtional)	Number	0
14	AN	Others - Specify (Metered Non-Functional)	Number	0
15	AO	Others - Specify (Unmetered)	Number	0
16	AP	Others - Specify (Total)	Number	0
17	AQ	Total Number of Water Supply Connections	Number	95370
		<i>Water Service Coverage - Households Served</i>		
18	AR	Households served by Domestic Connections	Number	95370
19	AS	Households served by Bulk supply - Apartments	Number	0
20	AT	Households served by Bulk supply - Layouts/Societies	Number	0
21	AU	Total Households served with Water Supply	Number	95370
		<i>*Households served by own sources such as wells, handpumps shall not be included</i>		



S.No	Code	Input Nomenclature		Value
	II	PER CAPITA SUPPLY OF WATER	LPCD	106.81
		<i>Water Production Capacity</i>		
22	AV	Installed Capacity of Treatment Plants for Surface Water Sources	MLD	0
23	AW	Volume of water produced through Surface Water Sources	MLD	0
24	AX	Installed Capacity of Treatment Plants for Ground Water Sources	MLD	143
25	AY	Volume of water produced through Ground water (power pumps)	MLD	138
26	AZ	Volume of water produced through any Other Sources	MLD	0
27	BA	Total Installed Capacity	MLD	143
28	BB	Total Volume of water produced	MLD	138
		<i>Water Consumption</i>		
29	BC	Volume of water billed from Domestic Connections	MLD	109
30	BD	Volume of water billed from Bulk supply Apartments	MLD	0
31	BE	Volume of water billed from Bulk supply Layouts/Societies	MLD	0
32	BF	Volume of water billed from Non domestic Connections	MLD	1
33	BG	Volume of water billed from Public taps	MLD	0
34	BH	Volume of water billed from any other sources	MLD	0
35	BI	Total Volume of water billed	MLD	110
36	BJ	Total Volume of water unbilled (free supplies to Public taps)	MLD	0.8
37	BK	Total Volume of water unbilled (free connections eg. Religious institutions etc)	MLD	0
	III	EXTENT OF NON REVENUE WATER (NRW)	%	20.29
38	BB	Total Volume of Water Produced	MLD	138
39	BI	Total Volume of Water Billed	MLD	110
	IV	EXTENT OF METERING OF WATER SUPPLY CONNECTIONS	%	-
40	BL	Non domestic incl. commercial/Indus/Instl. (Metered Functional)	Number	0
41	BM	Non domestic incl. commercial/Indus/Instl. (Metered Non-Functional)	Number	0
42	BN	Non domestic incl. commercial/Indus/Instl. (Unmetered)	Number	942
43	BO	Non domestic incl. commercial/Indus/Instl. (Total)	Number	942
44	BP	Public taps (Metered Functional)	Number	0
45	BQ	Public taps (Metered Non-Functional)	Number	0
46	BR	Public taps (Unmetered)	Number	562
47	BS	Public Taps (Total)	Number	562
48	BT	Total number of metered and functional connections (domestic, bulk supply, others)	Number	0
49	BU	Total number of Water Supply Connections	Number	96874



S.No	Code	Input Nomenclature		Value
	IV	CONTINUITY OF WATER SUPPLY	Hours per Day	8.00
		<i>Water Supply Frequency</i>		
50	BV	Days of supply per month	Number	30
51	BW	Average duration of each supply	Hours	8
	V	EFFECIENCY OF REDRESSAL OF COMPLAINTS	%	91.3
		<i>Consumer Services</i>		
52	BX	Complaints received during the year	Number	2400
53	BY	Complaints resolved within 24 hours during the year	Number	2190
	VI	QUALITY OF WATER SUPPLIED		99.78
		<i>Treated Water Quality Surveillance</i>		
54	CA	Residual Chlorine - No. of Samples taken at the outlet of Water Treatment Plant (in a year)	Number	0
55	CB	Residual Chlorine - No. of Samples taken at intermediate points (in a year)	Number	1125
56	CC	Residual Chlorine - No. of Samples taken at consumer end (in a year)	Number	2824
57	CD	Total Samples taken for Residual Chlorine tests	Number	3949
58	CE	Number of Samples Passed	Number	3940
59	CF	Physical/Chemical - No. of Samples taken at the outlet of Water Treatment Plant (in a year)	Number	0
60	CG	Physical/Chemical - No. of Samples taken at intermediate points (in a year)	Number	0
61	CH	Physical/Chemical - No. of Samples taken at consumer end (in a year)	Number	0
62	CI	Total Samples taken for Physical and Chemical tests	Number	0
63	CJ	Number of Samples Passed	Number	0
64	CK	Bacteriological - No. of Samples taken at the outlet of Water Treatment Plant (in a year)	Number	0
65	CL	Bacteriological - No. of Samples taken at intermediate points (in a year)	Number	25
66	CM	Bacteriological - No. of Samples taken at consumer end (in a year)	Number	47
67	CN	Total Samples taken for Bacteriological tests	Number	72
68	CO	Number of Samples Passed	Number	72
69	CP	Total Number of Samples taken for all types of tests	Number	4021
70	CQ	Total Tests Passed	Number	4012
	VII	COST RECOVERY IN WATER SUPPLY SERVICES	%	94.53
		<i>Financial Information - Operating Expenses</i>		
71	CR	Regular Staff and administration	Rs. Lakhs	450.00
72	CS	Outsourced/Contract Staff Costs	Rs. Lakhs	80.00
73	CT	Electricity Charges/Fuel Costs	Rs. Lakhs	1378.57
74	CU	Chemical Costs	Rs. Lakhs	10.00



S.No	Code	Input Nomenclature		Value
75	CV	Repairs/Maintenance Costs	Rs. Lakhs	230.00
76	CW	Bulk (Raw/Treated) Water Charges	Rs. Lakhs	0.00
77	CX	Other Costs	Rs. Lakhs	0.00
78	CY	Total Operating Expenditure	Rs. Lakhs	2148.57
		Financial Information - Operating Revenues		
79	CZ	Arrears at the beginning of previous year (2017-18)	Rs. Lakhs	190.00
80	DA	Revenue demand from user charges	Rs. Lakhs	180.00
81	DB	Revenue demand from tax/cess - Water Service only	Rs. Lakhs	1841.00
82	DC	Revenue demand from other revenues (eg. connection costs/Donations etc)	Rs. Lakhs	10.01
83	DD	Total Revenue Demand for previous year	Rs. Lakhs	2031.01
	VII	COLLECTION EFFICIENCY OF WATER SUPPLY RELATED CHARGES	%	90.64
84	DD	Total Revenue Demand for previous year (from user charges, taxes etc)	Rs. Lakhs	2031.01
85	DE	Collection against arrears (2017-18)	Rs. Lakhs	166.00
86	DF	Collection against the current demand of previous year (2018-19)	Rs. Lakhs	1841.00
		Additional Information (Optional)		
		Staff Information		
91	EA	Senior Management (Sanctioned)	Number	1
92	EB	Senior Management (Working)	Number	1
93	EC	Engineers (Sanctioned)	Number	5
94	ED	Engineers (Working)	Number	3
95	EE	Clerks/Accountants (Sanctioned)	Number	11
96	EF	Clerks/Accountants (Working)	Number	10
97	EG	Work Inspectors/Meter Readers (Sanctioned)	Number	0
98	EH	Work Inspectors/Meter Readers (Working)	Number	1
99	EI	Electricians/Fitters (Sanctioned)	Number	8
100	EJ	Electricians/Fitters (Working)	Number	5
101	EK	Lines men/plumbers (Sanctioned)	Number	0
102	EL	Lines men/plumbers (Working)	Number	0
103	EM	Labourers (Sanctioned)	Number	132
104	EN	Labourers (Working)	Number	107
105	EO	Total (Sanctioned)	Number	157
106	EP	Total (Working)	Number	127
		WATER SUPPLY INDICATOR VALUES		
		Indicator	Unit	Value
1		Coverage of water supply connections	%	51.0
2		Per capita available of water at consumer end	Lpcd	106.8
3		Extent of metering of water connections	%	0.0



S.No	Code	Input Nomenclature		Value
4		Extent of Non Revenue Water	%	20.3
5		Continuity of water supply	Hours/Day	8.0
6		Efficiency in redressal of customer complaints	%	91.3
7		Quality of water supplied	%	99.8
8		Cost recovery in water supply services	%	94.5
9		Efficiency in collection of water supply related charges	%	90.6

Hydrogeological characteristics of the area shows as under:

Rainfall- The summer monsoon is the major source of rainfall, which generally lasts from mid mid-October. July and August months the wettest months.

(b) Temperature: The maximum mean monthly atmospheric temperature has been recorded during the month of May and minimum

(c) Humidity: During the peak monsoon period (i.e. August and September) and in mid (during December) the relative humidity is at highest level ranging between 79% and 84%. While it is lowest around 38% during peak summer month April and May.

(d) Geomorphology (a) In general, the area shows the following distinctive geomorphic units: 1. Lower piedmont plain of Tarai 2. Older alluvial plain or upland 3. Younger alluvial plain or low land 4. Meander flood plain (b) Soils: The soil of the district, can be classified into three major groups, based on its texture and characteristics. Bareilly Type Type-2 (Khadar or low (Upland or Bangar soils) The maximum mean monthly atmospheric temperature has been recorded during the month of May and minimum during January. During the peak monsoon period (i.e. August and September) and in mid winter season (during December) the relative humidity is at highest level ranging between 79% and 84%. While it is lowest around 38% during peak summer months of In general, the area shows the following distinctive 1. Lower piedmont plain of Tarai 2. Older alluvial plain or upland 3. Younger alluvial plain or low he soil of the district, can be classified into three major groups, based on its texture and composition characteristics. Bareilly Type-1 (Tarai soils) Bareilly -land soils) Bareilly Type-3



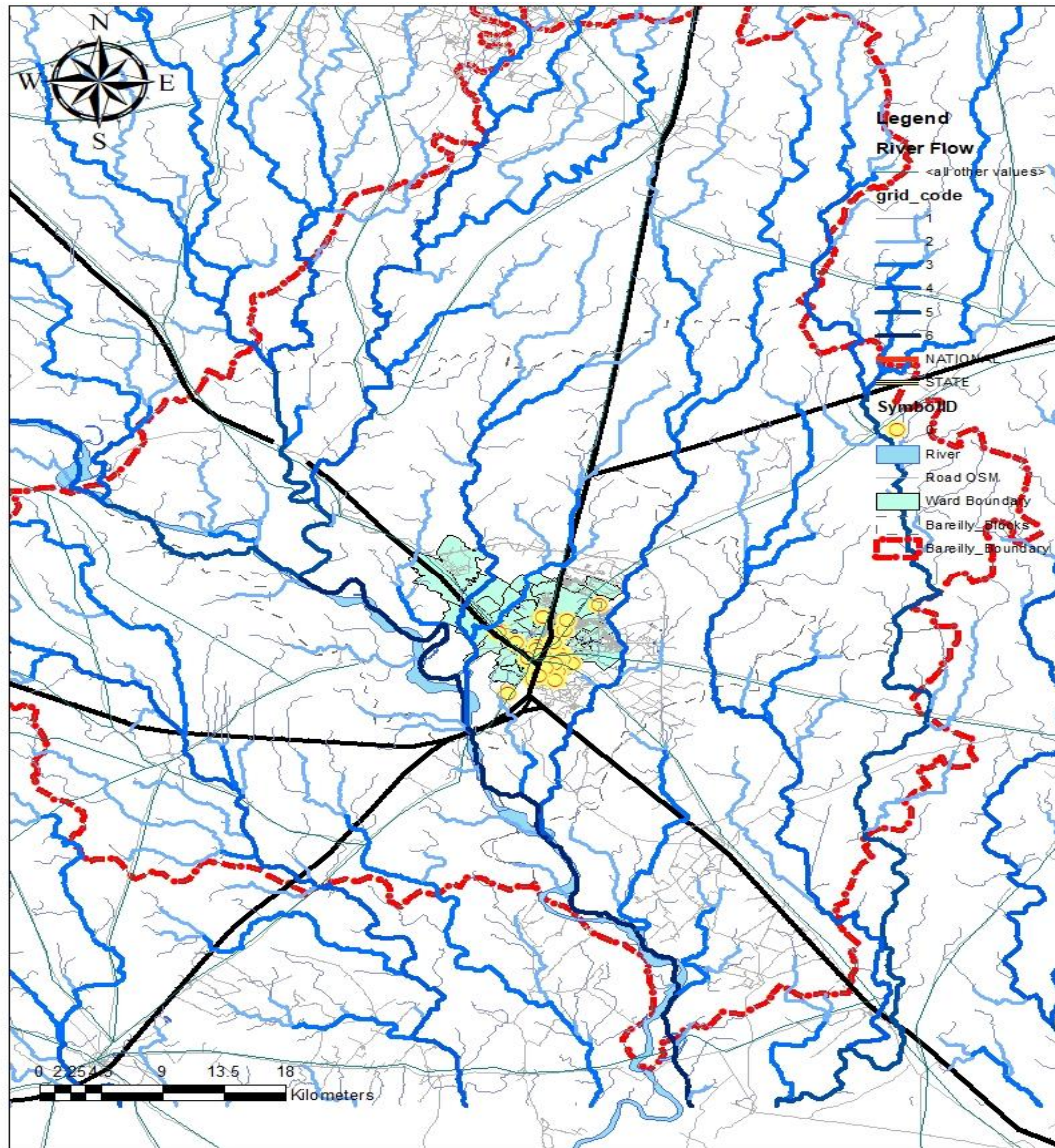


Figure 39 River Flow around Bareilly

The major three water body's water quality in city is not good. There are several drains intercepts river. These drains are major causes carrying sewerage and Industrial load to water body.

Table 4-6 Details of Water Bodies

Sl. No.	Data Point	Value
1	Total No of water bodies	3
2	No of water bodies with open dumpsites near them	3
3	Number of water bodies with anti-littering messages displayed	3
4	Number of water bodies with sweeping & cleanliness arrangements in place	3
5	Number of Water bodies with twin-litterbins placed in every 50 m of water bodies	3
6	Number of Water bodies with Trash Cleaners are available to trap the solid waste floating on the water bodies	3



Table 4-7 List of Water Bodies

S.No.	Ward Number	Name of Water Body	Address	Type of Water Body	Landmark
1	10	Delapeer Pond	Delapeer Chauraha	Pond	Delapeer Chauraha
2	32	Akshar Vihar	Akshar Vihar Park	Pond	Akshar Vihar Park
3	35	Sanjay Community Hall Pond	Near Elan Club	Pond	Jain Mandir

Demand Assessment:

To assess the future demand for all parts of Bareilly within Municipal area Water demand has been assessed by taking 150 LPCD i.e.. 135 LPCD with 15% unaccounted water demand of the area.

Table 4-8 Water Supply Demand

Water requirement		2021	2026	2031	2036	2041	2046	2051
A	Municipal Area	154	168	193	211	229	249	269
B	Cantonment Board	5	6	6	7	9	10	11
C	Total Villages within Planning Boundary	38	42	47	53	66	74	82
D	Total Census Towns within Planning Boundary	13	15	17	19	23	26	29
E	Total Planning Boundary Population	210	231	263	289	327	358	391

Source: Analysis

Under Amrut 2.0 all are to be covered within municipal area to address 155 LPCD which is far higher side than the requirement of MoUD i.e. 135 LPCD. So, there is not to presume additional water augmentation to feed futuristic demand for ultimate project population for 2051. But there are 11 Urban agglomeration and all villages are within planning Boundary which over the year will be amalgamated as a part of city. To estimate the population enhancement by accounting Rural to urban transformation and Urban agglomerated towns in city limit referring Master Plan 2031 document total water demand is estimated as under:

4.1.3 Wastage And Distribution Losses:

It has been observed that wastage of water at consumer's end in the City is substantial. Almost 30-40% of water supplied is lost in transmission and distribution.

4.1.4 Service Connections:

All property connections are unmetered. In addition, there are reported to be about 20, 540 public stand posts, supplying water to economically backward households and slum areas.

4.1.5 Issues:

1. Scarcity in Source: Presently only 75% of the population is covered by municipal water supply. Raw water scarcity is experienced in summer, due to lack of flow of present source, Agra Canal water supply network is needed to be implemented. Though, under Amrut 2.0 requirement are fulfilling total municipal area.



2. **Exploitation of Ground Water Source:** In the absence of a perennial water source, dependence on ground water continues to be high in the periphery. Apart from the municipal bores, a large number of private bores have been installed in various parts of the city. This has seriously affecting the ground water level, which is depleting at the rate of 2 to 3m annually. Thus, the reliability and sustainability of the ground water source is questionable.
3. **Operation of Water Treatment Plants:** The present operation, including chemical dosing and back washing of filters, Chlorine dosing is arbitrary. All the equipment meant for these functions needs to be repaired, if required and a formal system of testing the raw water turbidity, administering the doses based on jar test and back washing of filters, when it is due, needs to be introduced. Additional gas cylinders have to be procured.
4. **System Losses:** Around 30%-40% of the water supplied gets lost during transmission and distribution. Scada system is only commissioning in Smart City ABD area.
5. **Limited Duration of Supply:** At present, the water is supplied only for one hour on fifth day. It is proposed to supply water for 24 hours and hence necessary modification including construction of ESR at each distribution station will be carried out.
6. **Contamination of water due to old service connections:** The consumer connections are of Galvanized iron, which has a life of 7-8 years. These connections are often not replaced on time and leads to the problems of leakage, low pressure and contamination.



Sewerage & Sanitation System:

4.2 Overview Of Existing Sewerage & Sanitation System:

Uttar Pradesh Jal Nigam has designed and constructed sewerage scheme under Amrut 1.0 in Bareilly city and implemented by Nagar Nigam. The proposals under this Detailed Project Report have been framed on the basis of Latest Norms / Standards / Design Criteria contained in the U.P. Jal Nigam notification under the guidelines of Atal Mission for Rejuvenation and Urban Transformation and the Manual of Sewerage and Sewage. Treatment, 4th Edition-2012, CPHEEO, Ministry of Urban Development, Government of India, New Delhi. Main and Prominent norms are summarized below.

The estimation has been worked out adopting the base year 2021, Middle Stage Year 2036 and Ultimate Stage Year 2051.

There are Properties with Sewer Connection 65201 and Properties with onsite sanitary disposal are 136275. Total water consumption (billed and unbilled) from ULB and Non ULB sources are accounted 110.8 MLD and volume of waste water generated from Domestic water consumption is around 88.64 MLD (Source SLB 2019-20)

There is no sewer Treatment plant. Although STP will be set up soon in two sites as shown in following figure.

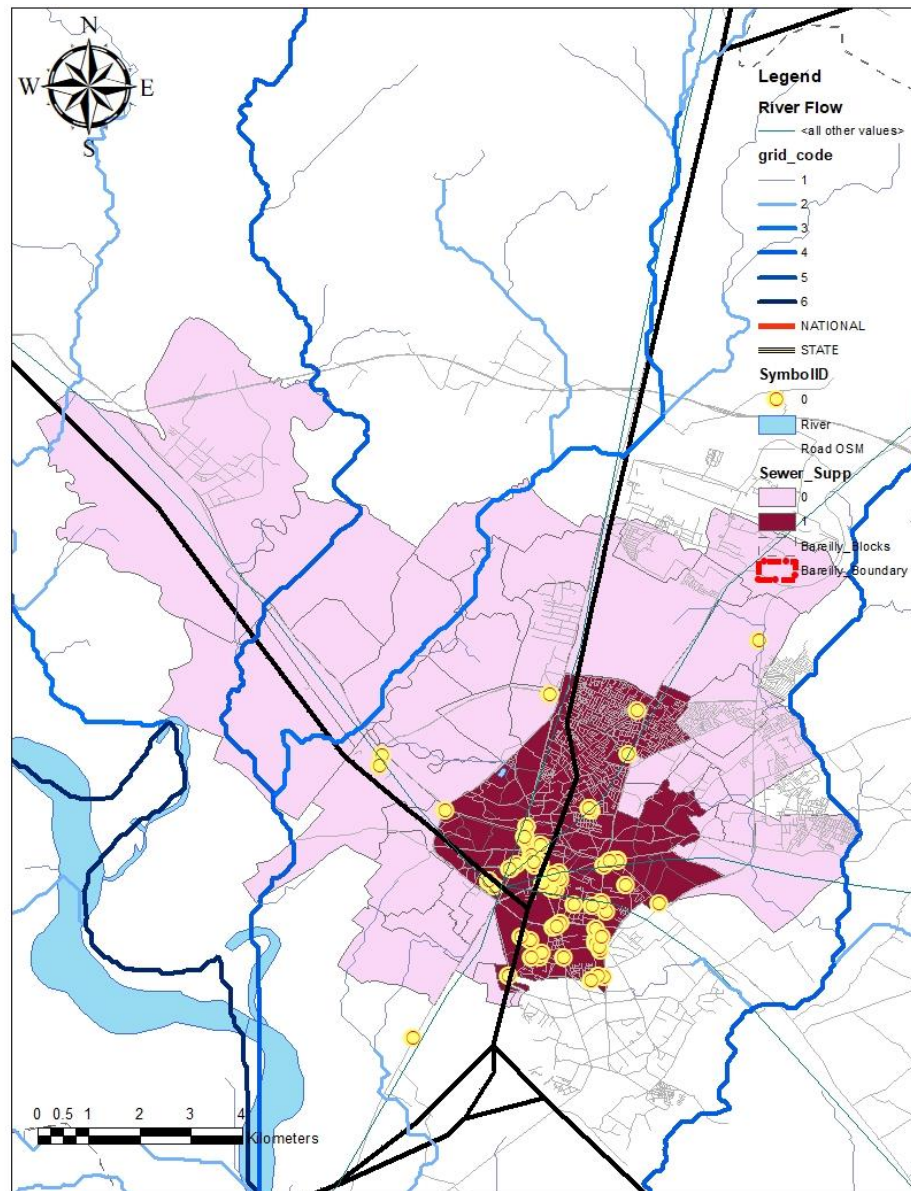


Figure 41 Flow of river



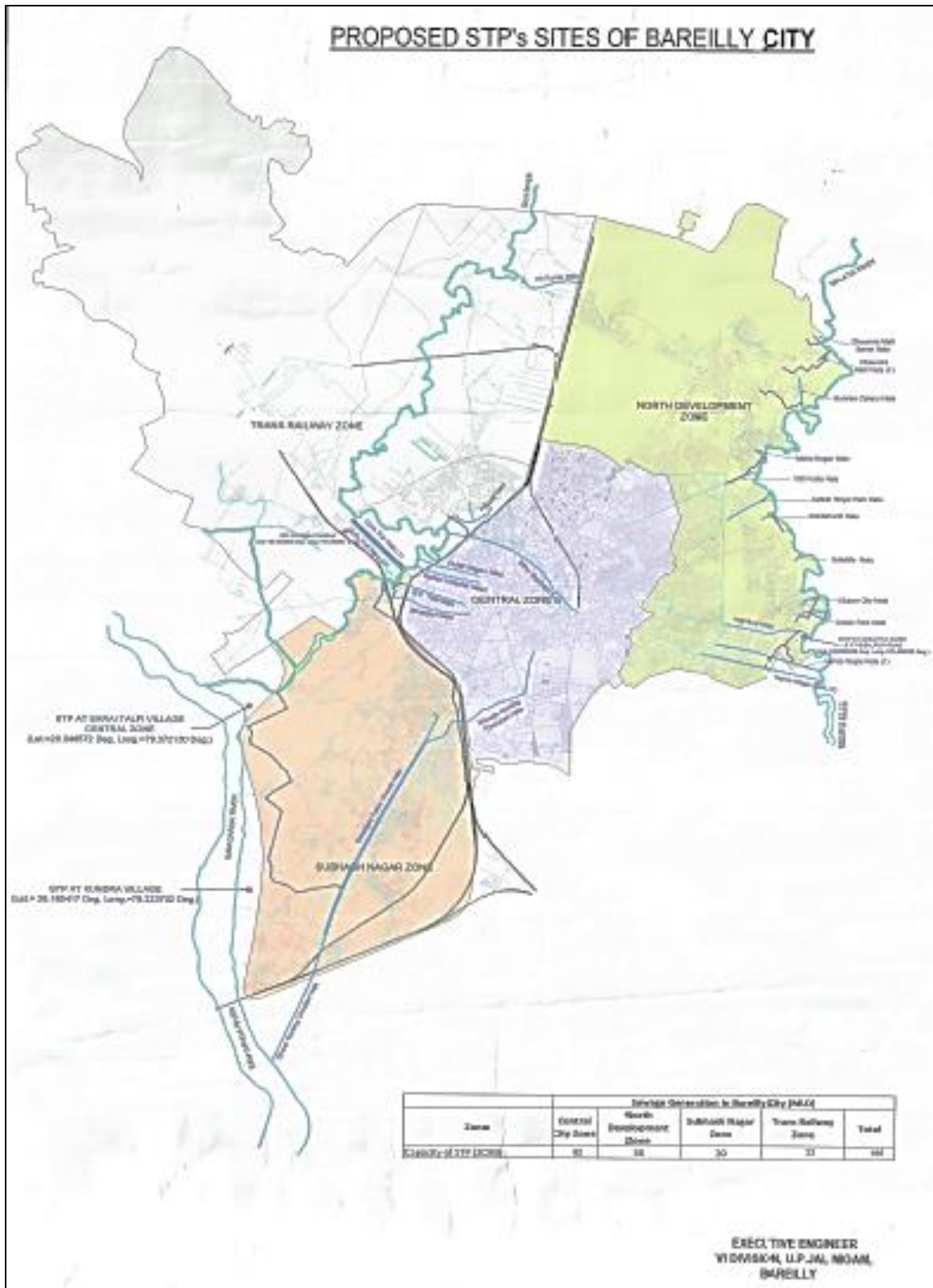


Figure 42 Proposed STP site



Total Length of sewerage network = 206.2 km

Total Waste water produced = 99.2 MLD

Zone	Sever Lines	
	Length	Area covered
	(km)	(sq. km)
Zone- 1	43	9
Zone -2	71	8.46
Zone -3	59	3.97
Zone -4	33	4.33
Total	206	25.76

*Source: SLB 2012, NNB

Intermediate Pumping Station and STP

ZONE-2: IPS-2 of I & D work. in zone-2 is proposed under I & D work of Bareilly city of 71 Km length . there is MPS provided in the STP campus.

Zone 3: IPS-2 of I & D work. in zone-3 is proposed under I & D work of Bareilly city of 59 Km length

ZONE-4: IPS-2 of I & D work. in zone-4 is proposed under I & D work of Bareilly city of 33 km length.

Works incorporated under this Detailed Project Report have been proposed for year of 2033.

Bareilly Smart City "ABD" Area is proposed to be covered with sewer system under Smart City Programme. Sewage Treatment Plants will also be provide for Treatment of sewage and discharge of effluent to the effluent management works for irrigation of cultivable land effluent will however by conveyed to the Natural Drainage when not required for Irrigation purposes.

Taking into consideration Topography/Gradient/Slope of Ground/Location of Railway Tracks i.e. from major drains under the Nagar Nigam area is proposed to be divided into 4 Zones.

In the proposed sewer system AC Pressure Pipes Manufactured by MAZZA Processing sizes 150/200mm and in higher sizes RCC Non-Pressure Pipes Class NP3 and NP4 have been proposed in accordance with provisions under the Guidelines issued under Atal Mission for Rejuvenation and Urban Transformation (AMRUT) Programme "Manual of Sewerage and Sewage Treatment CPHEEO" Ministry of Urban Development Government of India New Delhi and Relevant code of Bureau of Indian Standards New Delhi.

From the Sewage Treatment Plant effluent will be conveyed to effluent management works i.e. applied for Irrigation in agriculture fields during the period effluent is not required for irrigation purposes, it will be discharged into river.

Land requirement for Sewage Treatment Plant: Total Land Requirement for 7 MLD plant on SBR based technology is = 7 x 0.08 hect = 0.56 hectare land is required

Further, drains will be tapped under Namami Gange program

So benchmarking analysis of city by 2019 is as under

Table 0-1 Details of benchmarking analysis of city by 2019

S.No	Code	Input Nomenclature		Value
	I	COVERAGE OF TOILETS	%	100.5
		<i>Sanitation Coverage</i>		
1	XM	Total Number of Properties in the City	Number	142846
2	FA	Properties with toilets	Number	141900
3	FB	Households dependent on functional community toilets	Number	1630
4	FC	Total Number of Properties with access to toilets	Number	143530



S.No	Code	Input Nomenclature		Value
	II	COVERAGE OF SEWAGE NETWORK SERVICES	%	45.64
5	XM	Total Number of Properties in the City	Number	142846
6	FD	Properties with sewer connections	Number	65201
7	FE	Properties with onsite sanitary disposal	Number	136275
	III	COLLECTION EFFICIENCY OF SEWAGE NETWORK	%	0.00
		<i>Waste Water Production - Volume of Water Consumed and Waste Water Generated</i>		
8	FF	Volume of water consumed and billed from Domestic Connections	MLD	109
9	FG	Volume of water consumed and billed from Bulk supply - Apartments	MLD	0
10	FH	Volume of water consumed and billed from Bulk supply - Layouts/Societies	MLD	0
11	FI	Volume of water consumed and billed from Non domestic Connections	MLD	1
12	FJ	Volume of water consumed (both billed and unbilled) from Public taps	MLD	0.8
13	FK	Volume of water from free supplies (other connections)	MLD	0
14	FL	Volume of water consumed and billed from any other ULB sources	MLD	0
15	FM	Volume of water consumed from any Non ULB water sources	MLD	0
16	FN	Total Water Consumption (billed and unbilled) from ULB and Non ULB sources)	MLD	110.8
17	FO	Volume of waste water generated from Domestic Water Consumption	MLD	87.2
18	FP	Volume of waste water generated from Bulk Supply - Apartments	MLD	0
19	FQ	Volume of waste water generated from Bulk Supply - Layouts/Societies	MLD	0
20	FR	Volume of waste water generated from Non Domestic Water Consumption	MLD	0.8
21	FS	Volume of waste water generated from Public Tap Water Consumption	MLD	0.64
22	FT	Volume of waste water generated from free supplies (other connections)	MLD	0
23	FU	Volume of waste water generated from other ULB source water consumption	MLD	0
24	FV	Volume of waste water generated from Non ULB source Water consumption	MLD	0
25	FW	Total Waste Water Generated	MLD	88.64
		<i>Waste Water Collection and Treatment</i>		
26	FX	Volume of sewage actually treated at the Primary Treatment Plant	MLD	0
27	FY	Volume of sewage actually treated at Secondary Treatment Plant	MLD	0
28	FZ	Total Volume of Waste Water collected and Treated at Sewage Treatment Plants	MLD	0



S.No	Code	Input Nomenclature		Value
	IV	ADEQUACY OF SEWAGE TREATMENT CAPACITY	%	0.00
29	GA	Installed Capacity of Primary Treatment Plant	MLD	0
30	GB	Installed Capacity of Secondary Treatment Plant	MLD	0
31	GC	Total Installed Capacity (Primary + Secondary Treatment)	MLD	0
32	FW	Total Waste Water Generated	MLD	88.64
	V	EXTENT OF REUSE AND RECYCLING OF SEWAGE	%	#DIV/0!
33	FY	Volume of sewage actually treated at Secondary Treatment Plant	MLD	0
34	GD	Volume of treated waste water reused after Secondary Treatment	MLD	0
	VI	QUALITY OF SEWAGE TREATMENT	%	#DIV/0!
		<i>Discharge Compliance after Secondary Treatment of Sewage</i>		
35	GE	Number of Treated Effluent Samples Tested in the previous year	Number	0
36	GF	Number of Treated Effluent Samples Passed in the previous year	Number	0
	VII	EFFICIENCY IN REDRESSAL OF CUSTOMER COMPLAINTS	%	93.65
		<i>Consumer Services</i>		
37	GG	Sewage related Complaints received during the year	Number	1890
38	GH	Sewage related Complaints resolved within 24 hours during the year	Number	1770
	VIII	EXTENT OF COST RECOVERY IN SEWAGE MANAGEMENT	%	81.4
		<i>Financial Information - Annual Operating Expenses</i>		
39	GI	Regular Staff and Administration	Rs. Lakhs	230.00
40	GJ	Outsourced /Contract Staff Costs	Rs. Lakhs	37.00
41	GK	Electricity Charges /Fuel Costs	Rs. Lakhs	70.00
42	GL	Chemicals Costs	Rs. Lakhs	0.00
43	GM	Repairs/Maintenance Costs	Rs. Lakhs	79.00
44	GN	Contractor Costs for O&M	Rs. Lakhs	10.00
45	GO	Others (Specify)	Rs. Lakhs	90.00
46	GP	Total Annual Operating Expenses	Rs. Lakhs	516.00
		<i>Financial Information - Annual Operating Revenues</i>		
47	GQ	Arrears at the beginning of previous year (2017-18)	Rs. Lakhs	70.00
48	GR	Revenue demand from user charges - sewerage only	Rs. Lakhs	0.00
49	GS	Revenue demand from tax/cess - sewerage only	Rs. Lakhs	414.00
50	GT	Revenue demand from other sources (eg. connection costs/donations etc.)	Rs. Lakhs	6.00
51	GU	Total Revenue Demand of the previous year (Current Demand of previous year)	Rs. Lakhs	420.00
	IX	EFFICIENCY IN COLLECTION OF SEWAGE CHARGES		85.7
52	GU	Total Revenue Demand of the previous year (Current Demand of previous year)	Rs. Lakhs	420.00
53	GV	Collection against arrears (2017-18)	Rs. Lakhs	58.00



S.No	Code	Input Nomenclature		Value
54	GW	Collection against current demand (2018-19)	Rs. Lakhs	360.00
		Additional Information (Optional)		
		Staff Information		
55	HA	Senior Management (Sanctioned)	Number	0
56	HB	Senior Management (Working)	Number	0
57	HC	Engineers (Sanctioned)	Number	2
58	HD	Engineers (Working)	Number	1
59	HE	Clerks/Accountants (Sanctioned)	Number	1
60	HF	Clerks/Accountants (Working)	Number	1
61	HG	Labourers/Cleaners (Sanctioned)	Number	66
62	HH	Labourers/Cleaners (Working)	Number	53
63	HI	Total (Sanctioned)	Number	69
64	HJ	Total (Working)	Number	55
		Septage Management		
65	HL	Does the ULB practice septage management	Yes/No	Yes
66	HM	Septage sucking machines available within ULB	Number	3
67	HN	Private Septage machines licensed by ULB	Number	2
		Connection Costs for Sewerage Connections		
68	HO	Residential - General	Rs	775
69	HP	Residential - Urban Poor	Rs	775
70	HQ	Institutional	Rs	5582
71	HR	Commercial	Rs	5582
72	HS	Industrial	Rs	10373
		Sewerage Tariff Structure - Flat Rate Tariff		
73	HT	Residential - General	Rs./Month	2.5% of ARV
74	HU	Residential - Urban Poor	Rs./Month	2.5% of ARV
75	HV	Institutional	Rs./Month	2.5% of ARV
76	HW	Commercial	Rs./Month	2.5% of ARV
77	HX	Industrial	Rs./Month	2.5% of ARV
		Sewerage Tariff Structure - Volumetric Tariff		
78	HY	Residential - General	Rs./KL	0
79	HZ	Residential - Urban Poor	Rs./KL	0
80	IA	Institutional	Rs./KL	0
81	IB	Commercial	Rs./KL	0
82	IC	Industrial	Rs./KL	0

4.2.1 Issues:

Over the year Sewerage Generation will be as under



Table 0-2 Sewerage Generation over Year

Sewerage Generation		2021	2026	2031	2036	2041	2046	2051
A	Municipal Area	123	135	155	169	183	199	215
B	Cantonment Board	4	5	5	6	7	8	9
C	Total Villages within Planning Boundary	30	34	38	42	53	59	66
D	Total Census Towns within Planning Boundary	11	12	13	15	19	21	23
E	Total Planning Boundary Population	168	185	210	231	262	287	313

Source: Analysis

Coverage:

The present population of Bareilly is approximately 1554063, as against the combined design population of 1140717 for stage I and stage II sewerage schemes. Thus even after the Stage II scheme, designed to cover 165 MLD for 2033 where as by 2036 the discharge within Municipal area will be 169 MLD, the entire present population of the city will not be covered.

ii) Sewer Connections:

Out of total households, only 50 properties have been connected to the sewers. Even allowing for some unauthorized connections, the utilization of the sewer network appears to be extremely poor. The number of properties connected to the sewer network is abysmally small. An urgent and concerted drive to increase the number of sewer connections is called for.

Need of Updated Map of Sewer Network:

Unless an updated map showing all the sewers laid so far is prepared, an action plan to improve the coverage and utilization of the sewerage system will not be accurate or fruitful.

(iv) Unauthorized Lifting of Sewage:

Very little quantity of sewage appears to be reaching the treatment plant. Farmers lift the raw sewage from the manholes of out fall sewers and use it for agricultural purpose.

Performance of Sewage Treatment Plant

Measurement of sewage flow entering the sewage treatment plant and the characteristics of the influent and effluent needs to be done on a regular basis to know the effectiveness and efficiency of the sewer network and STP.

4.3 Stormwater Drain

The total length of roads in the City of Bareilly is 832 km out of which only 105 km stretch has closed stormwater drains translating to 12.62%. There are three natural drains in the city namely the Deveraniya drain, Chaubari drain and Nakatiya river/drain. Table 1-1 depicts the characteristic features of the Deveraniya drain while Table 1-2 and Table 1-3 depict the characteristic features of the Chaubari drain & Nakatiya drain respectively.

4.3.1 Deveraniya drain

Table 0-3 Deveraniya drain – characteristic features

Sr. No	Description	Remarks
--------	-------------	---------



1	Point of origin	Sarai Talfi
2	Point of discharge	River Ramganga
3	Distance of discharge point from city limits	24 km
4	Quantity of sewage let into this drain	102.80 MLD
5	Water quality in drain (pH)	7.20
6	BOD value	39.8
7	COD value	80
8	TSS value	89

(Source: CSP Bareilly)

4.3.2 Chaubari drain

Table 0-4 Chaubari drain – characteristic features

Sr. No	Description	Remarks
1	Point of origin	Subash Nagar
2	Point of discharge	River Ramganga
3	Distance of discharge point from city limits	11 km
4	Quantity of sewage let into this drain	51 MLD
5	Water quality in drain (pH)	7.1
6	BOD value (mg/L)	33.2
7	COD value (mg/L)	200
8	TSS value (mg/L)	70

(Source: CSP Bareilly)

4.3.3 Nakatiya drain

Table 0-5 Nakatiya drain – characteristic features

Sr. No	Description	Remarks
1	Point of origin	Deen Nagar
2	Point of discharge	River Ramganga
3	Distance of discharge point from city limits	100 km
4	Quantity of sewage let into this drain	24 MLD
5	Water quality in drain (pH)	7.30
6	BOD value	44.8
7	COD value	120
8	TSS value	114

(Source: CSP Bareilly)

4.4 SOLID WASTE MANAGEMENT

The total solid waste generated in Bareilly is 447.18 Tonnes Per Day (TPD). However, at present, the amount of solid waste collected is only 430 TPD. Of the collected solid waste (Nearly) 140 TPD is processed while the remaining 290 TPD is disposed off in the dump yard. At present, there is no household source segregation. Two solid waste management plants exist (i) At Rajau Paraspur and (ii) At Bakarganj, out of which the SWM plant in Rajau Paraspur is non-operational. Table 6-6 represents the background & status of the Rajau Paraspur SWM plant:

Table 0-6 SWM Plant in Rajau Paraspur

Sr. No	Description	Remarks
--------	-------------	---------



1	Land Extent	21.20 Acres
2	Status	Commissioned in 2013 and is abandoned for the past five years
3	Reason For Non-Existence In Operation	Owing to local agitation from citizens as it is located near forest land. Subsequently the National Green Tribunal (NGT), on the grounds of unsafe waste disposal practices, has suspended the functioning of the treatment plant.
4	Facilities Covered	Organic Waste Conversion (OWC) and sanitary landfill
5	Recommendation	Suitably can be relocated to another location which is free from any ecologically-sensitive hindrances. The plant thus relocated will be able to reduce the treatment burden of the existing plant at Bakarganj



Figure 43 Rajau Paraspur SWM Plant



Figure 44 Abandoned approach in Rajau Paraspur SWM Plant

Table 0-7 Represents the background & status of the Bakarganj SWM Plant:

Sr. No	Description	Remarks
1	Land Extent	17 Acres
2	Status	In operation since December 2021
3	Facilities Covered	Bioremediation I.E., conversion of waste to Refuse Derived Fuel (RDF)
4	Salient Features	<ul style="list-style-type: none"> • Dumping area: 6 acres • Operational hours: 20 • Operating capacity: 600 TPD • Incoming waste at present: 350 TPD



Sr. No	Description	Remarks
5	Operating Mode	Public-Private Partnership (PPP) under the “Construct Operate And Maintain” model through 10 years of concession

4.4.1 Projected Solid Waste Generation

The solid waste generation, though measured at the city level, should also be measured and calculated for the entire planning area considered in the ambit of the Vision Plan for Bareilly City. Hence, it is imperative to include those additional areas such as the Cantonment Board Area, Town Villages within the planning boundary and census towns in the planning boundary in addition to the existing Municipal Corporation Area. As a result, the total population for the Year 2021 (Base Year), the year 2036 (Intermediate Year) and the year 2041 (Ultimate Year) are considered for the projection of the solid waste generation as well. The ensuing sections discuss the solid waste generation projection for different scenarios. Table 6-8 represents the solid waste generation projection for the Municipal Corporation area of Bareilly

Table 0-8 Solid waste generation projection – Municipal Area

S. No	Population Year	Population	Solid Waste Generation (TPD)	Organic Waste (TPD)	Existing SWM Plant Capacity (TPD)	Sufficiency	Gap (TPD)	Inorganic Waste (TPD)
1	2021	1,140,717	491	294	600	No Gap	0	196
2	2036	1,561,400	671	403	600	No Gap	0	269
3	2051	1,991,891	857	514	600	No Gap	0	343

Note: If the projected organic waste is found to be higher than the existing SWM plant capacity, then a gap is observed. Inorganic waste is not considered to be treated and handled within the premises of the SWM plant at present.

Inference:

- Even upon an increase in the population up to the ultimate year (2051), the existing plant in Bakarganj shall be able to handle the organic waste to be generated over the years
- Thus, a need for the development of a new facility doesn't arise if only the municipal area solid waste generation is projected over the project horizon

Table 6-9 depicts the solid waste generation projection for the entire planning area of the Bareilly master plan excluding the cantonment board area

Table 0-9 solid waste generation projection – planning area excluding Cantonment Board Area

S. No	Population Year	Population	Solid Waste Generation (TPD)	Organic Waste (TPD)	Existing SWM Plant Capacity (TPD)	Sufficiency	Gap (TPD)	Inorganic Waste (TPD)
1	2021	1518645	653	392	600	No Gap	0	261
2	2036	1670832	718	431	600	No Gap	0	287
3	2051	2813243	1210	726	600	Gap Exists	125.82	484

Note: If the projected organic waste is found to be higher than the existing SWM plant capacity, then a gap is observed. inorganic waste is not considered to be treated and handled within the premises of the SWM plant at present.



Inference:

- In the ultimate planning year (2051), the projected organic solid waste is found to exceed the existing plant capacity of Bakarganj.
- Assuming that the entire solid waste generated from the Municipal Area, Villages, and Census towns in the planning area of the overall Bareilly Master Plan area is treated in the Bakarganj SWM plant, it is observed that until 2036, the existing Bakarganj SWM Plant will be sufficient to handle and treat the solid waste only.
- It is essential to set up a new SWM plant, preferably as an alternative to the abandoned Rajau Paraspur SWM plant, wherein the maximum design capacity can be 125 TPD and the proposed new SWM plant can be developed post-2036 in a phased manner.



Figure 46 Dumping yard in Bakarganj SWM plant



Figure 45 Treatment facility in Bakarganj SWM plant

Cities in India

The best practices leading to successful management of collection, handling, conveyance and treatment of solid waste in various Indian cities are analysed and a few inferences are attempted in this section.

Table 0-10 Case study of successful SWM practice – Alappuzha

Case Study Location	Alappuzha
State	Kerala
Major Success Factors	Source-level segregation and decentralised solid waste management Marginalised community involvement in rag picking
The economic impact on corporation	<ul style="list-style-type: none"> • Employment opportunities for more than 90 Self-Help Group (SHG) members • Average daily earnings of Rs. 400 per member of SHG through this initiative • Waste dumped into water bodies is minimised thereby improving the ecological health of the City
Relevance to Bareilly Municipal Corporation (BMC)	Engaging source-level segregation through the marginalised community will be a Win-Win situation wherein the BMC shall minimise the amount of waste being processed and also it shall employ marginalised communities thereby improving their livelihoods

Source: Atin Biswas, Subhasish Parida et al. 2021, *Waste-Wise Cities: Best practices in municipal solid waste management*, Centre for Science and Environment and NITI Aayog, New Delhi.

Table 6-11 represents the outcome of the case study of successful SWM practice in Bhopal in Madhya Pradesh

Table 0-11 Case study of successful SWM practice – Bhopal



Case study location	Bhopal
State	Madhya Pradesh
Major success factors	<ul style="list-style-type: none"> • Source-level segregation • Decentralised solid waste management • Formalising awareness campaigns for citizen participation • Leveraging the informal sector into the channel of formal solid waste management • Marginalised community involvement in rag picking
The Economic Impact On Corporation	<ul style="list-style-type: none"> • Reduced capital cost for SWM • Decrease in operational expenses by maximising the efficiency • Achieving 100 % source segregation has led to an increase in the efficiency of SWM • Reduced infrastructure costs and augmented the operational revenue by achieving a high rate of material processing
Relevance To BMC	<ul style="list-style-type: none"> • Engaging citizen awareness programme such as “Carry Your Own Bag” and “Community Composting” are some of the initiatives which can be replicated to attain sustainable sanitation in BMC • Over the long run, the operational efficiency of waste handling can be increased thereby resulting in decreased operational expenditure for BMC

Source:

Atin Biswas, Subhasish Parida et al. 2021, *Waste-Wise Cities: Best practices in municipal solid waste management*, Centre for Science and Environment and NITI Aayog, New Delhi.



Chapter 5. ECONOMY

5.1 ECONOMIC PROFILE OF BAREILLY

Bareilly is one of the fastest growing cities of India and the reason behind its growth story is its rapidly booming economy through various sectors, however Bareilly is still an agri based economy largely but there are a few traditional sectors as well like Zari Work, Bans Work, Kite making etc. The existing industrial set up of Bareilly is flourishing mostly with agri based products.

In the field of medical and Health Care, Bareilly is among one of the leading cities of Uttar Pradesh. In terms of medical facilities, the city serves as a gateway to the patients of the Kumaun, Rohilkhand, and West Nepal region.

Bareilly is an educational hub of Western Uttar Pradesh with multiple universities and research institutes. Bareilly College, located in the heart of city, is among the oldest educational institutions in India, built prior to the Revolt of 1857. Bareilly is a seat of M. J. P. Rohilkhand University and it also hosts Indian Veterinary Research Institute and Central Avian Research Institute.

The city holds numerous Engineering Colleges, Management Colleges, Law Colleges, Medical Colleges, and also there are colleges running general courses. The city is equidistant from New Delhi (public capital) and Lucknow, the capital of Uttar Pradesh. This makes Bareilly a nodal point between two significant urban communities of India.

5.2 Methodology for Existing Situation analysis



This section is aimed at presenting the status of the district's economy, people and tracing the past economic growth path in a way that will facilitate the assessment of the structural changes that have occurred over a period of last 10 years (2011-12 to 2019-20). In this assessment, the three main aspects considered are:

- i. Size of the economy in terms of Gross Domestic Product (GDP) at factor cost (FC) estimated at current prices,
- ii. Per capita income estimated based on Net state Domestic Product and
- iii. Sectoral composition (Primary, Secondary, and Tertiary).
- iv. Detailed analysis of MSME
- v. Handicrafts of Bareilly
- vi. Health and education infrastructure
- vii. Real estate development

This structural analysis conducted for district identifies the growth drivers of the past. The economic profiling and assessments are conducted at the district level based on data of concerned district. The economic data obtained from the Directorate of Economics and Statistics; Government of Uttar Pradesh (UPDES) is extensively relied upon.








Broad overall methodology to carry out assessment of economy is depicted below:

As-Is Assessment - Economy			
Sector	Focus Area	Tasks	Identified Outcomes
Economy	 GDP and CPI	→ Sectoral trend based analysis	Potential & Growing sector
	 Sector of Economy	→ Primary, Secondary, Tertiary	
	 Demographic	→ Work Force participation rates	Major Contributors
	 Analysis of industries	→ Based on Output, Investment & Employment	Growing Industrial sector
	 Handicraft	→ Understanding of challenges and potential	Revival strategies
Infrastructure	 Health Infrastructure	→ Number, capacity, Gap Assessment	Gaps in comparison to URDPFI
	 Education Infrastructure	→ Number, capacity, Gap Assessment	
	 Real Estate	→ Growth Direction, Project & Pricing trend, Demand	Potential areas of development
Interventions	 Government interventions	→ Project, Proposals, Schemes, Master Plans	Induced impact of proposals








Existing situation assessment was thoroughly accompanied by the stakeholder discussions and the objectives of discussion were:

- 1) Identifying the key challenges and issues in the sector.
- 2) Identifying the factors limiting the ability of stakeholder to address pressing issues.
- 3) Identifying areas which are not covered presently or has scope for development.

Following are the list of stakeholder meetings held with respect to economic aspect assessment of Bareilly:

Component/ Item	Date	Concerned Person	Stakeholder
Industries 	25.01.2022	Mr. Abhinav Agarwal, President	Central U.P. Chamber of Commerce & Industry
Automobile industries 	25.01.2022	Mr. Alpit Agarwal, Secretary	Federation of Automobile Association
Hospitality Sector 	25.01.2022	Mr. Puneet Saxena Treasurer, HRANI Partner, Hotel Uberoi Anand	Association of Hoteliers of Bareilly
Commercial sector 	25.01.2022	Mr. Rajendra Gupta – Provincial General Secretary	U.P. Udhog Vyapar Mandal
Real Estate 	27.01.2022	Mr. Ramandeep Singh, Designation – Chairman, Position in Credai – President	CREDAI BAREILLY - Association or organization



Component/ Item	Date	Concerned Person	Stakeholder
Health Sector 	28.01.2022	Dr. Vimal Bharadwaj, President IMA Bareilly	Indian Medical Association, Bareilly Chapter
Industries 	28.01.2022	Mr. Ashish Khandelwal	BL Agro Industries (private industry)
Handicraft 	07.02.2022	Nadeem Hussain (General Secretary)	Artisans, Dastkar Bunkar Welfare Association Bareilly, Govt. Common Facility Centre – Bamboo and Beint
Handicraft 	07.02.2022	Pulkit Jain (Development Commissioner)	Office of the Development Commissioner (handicrafts)
Industries 	09.02.2022	Mr. Neeraj Goel - Chapter Chairman Mr. Tanuj Bhasin - Chapter Head Mr. Mayur Dheerwani – Treasurer	Indian Industries association – Bareilly Chapter
Health Sector 	09.02.2022	Mr. Harpal Singh Additional Chief Medical Officer	Office of Chief Medical Officer
Industry 	15.03.2022	Mr. Atul Gangwar	Horticulture Department Bareilly

Two days multistakeholder discussion

Date: 14 th March 2022 Venue: BDA office complex	Attendees: <ul style="list-style-type: none"> Representatives from Chamber of Commerce Mr. Dinesh Goel, National Secretary; Mr. Bhasin, Secretary, Indian Industry Association (IIA) Representatives from Laghu Udyog Bharti
Date: 15 th March 2022 Venue: BDA office complex	Attendees: <ul style="list-style-type: none"> Mr Rajeev Kumar Agarwal, President, UP Nursing Home Council Mr. Durgesh Kumar, Senior Vice President, Udhog Mandal



Data sources referred:

Items	Period	Sources
GDDP	2011-2020	For GDDP and Primary, Secondary, Tertiary sector data, we have considered two sources because in first source, data up to 2016 - 2017 was given. The two sources considered are as follows: 1) District Domestic Product (2011-2017) ¹ as per UPDES Portal 2) District Domestic Product Report (2019-20) ²
Primary, Secondary, Tertiary Economic sector		
Per Capita Income		
Industrial profile	2010 - 2011 (latest)	Existing Micro & Small Enterprises and Artisan Units ³
MSME sector - Output, Investment and Employment	2013-2018 (5 years)	Annual Survey of Industries (ASI) report 2017-18 ⁴
Industries employment & investment	22 nd Dec 2020 to 31 March 2021 (4 months)	Data provided by DCI is of Industries employment & investment of 4 months only. Therefore, data from the wholistic ASI 2017-18 report is considered.
Existing Industrial Area	2022 (Latest)	U.P. State Industrial Development Authority Portal ⁵
Crop Production Statistics	2018-19 (Latest)	Crop Production Statistics for Bareilly 2018-19 ⁶
Demographic figures	2011 (Latest)	Census of India 2011
Modes of income and Literacy completion status	2011 (Latest)	Socio Economic and Caste Census (SECC) 2011 ⁷
Mines	2022 (latest)	Directorate of Geology & Mining Government of Uttar Pradesh ⁸
Tourist footfall	2015 - 2019 (latest)	Tourist footfall information ⁹
Skill mapping	Valid for period 2013-2023	District wise skill gap study for the State of Uttar Pradesh by National Skill Development Corporation (NSDC) in 2013 ¹⁰
Existing health and education infrastructure at district level	2020 (latest)	Statistical journal internet-based data entry and retrieval system, 2020 ¹¹

¹ [http://updes.up.nic.in/esd/STATE_ACC_STATISTICS/NDDP_&_GDDP/statedomestic\(b\).htm](http://updes.up.nic.in/esd/STATE_ACC_STATISTICS/NDDP_&_GDDP/statedomestic(b).htm)

² <http://updes.up.nic.in/esd/Book/DDP2019-20%20M21.pdf>

³ <http://dcmsme.gov.in/old/dips/Bareilly.pdf>

⁴ [http://updes.up.nic.in/esd/Industrial_Statistics/ASI/Industrial%20Statistics\(a\).htm](http://updes.up.nic.in/esd/Industrial_Statistics/ASI/Industrial%20Statistics(a).htm)

⁵ <https://gis.onlineupsidc.com/>

⁶ https://aps.dac.gov.in/APY/Public_Report1.aspx

⁷ <https://secc.gov.in/>

⁸ <http://dgmup.in/minerallist/home/MineralRate>

⁹ <http://www.uptourism.gov.in/pages/top/about-up-tourism/year-wise-tourist-statistics>

¹⁰ <https://nsdcindia.org/sites/default/files/files/up-sg-report.pdf>

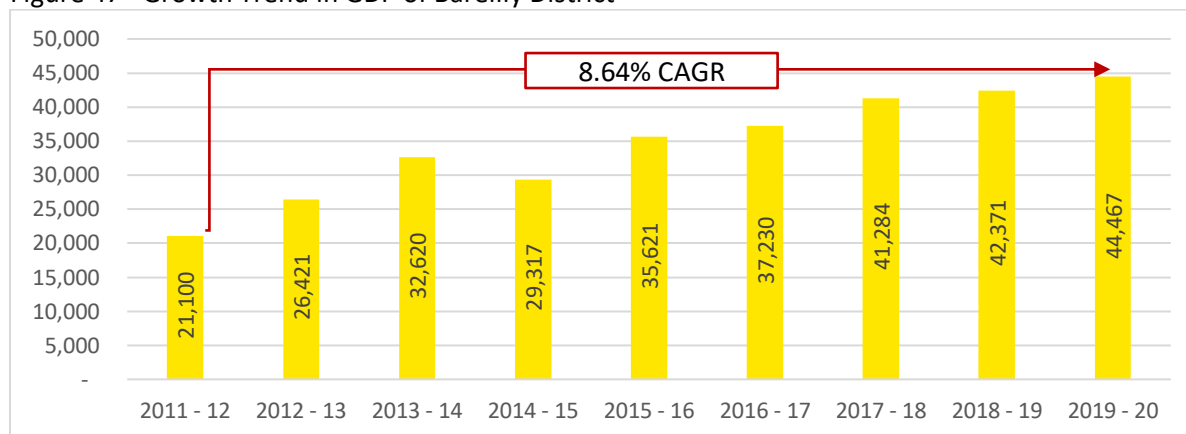
¹¹ <http://updes.up.nic.in/spiderreports/intialisePage.action>



5.3 Gross Domestic Product (GDP) analysis

GDP is analyzed at district level due to un-availability of the data at city level. The district economy grew at the rate of 8.64% CAGR (compounded annual growth rate) during 2011-12 and 2019-20 while the state’s economy grew at the rate of 8.72% CAGR. The GDP growth of the Bareilly district has been slightly less than the state’s economic growth over the same period.

Figure 47 - Growth Trend in GDP of Bareilly District



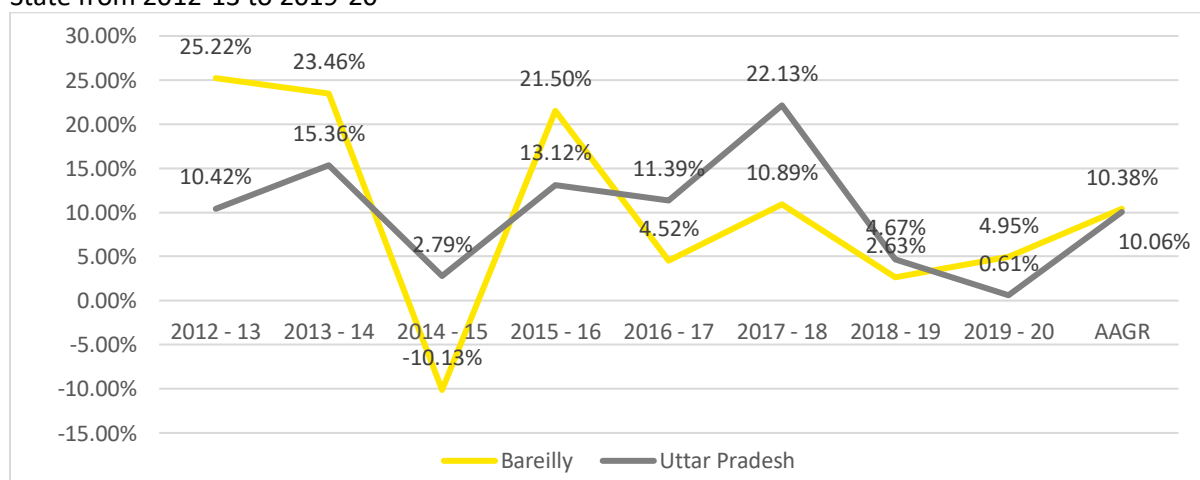
Source: Consultant analysis of data published on <http://updes.up.nic.in/esd/Book/DDP2019-20%20M21.pdf>

Table 5-1 Fluctuations in annual real economic growth rate (GDDP at Current Prices) of District vs State from 2012-13 to 2019-20

Area	2012 - 13	2013 - 14	2014 - 15	2015 - 16	2016 - 17	2017 - 18	2018 - 19	2019 - 20	AAGR
Bareilly	25.22%	23.46%	-10.13%	21.50%	4.52%	10.89%	2.63%	4.95%	10.38%
Uttar Pradesh	10.42%	15.36%	2.79%	13.12%	11.39%	22.13%	4.67%	0.61%	10.06%

Source: Consultant analysis of data published on [http://updes.up.nic.in/esd/STATE_ACC_STATISTICS/NDDP & GDDP/statedomestic\(b\).htm](http://updes.up.nic.in/esd/STATE_ACC_STATISTICS/NDDP & GDDP/statedomestic(b).htm)

Figure 48 - Fluctuations in annual real economic growth rate (GDDP at Current Prices) of District vs State from 2012-13 to 2019-20



Source – District Domestic Product Report 2019-20



Table 5-2 GDP of State vs District GDP

Items	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	2016 - 17	2017 - 18	2018 - 19	2019 - 20
Share of Bareilly District in State GDP	11.61%	13.16%	14.09%	12.32%	13.23%	12.41%	11.27%	11.05%	11.53%

Source – District Domestic Product Report 2019-20

As depicted in table above, the GDDP contribution (at current prices) of region to State's economy has remained uniform from 11.61% in 2011-12 to 11.53% in 2019-20. Overall share of Districts contribution to state GDP in last 9 years have remained constant with minor changes. Though, year-on-year micro analysis suggest that the share of the district seem to be on declining trend. There is a substantial chunk (~2.5%) has eroded in the state pie from year 2013-14 to 2019-20. It indicates that the other districts are moving at faster pace and therefore capturing larger chunk of the state pie in the overall productivity. Therefore, there is a clear case of accelerating the growth and productivity in order to maintain / improve its tally in the bigger scheme of economic development.

5.4 Work force participation analysis

Work force participation is analyzed at district level and city level as below:

5.4.1 Work force participation (WRP) analysis based on Census 2011 for Bareilly district

In Bareilly district out of total population, 14 lakh were engaged in work activities which is approximately 32% of the total population. Approximately 68% of the population is identified as non-working population. 74.5% of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 25.5% were involved in Marginal activity providing livelihood for less than 6 months.

Table 5-3 Work force participation (WRP) for Bareilly district

Classification	Total	Male	Female
Main Workers	10,43,912	9,10,612	1,33,300
Marginal Workers	3,58,059	2,42,394	1,15,665
Total Workers = Main Workers + Marginal Workers	14,01,971	11,53,006	2,48,965
Non-Working	30,46,388	12,04,659	18,41,729

Source - Census of India 2011

Table 5-4 Main Workers Classification for Bareilly district

Main workers Classification	Total	Male	Female
Cultivators	3,23,067	3,03,700	19,367
Agriculture Labourer	2,10,945	1,95,910	15,035
Household Industries	80,554	50,431	30,123
Other Workers	4,29,346	3,60,571	68,775

- Cultivators
- Agriculture Labourer
- Household Industries
- Other Workers

Source - Census of India 2011



Of 14 lakh workers engaged in Main Work, approximately 3 lakh were cultivators (owner or co-owner) while approximately 2 lakh were Agricultural labourer which is more than 50% of the main workers population combined.

As per Census of India 2011, majority i.e., more than 50% of the main workers at district level are indulged in primary sector.

5.4.2 Work force participation (WRP) analysis based on Census 2011 for Bareilly Municipal Corporation & outgrowth area

In Bareilly Municipal Corporation & outgrowth out of total population, approximately 3 lakh were engaged in work activities which is approximately 34% of the total population and 66% of the population is identified as non-working population.

In Bareilly Municipal Corporation & outgrowth out of total population, approximately 3 lakh were engaged in work activities which is approximately 34% of the total population and 66% of the population is identified as non-working population.

Table 5-5 Work force participation (WRP) for Bareilly Municipal Corporation and outgrowth area

Classification	Total	Male	Female
Main Workers	2,35,736	1,97,925	37,811
Marginal Workers	67,656	45,798	21,858
Total Workers= Main Workers + Marginal Workers	3,03,392	2,43,723	59,669
Non-working population	6,01,405	2,33,792	3,67,613

Source - Census of India 2011

Out of working population, approximately 77.7% of workers describe their work as Main Work (Employment or Earning more than 6 Months) while 22.3% were involved in Marginal activity providing livelihood for less than 6 months. Of 3 lakh workers engaged in Main Work, 4,776 were cultivators (owner or co-owner) while 9,173 were Agricultural labourer.

Table 5-6 Main Workers Classification for Bareilly Municipal Corporation and outgrowth area

Main Workers Classification	Total	Male	Female
Cultivators	4,776	3,933	843
Agriculture Labourer	9,173	7,943	1,230
Household Industries	27,855	20,117	7,738
Other Workers	1,93,932	1,65,932	28,000
Total	2,35,736	1,97,925	37,811

Source - Census of India 2011

As per Census of India 2011, majority of the main workers are indulged in secondary and tertiary sector, and approximately 6% of the main workers are involved in primary sector.

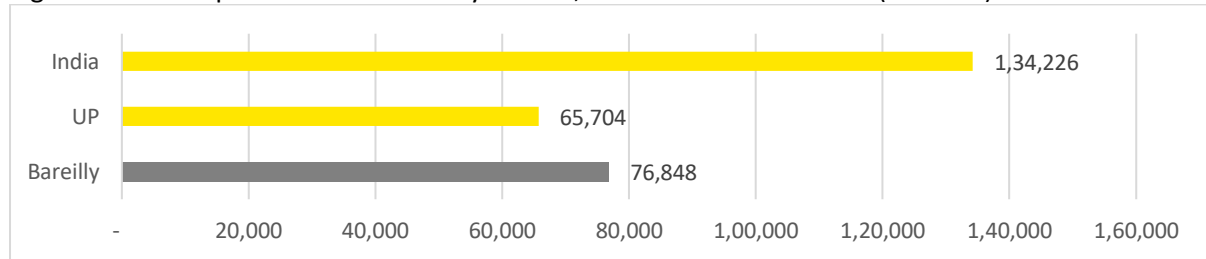


5.4.3 Per capita income

Per capita income measures the average income earned per person in a given area. Per capita income of Bareilly is analysed at district level due to un-availability of the data at city level.

Bareilly district's average per capita income considered for evaluation for 2019-20 is estimated at INR 76,848 which is higher than the state's average per capita income of INR 65,704 for the same year.

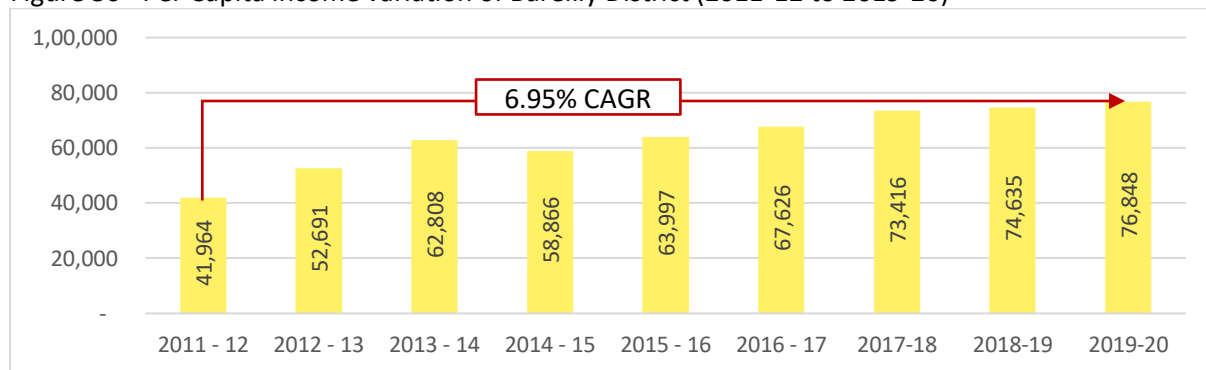
Figure 49 - Per capita income of Bareilly District, Uttar Pradesh and India (2019-20)



Source: http://updes.up.nic.in/esd/reports_publication_Elib_public.htm

Per capita income of the district has grown at an average rate of 6.95% between 2011-12 and 2019-20 and the growth witnessed at the state level was 8.32% during the same period. While, at the country level, the growth was at 9.8% during the same period.

Figure 50 - Per Capita income variation of Bareilly District (2011-12 to 2019-20)



Source – District Domestic Product Report 2019-20

5.5 Ease of Living Index

The Ease of Living (EOL) Index measures the wellbeing of the citizens in 111 cities, including cities identifies under the Smart City Mission, capital cities and cities with a population more than 1 million. As a data – driven evaluation tool that quantifies the performance of cities across several parameters, the index also empowers cities to use evidence – based planning and implementation. The models used for the assessment also aligns with the Sustainable Development Goals (SDGs), making EOL a convenient means to track the urban India's progress towards achieving SDGs Goals in the cities.

The recent Ease of Living (EOL) Index 2020 for Bareilly city has shown poor performance whereas the recent Municipality Performance Index (MPI) 2020 for the city has shown a satisfactory performance. In case of EOL, Bareilly city stood at 47th Rank among 49 cities with population more than 1 million.

In order to understand the poor performance of the city in case of EOL as well as to identify the strengths and weaknesses of the city, it is important to analyse the various pillars and categories scores of Ease of Living Index (EOL) and Municipality Performance Index (MPI).

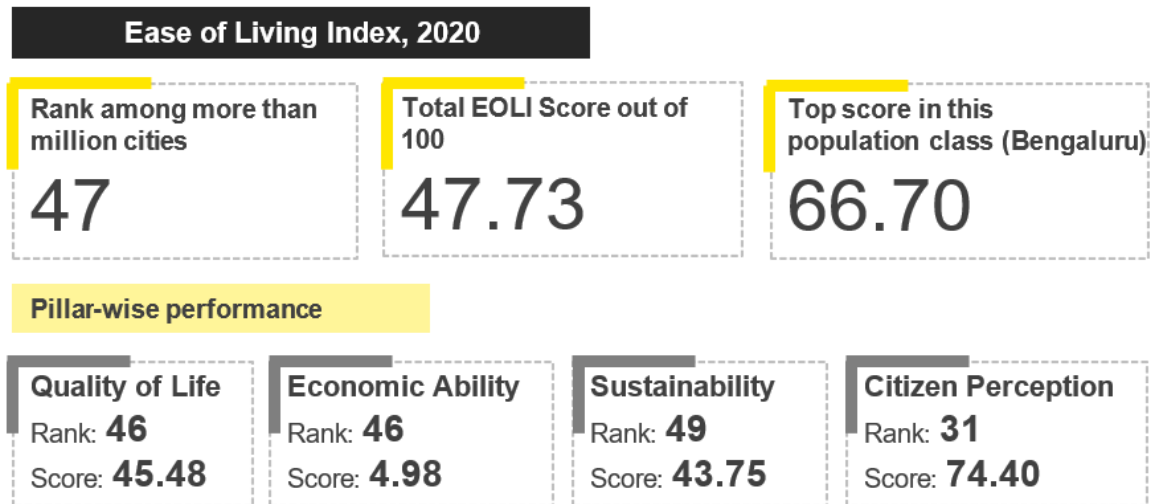
The various pillars being analyzed in terms of EOL are

- Quality of Life,



- Economic Ability¹²,
- Citizen perception and Sustainability.

Figure 51 - Ease of Living Index 2020



Source: City Rankings 2020 (URL - smartcities.gov.in)

From the analysis of above stated various pillars of EOL, it is inferred that Bareilly city has shown poor performance in the case of two pillars, i.e., Quality of Life and Sustainability whereas has shown worst performance in the case of Economic ability and satisfactory performance in case of Citizen perception.

¹² There are two categories to the Economic Ability pillar-

- Level of Economic Development, and
- Economic Opportunities.

While the Level of Economic Development has been measured based on per capita wages and factories present in these cities, economic opportunities focus on the accessibility to resources, in the form of credit and skills, that can help create livelihoods.



5.6 Economic Sector Analysis

The sector analysis has been carried out for primary (agriculture & allied activities), secondary (industrial/ manufacturing) and tertiary (services) sectors. Each of these three sectors has been examined at the economic activity level for their contribution and growth trend. Thus, the sector analysis provides insight into not only the growth pattern of each of the major economic activities in each of the sectors of the region at a micro level, but also enables identification of key constraints and issues at the sector level.

Economic sectors are analyzed at district level due to un-availability of the data at city level.

The contribution of tertiary sector to the district's GDP is approximately 52% followed by secondary sector (28%) and primary sector (20%). The detailed share of each sector is presented in table below.

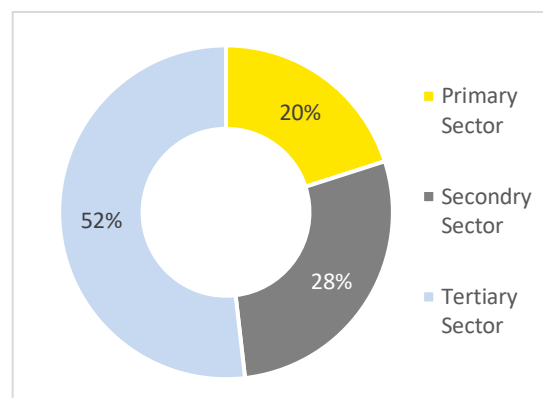


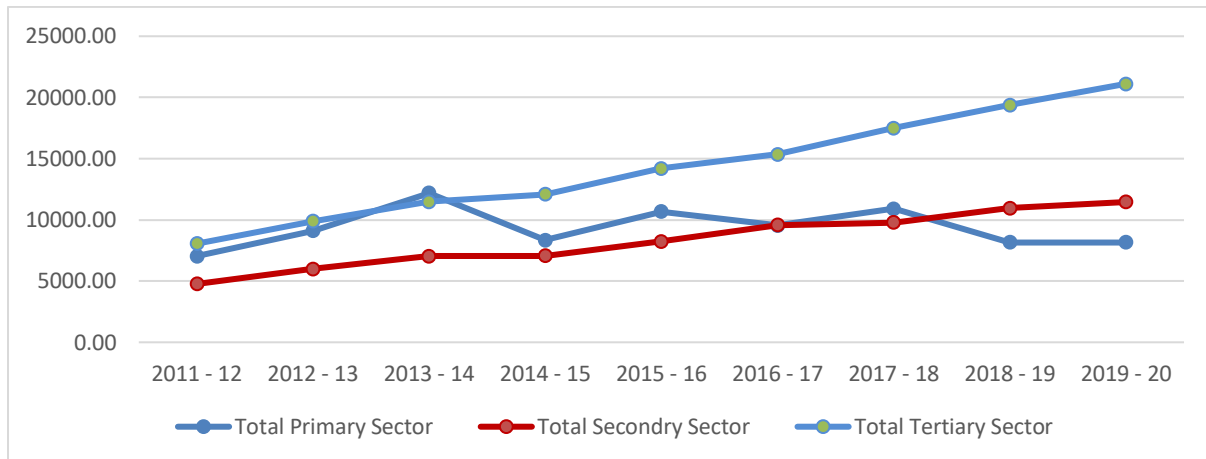
Table 7 - Overall economic sector share in GDP

Sectors of Economic Activity	2019 – 20	
	Share in GDP	% share to the GDP
Crops	4429.42	10.9%
Animal Husbandry	3,355.81	8.2%
Forestry & Logging	139.36	0.3%
Fishing	162.02	0.4%
Mining & Quarrying	84.9	0.2%
Total Primary Sector	8,171.52	20.1%
Manufacturing	3,729.48	9.2%
Electricity, gas and water supply	706.52	1.7%
Construction	7,022.21	17.2%
Total Secondary Sector	11,458.2	28.1%
Trade hotels and restaurants	3,350.55	8.2%
Railways	684.86	1.7%
Transport by other means	1,368.48	3.4%
Storage	110.77	0.3%
Communications	364.79	0.9%
Banking & Insurance	1,186.62	2.9%
Real estate, ownership of dwellings and business services	7,194.16	17.7%
Public administration	2,752.19	6.8%
Other services	4,120.02	10.1%
Total Tertiary Sector	21,112.44	51.8%

- Under primary sector, namely (i) Agriculture and (ii) Animal Husbandry are the major contributors.
- Under secondary sector, namely construction field is the major contributor.
- Under tertiary sector, namely - (i) Real estate, business services, (ii) Trade hotels & restaurants and other classified services are the major contributors.



Figure 52 - Growth trend of economic sectors (2011-2020)



The tertiary and secondary sector’s contribution has increased gradually high in comparison to primary sector’s contribution in last 10 years.

5.6.1 Primary sector

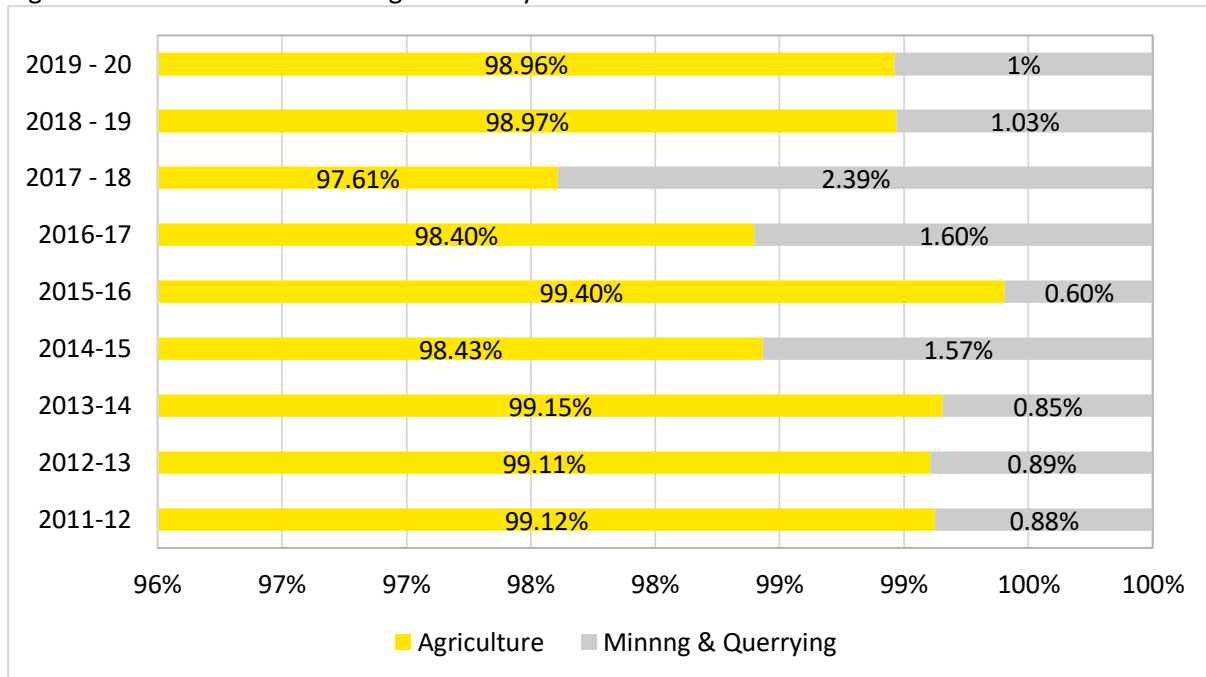
Composition: 2019-20

The contribution of primary sector to the district GDP has decreased from 35.5% in 2011-12 to 20.1% in 2019 – 20. Of the INR 8,171.52 Cr. (in 2019-20) from the primary sector, ~99% came from the economic activities of agriculture and allied sub sectors followed by mining & quarrying with 1%. Mining & quarrying activity is mainly related to sand and brick earth mining.

Structural Shift in Composition

The agriculture sub sector and mining sector’s contribution has remained similar since 2011-12 to 2019-20.

Figure 53 - Activities contributing to Primary Sector to the district GDP



Source: Consultant Analysis

Agriculture resource produce analysis



Based on the 2018-19 data from the **Crop Production Statistics** for Bareilly district, the crops such as **Sugarcane, Wheat, Banana, rice, and Potato** are the major crops. Based on the production, yield and area utilized for production in Bareilly District.

Table 5-8 Agriculture resource produce (2018-19)

Top 5 crops based on yield (Tonnes/Hectare)			
Crop	Area (Hectare)	Production (Tonnes)	Yield (Tonnes/Hectare)
Sugarcane	97,049	72,53,442	74.74
Banana	25	1,027	41.08
Potato	2,123	54,733	25.78
Onion	95	1,344	14.15
Sweet potato	120	1,378	11.48
Top 5 crops based on total production (Tonnes)			
Crop	Area (Hectare)	Production (Tonnes)	Yield (Tonnes/Hectare)
Sugarcane	97,049.00	72,53,442.00	74.74
Wheat	1,98,541.00	7,76,097.00	3.91
Rice	1,51,037.00	4,04,024.00	2.68
Potato	2,123.00	54,733.00	25.78
Rapeseed & Mustard	18,817.00	32,590.00	1.73
Top 5 crops based on area (Hectare) utilized for production			
Crop	Area (Hectare)	Production (Tonnes)	Yield (Tonnes/Hectare)
Wheat	1,98,541	7,76,097	3.91
Rice	1,51,037	4,04,024	2.68
Sugarcane	97,049	72,53,442	74.74
Rapeseed & Mustard	18,817	32,590	1.73
Bajra	6,539	10,377	1.59

Source – Crop Production Statistics for Bareilly 2018-19, URL – https://aps.dac.gov.in/APY/Public_Report1.aspx

Status of agriculture activity in Bareilly

Irrigated and sown area - Percentage of net irrigated area to net area sown of the Bareilly district has decreased to 1.01% over the years & on the other hand, the percentage of gross irrigated area to gross area sown has shown an increment of nearly 0.13% respectively.

Cropping intensity - Over the time, the cropping intensity in the Bareilly district has increased to 1.04%. In comparison to Western Region, the cropping intensity of the district is 1.09% less. However, in comparison to State, the cropping intensity of the district is 1.87% more respectively.

Productivity food grains & wheat - Over the time, the productivity of total food grain & wheat in the Bareilly district has increased to 16.39% & 19.90% respectively. Whereas in comparison to Western Region, the productivity of total food grain as well as the productivity of wheat in the Bareilly district are 4.00% & 7.06% less respectively. However, in comparison with the State, the productivity of total food grain as well as the productivity of wheat in the Bareilly district are 8.73% & 1.26% more respectively.



Table 5-9 Productivity of total food grains & wheat

District/Region	Productivity of total food grains (Qtls / Hectare)		Productivity of wheat (Qtls/ Hectare)	
	2011-12	2018 – 19	2011-12	2018 – 19
Bareilly	28.24	32.87 ↑	32.60	39.09 ↑
Western Region	30.07	34.24 ↑	36.90	42.06 ↑
Uttar Pradesh	25.84	30.23 ↑	32.83	38.60 ↑

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Productivity of rice & Potatoes - Over the time, the productivity of rice in the Bareilly district has increased to 6.57% & that of potatoes in the Bareilly district has decreased to 6.56% respectively. In comparison to Western Region, the productivity of rice as well as the productivity of potatoes in the Bareilly district are 1.54% & 19.1% less respectively. On the other hand, in comparison with the State, the productivity of rice as well as the productivity of potatoes in the Bareilly district are 1.07% & 13.63% less respectively.

Table 5-10 Productivity of rice & Potatoes

District/Region	Productivity of rice (Qtls/Hectare)		Productivity of potatoes (Qtls/ Hectare)	
	2011-12	2018 – 19	2011-12	2018 – 19
Bareilly	25.10	26.75 ↑	275.92	257.81 ↓
Western Region	24.39	27.17 ↑	233.85	318.77 ↑
Uttar Pradesh	23.58	27.04 ↑	223.02	298.51 ↑

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Productivity of oilseeds and sugarcane - The productivity of oilseeds in the Bareilly district has almost doubled & that of sugarcane in the Bareilly district has increased to 29.67% respectively. Whereas in comparison to Western Region, the productivity of oilseeds as well as the productivity of sugarcane in the Bareilly district are 15.81% & 10.71% less respectively. On the other hand, in comparison with the State, the productivity of oilseeds is 37.03% more but the productivity of sugarcane in the Bareilly district is 7.50% less respectively.

Table 5-11 Productivity of Oilseeds & Sugarcane

District/Region	Productivity of oilseeds (Qtls/Hectare)		Productivity of sugarcane (Qtls/ Hectare)	
	2011-12	2018 – 19	2011-12	2018 – 19
Bareilly	7.12	14.80 ↑	576.36	747.40 ↑
Western Region	12.96	17.58 ↑	610.39	837.11 ↑
Uttar Pradesh	8.37	10.8 ↑	595.70	808.07 ↑

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>



Production of pulses - the per capita production of pulses in the Bareilly district has shown a decrease of 12.43%. In comparison to Western Region, the per capita production of pulses in the Bareilly district is 10.34% high. In comparison with the State, the per capita production of pulses in the Bareilly district is 66.72% more respectively.

Table 5-12 Per capita production of pulses

District/Region	Per capita production of pulses (kg)	
	2011-12	2018 – 19
Bareilly	4.02	3.52 ↓
Western Region	3.42	3.19 ↓
Uttar Pradesh	11.82	10.58 ↓

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Area under Rabi and Kharif crop - the percentage share of area under Kharif crop in gross sown area of the Bareilly district has increased to 0.84% & the percentage share of area under Rabi crop in gross sown area has decreased to 0.33%. In comparison to Western Region & State, the percentage share of area under Kharif crop in gross sown area of the Bareilly district are 4.02% & 3.89% more respectively. In comparison to Western Region & State, the percentage share of area under Rabi crop in gross sown area of the Bareilly district is 2.55% & 4.16% less respectively.

Table 5-13 Percentage of areas under Kharif crop & Rabi crop in gross area sown

District/Region	Percentage share of area under Kharif crop in gross area sown		Percentage of area under Rabi crop in gross area sown	
	2011-12	2016 – 17	2011-12	2016 – 17
Bareilly	50.94	51.78	44.42	44.09 ↓
Western Region	47.31	47.76	47.51	46.64 ↓
Uttar Pradesh	45.92	47.89	50.30	48.25 ↓

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Inferences – Cropping Intensity has increased along with productivity of total food grains, rice, wheat, oilseeds & sugarcane. Additionally, along with decline in percentage share of area under Kharif crop in gross area sown. Productivity of potatoes, pulses has decreased along with decline in percentage of area under Rabi crop in gross area sown.

Mining activity in Bareilly district

The Bareilly District is very poor in mineral resources and hence it lacks the large-scale industrial establishments. Sand, Brick earth, Kankar, Bajri and Boulders are found in this region. At present there are only two active mines which are being mined for Sand from Tiyula and Mohammadpur.

Table 5-14 Details of the mining activities

S.N.	Sub Mineral Name	Lease Detail			Lease Period	Dispatched Quantity of Minerals (Cubic Mt.)	Lease Sanctioned (Per Cubic Mt.)	Lease Status	Last Updated On
		Village	Area (Acre)	Tehsil					



1	Ordinary Sand 2	Tiyula	6.47	Baheri	20/12/2018 - 19/12/2023	6862.00	505.00	Active	06/07/2020
2	Ordinary Sand 2	Mohammadpur	5.47	Bhedi	15/11/2018 - 14/11/2023	4797.00	352.00	Active	06/07/2020
3	Ordinary Sand 2	Anjani Etmali	3.15	Aawla	21/06/2018 - 20/06/2023	0.00	450.00	Closed	-

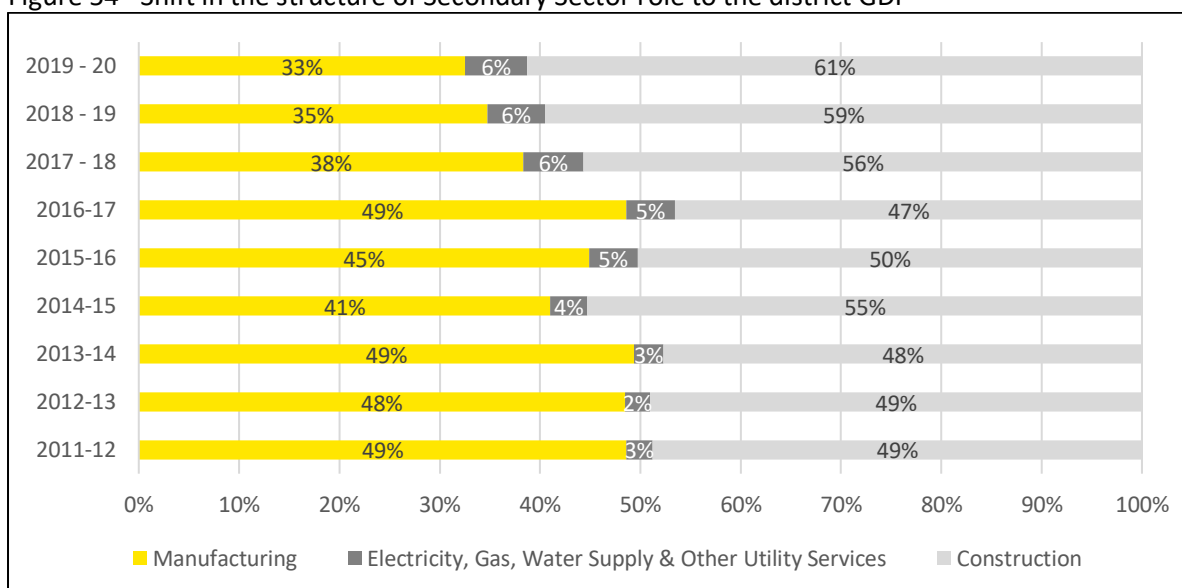
Source - Directorate of Geology & Mining Government of Uttar Pradesh, URL - <http://dgmup.in/minerallist/home/MineralRate>

5.6.2 Secondary sector

Composition: 2019-20 - The secondary sector contributes 28.1% to the district GDP in 2019-20, has increased from 24% in 2011-12 to 28.1% in 2019-20. Of the INR 11,458.2 Cr. (in 2019-20) from the secondary sector, 61% came from the construction activity followed by manufacturing (33%) and electricity, gas and water supply and other utility services (6%).

Structural Shift in Composition - There is marginal shift in electricity, gas, water supply & other utility services sub sector contribution to sector's performance from 3% in 2011-12 to 6% in 2019-20. The contribution of manufacturing sub sector has decreased in last 9 years from 49% to 33%. The contribution of construction sub sector has increased in last 9 years from 49% to 61%.

Figure 54 - Shift in the structure of Secondary Sector role to the district GDP



Source: Consultant Analysis

5.6.3 Tertiary sector

Composition: 2019-20 - The tertiary sector, which contributes ~69.1% to the district GDP in 2019-20, is the predominant sector. Of the INR 21,112.44 Crore from the tertiary sector, 17.7% came from of real estate sector, and professional services. Although further breakup is not readily available, it is observed that other services, banking, and transport by other means (mostly by road) are the major service activities that drive the tertiary sector performance in the district.

Structural Shift in Composition - Real estate and professional services activities contributes major share to the district's GDP, its share has been on the increasing side from 11.4% in 2011-12 to 17.7% in 2019-20.

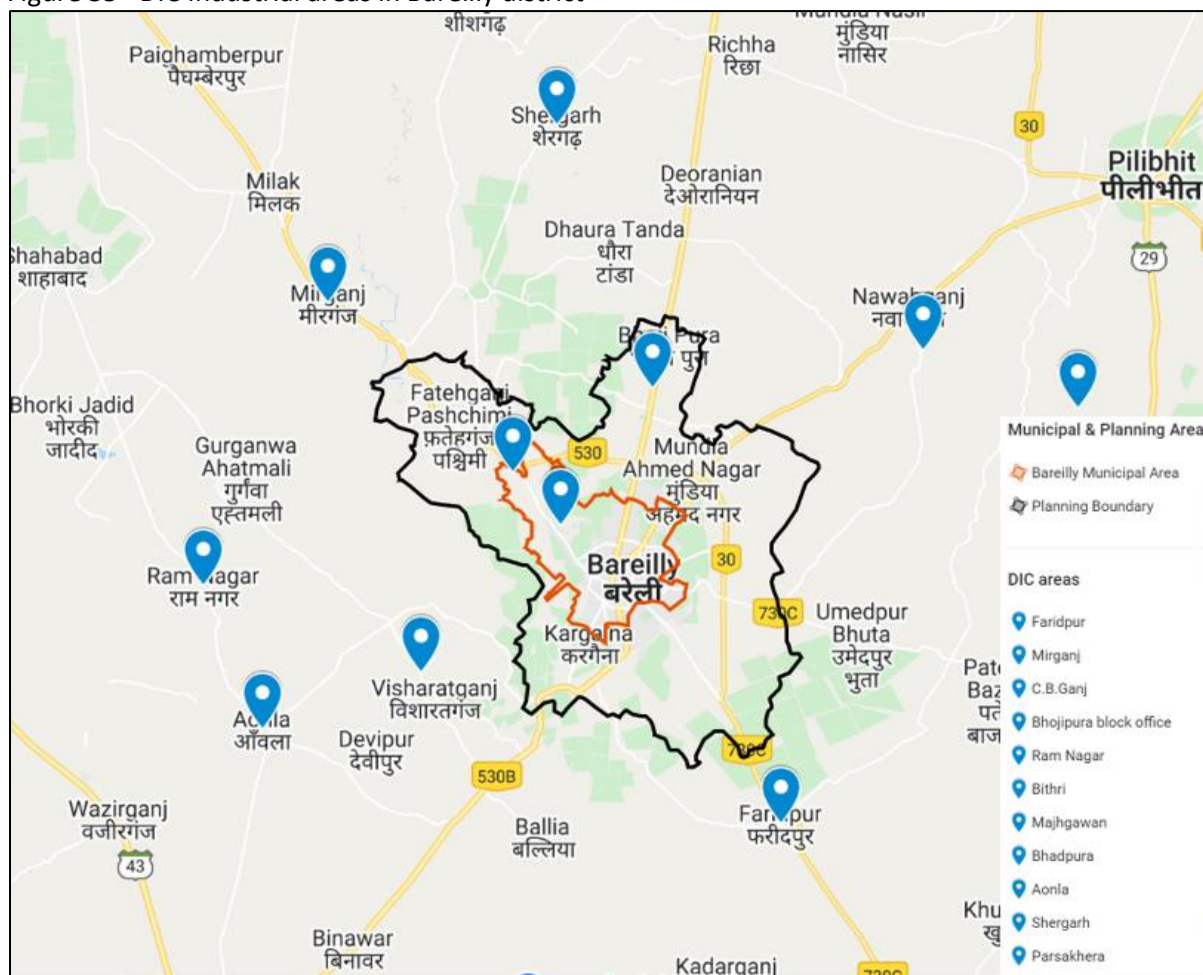


5.7 Industries

5.7.1 Industrial areas in Bareilly district

There are two categories of industrial areas in Bareilly – (i) District Industries Centre (DIC) and (ii) Uttar Pradesh State Industrial Development Authority (UPSIDA). Details are as below for each category:

Figure 55 - DIC Industrial areas in Bareilly district



There are 11 DIC industrial areas in Bareilly with an approximate 463.2 Acre of acquired land, with 77% developed land parcels. The prevailing land rate varies from 91-1500 Rs/sq.km. Major industrial areas are namely, Parsakhera, CB ganj and Bhojipura.

Table 5-15 DIC industrial areas in Bareilly district

S.no	Name of Industrial Area	Land acquired (in acres)	Land developed (in acres)	Prevailing rate per sq km	Total No of Plots	No of allotted Plots	No of Vacant Plots	No of Units in Production
1	CB ganj	16.9	16.9	1500	73	73	0	37
2	Bhojipura	38.3	38.3	600	89	89	0	28
3	Faridpur	3	3	1000	60	60	0	1
4	Meerganj	2.5	2.5	1050	55	39	16	1
5	Ramnagar	18	9	350	161	0	0	0
6	Bithri	2.5	2.5	150	47	0	47	0
7	Majh Gaon	5	5	150	72	0	72	0
8	Bhadpura	2.5	2.5	91	65	0	65	0



S.no	Name of Industrial Area	Land acquired (in acres)	Land developed (in acres)	Prevailing rate per sq km	Total No of Plots	No of allotted Plots	No of Vacant Plots	No of Units in Production
9	Aonla	5	5	0	0	0	0	0
10	Shergarh	2.5	2.5	124	47	0	47	0
11	Parsakhera	367	273.42	1210	379	345	34	175
	Total	463.2	360.62		1048	606	281	242

Source: DIC Bareilly

UPSIDA - Industrial areas

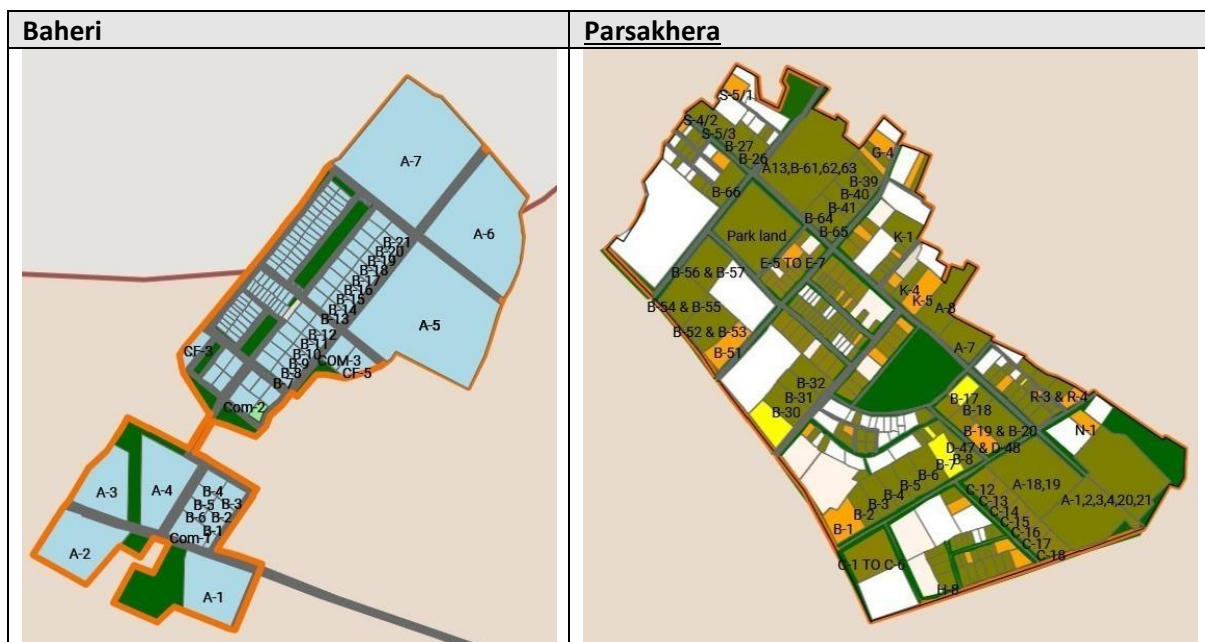
There are two UPSIDA industrial areas in Bareilly district – Parsakhera and Baheri.

Paraskhera industrial area is approximately 13 km away from the Bareilly city centre geographically and is accessible via Mini Bypass and Rampur Road and via Bareilly - Nainital Rd/Nainital Rd and NH530. Paraskhera industrial area is situated inside the Bareilly Municipal Area limits.

Whereas **Baheri industrial area** is situated at approximately 60 km away from Bareilly city centre and is accessible via Bareilly - Nainital Road.



Existing Industrial Area	No. of Plots (Nos)	Total Land Bank (Acres)
Baheri	143	251
Parsakhera	286	367



Allotted Plots:	 Vacant	 Under Construction	 Under Production	 Production Stop	 Sick	 No Status
Un-Allotted Plots:	 Available for Allotment	 Not available for Allotment	 Land under process			

Paraskhera Industrial area, Bareilly

Latitude, Longitude – 79.4219, 28.347

Paraskhera is an area known for its Agro based industries. Paraskhera Industrial Area is spread over 367 Acres. At present no land is available for allotment. The Industrial Area Paraskhera is to be developed as a Smart Industrial area as declared by the State Government in joint venture with Bareilly Municipal Corporation & Uttar Pradesh State Industrial Development Authority (UPSIDC).

Figure 56 -Google map of the Paraskhera Industrial Area

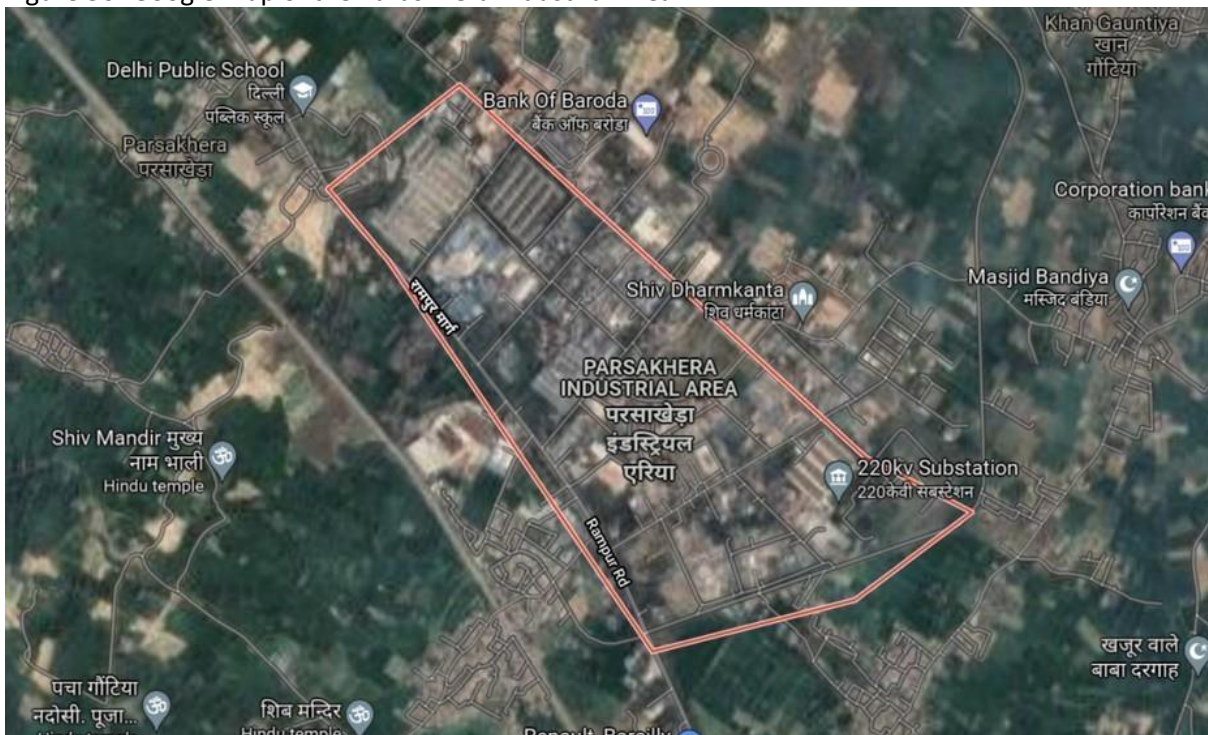


Figure 57 - Images of the Parsakhera industrial area



Facilities and infrastructure

- Establishment of Roads, Street Lights, Railways, Banks, Health Care Services

Location Advantage

Connectivity to NH 24 connecting New Delhi & Lucknow.

Details of acquired and developed lands

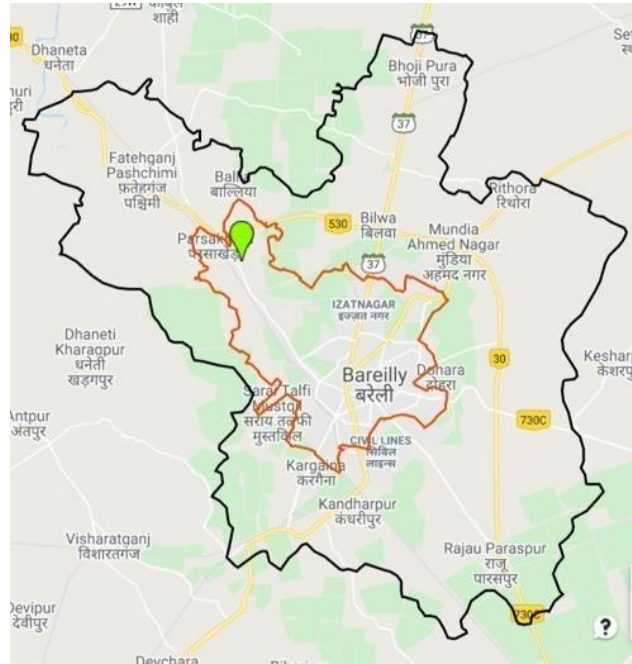
- 8.67 acres of land acquired by Bharat Petroleum for Bottling Plant
- 10.33 acres of land acquired by F.C.I for warehouse.
- 11.66 acres for sub - station

Major industries:

- Bareilly Plyboards Pvt Ltd, M/s V.N. Industries, CAPLFord, B.L. Agro Industries, Vadilal Industries Ltd, JL Food products pvt ltd, M/s Brindavan Beverages

Major products

- Block Board, Commercial Plywood, Gypsum Board, Rice, Mentha, Industrial Gases, Medical Oxygen Gas Cylinder.

**Baheri Industrial Area, Bareilly**

Baheri Industrial Area is a flagship project of Uttar Pradesh State Industrial Development Authority (UPSIDA). Details about the Baheri Industrial Area, Bareilly is presented below:

Baheri Industrial Area, Bareilly

Latitude, Longitude - 28.7792806, 79.4818781.

Baheri is an area known for sugar industry and textile work. Baheri Industrial Area is spread over 251 Acres. Land available for allotment is approximately 163.53 Acres. The Industrial Area Baheri is to be developed as Food park under an inclusive concept and scheme of the Ministry of Food Processing.

Facilities and infrastructure

- Establishment of packaging, quality control lab, trade facilitation centre of international standards.

Location Advantage

- Situated at a distance of approx. 55-60 km from Bareilly district
- 7 km from Baheri tehsil

Details of acquired and developed lands

- 100 acres for Mega Food park
- 35 acres of land acquired by HPCL for Bottling Plant
- Rest 115.16 acres for general industrial area

Source - https://eservices.onlineupsidc.com/flagship_projects/BaheriIndustrialArea.aspx

5.7.2 Industries in Bareilly

Table 5-16 Following are the recent updated details of employment, output, and investment in the Bareilly district for the year 2017-18.



NIC Code	Industry name	Year 2017 - 18		
Level 3	Sector	Employment (in no.)	Output (in no.)	Investment (in Rs. Thousand)
101	Processing and preserving of meat	712	5657258	1753
103	Processing and preserving of fruit and vegetables	-	-	-
104	Manufacture of vegetable and animal oils and fats	3614	72312404	1612954
105	Manufacture of dairy products	482	6016662	539160
106	Manufacture of grain mill products, starches and starch products	801	3393724	22529
107	Manufacture of other food products	5089	17766873	6512
108	Manufacture of prepared animal feeds	-	-	-
110	Manufacture of beverages	213	432572	66903
120	Manufacture of tobacco products	800	1755313	3607650
		11711	107334806	5857461
131	Spinning, weaving and finishing of textiles	24	140679	96946
139	Manufacture of other textiles	3	387	0
141	Manufacture of wearing apparel, except fur apparel	12	23822	135
142	Manufacture of articles of fur	-	-	-
143	Manufacture of knitted and crocheted apparel	-	-	-
		39	164888	97081
151	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness; dressing and dyeing of fur	-	-	-
152	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness; dressing and dyeing of fur	-	-	-
		0	0	0
161	Sawmilling and planing of wood	-	-	-
162	Manufacture of products of wood, cork, straw and plaiting materials	1305	2044164	58848
		1305	2044164	58848
170	Manufacture of paper and paper products	199	1277542	45622
181	Printing and service activities related to printing	258	837816	18842
		457	2115358	64464
191	Manufacture of coke oven products	-	-	-
192	Manufacture of refined petroleum products	15	8740	388
201	Manufacture of basic chemicals, fertilizer and nitrogen compounds, plastics and synthetic rubber in primary forms	1873	36665047	2256190
202	Manufacture of other chemical products	171	757272	20619
203	Manufacture of man-made fibres	-	-	-
		2059	37431059	2277197
210	Manufacture of pharmaceuticals, medicinal chemical and botanical products	311	2880176	16997
		311	2880176	16997
221	Manufacture of rubber products	6	6786	103
222	Manufacture of plastics products	555	2172179	51785
		561	2178965	51888
231	Manufacture of glass and glass products	-	-	-



NIC Code	Industry name	Year 2017 - 18		
Level 3	Sector	Employment (in no.)	Output (in no.)	Investment (in Rs. Thousand)
239	Manufacture of non-metallic mineral products n.e.c.	1738	519068	18073
		1738	519068	18073
241	Manufacture of basic iron and steel			
242	Manufacture of basic precious and other non-ferrous metals	9	3826	0
243	Casting of metals	-	-	-
251	Manufacture of structural metal products, tanks, reservoirs and steam generators	114	201260	8635
252	Manufacture of weapons and ammunition	-	-	-
259	Manufacture of other fabricated metal products; metalworking service activities	36	30141	3489
		159	235227	12124
261	Manufacture of electronic components	-	-	-
262	Manufacture of computers and peripheral equipment	-	-	-
263	Manufacture of communication equipment	-	-	-
264	Manufacture of consumer electronics	-	-	-
265	Manufacture of measuring, testing, navigating and control equipment; watches and clocks	-	-	-
		0	0	0
271	Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus	361	3378167	145272
272	Manufacture of batteries and accumulators	8	7256	0
273	Manufacture of wiring and wiring devices	4	15705	-50
274	Manufacture of electric lighting equipment	-	-	-
275	Manufacture of domestic appliances	-	-	-
279	Manufacture of other electrical equipment	174	195603	2691
		547	3596731	147913
281	Manufacture of general-purpose machinery	27	12563	0
282	Manufacture of special-purpose machinery	23	28528	1160
		50	41091	1160
291	Manufacture of motor vehicles	-	-	-
292	Manufacture of bodies (coachwork) for motor vehicles; manufacture of trailers and semi-trailers	-	-	-
293	Manufacture of parts and accessories for motor vehicles	-	-	-
302	Manufacture of railway locomotives and rolling stock	-	-	-
303	Manufacture of air and spacecraft and related machinery	-	-	-
309	Manufacture of transport equipment n.e.c	-	-	-
		0	0	0
310	Manufacture of furniture	198	786936	57355
		198	786936	57355
321	Manufacture of jewellery, bijouterie and related articles	-	-	-



NIC Code	Industry name	Year 2017 - 18		
Level 3	Sector	Employment (in no.)	Output (in no.)	Investment (in Rs. Thousand)
323	Manufacture of sports goods	-	-	-
324	Manufacture of games and toys	-	-	-
325	Manufacture of medical and dental instruments and supplies	-	-	-
329	Other manufacturing n.e.c.	6	18329	18
		6	18329	18
331	Repair of fabricated metal products, machinery, and equipment	-	-	-
		0	0	0
521	Warehousing and storage	180	82349	61958
522	Support activities for transportation	-	-	-
		180	82349	61958

Source – Annual Survey of Industry Report 2017-18, URL - http://updes.up.nic.in/esd/Industrial_Statistics/ASI/ASI%202017-18%20Final.pdf

100 days 100 enterprises in Bareilly

The Government of UP has launched a scheme '100 days 100 enterprises' which aimed at set up of 100 industrial enterprises in 100 days in a the district. Approximately 166 units have been established in the Bareilly district under this scheme, including industries such as (i) industries having size of 1 lakhs to 5 lakhs; (ii) 6 lakhs to 10 lakhs; (iii) 11 lakhs to 50 lakhs; (iv) 51 lakhs to 100 lakhs and (v) more than 100 lakhs. The maximums units are of Industries having size of 11 lakhs to 50 lakhs.

Table 5-17 Status of 100 days 100 enterprises in Bareilly

Type of industry (in terms of size)	Number of units	Investment (lakh rs.)	Employment
1 lakh to 5 lakhs	26	115	76
6 lakhs to 10 lakhs	27	255	156
11 lakhs to 50 lakhs	59	1,409	730
51 lakhs to 100 lakhs	13	1,061	237
> 100 lakhs	41	40,025	3,079

Source - 100 days 100 enterprise data of 22nd Dec 2020 to 15th March 2021 received from DIC

Table 5-18 Industries classification of the "100 days 100 units in Bareilly"

Type of industry	Number of units	Investment (lakh rs.)	Employment
Agro based	83	9,277	1639
Soda water	0	0	0
Cotton textile	1	475	100
Woolen, silk & artificial Thread based clothes.	0	0	0
Jute & jute based	0	0	0
Ready-made garments & embroidery	7	766	287
Wood/wooden based furniture	12	6,902	492
Paper & Paper products	2	95	32
Leather based	3	12	10
Chemical/Chemical based	17	2,788	349



Type of industry	Number of units	Investment (lakh rs.)	Employment
Rubber, Plastic & petro based	6	4,312	358
Mineral based	7	597	441
Metal based (Steel Fab.)	0	0	0
Engineering units	5	129	38
Electrical machinery and transport equipment	1	25	7
Repairing & servicing	0	0	0
Others	7	1,780	150
Misc.	14	6,626	364

Note – top five industry category is highlighted as red in terms of numbers, investment, and employment.

Source: analysis of 100 days 100 enterprise data of 22nd Dec 2020 to 15th March 2021 received from DIC.

Based on the data provided by DIC, it is evident that following categories of industries are the major ones, namely –

- Agro-based
- Ready-made garments & embroidery
- Wood/wooden based furniture
- Chemical/Chemical based
- Rubber, Plastic & Petro-based
- Mineral based

Analysis of industrial workers

Net value added per worker in registered working factories and number of employees in registered working factories:

The Net value added¹³ per worker in registered working factories & the number of employees in registered working factories per lakh of population in the Bareilly district has increased to 12.01% & 18.93% respectively.

Western region of UP has shown very high growth (more than double) in the Net value added per worker in registered working factories. Districts namely, **Rampur¹⁴, Badaun, Mainpuri, Etawah and Bulandshahar** have highest ranking in terms of Net value added per worker in registered working factories under Western region.

In comparison to Western Region & State, the Net value added per worker in registered working factories is 21.86 % & 16.14% less respectively as well as the number of employees in registered working factories per lakh of population is also 54.98% & 9.25% less respectively.

Districts namely, **G B Nagar, Hapur, Ghaziabad, Agra and Meerut** have highest number of employees in registered working factories per lakh of population under western region.

Table 5-19 Net value added per worker & No of employees in registered working factories

¹³ Net value added is the value of output less the values of both intermediate consumption and consumption of fixed capital.

¹⁴ Mentha is the main cash crop cultivated in Rampur. Apart from mentha oil the other popular enterprises in the city are brick kiln industries, Beedi making, sugar process, textile weaving, wine making and liquor manufacturing.



District/Region	Net value added per worker in registered working factories (000 Rs)		No. of employees in registered working factories per lakh of population	
	2011-12	2016 – 17	2011-12	2016 – 17
Bareilly	951.80	1066.19	367.79	437.43
Western Region	636.01	1364.57	770.72	971.84
Uttar Pradesh	892.07	1271.39	389.02	482.04

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Per capita gross value of industrial production and registered working factories

Per capita gross value of industrial production has become almost 1.5 times however the number of registered working factories per lakh of population in the Bareilly district has decreased to 6.00% respectively. Whereas in comparison to Western Region & State, Per capita gross value of industrial production is 26.52 % less & 50.07% more respectively.

The number of registered working factories per lakh of population is 55% less in comparison to Western Region & 13.45% less in comparison to Uttar Pradesh respectively.

Table 5-20 Per capita gross value of industrial production and registered working factories

District/Region	Per capita gross value of industrial production (000) Rs		No. of registered working factories per lakh of population	
	2011 - 12	2016 – 17	2011-12	2016 – 17
Bareilly	11,578.56	28,524.83	6.5	6.11
Western Region	23,022.41	38,825.00	12.52	13.58
Uttar Pradesh	13,456.43	19,007.52	6.64	7.06

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Distribution of registered working factories and workers per registered working factory

Percentage distribution of registered working factories has decreased to 0.19% & average workers per registered working factory in the Bareilly district has also decreased to 1.76% respectively.

In comparison to Western Region, Percentage distribution of registered working factories is 70% less & In comparison to Uttar Pradesh, it is 98.05% less respectively.

District namely **G.B.Nagar, Hapur, Agra, Sambhal and Shamli** from western region has highest percentage distribution of registered working factories.

On the other hand, average workers per registered working factory is 1.91% more in comparison to Western Region & 6.26% more in comparison to Uttar Pradesh respectively.

Table 5-21 Per capita gross value of industrial production and registered working factories

Table 5-22 Percentage distribution of registered working factories & average workers per registered working factory

District/Region	Percentage distribution of registered working factories		Average workers per registered working factory	
	2011-12	2016 – 17	2011-12	2016 – 17
Bareilly	2.14	1.95	56.60	55.60
Western Region	69.63	71.92	61.56	54.56
Uttar Pradesh	100	100	58.56	52.32



Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

5.7.3 Prominent growing industries

To estimate the sector wise future demand in the district based on top-down approach, the output, employment, investment, and exports for target industry manufacturing sectors have been analysed for the horizon period (2013-14 to 2017-2018).

The prominent industrial sectors which are showing consistent growth in the district under study can be ascertained through three primary parameters:

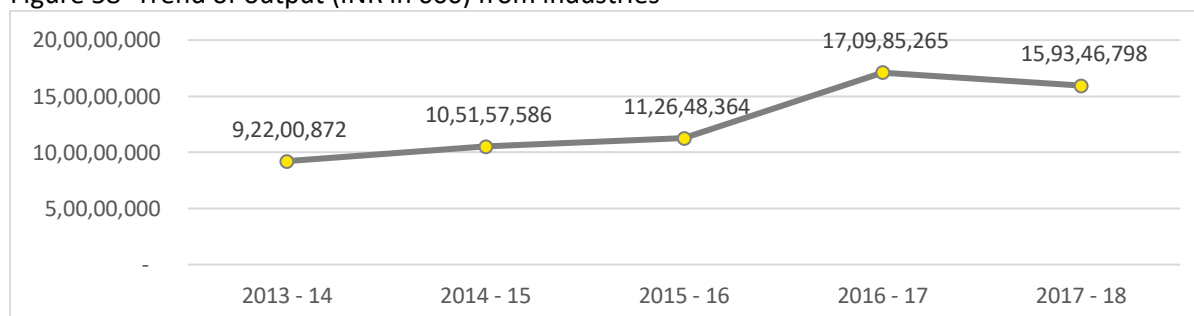
- **Industrial Output by sector for the 2017-18 period**
- **Industrial employment in numbers by sector for the 2017-18 period**
- **Industrial investment in sector for the 2017-18 period**

Based on the analysis of these **prominent growing industries can be identified.**

(i) Industrial scenario of Bareilly based on Output

From 2013-14 to 2017-18, sectors namely (i) Food Processing, (ii) Chemical Products, (iii) Wood products, (iv) Pharmaceuticals and (v) Electrical sectors, have remained prominently performing sector in Bareilly due to major output with respect to the investment in the respective sector.

Figure 58 -Trend of output (INR in 000) from industries



Source - ASI Report 2017-18

Table 5-23 Top 5 sectors in Bareilly district based on total output (INR in 000) in 2017-18

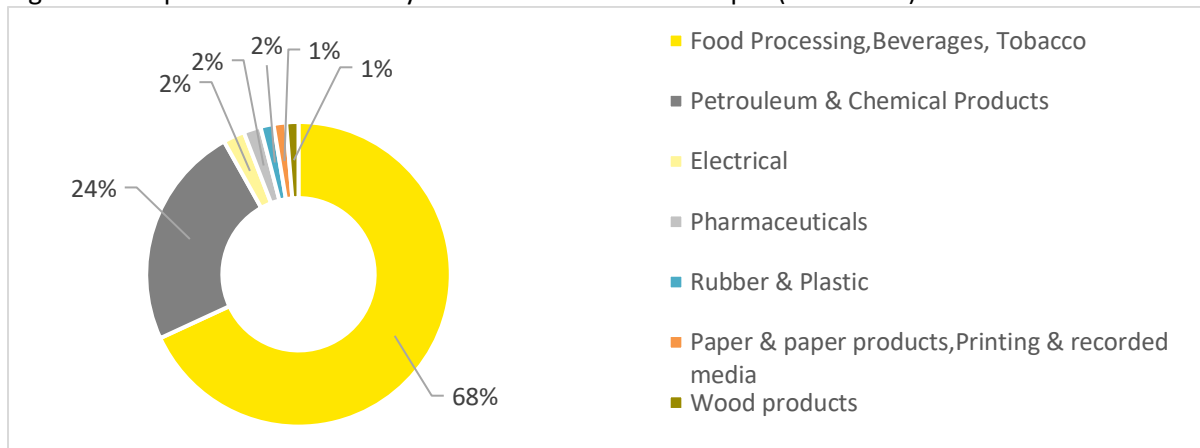
Industry name	2017 - 18	% of the total output across the district
Food Processing, Beverages, Tobacco	10,73,34,806	67.32%
Petroleum & Chemical Products	3,74,31,059	23.48%
Electrical	35,96,731	2.26%
Pharmaceuticals	28,80,176	1.81%
Rubber & Plastic	21,78,965	1.37%

Source – ASI Report 2017-18

Two sectors namely (i) Food Processing, Beverages, Tobacco, (ii) Petroleum & Chemical Products hold for more than 92% of the total output across the district.



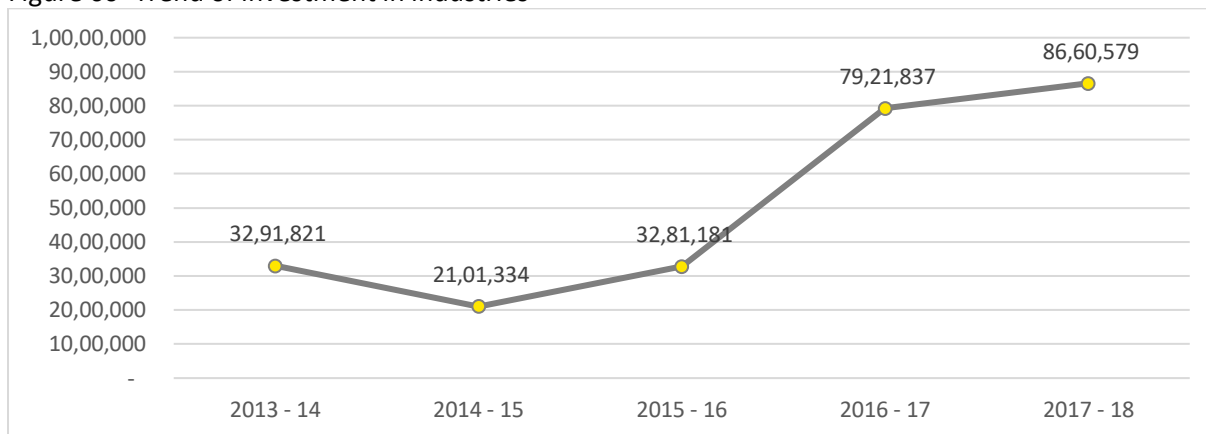
Figure 59 -Top 5 sectors in Bareilly district based on total output (INR in 000) in 2017-18



Source – ASI Report 2017-18

(ii) Industrial scenario of Bareilly based on Investment

Figure 60 -Trend of investment in industries



Source – ASI Report 2017-18

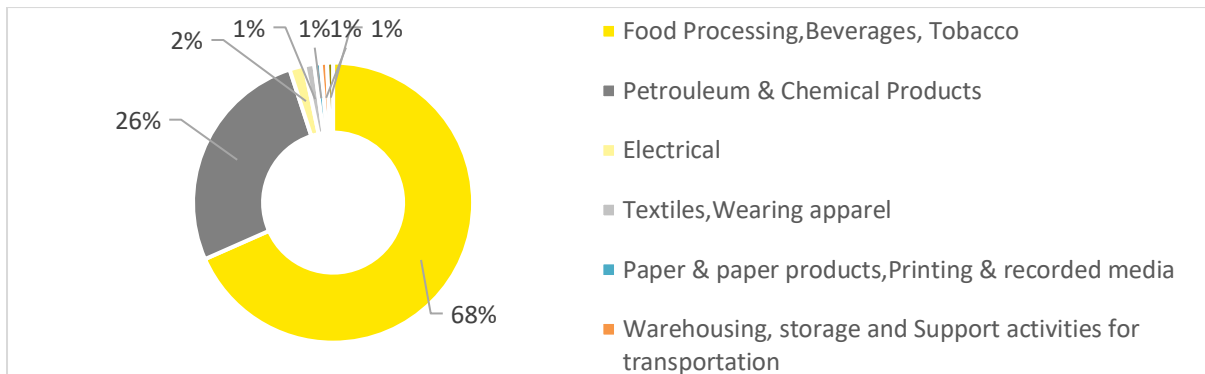
Table 5-24 Top 5 sectors in Bareilly district based on total investment (INR in 000) in 2017-18

Industry name	2017 – 18	% of the total investment across the district
Food Processing, Beverages, Tobacco	58,57,461	67.15%
Petroleum & Chemical Products	22,77,197	26.11%
Electrical	1,47,913	1.70%
Textiles, Wearing apparel	97,081	1.11%
Paper & paper products, Printing & recorded media	64,464	0.74%

Source – ASI Report 2017-18

Two sectors namely (i) Food Processing, Beverages, Tobacco, (ii) Petroleum & Chemical Products hold for more than 94% of the total investment across the district.

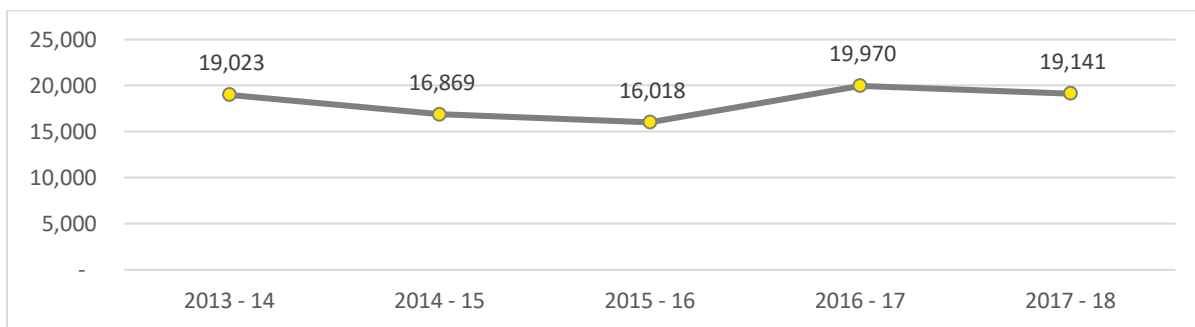
Figure 61 - Top 5 sectors in Bareilly district based on total investment (INR in 000) in 2017-18



Source – ASI Report 2017-18

(iii) Industrial scenario of Bareilly based on Employment

Figure 62 -Trend of employment in industries



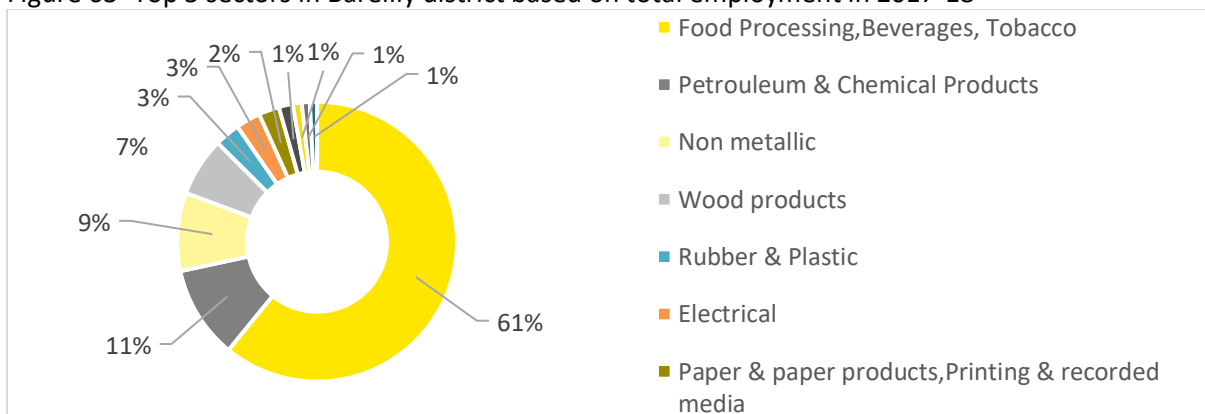
Source – ASI Report 2017-18

Table 5-25 Top 5 sectors in Bareilly district based on total employment in 2017-18

Industry name	2017 - 18	% of the total employment across the district
Food Processing, Beverages, Tobacco	11,711	60.61%
Petroleum & Chemical Products	2,059	10.66%
Non metallic	1,738	9.00%
Wood products	1,305	6.75%
Rubber & Plastic	561	2.90%

Two sectors namely (i) Food Processing, Beverages, Tobacco, (ii) Petroleum & Chemical Products hold for more than 72% of the total employment across the district.

Figure 63 -Top 5 sectors in Bareilly district based on total employment in 2017-18



Source – ASI Report 2017-18



Categories of major industries within city limits

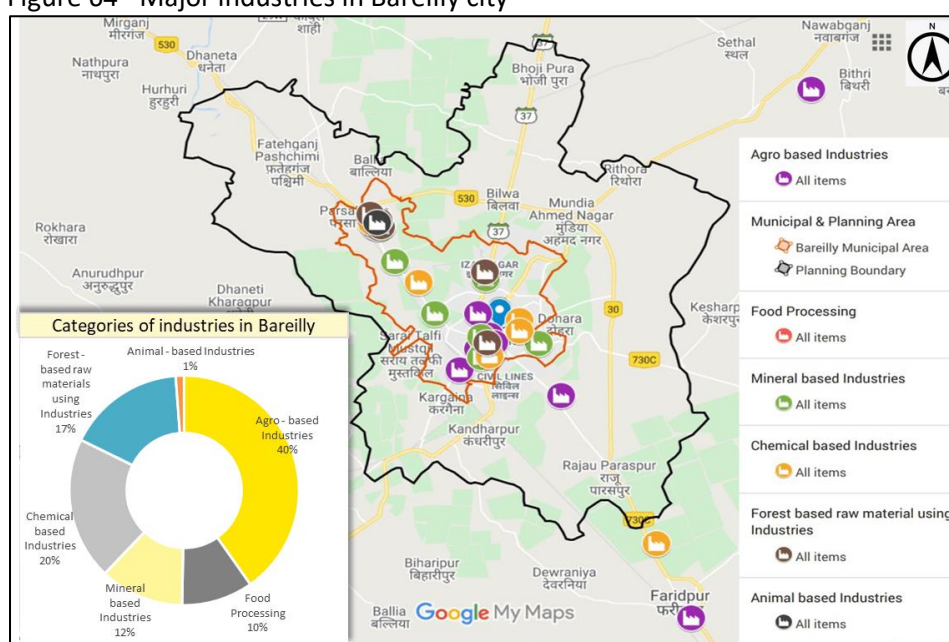
Majorly, Agro - based, Food Processing, Mineral based, Chemical based, Forest - based raw material industries are prominent within city limits.

Table 5-26 Categories of major industries within city limits

S. No.	Type of major industries	No	Major produced products
1	Agro - based Industries	68	Sugar, Flour, Rice
2	Food Processing	17	Cold storage, Sweets
3	Mineral based Industries	20	Steel & Steel Wooden Furnitures
4	Chemical based Industries	34	Fertilizers, Rubberised core foam cushion, Plastic Products
5	Forest - based raw materials using Industries	28	Plywood, Wooden Furnitures, Plyboard
6	Animal - based Industries	2	Dairy Products

Source: Consultant analysis on data received from DIC on 23/12/2021 for major industries in Bareilly

Figure 64 - Major industries in Bareilly city

**INDUSTRIAL ENTREPRENEUR'S MEMORANDUM (IEM)**

The primary objective of comprehending the **Industrial Entrepreneurs' Memorandum** is firstly, to capture interest shown by industrial entrepreneurs at the district level. Secondly, it shall help understand **industry sector focus of these industry entrepreneurs**, imparting in totality a broad overview on preference and inclination sector wise for our study as well.

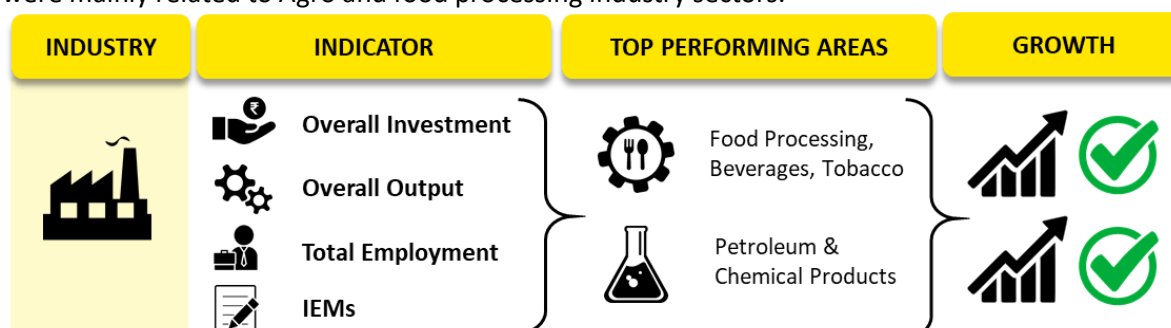
Table 5-27 - EMs filed in Bareilly district from 2014-17

IEM's FILED FROM 01.04.2014 TO 31.03.2015				
Name	Location	Investment (INR Cr.)	Item	Sector
M k overseas Pvt. Ltd.	Bareilly	55	Buffaloes Slaughtering	Food
IEM's FILED FROM 01.04.2015 TO 31.03.2016				
Name	Location	Investment (INR Cr.)	Item	Sector

Bareilly Dugdh Utpadak Sahkari	Bareilly	110	Milk	Food
National collateral Management	Bareilly	28	Ware housing non Refrigerated	Misc.
B.I. Agro oils ltd.	Bareilly	35	Mfg of vegetable oils	Vegetable
IEM's FILED FROM 01.04.2016 TO 31.03.2017				
Name	Location	Investment (INR Cr.)	Item	Sector
BRINDAVAN BEVERAGES PVT.LTD.	Bareilly	23	PET PREFORM	Chemical
SUPERIOR INDUSTRIES LTD.	Bareilly	106	RECTIFYING SPIRIT (UN DENATURED ETHYL	Chemical

Source – www.udyogbandhu.com

Approximately 357 Cr. INR IEMs were filed in Bareilly district during 2014-16 (latest data) and these were mainly related to Agro and food processing industry sectors.



There are two major industries present in Bareilly. One is Food Processing Unit & other is Petro chemical & Chemical Industries. The agro & food processing industries in Bareilly are mainly involved in the packaging and processing of the products. And the products are imported locally and regionally. The chemical-based industries equally hold an important role by contributing to Bareilly's economy.

Table 5-28 - Following table broadly lists a few major chemical industries present in Bareilly.

S. N.	Factory Name	Products
1	Superior Industries Ltd	Alcohol
2	Indian Farmer Fertilizer Company Pvt. Ltd.	Ammonia Urea
3	Kansar Enterprises	Ethyl Alcohol, Detergent powder
4	N.P.Ago Indian Industries Ltd	Terpelyne, Fabric, Master batch, BOP Lamination film
5	Camphor & allied Private Ltd	Camphor & other chemicals
6	Ashoka Foam Multiplast Ltd	All Plastic Products
7	Amar alum & allied chemicals pvt. Ltd,	Ferric alum & salt lividd
8	M R Industries	Battery production
9	Lasol fragrance	Scent Soap
10	Ashoka pyu Foam Ltd	Polymers flexible rigid core foam
11	Amar Narayan Industries Ltd	Alum & mineral salt
12	Tarun Alum pvt. Ltd.	Ferric Alum, Non – ferric Alum, Amoria Alum
13	Super Batteries	Battery production
14	Jai Chemicals	Magnesium Sulphate
15	Shri Natakal Plastics	Plastics products
16	Modern Poly pack Industries	Packaging materials



S. N.	Factory Name	Products
17	Mahalakshmi Chemicals	Sulphur
18	Valumat Pack & print	Packaging material
19	Vinod soap factory	Soap soda
20	Shakuntala Industries	Packaging material

Source – Consultant analysis

On further analyses, it is found that in Petrochemical & Chemical industries, a few chemical industries are involved in menthol products. The reason for same is the availability of raw material i.e., Mentha which is being grown locally. Another reason is the increase in the farming of Mentha as this crop takes lesser time for cultivation as well as a subsidy of 25% of total investment for this cultivation is also being provided by the State Government.



Below is the list of the major Menthol Industries present in Bareilly:

S.N.	Factory Name	Products	Establishment Year	Location
1	MRM Menthol Associates	Dementholised Peppermint Oil, Mentha Oil, Natural Menthol Crystal & Natural Menthol Powder	2019	Pacca Katra Aonla Inside Suraj Cold Storage, Bisauli Road, Bareilly
2	Essence India	Anethole Oil, Basil Oil, Citronella Oil, Lemongrass Oil, Pine Oil, Mint Oil (Menthol Oil, Peppermint Oil, Spearmint Oil) & Menthol Crystal	2003	Pilibhit Bypass, Pilibhit Bypass Road, Bareilly
3	Kelvin Natural Mint Pvt. Ltd	Menthol Crystals, Menthol Powder, Spearmint Oil & Essential Oils	1994	Kelvin Natural Mint Pvt. Lt d Khasra No. 225-226, Village Angharpura, Bukhara Faridpur Road, Bareilly
4	Mane Kancor Ingredients Pvt Ltd	Mint, Menthol & Isolates	1971	Industrial Estate, C B Ganj, Bareilly District.
5	PAVITRAMENTHE FAIR ORGANIC PRIVATE LIMITED	Essential Oils, Refined Oils, Crystal/ Flakes & Herbs	2015	Ganga Nagar Colony, Behind Swasti Hospital, Badaun Road, Bareilly

Source - Article from Business Standard News

In India, Uttar Pradesh accounts for around 90% of Indian mint production, with the remaining 10% coming from smaller areas in the Punjab, Rajasthan etc. UP farmers have undertaken mentha farming as one acre of mentha can give a return of up to Rs 30,000 in three months, which is quite high for any



cash crop. Besides, the demand for mentha products is also rising in the international market, notably China and menthol industry is said to be growing at almost 15 %.

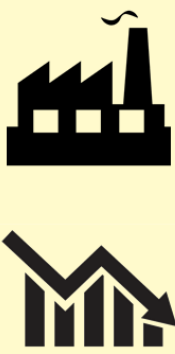
Rising demand in the export market and remunerative prices have boosted mentha farming in the state. Mint cultivation, according to the state's Department of Horticulture and Food Processing, is spread across 88,000 hectares of land. While Budaun alone contributes to around 30% of the total production, Barabanki's share stands between 25-33%. The cash crop is cultivated in districts such as Moradabad, Rampur, **Bareilly**, Pilibhit, Lakhimpur Kheri, Budaun, Sitapur, Barabanki, Shahjahanpur, Bahraich, Ambedkar Nagar, Chandauli and Varanasi. In Bareilly, the Mentha is produced mainly in Anla Town.

Based on the secondary data analysis of a few major Mentha Industries in Bareilly, turnover turns out to be more than 1100 Crores annually in Bareilly. Additionally, it is observed that, the waste¹⁵ generation (i.e., Bottom pitch & High boiling hydrosol) in Mentha industries are being used by perfume & medical industries. Before utilisation it goes through treatment of hydro distillation process.

Incidents of closures of Industries in Bareilly

Several factories, including the National Brewery Company, a match factory, an ice factory & a steam – powered flour mill was established in the early 20th century after the construction of Railway line in the city. Two industries, i.e., the Indian Turpentine & Rosin & The Western Indian Match Company (WIMCO) were also established at C.B. Ganj, located at a distance 8 km from the city centre. This establishment was followed by the establishment of HR Sugar Factory in Nekpur. A Rubber factory was also established in Fatehganj West town. As a result, Bareilly emerged as a major industrial & commercial area of the region by 1940s.

But by the end of the 1990s, many industries in the city were shut down. Following are the list of major industries which has been shut down in the past.

INDUSTRY CLOSED PREVIOUSLY	Industry	Products	Closing Year	Reason of closing
	The Rubber Factory	Synthetic rubber, lattices of the butadiene – styrene type	1999	<ul style="list-style-type: none"> • Non – availability of molasses at reasonable prices • Decline in demand of the natural rubber products due to the availability of substitute synthetic rubber. • Products price becomes high due to imposed vendee fee.
	HR Sugar Factory	Sugar	1988	<ul style="list-style-type: none"> • Financial & Capital Loss
	India Turpine Tyne and Rozin	Turpentine oil, biroja, etc.	1988	<ul style="list-style-type: none"> • Not available
	The Western Indian Match Company (WIMCO)	Matchstick & Matchboxes	2014	<ul style="list-style-type: none"> • Industrial legal issues • Non-availability of materials, • High cost of operations and the prevailing market price for consumers

Source – Multiple news articles:

- 1) Synthetic Rubber by Chandra Prabhu International Limited. Supplier from India. Product Id 215863. (go4worldbusiness.com);
<https://www.go4worldbusiness.com/product/view/215863/synthetic-rubber.html>

¹⁵ Source for Waste generated type, Waste treatment procedure & Waste dumping location -Research Paper on Analysis of Mentha Waste Products, url - file:///C:/Users/TA273WY/Downloads/4-Vol-1-Issue-4-Paper-1.pdf



- 2) ITC decides to shut matchbox unit in Bareilly - The Financial Express;
<https://www.financialexpress.com/industry/itc-decides-to-shut-matchbox-unit-in-bareilly/33321/>

1.1.1. Status of industrial sector - warehousing, storage, and support activities for transportation in Bareilly district

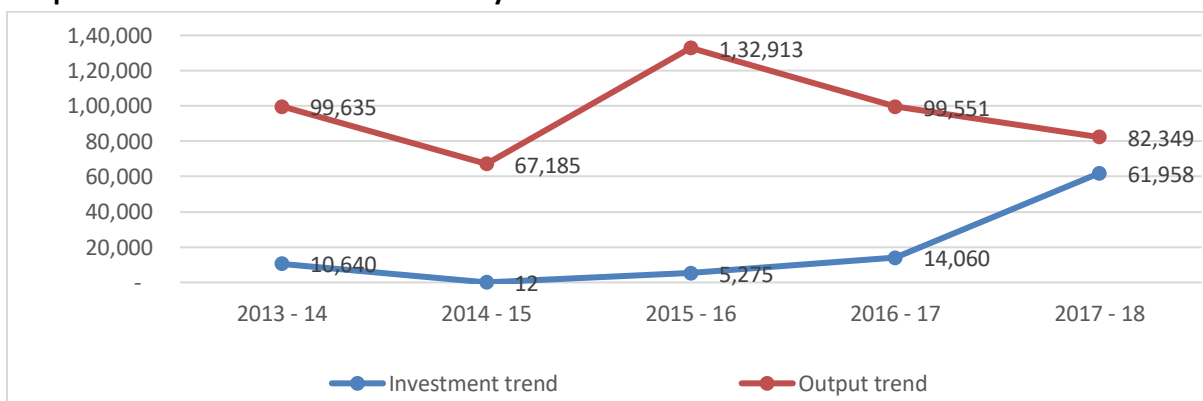
Warehousing and support activities for transportation is an important industrial support sector which includes warehousing and support activities for transportation, such as operating of transport infrastructure (e.g., airports, harbors, tunnels, bridges, etc.), the activities of transport agencies and cargo handling.

As far as Transport/ logistics hub considered, currently there are more than 28 cold storages/ warehouses present in Bareilly District with the storage capacity lying in the range of 400 – 13000 Mt. Majority of these warehouses are located in Faridpur, Baheri, Nawabganj, Fatehganj, Meerganj & Village Umerica.



A brief analysis of this sector is presented below.

Output and Investment trend for Bareilly



Overall investment in the warehousing, storage, and support activities for transportation in Bareilly district is increasing in a span of five years from 2013-18.

1.1.2. Overview of the key high growth sectors of Bareilly District

Based on the analysis of NSDC and discussions with the key stakeholders in the district, the team has identified sectors which will be the development and employment growth engines in the State in the next ten years (2013-2023) and will have skill training requirements. The training requirements could be for the new manpower entering these sectors or up-skilling of the existing manpower in the sectors.



The sectors which have been identified for the districts are presented in the table below. The following section gives the brief overview of the some of the key high growth sectors of Bareilly.

<ul style="list-style-type: none"> Transportation, Logistics, Warehousing and Packaging Unorganised sector, BFSI, Construction industry 	<ul style="list-style-type: none"> Health Care Services, Education and Skill Development 	<ul style="list-style-type: none"> Other Manufacturing, Food Processing 	<ul style="list-style-type: none"> Agriculture and allied, Chemicals & Pharmaceuticals 	<ul style="list-style-type: none"> Electronics and IT hardware, IT & ITES, Organised Retail, Textile And Clothing, Tourism, Travel, Hospitality & Trade, Auto and Auto component

Note: Shades from red to green indicate low growth to high growth (red = lowest growth; green = highest growth, colours in between = medium growth).

District wise skill gap study for the State of Uttar Pradesh by National Skill Development Corporation (NSDC) in 2013, reflected that **(i) Transportation, Logistics, Warehousing and Packaging, (ii) Health Care Services, (iii) BFSI, (iv) Construction Industry and (v) Unorganised sector shows the highest growth in Bareilly district.**

Source - <https://nsdcindia.org/sites/default/files/files/up-sg-report.pdf>

Stakeholder Consultation

Date – 25.01.2022

Sector - Industries

Central U.P. Chamber of Commerce & Industry

Mr. Abhinav Agarwal, President of Central U.P. CCI



Challenges

- There is a requirement of an Eco – textile park based on existing business and skilled manpower
- Existing developed areas with Industrial units are not included in draft Master Plan
- Mandi tax is creating difficulty in setting up food processing units
- Existing sugarcane production is being utilised by sugar mills established in nearby areas such as Lakhimpur and Muzaffarnagar
- Closure of industries in previous years due to lack of manpower and skilled resources.



Potential & solutions

- Eco – textile park at Fatehpurganj road
- Preferable locations for setting up new Industries is road connecting to Bareilly – Lucknow and Bareilly – Delhi
- Industries having potential in Bareilly which can be set up are:
 - o Wood based Industries
 - o Food processing units
 - o EMU manufacturing units



1.1.3. Government interventions

1.1.3.1. Provisions of Bareilly Master Plan 2021

As per existing landuse distribution in 2001 the Industrial use was proposed to be 19%, however, 2.80 % were developed as per proposal, 0.49% were developed unauthorized. Subsequently, a total of 3.3% industrial landuse were developed.

Table 5-29 - Landuse distribution 2001 – 2005

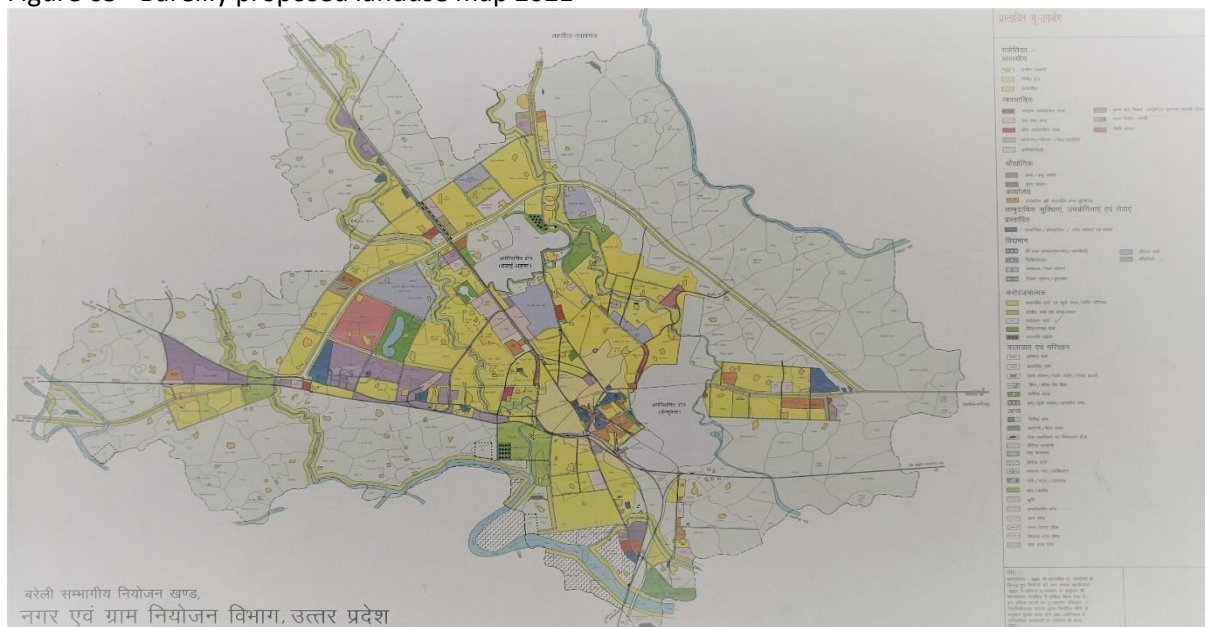
S N	Landuse	Proposed area 2001	%	Development as per proposal	%	Unauthorized Development	%	Total Development	%
1	Residential (developed area)	3390	33%	2330	22.82 %	610.56	5.98 %	2940.56	28.80 %



2	Commercial	308	3%	33.44	0.33%	56.38	0.55%	89.92	0.88%
3	Industrial	1919	19%	286.4	2.80%	50.44	0.49%	336.84	3.30%
4	Office	252	2%	153.28	1.50%	27.04	0.26%	180.32	1.77%
5	Public utilities	1344	13%	452.24	4.43%	118.24	1.16%	570.48	5.59%
6	Transportation	1009	10%	468	4.58%	-	-	468	4.58%
7	Recreational area	1769	17%	11.5	0.11%	-	-	11.5	0.11%
8	Railway	220	2%	220	2.15%	-	-	220	2.15%
Total		10211	100%	3954.86	38.73%	862.66	8.45%	4817.52	47.18%

Source - Bareilly Master Plan 2021

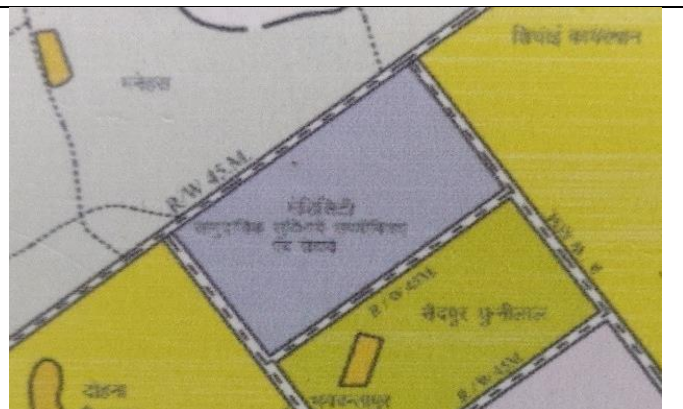
Figure 65 - Bareilly proposed landuse map 2021



Proposed projects as per master plan: Following broad proposals were indicated in the master plan 2021 along with area demarcation and landuse.

Proposed Medicity –

Medicity of an approximate area 86.40 hectares is proposed in between Pilibheet Bypass road to Kathgodam Road.



Proposed Knowledge Park –



Knowledge Park of an approximate area 369.70 hectares is proposed in between Kathgodam Road to Moradabad Road.

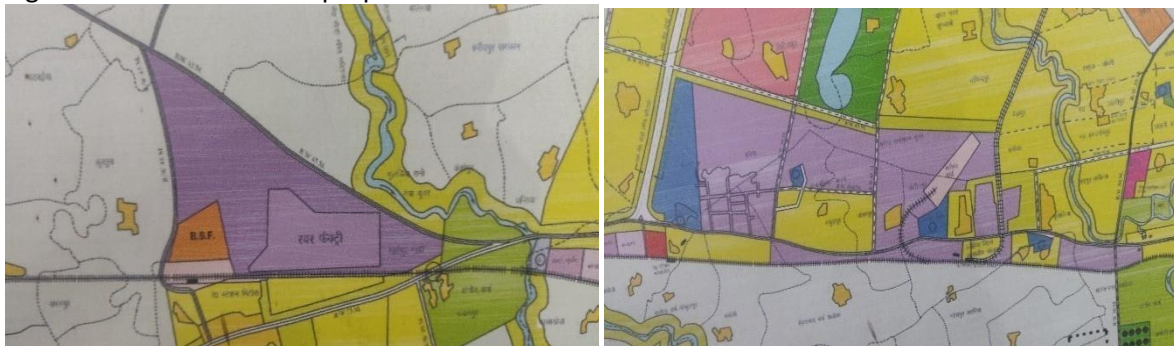


Proposals in master plan for industrial landuse

To develop Bareilly as “Counter Magnet”, approximate area of 1919 Hectares was proposed in Master plan 2021.

S.N.	Location	Industry	Area
1	Badayun road	Lot manufacturing and service industry	102 Hectares
2	Rampur road	Small and Service industry	8 Hectares
3	NH 24 bypass road	Industrial area in village Tiuliya, Titiyapur, and Khataula Ganpat Ray	716 Hectares
4	Muradabad road	Industrial area for expansion of rubber factory	206 Hectares

Figure 66 -Industrial areas proposed in Master Plan 2021



1.1.3.2. Provisions of Bareilly Master Plan 2031 (Draft)

Bareilly Master Pan 2031 is being prepared. It consists of planning for development of one housing scheme each on Badaun, Rampur and Shahjahanpur road on the lines of Ramganga Housing Scheme.

Table 5-30 - Proposed Landuse distribution 2031 (area in hectare)

SN	Landuse	Proposed area 2021	Proposed area 2021 (%)	Proposed area 2031	Total area	%
1	Residential	8129.88	39.53%	450.49	8580.37	37.61%
2	Commercial	905.97	4.41%	39.71	945.68	4.14%
3	Industrial	1170.86	5.69%	837.9	2008.76	8.80%
4	Office	360	1.75%	0	360	1.58%
5	Public utilities	1358.96	6.61%	47.86	1406.82	6.17%
6	Recreational area	4979.14	24.21%	726.6	5705.74	25.01%

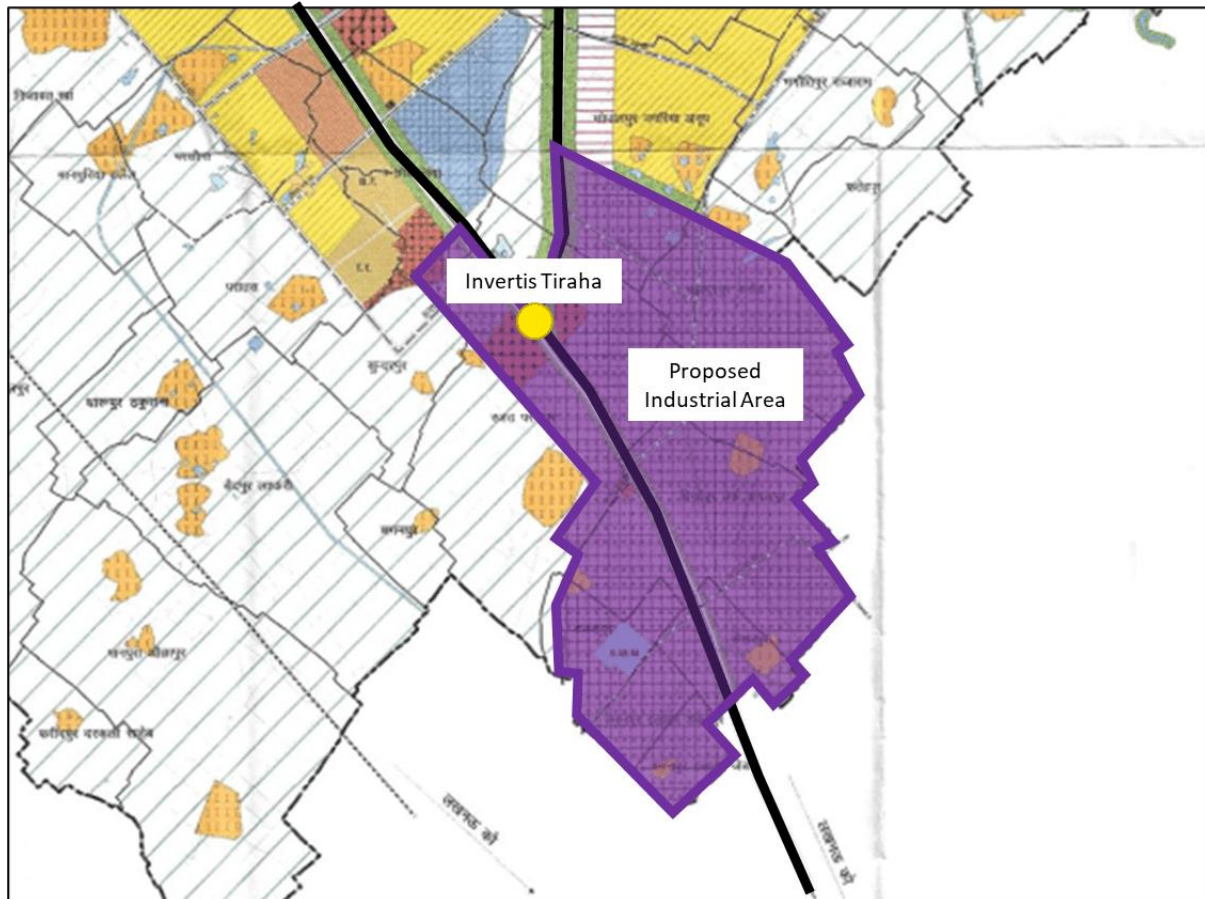


7	transportation	1885.35	9.17%	149.37	2034.72	8.92%
8	Others	1773.66	8.63%	0	1773.66	7.77%
	Total	20563.82	100.00%	2251.93	22815.75	100.00%

Source - Bareilly Draft Master Plan 2031

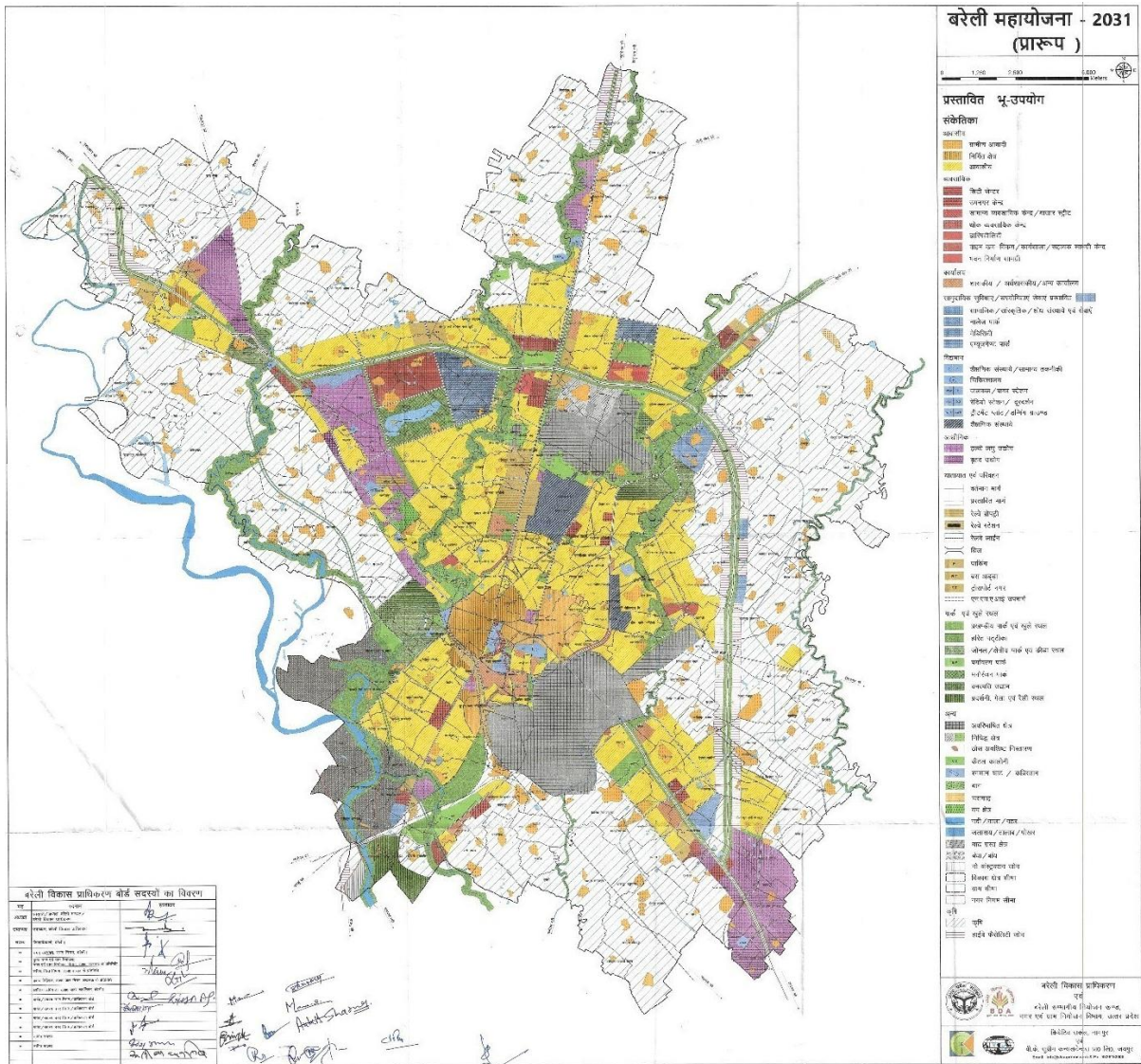
Approximately 837.9 hectares of land has been proposed as industrial landuse towards Lucknow road which accounts for 8.8% of the total landuse distribution.

Draft landuse plan of the Master Plan is ready and at present, suggestions are being taken from the stakeholders.



In comparison to Master Plan 2021, Industrial areas are being proposed near Invertis Chauraha towards Faridpur and Shahjahanpur. And Highway facility zones are proposed on the bypass road.

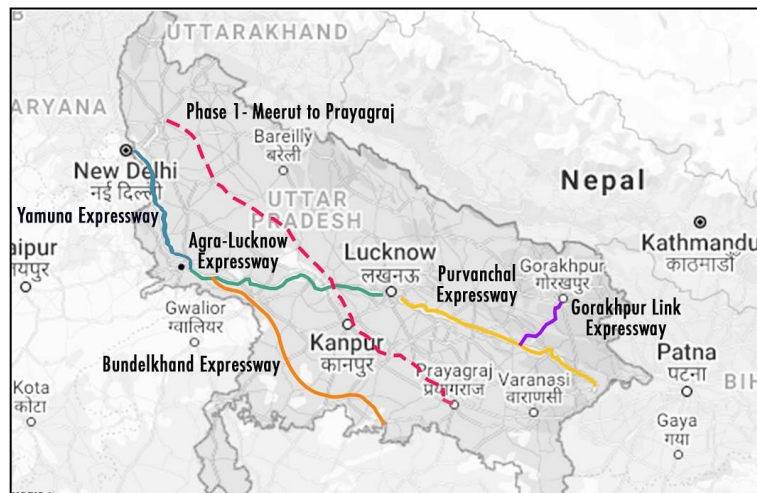




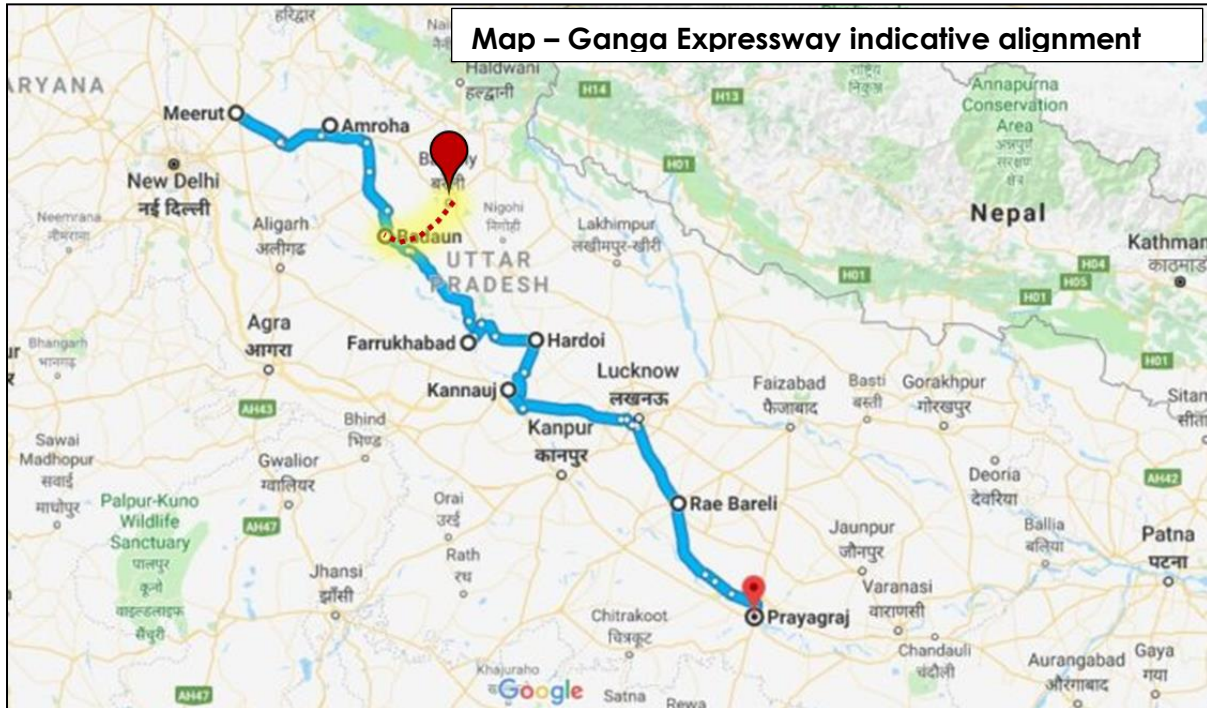
Source: Bareilly Development Authority

1.1.3.3. Industrial corridor impacting the State Economy

Ganga Expressway – 594 km Ganga Expressway project by UPEIDA is an approved 6 lane greenfield access-controlled highway with a route alignment connecting NH-334 in Meerut District with NH-2 at Prayagraj (Allahabad) Bypass in Prayagraj District. Ganga Expressway’s foundation stone was laid on December 18, 2021. This greenfield project was first announced in 2008 connect Noida with Ballia. Since then, the project in Phase 1 has been revised to connect Meerut with Prayagraj. In Phase 2, the expressway will be extended by 110 km to Tigri on the Uttar Pradesh / Utrkhand Border and by 314 km to Ballia near Varanasi.



- **Total Estimated Cost:** Rs. 40,000 cr.
- **Project's Total Length:** 594 Kms
- **Lanes:** 6 (expandable to 8)
- **Status:** Land acquisition (82.04% complete as of July 11, 2021) and RFQ-RFP bidding underway
- **Owner:** Uttar Pradesh Expressways Industrial Development Authority (UPEIDA)
- **Project Model:** DBFOT under PPP



The completion of Ganga Expressway will also benefit all the people of the Bareilly district. The distance from the city to Binawar is only about 36 kilometres. From here, Ganga Expressway will be reached in a very short time (approximately 50 minutes). The expressway will make it easier for people to reach Meerut and Prayagraj. It will improve the connectivity of the division and people from Bareilly as well as several districts of Pilibhit and Uttarakhand will be able to avail this expressway.

5.7.4 Handicraft sector

Bareilly is known for its handicraft such as zari zardozi (gold embroidery), surma (kohl), manjha (abrasive kite string), striking cane furniture. These handicrafts are mostly performed at household level or as a group with specific expertise.

Zari-Zardozi -

Zari work is made from three types of threads-gold, silk and silver. Presently, thousands of micro and small units are involved in the work of Zari-Zardozi in the district. People are engaged in this work, directly or indirectly. Several items with zari-zardozi work can be found in the market like dresses, scarves, handbags, jackets, sarees, lehngas etc.



Cane & Bamboo Products -

Bareilly is also known as Baans Bareilly, though it doesn't correlate with the bamboo trees found here. Yet, large numbers of products manufactured from Bamboo are produced here. These products can be categorized as decorative items. Bamboo furniture is also a dominating product available here. This industry is developed in Bareilly as Cottage Industry and providing employment to a big portion of rural population of this district.

Surma –

The USP of Bareilly's surma is that it is finely grinded and instantly provides cool comfort to the eyes. Though surma prepared in Bareilly is available in more than 80 varieties, a majority of Haj pilgrims from all over the world opt for surma gulab prepared in Bareilly as per the discussions.

Manjha –

Manjha manufacturers date back to over two centuries. People are involved in the manufacture and trade of manjha in the city at individual or small group level. Bareilly's manjha is crafted through a relatively natural process.

Zari, Cane & Bamboo is one of the clusters in Bareilly district. The cluster has been identified under MSE-CDP scheme¹⁶.



¹⁶ **Micro & Small Enterprises - Cluster Development Programme (MSE-CDP)** - The Ministry of Micro, Small and Medium Enterprises (MSME), Government of India (GoI) has adopted the Cluster Development approach as a key strategy for enhancing the productivity and competitiveness as well as capacity building of Micro and Small Enterprises (MSEs) and their collectives in the country. A cluster is a group of enterprises located within an identifiable and as far as practicable, contiguous area or a value chain that goes beyond a geographical area and producing same/ similar products/ complementary products/ services, which can be linked together by common physical infrastructure facilities that help address their common challenges. The essential characteristics of enterprises in a cluster are (a) Similarity or complementarity in the methods of production, quality control & testing, energy consumption, pollution control, etc., (b) Similar level of technology & marketing strategies/practices, (c) Similar channels for communication among the members of the cluster, (d) Common market & skill needs and/ or (e) Common challenges & opportunities that the cluster faces.



5.7.5 Zari Zardozi



Zari-Zardozi	Zari-Zardozi is a type of hand embroidery and usually done on apparels for embellishment with the help of needle, threads and metal wires. This handicraft work has been taken as patrimonial art in the artisan family.
Principal Manufactured Products	Sari, Salwar Suit
Hub for Zari-Zardozi work	Bareilly
National Export	In 3 prominent areas Bareilly, Delhi, and Jaipur and bulk of orders came from these cities.
International Export from India)	India exports zari embroidery to the United States, the United Kingdom, the United Arab Emirates, Japan and Saudi Arabia. Overseas exporters also get their consignment manufactured in India and export it to other countries.
Raw Material	Silk, kardana pearl, kora kasab, fish wire, nakshi, nos, pearls, tubes, chanla, jarkan nori, leaves, mirrors, golden chain etc.
Types of workers involved in this sector	<ul style="list-style-type: none"> Those who are doing this work as their main occupation and engaged in that throughout the year temporary workers whose main occupation is some other but to earn sufficient or to use their holidays, they work for some hours or few days in a month or year. The nature of employment may affect the labour productivity.
Income per day	Rs 400-500/day earlier Now it has been reduced to Rs 250-200/day.
Reason for such sharp decline in wages	<ul style="list-style-type: none"> 18% of GST on the raw material and Subsequently another 18% on the finished product It has led to drastic decrease in the number of orders of Zari-Zardozi products and consequently also eroded livelihood base of hundreds of artisan families.
Reasons for decline in this industry	<ul style="list-style-type: none"> GST (Goods and Services Tax) policy Skyrocketing prices of raw materials Almost static price of the final products Invasion of international products Tough competition from cheaper domestic products Low wages paid to workers has played a major role in the "ongoing extinction" of the industry. The existing wages are too low (.200-250Rs per day)
Government initiatives	The government issued Zari card to workers engaged in this economic activity in 2009, under the 'Zari Card Health Benefit Scheme' having an upper limit up to Rs. 30,000. This was primarily a smart card linked with the card-holder's bank account number, however after some time the smart cards failed to work



5.7.6 Cane & Bamboo craft



Cane & Bamboo

Products	Cane furniture — intricately woven sofa sets, diwan, stools, tables, trays, side racks and swings, Lawn Furniture, Gift Item, Lamp Shed, etc.
Raw material	Cane and Bamboo
Raw material source	Assam, Meghalaya, Tripura and few nearby districts of Uttar Pradesh
Number of artisans and traders	Only 1,100 artisans and 50 traders are associated with this industry
Existing Cluster	(i) Cane & Bamboo Adhunik Vikas Audyogik Sehkari Samiti Ltd. Mathurapur, C B Ganj, Bareilly, No. of functional units in the clusters is 172 and Employment in Cluster Approximately 1200. (ii) The Fatehganj cluster is able to form 500 plus Artisans & 40 SHGs supporting the strong work force. The mobilisation gains momentum day by day.
Types of workers involved in this sector	Majorly artisan households, which have been performing this handicraft form for a long time. Following are the categories - <ul style="list-style-type: none"> • Those who are doing this work as their main occupation and engaged in that throughout the year • Temporary workers whose main occupation is some other but to earn sufficient or to use their holidays, they work for some hours or few days in a month or year.
Income per day	400-700 Rs per day
Reason for low wages	Lack of skilled manpower, training, and knowledge of tools & machinery
Reasons for decline in the industry	Labour cost and the prices of raw materials have gone up. As a result, cost of a cane sofa is between Rs 8,000 to Rs 25,000 based on its quality and design. Therefore, customers prefer to go for wooden furniture, which is considered more durable. Cheaper and durable furniture is available in plastic variants.
Thrust Area	Technology/ Product/ Market/ Export/ quality etc.
National Export	All over India
International Export from India)	Europe (for eco-friendly furniture and artifacts)
Challenges in this industry	<ul style="list-style-type: none"> • Availability of cheap raw material • Absence of GI tag and certification of the handicraft • Tough competition from plastic and other substitute material products which are cheaper and comparatively more durable • Low wages paid to workers has played a major role in the "ongoing extinction" of the industry.
Government initiatives	Formulation of Clusters and common facility centres along with common tools and machinery.



5.7.7 Manjha



Manjha Making

Products	Strings for Kites
Kite artisans in Bareilly	200-250 with artisans cards
Number of artisans involved	Approx. 30,000
Raw material	Manjha is made through strings prepared through natural process. Raw material used for making string is Coarse rice which is being grown locally
Wages of artisans	Rs 100/day
Import Areas	Only Nylon Kite stings are being imported from China. No Cotton kite strings are being imported.
Export Areas	PAN India.
Initiatives by Government to boost this industry	<ul style="list-style-type: none"> • Government had imposed ban on the business of Nylon & Chinese manjhas which were giving tough competition to this industry. • Proposal have been made in mast for an Industrial cluster in Rohilkhand for this Industry. • Comprehensive Handicrafts Cluster Development Scheme (CHCDS)
Training for kite making	30 artisans programs have been held for Kite and Manjha artisans
Reason for low wages	Lack of skilled manpower, training, and knowledge of tools & machinery
Challenges in this industry	<ul style="list-style-type: none"> • Tough competition from synthetic and other substitute material products which are cheaper and comparatively more durable • Low wages paid to workers has played a major role in the "ongoing extinction" of the industry.



5.7.8 Soorma product



Soorma / Kohl

Products	Surma (Kohls), Kajal
Number of artisans and traders	Approx. 200+
Reasons for decline in the industry	Preference of people over other cosmetic beauty products
National Export	Mumbai & Delhi
International Export	Arab countries
Existing Cluster	Approx. 06 units
Raw Material Source	Bangladesh

1.1.3.4. Plywood and wooden products



Plywood / Wood

Products	<ul style="list-style-type: none"> • Plating Materials • Cork; Straw And Plaiting Materials • Veneer Sheets, Plywood; Laminboard; Particle Board And Other Panels And Boards
Numbers of industries	<ul style="list-style-type: none"> • There are about 300 plywood industries in Uttar Pradesh. there are 40 industries in Bareilly alone. • After Yamunanagar in Haryana, the plywood industry of Bareilly is considered to be the best in the country.
Number of units	578 (Source – DIC Bareilly)
Number of employees	3800 (Source – DIC Bareilly)
Location of units	Parsakhera, Bhojipura and Faridpur area.
Export areas	<ul style="list-style-type: none"> • According to the entrepreneurs of the district, the maximum consignment from Bareilly goes to Maharashtra and Telangana. All industries in the district together account for 50 to 60 % of the total production are supplied to these two states. • Apart from this, there is a good demand for Bareilly's ply in Goa, Rajasthan, Chhattisgarh.
Linkages in plywood manufacturing	<ul style="list-style-type: none"> • Peeling industry • Plywood industry • Saw mill

Initiatives for handicraft industries

(i) Bareilly Haat at Bareilly and Construction of Handicraft Promotion Centre



This Project “Bareilly Haat cum Handicraft Centre” under Bareilly Smart City Project will have following features.

This Project aims to provide year-round marketing opportunities to the Handicrafts Artisans, handloom weavers to showcase and sell their products to the consumers and facilitate them with all the associated Infrastructure in the Haat to lure the public of the city to come and visit the place.

- To provide training for the artisan and the students interested in handicrafts.
- To provide Exposure of Local Handicrafts to state and national market and provide them linkages
- To create recreational and enjoyable space with sources of revenue generation for Authority while keeping it close to the local handicrafts.
- To provide an Interpretation Centre in the Campus to glorify the Past of the City

Project Components:

- **Shopping** - Shops for various handicraft products, Furniture store, Food courts, Food Street, Souvenir shops, Shopping area
- **Recreation** - Light and sound show, Ferris wheel, Live music, Cafeteria, Restaurants, Kala Sanskriti Kendra, Entertainment zone, Movie theatre

(ii) Ambedkar Hastshilp Vikas Yojana

The Central Government has launched a scheme entitled “Ambedkar Hastshilp Vikas Yojana” to facilitate credit access for handicraft artisans by providing interest subvention. The scheme is operated as a Cluster Specific Scheme and headed by the Development Commissioner (Handicrafts). This scheme aims at promoting Indian handicrafts by developing artisans’ clusters in the country.

Objective

- The objective of the Ambedkar Hastshilp Vikas Yojana (AHVY) are as follows:
- Promoting premium handicrafts stocks for the niche market.
- Expansion of production base for utility-based, lifestyle and mass production handicrafts products.
- Preservation and protection of heritage/ languishing crafts.






Features of the Scheme

- Mobilisation of artisan’s groups/ SHGs formation with the office-bearers.
- The survey will be Conducted for each artisan in the prescribed format
- Holding awareness camps for the cluster artisans, discussion, and formation of the Annual action Plan of the activities
- Opening of Bank accounts of SHGs.
- Facilitating the opening of Bank accounts of the Individual artisans under Jan Dhan Yojna
- Processing of the scanned data in MS Excel Sheet format containing artisans’ details such as identity card number, Photographs, Aadhar number, EPIC number, bank account number with bank name.
- Including each artisan under RSBY and AABY Scheme.
- The Issuance of Artisans’ Identity Cards (AIC) to all the cluster artisans
- The appointment of cluster Manager will be decided as per the qualification and experience, registration and formation of Producer Company/ Federation/ Institutions with at least 50% of the Cluster artisans as members/ shareholders.
- Artisans’ Credit Card (ACC): The ACC scheme has been formulated to provide adequate and timely assistance by the banking institutions to the artisans to satisfy their credit requirements of both investment needs as well as working capital need in a flexible and cost-effective manner. The scheme is being implemented through Scheduled Banks both in rural and urban areas.

Support under the Scheme



The package of support under AHVY can be clubbed under the following components:

Components		Support and Services provided under AHVY
	Social interventions	<ul style="list-style-type: none"> • Diagnostic survey and formulation of the project plan • Mobilization of artisans
	Technological interventions	<ul style="list-style-type: none"> • Assistance for training the trainers • Assistance for design and technological upgradation • Financial assistance for development and supply/dissemination of modern improved tools, equipment etc • Documentation, preservation, and revival of languishing crafts etc
	Marketing interventions	<ul style="list-style-type: none"> • Marketing events • Marketing infrastructure • Publicity • Marketing Services
	Financial interventions	<ul style="list-style-type: none"> • Margin money
	Cluster specific infrastructure-related interventions	<ul style="list-style-type: none"> • Establishment of Resource Centre for major crafts • Establishment of E-kiosks • Creation of Raw Material Banks • Setting up of Common Facility Centre. • Technological assistance by setting up of Facility Centres by Exporters/ Entrepreneurs, etc.

(iii) ODOP scheme 2018

The One District One Product (ODOP) Programme aims to encourage more visibility and sale of indigenous and specialized products/crafts of Uttar Pradesh, generating employment at district level. In this project, one product is selected from every district of Uttar Pradesh. The selected product under ODOP is traditionally famous for their production and manufacturing from that district. Many of these products are GI tagged, which means they are certified as being specific to that region in Uttar Pradesh. The manufacturing process of a lot of these products are also dying community traditions that are being revived through modernization and publicization.



Many district-specific industries are more commonplace, but their products are still unique to those regions. Asafoetida, Desi ghee, Fancy glassware, Bedsheets, Jaggery, Leather Goods – the districts that specialize in these crafts are in UP. These are also small and medium industries that need modernization, machinery, and productivity enhancement.

Under the ODOP project, artisans, production units and associations which are related to the selected products are promoted by lending loan, establishing Common Facility Centres, providing marketing assistance so these products can be popularized, and employment can be generated at district level.




ODOP Schemes:			
I	II	III	IV
Common Facility Centre Scheme	Marketing Development Assistance Scheme	Finance Assistance Scheme (Margin Money Scheme)	Skill Development Scheme

Key Policy Objectives

- Secure preservation and development of local crafts / skills and promotion of the art
- Provide employment to youth and promote the competitive ecosystem in the state
- Capacity building and promotion of local skills
- Preventing migration by improving income and local employment in the state
- Improvement in product quality and skill development
- Increase overall exports of the selected products

Key Policy Highlights

 Support	<ul style="list-style-type: none"> • Prepare database regarding circulation, stakeholders, total production, export, availability of raw material and to arrange training. • Research of possibilities regarding production, development, marketing of the product. • Prepare a micro plan for product development, marketing promotion and to provide additional opportunities of employment and wage increment of the concerned artisans and workers. • Provide advertising, publicity and marketing opportunities at district, state, national and international level. • Necessary coordination with MUDRA, PMEGP, Stand Up Schemes of Government of India as well as Mukhya Mantri Yuva Swarojgar Yojna and Vishwakarma Shram Samman Yojna of Government of UP for providing required finance to new and existing units. To start new schemes for the purpose as needed. • Setup Co-operatives and Self-Help Groups. Hosts general and technical training of the craft and technology development.
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(a) Marketing Development Assistance (MDA) scheme

The MDA scheme is aimed at achieving fair pricing for the artisans, weavers, entrepreneurs, and exporters of the ODOP products through better marketing. This scheme provides financial assistance to participants of national and international fairs/exhibitions for display and sale of their products selected under ODOP project.

(b) Margin Money / Financial Assistance Scheme

Under the Financial Assistance Scheme, all nationalized banks, regional rural banks and other scheduled banks will finance the scheme and the Department of Micro, Small and Medium Enterprises and Department of Export Promotion shall release the ODOP margin money subsidy against all applications submitted under the scheme. For:

- Enterprises with project cost upto INR 25 lakhs, 25% of the entire project cost subject to a maximum of INR 6.25 lakhs, whichever is less, shall be payable under the margin money scheme.
- Enterprises with project cost between INR 25 lakhs to 50 lakhs, INR 6.25 lakhs or 20% of the project cost whichever is more, shall be payable under the margin money scheme.
- Enterprises with project cost between INR 50 lakhs to 150 lakhs, INR 10 lakhs or 10% of the project cost, whichever is more, shall be payable under the margin money scheme.



- Enterprises with project costs exceeding INR 150 lakhs, 10% of the entire amount subject to maximum of INR 20 lakhs, whichever is less, shall be payable under the margin money scheme. The margin money shall be merged with the subsidy after the enterprise has successfully completed 2 years of operation.

(c) Skill Development scheme under ODOP

The ODOP Skill Development and Tool Kit Distribution Scheme is aimed at fulfilling current and future requirements of skilled work force in the entire value chain of ODOP products, across the state of Uttar Pradesh. Additionally, the scheme intends to equip the artisans / workers through distribution of relevant advanced tool kits.

Incentives – (i) Artisan who are already skilled shall be imparted required training through RPL (Recognition of Prior Learning) and shall be certified through relevant Sector Skill Councils (SSCs), (ii) Unskilled artisans shall be provided a 10-day training. Post completion of training, these artisans shall also be certified under RPL, (iii) All the trainees shall receive an honorarium of Rs. 200 per day during the training period, (iv) An advanced toolkit, free of cost, shall be provided by the department to the trained artisans

(d) Common Facility Centre (CFC) scheme

Objective of the CFC scheme is to establish a CFC which would encompass following activities: Testing Lab, Design Development and Training Centre, Technical research and Development Centre, Product exhibition cum Selling Centre, Raw Material Bank / Common Resource Centre, Common Production / Processing Centre, Common Logistics Centre, Information, Communication and Broadcasting Centre, Packaging, Labelling and Barcoding facilities, Other such facilities related to missing link of value chain.

Incentives – (i) For CFCs of project cost up to Rs. 15 crores, the State government shall provide a financial assistance up to 90% of the project cost, while a minimum of 10% would be borne by the SPV, (ii) Financial assistance would also be given for CFCs of project cost more than Rs 15 crores, provided the State's share would be calculated on Rs 15 crores only, (iii) The State government can also sanction capital for the projects of similar nature, previously approved by the Central & the State governments, which are incomplete due to the lack of funds. For supporting such incomplete projects, proper justification would be provided.

Stakeholder Consultation	
Date – 07.02.2022 Sector - Handicraft	Office of Development Commissioner (Handicraft) Bareilly Mr. Pulkat Jain, Development Commissioner (Handicraft) Bareilly
 <p>Challenges</p>	<ul style="list-style-type: none"> • Promotion of Kite making Terracotta sculptures along with the Zari and Bamboo artworks • Limited number of exporters from Bareilly resulting into exports from cities like Delhi, Jaipur and Bangalore. • Lack of common facilities for artisans which can be utilised based on requirement • Presence of large number of middlemen in the development process of the handicraft
 <p>Potential & solutions</p>	<ul style="list-style-type: none"> • Interlinking of tourism with handicraft such as Zari Zardosi and Bamboo products making tours • Obtaining GI Tags for the handicraft artwork of Bareilly



Stakeholder Consultation

Date – 07.02.2022
Sector - Handicraft

Dastkar Bunkar Welfare Association Bareilly, Govt. CFC, Bamboo
and Cane - Nadeem Hussain (General Secretary)



Challenges

- Lack of common tool room / shared technology
- Lack of material bank in the city
- Challenges and high cost of import of raw material from North Eastern States
- Absence of GT Tag for the handicraft from the city



Potential & solutions

- Need of material bank for storage of raw materials
- Need of dedicated clusters and common facility centres for shared technology and resources
- Requirement of obtaining GI Tag for the handicrafts of Bareilly
- Support required in procurement through auctioning and import of raw material from Forest Department of nearby areas and North Eastern States
- Requirement of permanent stalls to showcase and sell the handicraft within city
- Certification of Beint & Bamboo artisans
- Removal of mediators from the processes for better income of the artisans



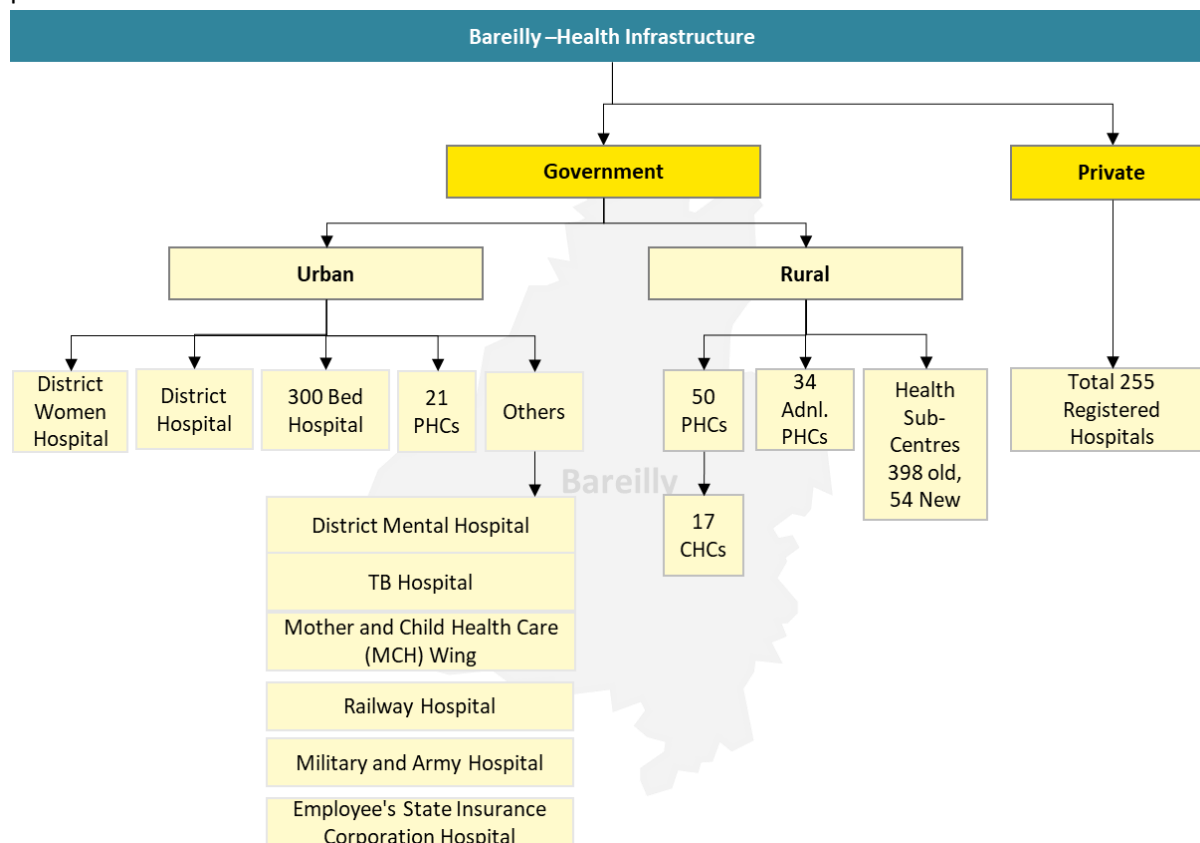
Chapter 6. HEALTH AND EDUCATION SECTOR

6.1.1 Health sector

Bareilly is among one of the leading cities of Uttar Pradesh in terms of medical facilities, the city serves as a gateway to the patients of the nearby areas as well as Kumaun, Rohilkhand, and West Nepal region. As per data provided by CMO Bareilly, at present, there are various government & private healthcare facilities as below:

- Under Urban area, there are District Women Hospital, District Hospital, 300 Bed Hospital, PHC's & Others including District Mental Hospital, TB Hospital, Mother and Childcare (MCH) Wing, Railway Hospital, Military and Army Hospital, Employee's State Insurance Corporation Hospital.
- Under Rural areas, there are government facilities PHC's, Health Sub – Centers & CHC's.
- Private Health Centre also available in this region due to high demand of health services. Most of private health center situated in the urban regions Bareilly as a head quarter has high density of medical facilities. Clinical Health Centers and Nursing Homes are well dense in Bareilly city.

There is a total of 104 PHC's. Currently, a total 255 Private Hospitals with 10957 number of beds are present.



In the following section, team has analyzed the facilities available at district level vis a vis region and state in terms of numbers, capacity. As Bareilly is part of western region¹⁷ the analysis is done for District, Western region of Uttar Pradesh and then the State i.e., Uttar Pradesh. This analysis is based on the data from “District wise Development Indicators 2020¹⁸” which provides the data at various level for development indicators such as education, health, economy, etc.

Table 31 - Allopathic hospitals/dispensaries

District / Region /State	No. of Allopathic hospitals/dispensaries per lakh of population (including C.H.Cs /P.H.Cs.)		No. of beds in Allopathic hospitals/dispensaries per lakh of population (including C.H.Cs / P.H.Cs.)	
	2011-12	2019-20	2011-12	2019-20
Bareilly	1.92	3.22	37.44	46.55
Western Region	2.2	3.75	37.47	50.14
Uttar Pradesh	2.42	4.13	41.53	55.7

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The number of Allopathic hospitals/ dispensaries per lakh of population (including C.H.Cs/P.H.Cs) & the number of beds in Allopathic hospitals/ dispensaries per lakh of population (including C.H.Cs/P.H.Cs) in the Bareilly district has increased to 67.7% & 24.33% respectively

Whereas in comparison to Western Region & State, the number of Allopathic Hospitals/ Dispensaries per lakh of population are 16.46 % & 28.26% less respectively as well as the number of beds in Allopathic Hospitals/ Dispensaries per lakh of population are also 7.71% & 11.09% less respectively.

Table 32 - Ayurvedic / Homeopathic / Unani hospitals / dispensaries

District / Region /State	No. of Ayurvedic / Homeopathic / Unani hospitals / dispensaries per lakh of population		No. of beds in Ayurvedic / Homeopathic / Unani hospitals /dispensaries per lakh of population	
	2011-12	2019-20	2011-12	2019-20
Bareilly	1.99	1.69	7.83	5.76
Western Region	1.53	1.35	4.55	3.79
Uttar Pradesh	1.94	1.73	5.56	4.6

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The number of Ayurvedic/ Homeopathic/ Unani hospitals/ dispensaries per lakh of population & the number of beds in Ayurvedic/ Homeopathic/ Unani hospitals/ dispensaries per lakh of population in the Bareilly district has decreased to 15.08% & 26.44% respectively

¹⁷ Western Region consists of 30 districts namely - Saharanpur, Muzaffarnagar Shamli, Bijnor, Moradabad, Sambhal, Rampur, Amroha, Meerut, Baghpat, Ghaziabad, Hapur, G.B.Nagar, Bulandshahr, Aligarh, Hathras, Mathura, Agra, Firozabad, Etah, Kasganj, Mainpuri, Badaun, Bareilly, Pilibhit, Shahjahanpur, Farrukhabad, Kannauj, Etawah & Auraiya.

¹⁸ District Wise Development Indicators Uttar Pradesh 2020 (url - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>)



Whereas in comparison to Western Region & State, the number of Ayurvedic/ Homeopathic/ Unani Hospitals/ Dispensaries per lakh of population are 20.12 % more & 2.37% less respectively as well as the number of beds in Ayurvedic/ Homeopathic/ Unani Hospitals/ Dispensaries per lakh of population are also 34.20% more & 21.37% less respectively.

Table 33 - C.H.C s /P.H.C s

District / Region /State	No. of C.H.C s /P.H.Cs. per lakh of population		No. family welfare clinics / centres per lakh of population	
	2011-12	2019-20	2011-12	2019-20
Bareilly	1.76	1.57	9.32	10.19
Western Region	2.03	1.79	9.51	10.72
Uttar Pradesh	2.22	1.97	10.12	11.44

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The number of C.H.C s / P.H.Cs per lakh of population in the Bareilly district has decreased to 10.80% but the number family welfare clinics/ centres per lakh of population has increased to 9.33% respectively. However, in comparison to Western Region & State, the number of C.H.C s / P.H.Cs per lakh of population are 14.01% & 25.48% less respectively as well as the number of family welfare clinics/ centres per lakh of population are also 5.20% & 12% less respectively.

Bed occupancy rate

In Bareilly city there are 3 major hospital falling under CMO and following are the details of the Bed Occupancy Rate in 2021 and 2022. As per data received from Chief Medical Officer, there are approximately 759 patients are being admitted in IPD & approximately 1,27,442 patients are being admitted in OPD. Also details of Bed occupancy rate is also listed below:

S. No	Name of hospital	Bed Occupancy Rate 2021	Bed Occupancy Rate 2022
1	Under CMO	98.27	77.65
2	CMS district male	49.51	58.31
3	CMS district female	70.5	67.5

List of medical colleges with number of beds in Bareilly

Table 34 - List of Medical Colleges

S. No	Name of college	Admission intake	No of beds in attached Hospital
1	Rajshree Medical Research Institute	150	690
2	Rohilkhand Medical College & Hospital	150	720
3	Shri Ram Murti Smarak Institute of Medical Sciences	100	700

Source - National Health Profile 2020; url - <https://www.cbhidghs.nic.in/showfile.php?lid=1155>

URDPFI guidelines for health facilities

The size of a hospital depends upon the hospital bed requirement, which in turn is a function of the size of the population it serves. As per the Indian Public Health Standards (IPHS), 2012, the calculation of number of beds is based on-

- annual rate of admission as 1 per 50 population
- average length of stay in a hospital as 5 days

For example: In Bareilly the population size of the city is - 9,04,797



Based on the assumptions the number of beds required for 9,04,797 population is:

- No. of bed days per year: $(9,04,797 \times 1/50) \times 5 = 1,80,95$
- No. of beds required with 100% occupancy: $9,04,797 / 365 = 2478$
- No. of beds required with 80% occupancy: $(9,04,797 / 365) \times 80\% = 1983$

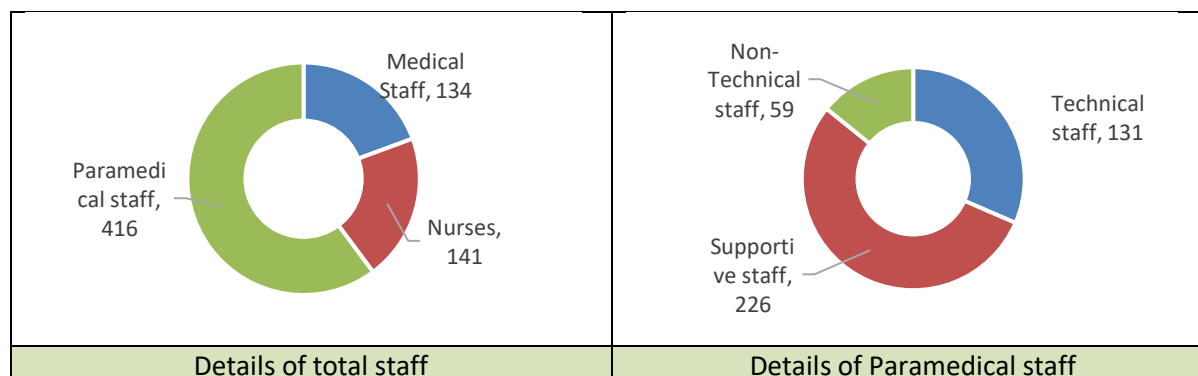
The classification of health care facilities is given in table below

S.N.	Category	Population served per unit	Area requirement
1	Dispensary	15000	0.12 Ha
2	Nursing home, child welfare and maternity centre	45000 to 1 lakh	0.20 to 0.30 Ha
3	Polyclinic	1 lakh	0.20 to 0.30 Ha
4	Intermediate Hospital (Category A)	1 lakh	1.00 Ha
5	Intermediate Hospital (Category B)	1 lakh	3.70 Ha
6	Multi-Speciality Hospital	1 lakh	9.00 Ha
7	Speciality Hospital	1 lakh	3.70 Ha
8	General Hospital	2.5 lakh	6.00 Ha
9	Family Welfare Centre	50,000	500 sqm 800 sqm
10	Diagnostic centre	50,000	500 sqm 800 sqm
11	Veterinary Hospital for pets and animals	5 lakh	2000 sqm
12	Dispensary for pet animals and birds	1 lakh	300 sqm

The Department of Health and Family welfare suggests incorporation of Trauma Centres in the high ways cutting across urban local authority jurisdiction.

Medical & Para-medical staff:

The staff in a Hospital can be classified broadly into three categories as Medical staff, Nurses & Paramedical staff. The Paramedical staff is further classified into Technical staff, administrative staff & supportive staff. Here is the list of existing number of Hospital staff with their further sub classification.



Details of existing health workers

A) Medical Staff

S. No	Classification	Existing Numbers
1	Chief Medical Officer	1
2	Deputy Chief Medical Officer	3
3	Medical Officer	129
4	Deputy Medical Officer	1

B) Nurses



S. No	Classification	Existing Numbers
1	Auxiliary Nursing Midwifery	116
2	Staff Nurse	24
3	Nurse	1

C) Paramedical staff**a. Technical staff**

S. No	Classification	Existing Numbers
1	Health Education Officer	5
2	Stenographer	1
3	Dental Hygienist	11
4	Pharmacist	88
5	Chief Pharmacist	2
6	Dental Surgeon	5
7	Medical Intern	8
8	Optometrist	4
9	X – Ray Technician	4
10	Health Intern	1
11	District Leprosy Officer	2

b. Supportive staff

S. No	Classification	Existing Numbers
1	District Administrative Officer	2
2	Accountant	1
3	Primer Assistant	12
4	Assistant Recruiting Officer (A.R.O)	3
5	Chair Weaver	1
6	Ward Clerks	79
7	Medical Superintendent	4
8	Lab Assistant	31
9	Health Workers	69
10	Eye care assistant	2
11	Staff Clerks	5
12	Health Supervisor	7
13	Darkroom assistant	1
14	NMA/NMS	7
15	Dental Technical Officer	2

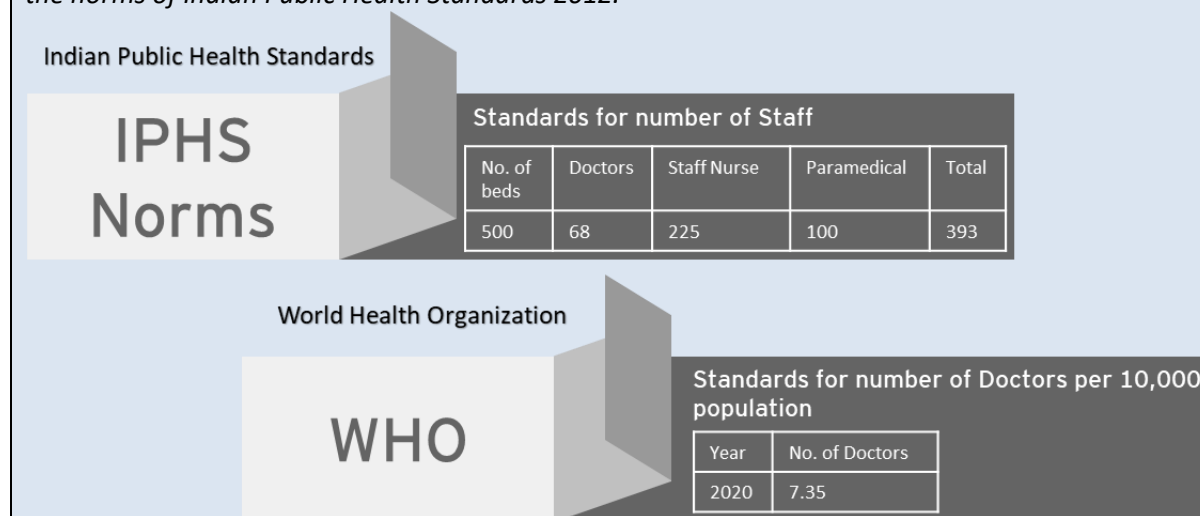
c. Non-Technical staff

S. No	Classification	Existing Numbers
1	Plumber	1
2	Sweeper cum Guard	17
3	Driver	13
4	Sweeper	18
5	Peon	6
6	Electrician	2
7	Cook	1
8	Washerman	1



Norms and guidelines for Medical & Para-medical staff

Further, below are the details of the required number of Doctors & Paramedical staff required as per the norms of Indian Public Health Standards 2012.

**Broad gaps in existing health workers**

As per the data provided by CMO Bareilly, there are 161 doctors and approximately 557 paramedical staff in Bareilly for the government facilities. However, for doctors, out of 237 post only 161 posts are filled or recruited currently. There are approximately 3200 Aasha workers. Based on the data analysis for health facilities under CMO (including CHCs, PHCs and additional PHCs) following are the observation regarding the existing gap in the health workers -

- **Approximate 32% shortage of doctors**
- **Approximate 52% shortage of paramedical staff**

Category		Sanctioned~	Working~	Vacant~	Vacant (%)~	
For hospital Under CMO Bareilly	(i) Doctors and MOCH Doctors	Doctors	237	161	76	32%
	(ii) Garde III and IV health workers	Paramedical	244	147	97	40%
		Nursing	949	399	550	58%
		Clerk	55	20	35	64%
		District administrative officer	1	1	0	0%
		Research officer	19	3	16	84%
		Health education officer	18	7	11	61%
IV Grade employees	281	178	103	37%		

Source – CMO office Bareilly (Note – figures are approximate in number)

Health indicators:

As per AHS¹⁹ 2012 – 13, Bareilly has good Total Fertility Rate of 3.6 depicting an increase in the use of any method of family planning. While the district has lowest Maternal Mortality Rate (196) & Neo –

¹⁹ The Annual Health Survey (AHS) brings out the information on key maternal health & health care indicators such as ante – natal care, delivery care, post – natal care & maternal mortality rates & ratios. The surveys also bring out information on other indicators such as fertility & family planning behaviour, child

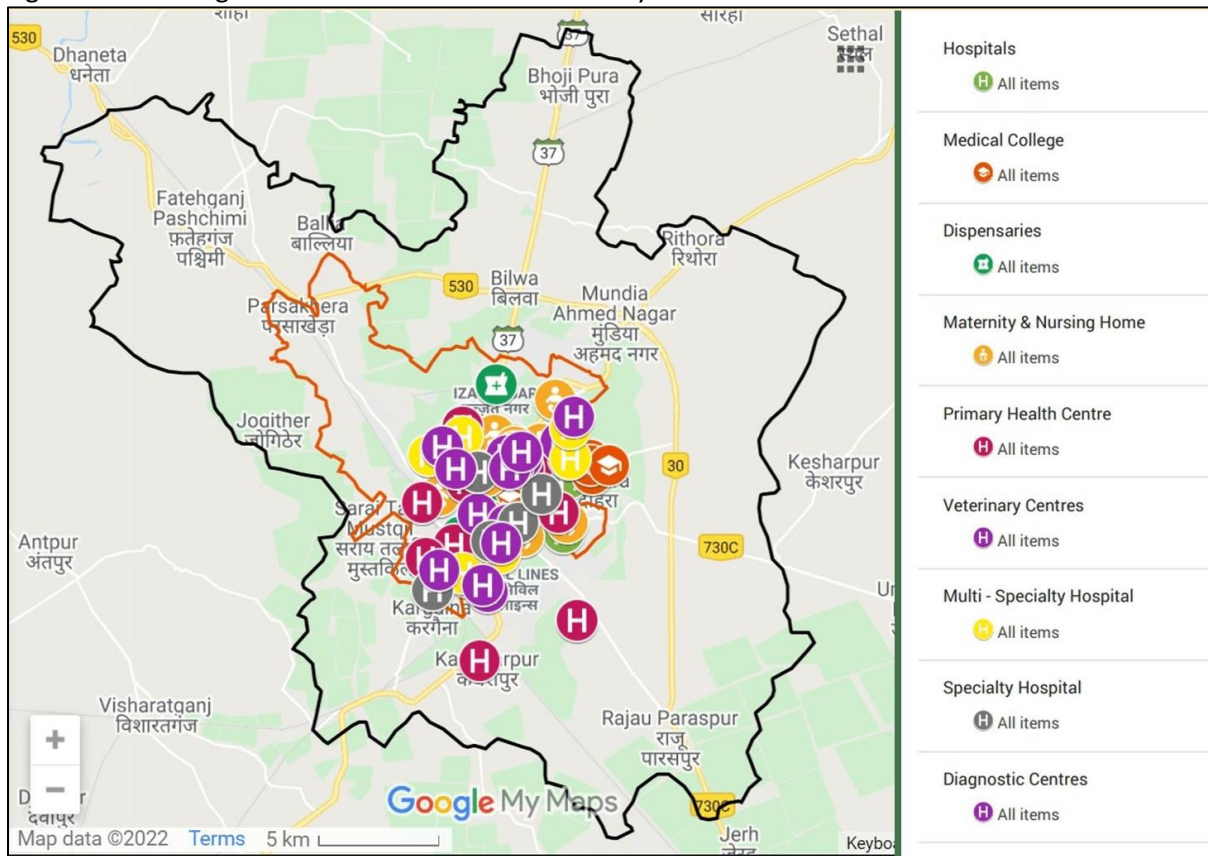


natal Mortality Rates (52 deaths per 1,000 live births) & highest Infant Mortality Rate (78 deaths per 1,000 live births) & Under – five Mortality Rates (103 deaths per 1,000 live births).

The high values of Infant Mortality Rate & Under – five Mortality Rates depicts the wide gaps in basic infrastructure services such as access to electricity, safe sanitation, etc. Improvement in these basic infrastructure services can bring down the Infant Mortality Rates & Under – five Mortality Rates.

Wide disparities have been observed in the source of treatment with the percentage of acutely ill people availing treatment from a government source & with the percentage of chronically ill people availing treatment from a government source being 1.4 & 10.5 respectively representing very lower number of people have received medical aid for acute illnesses & chronic illnesses from Government source which reveals the deplorable situation of health care centres in the District. Government has launched the Janani Suraksha Yojna (JSY) through which the Government is encouraging institutional deliveries in the districts/ States having high percentage of Home – based birth deliveries.

Figure 67 - Existing situation of Health Facilities at City Level



health & healthcare services, child mortality levels, the dimensions of childhood diseases, instances of acute illness & chronic illness including indicators such as Total fertility rate, levels of immunization, neo – natal, infant mortality rate, under – five mortality rates, etc.



Stakeholder Consultation

Date – 09.02.2022
Sector - HealthOffice of Chief Medical Officer
Mr. Harpal Singh, Additional Chief Medical Officer

Challenges

- Gap in recruitment of medical and paramedical staff against sanctioned posts
- State of the art infrastructure and medical facilities – such as CT Scan, Teleradiology, Telemedicine, etc.



Potential & solutions

- Need of upgraded health facilities with supporting technological development
- Development of parking in the commercial areas

6.1.2 Education Sector

The city is developing as a major education centre. There are universities, a no. of Medical, Architecture, Business management and Engineering Colleges are located in the city. Infrastructure development is expected to further the economic development prospects of the city.

Higher education in Bareilly

With a large number of professional institutes Bareilly is an education hub. Bareilly has a number of universities and research institutes, including M. J. P. Rohilkhand University, the Indian Veterinary Research Institute (IVRI) and the Central Avian Research Institute (CARI)—the latter two in Izzatnagar. The city also has Management institutes like Lal Bahadur Shastri Institute of Management and Technology sister branch of (LBSIM, Delhi), law, medical and other colleges.

Bareilly has many medical private and government colleges having undergraduate and P.G. courses. Bareilly College, in the heart of the city, was built in 1837 and is among the oldest educational institutions in India.

The M. J. P. Rohilkhand University (1975), Bareilly College (1837) and private colleges and universities comprise Bareilly's higher-education system. Established in 1889, the Indian Veterinary Research Institute is dedicated to livestock research. With a faculty of 275, in addition to research, the institute offers instruction, consultation and technology transfer at the post-graduate level to students from India and abroad.

As per National Institutional Ranking Framework, Ministry of Education, Government of India, there are only 7 institute from Uttar Pradesh in the top 100 list, and there are no institutes in this list from Bareilly. This framework outlines a methodology to rank institutions across the country. The methodology draws from the overall recommendations broad understanding arrived at by a Core Committee set up by MHRD, to identify the broad parameters for ranking various universities and institutions. The parameters broadly cover "Teaching, Learning and Resources," "Research and Professional Practices," "Graduation Outcomes," "Outreach and Inclusivity," and "Perception".

Literacy rate

Over the time, the Literacy rate of the Bareilly district has improved from 47.84 to 58.49 showing an increment of 22.26%. Whereas in comparison to Western Region & State, the Literacy rate of the district are 13.31 % & 13.58% less respectively.

Table 35 - Literacy rate

District/ Region	2001	2011
Bareilly	47.84	58.49
Western Region	57.36	67.47
Uttar Pradesh	56.27	67.68



Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Existing educational facilities

S.N.	Category	Population served per unit	Area requirement
1	Pre Primary, Nursery School	2500	0.08 ha
2	Primary School (class I to V)	5000	0.40 Ha
3	Senior Secondary School (VI to XII)	7500	1.80 Ha
4	Integrated School without hostel facility (Class I- XII)	90,000 – 1 lakh	3.50 Ha
5	Integrated School with hostel facility (Class I-XII)	90,000 – 1 lakh	3.90 Ha
6	School for Physically Challenged	45,000	0.70 Ha
7	School for Mentally Challenged	10 lakh	0.20 Ha
8	College	1.25 lakh	5.00 Ha
9	University Campus		10-60 Ha
10	Technical Education Centre (A) – To include 1 Industrial Training Institute (ITI) and 1 Polytechnic	10 lakh	4.00 Ha
11	Technical Education Centre (B) – To include 1 ITI, 1 Technical Centre and 1 Coaching Centre	10 lakh	4.00 Ha
12	Engineering College	10 lakh	6.00 Ha
13	Other Professional Colleges	10 Lakh	2.00 Ha
14	Nursing and Paramedical Institute	10 lakh	2000 sqm

Pre-primary & Primary Schools

The number of Pre-primary Schools & the number of Primary Schools in the Bareilly district has decreased to 17.61% & 19.39% respectively. However, in comparison to Western Region & State, the number of Pre-primary Schools are 10.97% & 14.49% less respectively as well as the number of Primary Schools are also 16.32% & 16.26% less respectively.

Table 37 - Pre Primary & Primary Schools

District/ Region	Pre-primary school		Primary School	
	2011 – 12	2019 – 20	2011 – 12	2019 - 20
Bareilly	62.99	51.9	31.46	30.85
Western Region	74.67	58.3	38.08	36.87
Uttar Pradesh	76.72	60.7	37.67	36.84

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Secondary Schools

The number of Secondary Schools in the Bareilly district has increased to 9.10% respectively. Whereas, in comparison to Western Region & State, the number of Secondary Schools in the district are 35.35% & 34.61% less respectively.

Table 38 - Secondary Schools



District/ Region	2011 – 12	2019 – 20
Bareilly	7.36	8.03
Western Region	10.49	12.42
Uttar Pradesh	9.58	12.28

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Table 39 - I.T.Is & Polytechnic College

District/ Region	I.T.Is		Polytechnic College	
	2011 – 12	2019 – 20	2011 – 12	2019 – 20
Bareilly	0.16	0.14	0.05	0.06
Western Region	0.14	0.14	0.05	0.08
Uttar Pradesh	0.13	0.13	0.05	0.07

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The number of I.T.Is in the district has decreased to 12.5% & the number of Polytechnic Colleges in the Bareilly district has increased to 20.0% respectively. However, in comparison to Western Region the number of I.T.Is remains equal & in comparison to State, the number of Polytechnic Colleges are 7.69% less.

Table 40 - Educational facilities gaps as per Master Plan 2031

S.N.	Category	Population served per unit	Existing	Gap as per master plan 2031
1	Pre Primary, Nursery School	2500	422	77
2	Primary School (class I to V)	5000	175	0
3	Senior Secondary School (VI to XII)	7500	82	107
6	School for Physically Challenged	45,000	1	0
8	College	1.25 lakh	18	0
10	Technical Education Centre (A) – To	10 lakh	3	0
11	Technical Education Centre (B) – To	10 lakh	18	0
12	Medical college	10 lakh	3	0
13	Engineering College	10 lakh	11	0
14	Other Professional Colleges	10 Lakh	21	0
15	Nursing and Paramedical Institute	10 lakh	1	0

Pupil Teacher Ratio

Pupil Teacher Ratio / Student–teacher ratio / student–faculty ratio is the number of students who attend the school divided by the number of teachers in the institution.

Norm for Pupil Teacher Ratio

According to the Right to Education Act, the norm for pupil-teacher ratio (PTR) is:

- 30:1 for grade 1 to grade 5 (primary) and
- 35:1 for grade 6 to grade 8 (middle school/upper primary).
- 43:1 for secondary school
- 47:1 for senior secondary schools

As per Unified District Information System for Education (UDISE) the PTR at national level is:

- 24:1 for elementary schools and



- 27:1 for secondary schools
- As per AICTE guidelines desirable PTR used for NIRF (institute level) is:
- 1:10 and minimum is 1:15
- As per UGC, the faculty student ratio for institutions and university should not be less than
- 1:10

The Pupil Teacher Ratio at Pre-primary School level of the district has decreased to 57.72%. Whereas in comparison to Western Region & State, it is 3% & 1.21% more respectively.

Table 41 -Pupil Teacher Ratio at Pre – Primary School Level

District/ Region	Pupil Teacher Ratio at Pre-primary School level	
	2011 – 12	2019 – 20
Bareilly	67.23	28.43
Western Region	69.99	27.6
Uttar Pradesh	72.72	28.09

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The Pupil Teacher Ratio at Primary School level of the district has decreased to 31.84%. However, in comparison to Western Region & State, it is 7.21% & 3.57% more respectively.

Table 42 -Pupil Teacher Ratio at Primary School Level

District/ Region	Pupil Teacher Ratio at Primary School level	
	2011 – 12	2019 – 20
Bareilly	43.82	29.87
Western Region	40.68	27.86
Uttar Pradesh	42.82	28.84

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The Pupil Teacher Ratio at Secondary School level of the district has increased to 45.19% Whereas in comparison to Western Region, it is 3% more & State, it is 45.88% & 44.85% more respectively.

Table 43 -Pupil Teacher Ratio at Secondary Level

District/ Region	Pupil Teacher Ratio at Secondary School level	
	2011 – 12	2019 – 20
Bareilly	42.15	61.2
Western Region	48.48	41.95
Uttar Pradesh	50.87	42.25

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Student Enrolment Ratio

Student Enrolment Ratio is statistical measure for determining number of students enrolled in in studies within a specific area and expressed as a percentage of population.

Over the time, the Student Enrolment Ratio at Pre-primary School level of the district has decreased to 19.42%.

Whereas in comparison to Western Region & State, it is 5.65% & 4.93% less respectively.



Table – Student Enrolment Ratio at Pre – primary School Level

District/ Region	Student Enrolment Ratio at Pre-primary School level	
	2011 – 12	2019 – 20
Bareilly	67.45	54.35
Western Region	72.2	57.61
Uttar Pradesh	75.01	57.17

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The Student Enrolment Ratio at Primary School level of the district has increased to 46.89%. However, in comparison to Western Region & State, it is 7.62 % & 12.86% less respectively.

Table 44 - Student Enrolment Ratio at Primary School Level

District/ Region	Student Enrolment Ratio at Primary School level	
	2011 – 12	2019 – 20
Bareilly	45.85	67.35
Western Region	49.78	72.91
Uttar Pradesh	57.17	77.29

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Drop Out Rates

The Drop Out Rate at Pre-primary School level of the district has decreased by 84.74%. Whereas in comparison to Western Region & State, it is 10.81% & 3.79% more respectively.

Table 45 - Drop Out Rates at Pre – Primary School Level

District/ Region	2011 – 12	2019 – 20
Bareilly	21.5	3.28
Western Region	18.86	2.96
Uttar Pradesh	16.74	3.16

Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

The Drop Out Rate at Primary School level of the district has decreased to almost 100% However, in comparison to Western Region & State, it is almost 3% & 4.11% less respectively.

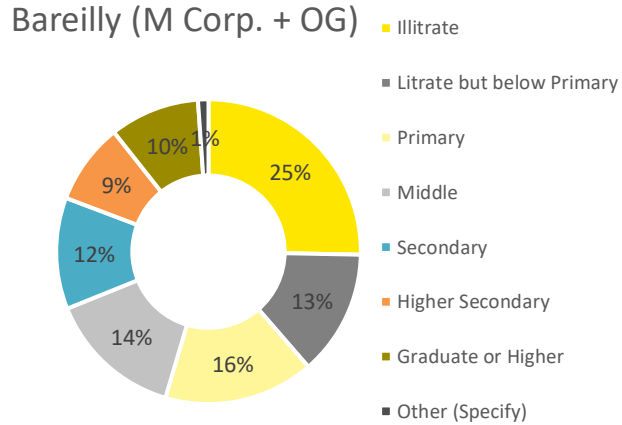
Table 46 - Drop Out Rates at Primary School Level

District/ Region	2011 – 12	2019 – 20
Bareilly	59.28	0
Western Region	50.23	3.00
Uttar Pradesh	49.04	4.11

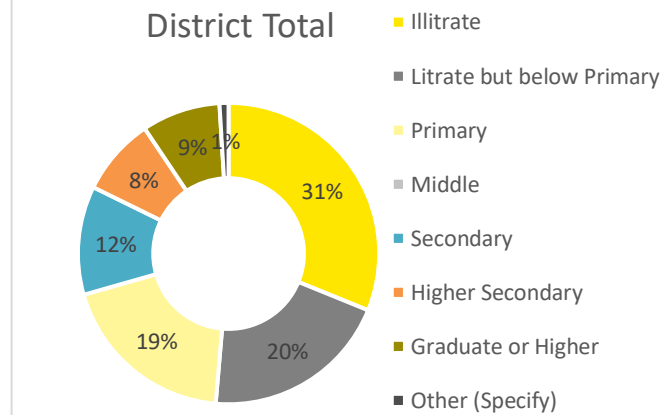
Source – District wise Development Indicators 2020 Economics and Statistics Division State Planning Institute Planning Department, Uttar Pradesh, URL - <http://updes.up.nic.in/esd/reports/district%20indicators%202020.pdf>

Level of Education (based on completion status)

The chart illustrates the percentage of levels of Education completed by the population of the **Bareilly Municipal Corporation including outgrowth**. From the chart it is evident that the 1/4th of the total population is illiterate. However **only 10% of the population has gone for Graduation or higher studies or others**. More than 55% of the population has attained education in Primary to Higher Secondary level.



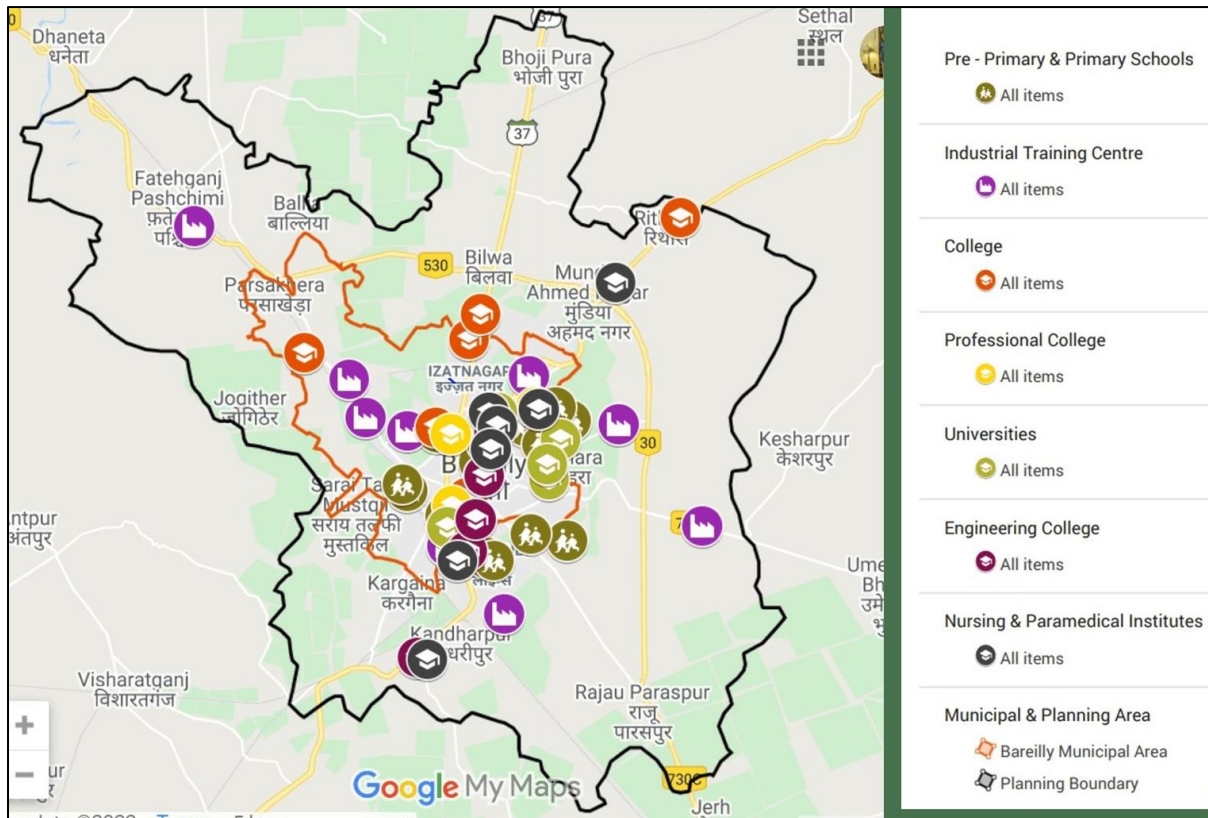
The chart illustrates the percentage of levels of Education completed by the population of the Bareilly District. From the chart it is evident that 31% of the total population is illiterate. However, **the percentage of population attaining Graduation or higher studies, or others reduces to 1% in comparison to that at the Municipal Corporation level which is 9%**. The percentage of the population which has attained education in Primary to Higher Secondary level has increased to 4% in comparison with that at Municipal Corporation level which is 59%.



Source – SECC 2011

Figure 68 - Existing situation of Education Facilities at City Level





Challenges identified

- Challenges of physical facilities in government schools
- Limited access to digital education in schools
- Population with Graduation / higher studies / others are low in number (approximately 10%)
- Lack of synergy between skill requirement in industries and courses offered by ITIs.



Chapter 7. REAL ESTATE AND ALLIED SECTOR

7.1 Background

According to 2011 census, the total households (HHs) in the city were 1,66,447 and 8,98,167 population. The average household size was 5.3. The HHs in 2001 were 1,19,767 with a population of 7,20,315 and household size of 6. The increase in number of HHs is directly causative of reduction in household size.

Areas adjacent to the Market centre and old settlements exhibit dense habitation. This is because of availability of all services, cultural attractions and workplaces concentrated around the core city. This area is under development pressure due to lack of planned and organized growth. The peripheral areas are becoming more popular among the people as they provide more organized development pattern with infrastructure being relatively in better conditions.

While there is a real estate boom on the one hand, there has been a growth in slums on the other. The city continues to attract new migrants, many of whom end up in informal settlements, which is generally adding surge in slums build-up. These areas are spread across the city, therefore the actions to deal with this challenge will have to be planned and addressed from the holistic view.

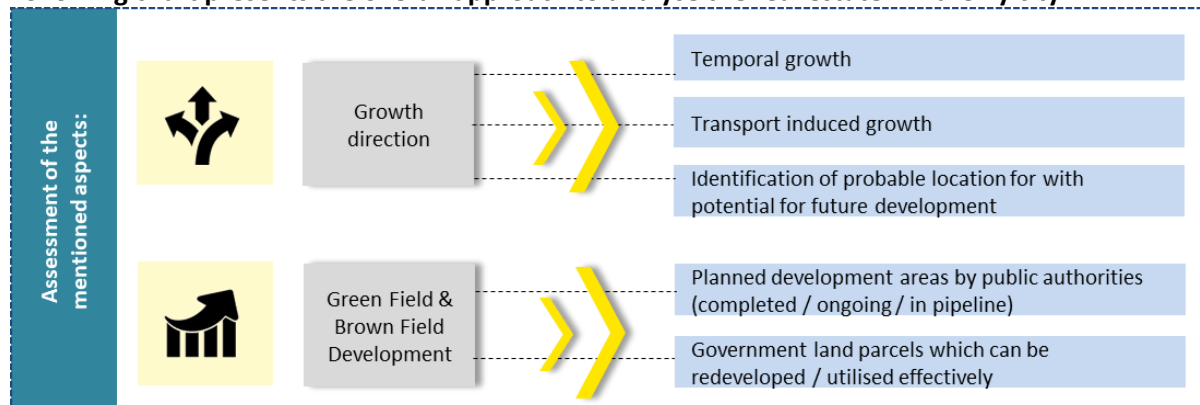
The city-setting, if being balanced with planned cluster approach with the development of mirror arterial road towards other side of the city may help each of the industries presently operating in and around the city, and it will help them to have a unique identity and a structured marketplace which may further be supported with the development of multimodal logistic hub which may further have potential get connected with the Railway line from Bareilly to Mathura via Budaun as well as the proposed Ganga expressway alignment. This may have cooling-off effect on land and real estate costs.

7.2 Methodology for assessment of real estate scenario in Bareilly

Real estate scenario is analysed with respect to the following aspects, namely –

- i. **Growth direction based on habitation pattern** – analysis of temporal growth, and understanding of growth induced due to connectivity, identification of probable location for with potential for future development
- ii. **Existing i.e., brown field development and scope for new i.e., green field development**
 - **Green field development** - planned development areas by public authorities (completed / ongoing / in pipeline)
 - **Brown field development** – government land parcels which can be redeveloped / utilised effectively

Following chart presents the overall approach to analyse the real estate in Bareilly city:



7.3 Growth direction

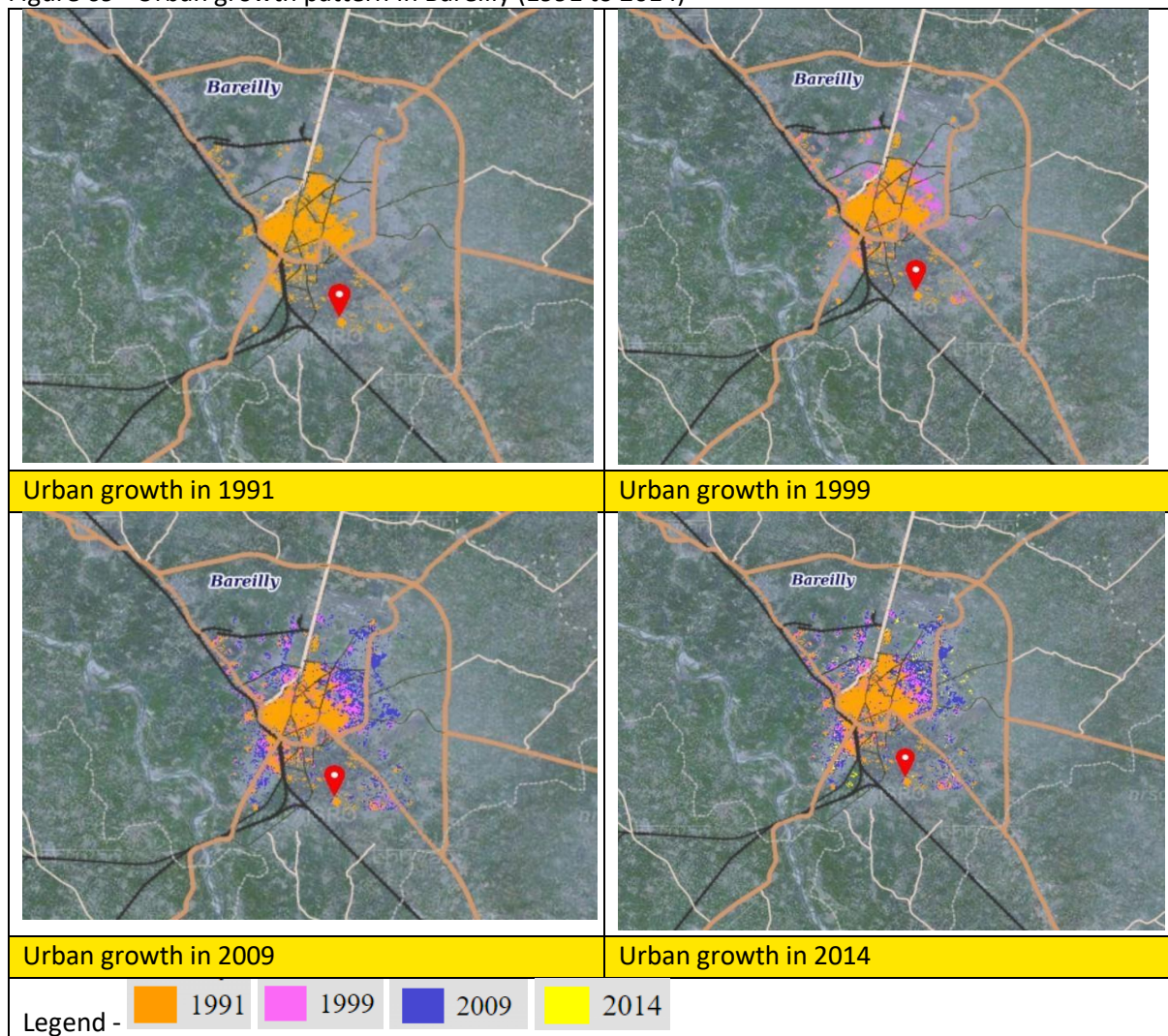
The core of the city is largely the old city area with dense settlement pattern. The city is expanding towards North-West, South-East & North East sides due to natural magnet of national Capital region, state capital and towards Pilibhit respectively, while the expansion towards the southern side seems limited by the northern bank of Ramganga river on the Budaun Road. The arterial road, i.e., the Bareilly bypass road sections of -

- (i) NH730C at the Rajau Paraspur junction,
- (ii) NH30 from Navadia Jhada Bada Bye Bass junction till Junction of NH30 and NH530 at Mundia Ahmed Nagar; and
- (iii) Junction of NH30 and NH530 at Mundia Ahmed Nagar till Jhumka Chauraha on NH530

is also helping the unidirectional growth of the city.

A possibility of completing the above arterial road connecting from southern side intersecting Ramganga river, making it a “Bareilly Ring Road” may be explored to take-off the pressure from the core city area while this may also help to get chunk of economic impetus from the upcoming Ganga Expressway on the north of Badaun.

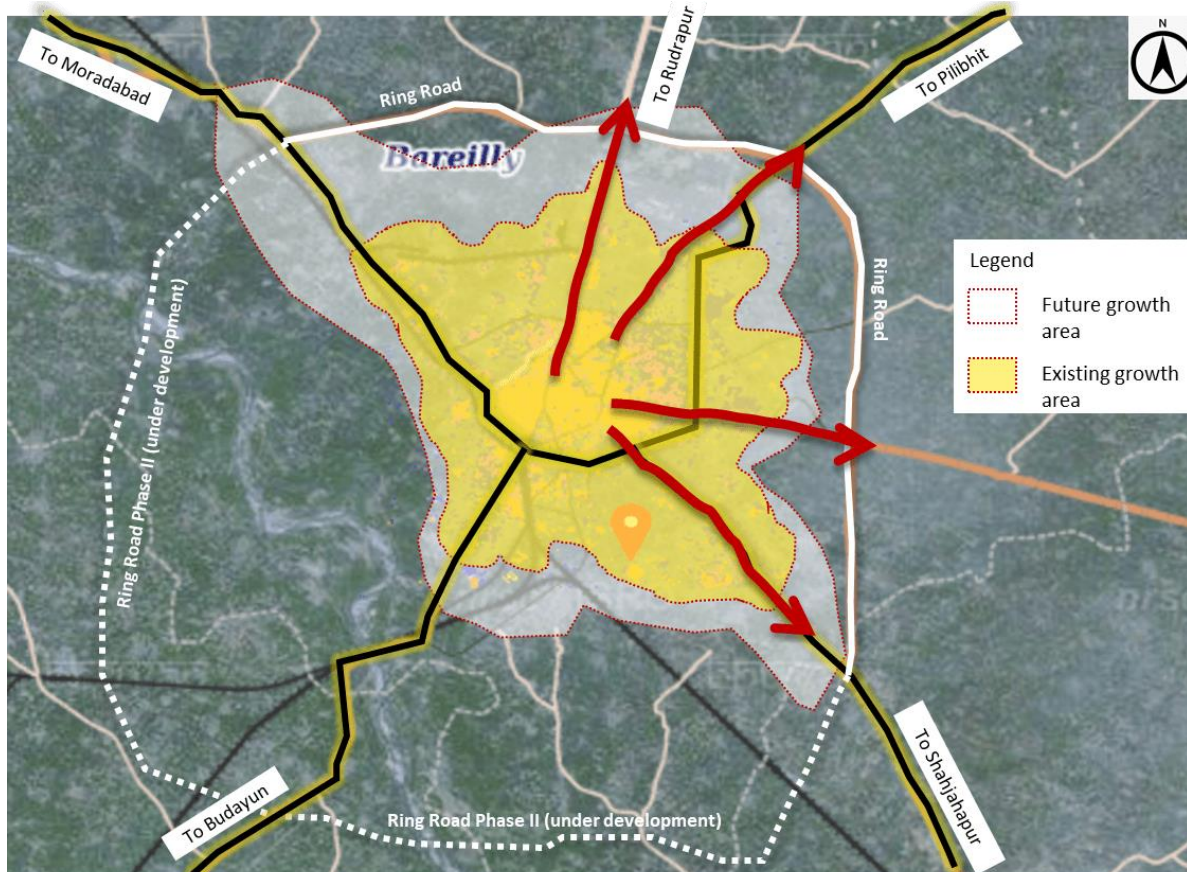
Figure 69 - Urban growth pattern in Bareilly (1991 to 2014)



Source - Urban Growth Monitoring, Bhuvan, NRSC, ISRO



Figure 70 - Schematic growth direction map of Bareilly



The city-setting, if being balanced with planned cluster approach with the development of mirror arterial road towards other side of the city may help each of the industries presently operating in and around the city, and it will help them to have a unique identity and a structured marketplace which may further be supported with the development of multimodal logistic hub which may further have potential get connected with the Railway line from Bareilly to Mathura via Budaun as well as the proposed Ganga expressway alignment. This may have cooling-off effect on land and real estate costs.

7.4 Green field development

The team has identified a few land parcels within the city limit which can be utilized for upliftment of the area and its surroundings through developing infrastructure within city. These land parcels are majorly government owned / department land / vacant land / un-utilized land in a planned project. Following section gives the broad detail of the above-mentioned land parcel in terms of the exiting use, earlier use, area, ownership, surrounding, connectivity, etc.

7.5 Ramganga Nagar Project

Ramganga Nagar Project also known as Ramganga Nagar Awaz Yojana is an ambitious residential Project of Bareilly Development Authority (BDA). The project has started in 2004. The project is being spread over 269 hectares. The whole project is divided into two categories & 12 sectors. The two categories are Housing scheme & Residential Flats scheme. Under Housing scheme, approx. 200 duplex houses are being developed by BDA & 50,000 flats are being developed under Residential Flat scheme category. Out of 50,000 flats, approx.2000 flats have already been constructed. Here is the list of various townships sector wise in this project are as follows:

- i) Sabarmati Enclave – Sector 1
- ii) Brahmaputra Enclave – Sector 1



- iii) Ganga Enclave – Sector 2
- iv) Narmada Enclave - Sector 2
- v) Kaveri Enclave – Sector 2
- vi) Alakhnanda Enclave – Sector 4
- vii) Shivam Enclave – Sector 9
- viii) Satyam Enclave – Sector 9
- ix) The Breezy Village Apartments - Sector 12
- x) Upcoming Saryu Enclave – Sector 10
- xi) Upcoming Shipra Enclave – Sector 8

The Authority is developing **four gated colonies** in Ramganga Ganga Nagar Awas Yojna. These are namely **Ganga Enclave township, Narmada Enclave Township, Kaveri Enclave Township & Alakhnanda Enclave Township.**

Ganga Enclave & Narmada Enclave township is being developed in first phase. There are approximately 500 plots of size 80 meter to 250 meter which will be developed. Each plot will be having an approximate estimated cost of Rs 23,000 square meter. At present, all the plots have been allotted in these four gated colonies.

After the successful launch of the above four gated colonies, the authority has developed the **Bhramputra Enclave Township.** In this colony, there would be plots of three different categories. The largest one will be one 1000 square metres, the second will be 200 square metres & the third one will be of 162 square metres.

Apart from the above stated residential projects, a **Science Park²⁰** is also being proposed in between Sector 12 & Sector - 11 which including a dinosaur park, foods & kids' zone, community setter & swimming pool. The park will be developed in an area of 18.30 thousand square metres. Along with this park, a **shopping mall** also be established in an area of 12.30 thousand square metres.

Figure 71 - Sector Map of Ramganga Nagar Awas Yojna



Source 1 Ramganga Nagar Bareilly; <https://ramganganagarbareilly.com/ramganga-nagar-bareilly-bda-approved-plots/>

²⁰ Source: 1) <https://www.masterplansindia.com/bda-build-200-flats-ramganga-nagar-awasiya-yojana-bareilly/>; 2) Ramganga Nagar Awas Yojna Bareilly, url: <https://ramganganagarbareilly.com/ramganga-nagar-bareilly-bda-approved-plots/>



7.6 Bareilly District Jail

The old Bareilly District Jail was earlier Bareilly's Central Jail which was established in 1848 under the British Raj. The whole complex of this jail is being built over 84 acres land. Over the time, due to the increment in the number of prisoners, this jail had been shifted to new place in the city, thus making the land of old jail vacant. As a result, the buildings of the old jail have started deteriorating.

Figure 72 - Bareilly Jail campus area map



In order to restore the buildings of old jail premises & to utilize the vacant land of the premises in an effective manner, the Bareilly Development Authority has proposed²¹ number of projects. The proposed projects include the following aspects - Heritage Green Park, IT Park, Auditorium & Dance Academy, Commercial Complex, High street shops, Tourist Hotel & tourism information centre, Advance skill development centre, Government Medical College & Offices, Multi – level parking.

The overall estimated project cost for the projects stated above given by the authority was approximately INR 171 Crores. **The Authority had also estimated the land required for establishing a Medical College which was around 25 acres of land.**

An additional proposal was added in the Smart city plan for the land of Old Jail is of the **Heritage Light & Sound Snow in the premises of this jail**. The cost of land can be estimated based on circle rate of the city which is Rs 4,606 / sq. ft. Based on circle rate, the cost of land of old jail comes out to be Rs 168.53 Crores.

7.7 Transport Nagar

Latitude: 79.481460 Longitude: 28.295746

²¹ Sources:

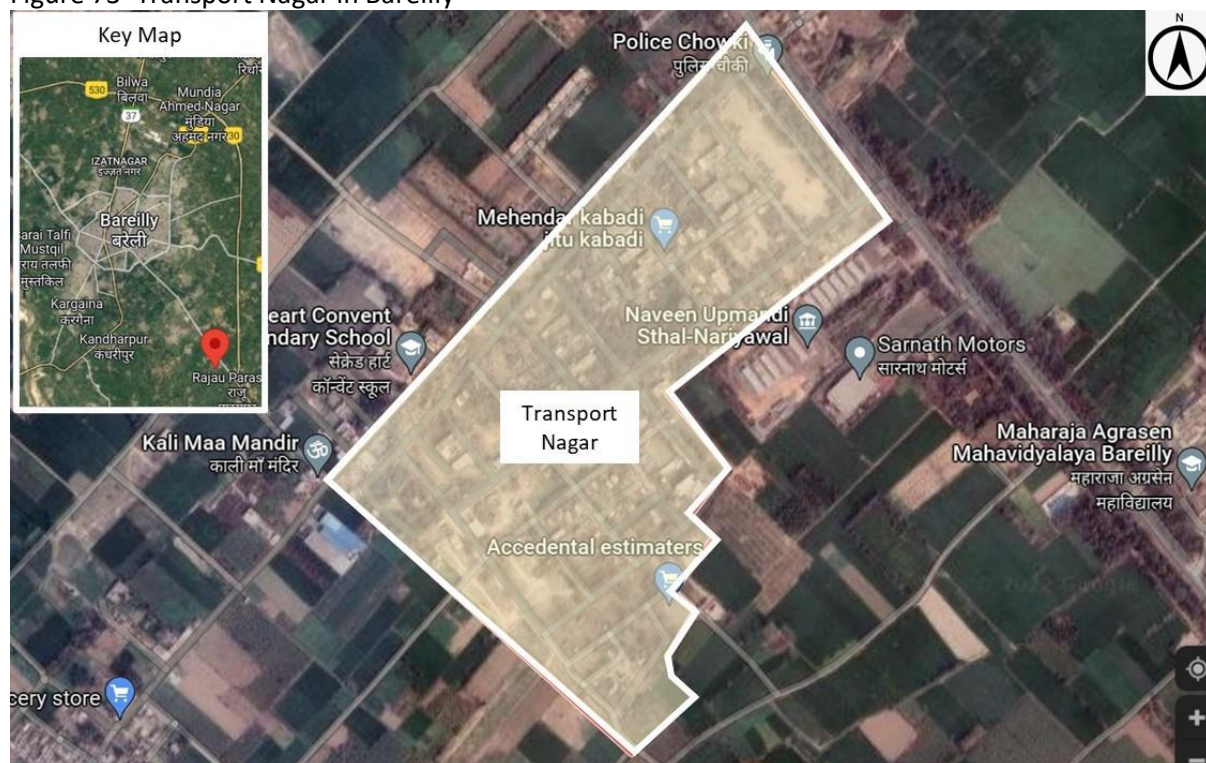
- 1) Old jail to be house, various projects in pipeline in Bareilly News - Times of India (indiatimes.com);url - <https://timesofindia.indiatimes.com/city/bareilly/old-jail-to-be-house-various-projects-in-pipeline/articleshow/58839639.cms>
- 2) Smart City Proposal; url - https://smartnet.niua.org/sites/default/files/resources/bareilly_scp_round_iv.pdf



To reduce the jams caused by the movement of heavy vehicle through NH - 2 & due to their unorganized parking of heavy vehicles within the city, the government had established a commercial area called as Transport Nagar. It was established in year 2000. It spreads over 25 hectares of land. But it was unsuccessful due to many possible identified reasons which are as follows:

- i) The Transport Nagar was established outside of the city limits, i.e., at another end of the city due to which heavy vehicles needs to travel extra distance which increases their expenditure. As a result, the transporters were not willing to shift to the Transport Nagar.
 - ii) Instead of awarding plots to transporters, the plots were given to the property dealers. They tried to sell the plots to the other consumers instead of transporters which becomes another reason of failure of the Transport Nagar.
 - iii) Even after the construction of Bada Bypass & other facilitations being provided by the government, transporters still have a fear of security of their vehicles. Due to which, the Transport Nagar still is not able to succeed in terms of occupancy of plots by transporters.
- Due to the failure of the project, the authority is now planning to utilize the space of the Transport Nagar through **the development of a Fire Station in the Transport Nagar.**

Figure 73 -Transport Nagar in Bareilly



Source – Google map

7.7.1 Brown field development

As per National Building Organization (NBO) survey carried out in 2013, total number of slums present in a city are 47. The total population of the slum area of the city is 2,14,184 which constitute about 24% of the total population of the city. Out of 47 slums present in the city, 43 slums are built on the land belonging to private ownership, 2 are built on the lands belonging to Urban Local Bodies & remaining 2 on other lands. The total number of slum household in the city is 40,150.

Following are the two slum which are present on ULB land -

(i) Bihaar Kala Slum area:

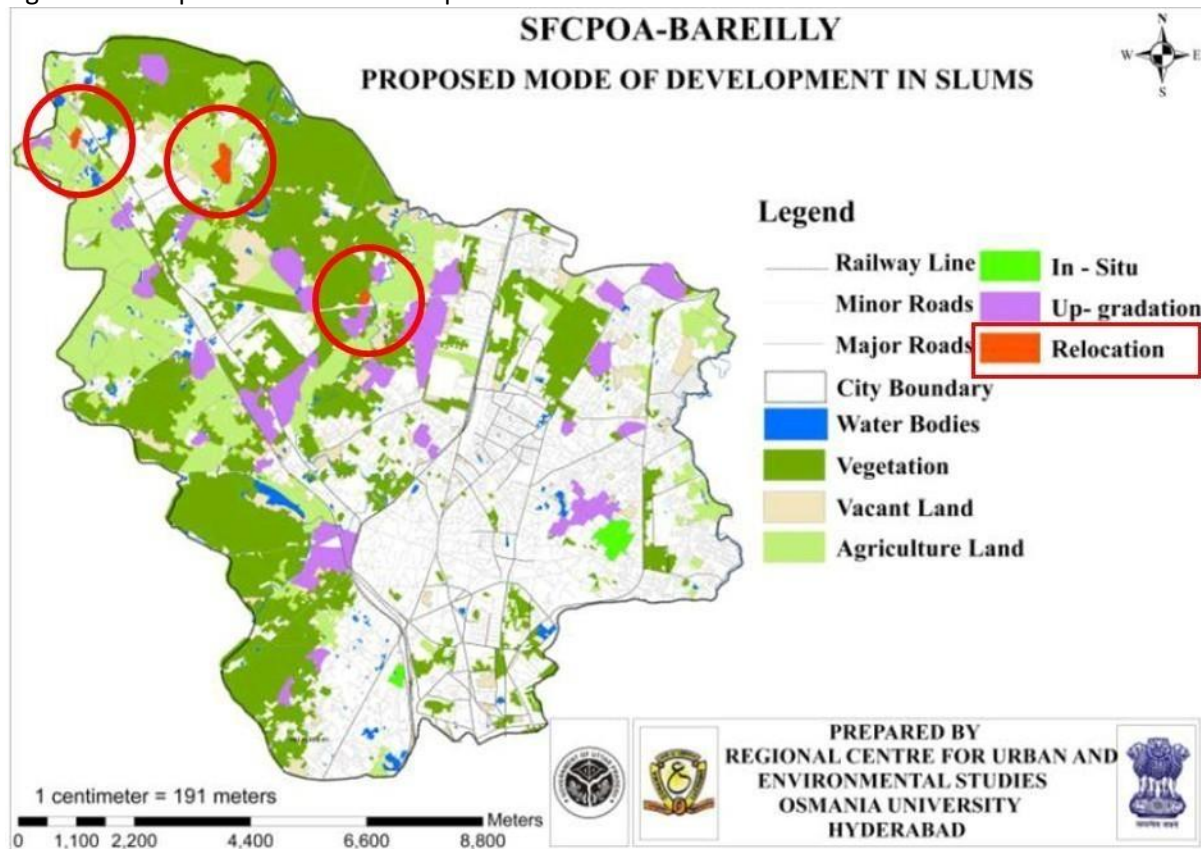


Bihaar Kala Slum area is located in the core of the city. It has a total population of 8,552 with 1,425 households. The slum has an area of 2,28,071.26 Sq.m. This slum area is being located on the land owned by Urban Local Bodies (ULBs).

(ii) Bakargunj Slum area:

Bakargunj Slum area is located in the core of the city. It has a total population of 17,415 with 2902 households. The slum has an area of 4,41,248.17 Sq.m. This slum area is being located on the land owned by Urban Local Bodies (ULBs).

Figure 74 - Proposed mode of development of slums



Source: Rajiv Awas Yojana (Slum free city plan of Action, Bareilly); url - https://mohua.gov.in/upload/uploadfiles/files/25UP_bareilly_sfcp-min.pdf

Out of 47 slums, there are 3 slum areas which were considered for the relocation in order to accommodate the future requirements which the current infrastructure facilities will not be able to accommodate. Here are the details of those three slum areas which are considered for redevelopment.

I) Parithapur Jivansay Slum area:

Parithapur Jivansay Slum area is located in the Fringe area of the city. It has a total population of 2,756 with 378 households. The slum has an area of 1,77,196.50 Sq.m. This slum area is being located on a privately owned land.

II) Nadhousi Slum area:

Nadhousi Slum area is also located in the Fringe area of the city surrounded with an Industrial area. It has a total population of 3,676 with 555 households. The slum has an area of 1,01,047.48 sq.m. This slum area is also being located on a privately owned land.

III) Pirbahooda Slum Area:

Pirbahooda Slum area is located in the Fringe area of the city surrounded with the Residential area. It has a total population of 9,422 with 1,346 households. The slum has



an area of 3,56,196.74 sq.m. This slum area is also being located on a privately owned land.

The existing land parcel of the above land parcel may be utilized for infrastructure development in the city based on best use analysis, if provided with details of the land parcels.

7.7.2 Existing real estate development

7.7.2.1.1.1 Development by Uttar Pradesh Avas Vikas Parishad (UPAVP):

To cater the rising housing needs of the city and to ensure the availability of house at an affordable price to all sections of the society, UPAVP had developed a various projects/ schemes in the past. Following are the list of the projects/ schemes which had been taken up in the past by the UPAVP:

- i) Izzatnagar Yojna
- ii) Izzatnagar Yojna – 2
- iii) Izzatnagar Yojna – 3
- iv) Izzatnagar Yojna – 7
- v) Janakpuri Yojna - 7
- vi) Civil Lines scheme– 4
- vii) Bareilly Pillibhit Bypass Yojna - 7
- viii) Yojna – 3
- ix) Gandhinagar Yojna No - 1
- x) Gandhinagar Yojna No - 2
- xi) Rajendra Nagar Yojna No – 2
- xii) Rajendra Nagar Yojna No – 7
- xiii) Vambey Scheme, C B Ganj

7.7.3 Development by Bareilly Development Authority (BDA)

BDA has developed over 700 properties in various planned housing colonies among other, along with the allied facilities in the city:

- Tibri Nath Yojna
- Deen Dayal Puram
- Ekta Nagar
- Priyadarshini Nagar Yojna
- Kargaina Aawasiya Yojna
- Lohia Vihar Avasiya Yojna
- Ramganga Nagar Avasiya Yojna
- Rampur Road Aawasiya Yojna

The developer / builders led private developments are mostly spread on the fringes of the city. Some of the prominent developers are developing integrated housing colonies with all sorts of option to lure the buyers of all segments. Bareilly CREDAI chapter has around 11 developers listed, which indicates substantial interest in investments and potential for real estate developments in and around the city.



Stakeholder Consultation

Date – 27.01.2022
Sector – Real EstateCREDAI chapter of Bareilly
Mr. Ramandeep, President

Challenges

- Lack of development near the existing Airport
- Lack of designated commercial & retail spaces
- Mostly row housing is preferred over flat/apartments



Potential & solutions

- Upcoming multi-storied residential apartments in the western outer limit of the city will influence the residential development
- Pillibhit Tiger reserve can be developed as a tourist place along with Draupadi's birthplace as it is connected to major cities through airways.
- Enhancement of existing Airport in terms of services

7.7.4 Tourism and Hospitality Sector

The city is housing many historical monuments as well which defines the heritage character of the city. There are periodic cultural events organized every year which accelerates the city economy due to high footfalls from around the adjoining region. The characteristic of most of these events are religious and cross-cultural performances which acts as a road show and selling platform for the producer of the local businesses.

In Bareilly City, many major fairs are also being held. The major fairs being held are the Chaubari fair, Nariyawal fair, Uttarayani fair & Dussehra fair.

Chaubari Fair - The Chaubari Fair is held annually on the banks of Ramganga near Chaubari village. The fair takes place annually on the occasion of Kartik Purnima. The main attractions of the fair is the horse market where the dealers comes from the neighbouring district also along with the local buyers. Most of the white horses are being bought to be used in wedding functions.

Nariyawal fair - Second largest fair of the city is The Nariyawal fair which lasts for about 15 days. It takes place on the occasion of Gupt Navratri in the temple complex of Goddess Sheetla. It is a religious fair.

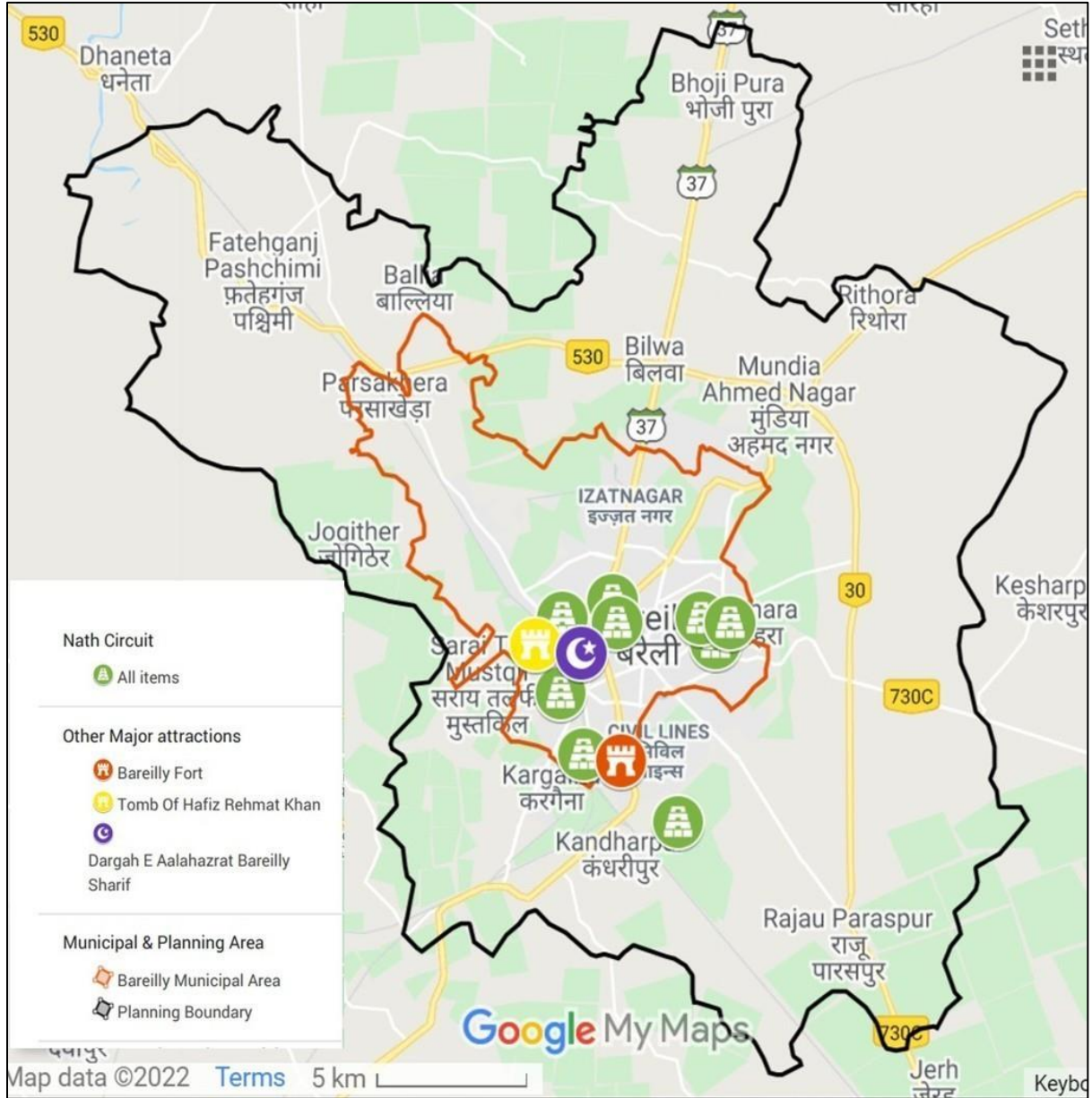
Uttarayani fair - Another fair which is being organized annually in the city is The Uttarayani fair where the colours of Uttarakhand are being seen in the form of various exhibitions. This fair is held from 13th January to 15th January on the occasion of Makar Sankranti. It consists of folk singing performances & exclusive handicraft & handloom items of Uttar Pradesh & Uttarakhand.

Urs – e – Razvi - The death anniversary of Imam Ahmad Raza Khan is already celebrated on the big scale in the city in the form of festival Urs – e – Razvi. It is celebrated every year in the month of November. Devotees from other countries also come to attend this event.

Following map presents the spread of the places of tourism interest in Bareilly.







Figure 75 - Location of tourist places in Bareilly



Source: Consultant analysis



Event	Duration	Month	Schedule	Number of Tourists
<p>The Chaubari Fair</p> 	3 – 4 days	November - December	On the occasion of Kartik Purnima	Approx. 6.0 lakh/ year
<p>The Nariyawal Fair</p> 	15 days	February	On the occasion of Gupt Navratri	Not available
<p>The Uttarayani Fair</p> 	2 days	13 th – 15 th January	On the occasion of Makar Sankranti	Not available
<p>Urs – e – Razvi</p> 	3 days	3 rd - 5 th November	On the death anniversary of Imam Ahmad Raza Khan	Approx. 04 lakh

Source: Multiple consultations

Table 47 - No of Tourists visited in Bareilly region from 2015 - 19

Name	2015	2016	2017	2018	2019
Bareilly	20,17,789	20,33,445	24,84,951	25,96,545	26,56,918
Uttar Pradesh	2,41,48,777	2,40,88,539	2,84,14,053	2,90,82,492	2,83,54,747
Share of Bareilly District in State	8.36%	8.44%	8.75%	8.93%	9.37%

Source: <http://www.uptourism.gov.in/pages/top/about-up-tourism/year-wise-tourist-statistics>



Table 48 -Tourist footfall trend in Bareilly region

Item	2015	2016	2017	2018	2019
Domestic Tourists	20,17,247	20,32,753	24,84,153	25,95,588	26,55,792
Foreign Tourists	542	692	798	957	1126

Source: <http://www.uptourism.gov.in/pages/top/about-up-tourism/year-wise-tourist-statistics>

Bareilly regional tourism statistics comprises of the following tourism places -

1. Ramnagar Ahichhatra Jain Temple, Bareilly
2. Archeological remains of Ahichhatra Fort
3. Badi Ziyarat, Badaun
4. Patthargarh (Fort of Najib-ud-doula) Najibabad, Bijnor
5. Raza Library (Fort of Rampur), Rampur
6. Vidur Kuti

Ahichhatra Fort and Ahichhatra Jain Temples are approximately 54 km far from Bareilly.

Bareilly is also known as Nath Nagri (seven Shiva temples located in the Bareilly region are, Dhopeswar Nath, Madhi Nath, Alakha Nath, Tapeswar Nath, Bankhandi Nath, Pashupati Nath and Trivati Nath) and historically as Sanjashya (where the Buddha descended from Tushita to earth) thereby showcasing its potential as a prominent pilgrimage destination of the state.

Some of the proposed river front development in the city may also act as an impetus to various facade of the economy including tourism and recreational space.

Hospitality sector - Being a regional hub for so many trade and industries, Bareilly enjoys substantial floating footfalls from various parts of the country in general and specifically from the 'Kumaun' region of the hilly state of Uttarakhand in addition to adjoining districts around Bareilly. With the commercially operational airport and proposed adjacent expressway, Bareilly is expected to have more number and frequency of leisure and business travellers. In addition to city destination travellers, the city also hosts transit travellers to tourist of Nanital, Pilibhit Tiger reserve, Jim Corbett National Park, etc. Therefore, acting as gateways to so many tourist destinations may have a potential to hold on to these transit travellers if an enabler ecosystem are improved.

As per an estimate, there are over 150 hotels of different categories spread in and around the city catering to the tourists and business travellers.

7.8 Two-days multi-stakeholder consultation

Date: 14th March 2022

Venue: BDA office complex

Attendees:

- Representatives from Chamber of Commerce
- Mr. Dinesh Goel, National Secretary; Mr. Tanuj Bhasin, Secretary, Indian Industry Association (IIA)
- Mr. S. K. Singh, Laghu Udyog Bharti

Broad discussion points

1) Chamber of Commerce:

- Requirement of road signages for the whole city



- Tourism Infrastructure could be developed around the Jain Temple & Hanuman Temple situated on the Aonla Road including Lake development project near Jain Mandir.
- 2) Mr. Dinesh Goel, National Secretary; Mr. Tanuj Bhasin, Secretary, Indian Industry Association (IIA)
- Absence of ancillary units for the siklapur furniture market
 - Basic Infrastructure mainly sewerage system is required in the Faridpur Industrial area
 - Since many educational colleges are present in the city, an IT hub can be proposed here based on available skills for the utilization of skilled man power
 - Integration of the various department is required.
 - Textile park may also be proposed in the city.
- 3) Mr. S. K. Singh, Laghu Udyog Bharti
- Railway siding can be proposed in the Paraskhera Industrial area due to the presence of warehouses
 - Need of regularization of industrial development on Lucknow road.
 - A new Industrial area can be established toward the Delhi – Lucknow Road
 - Expansion of Parasakhera Industrial area
 - IT & Logistics hub are the rising sector from the point of Infrastructure development of the city.



Date: 15th March 2022

Venue: BDA office complex

Attendees:

- Mr Rajeev Kumar Agarwal, President, UP Nursing Home Council
- Mr. Durgesh Kumar, Senior Vice President, Udhog Mandal

Broad discussion points

- 1) Mr Rajeev Kumar Agarwal, President, UP Nursing Home Council:
- Health facilities are concentrated in the core city/ centre of city as well as there is lack of health facility on the periphery of the city, showing unequal distribution. There should be Health facilities on the periphery of the city also.
 - An area after every 2 km may be earmarked for Health Infrastructure in the land use
 - Challenges faced by the Health Sector:
 - Need of regularization policy of Land use for this sector



- Impact fee is 50% at present for this sector which is considered on a higher side.
 - Existing FAR for Social Infrastructure (Health) is on lower side in comparison to that of Delhi, whereas Cost of land is high in comparison to a few locations in Delhi
 - Components suggested by the Council to be incorporated in Medicity Proposal:
 - Nursing Homes
 - Trauma Centres
 - Cancer Hospital
 - Accommodation for Doctors & Paramedical staffs
 - Paramedical College
 - Government Medical College
- 2) Mr. Durgesh Kumar, Senior Vice President, Udhog Mandal:
- As per Udhog Mandal a new Transport Nagar may not be required
 - Need of parking area in multiple locations the city
 - Additional Residential Projects may be proposed on the following probable locations which are Sahajanpur Road, Badaun Road and nearby Jhumka Chourah
 - Handicraft sector issues:
 - i. The sector is unorganised & performed on the individual household levels
 - ii. Low wage rate of the artisans involved in the Handicraft sector due to the presence of middleman
 - iii. Due to the availability of cheap & alternative products, customers are less interested to buy the products of these sectors.
 - iv. More government initiatives may be required.



7.9 Broad summary

7.9.1 Inferences

GDP, Workforce, and per capita income

- Overall share of Districts contribution to state GDP in last 9 years have **remained constant** with minor changes



- **Majority of the main workers are indulged in secondary and tertiary sector**, and approximately 6% of the main workers are involved in primary sector.
- Bareilly district's average per capita income considered for evaluation for 2019-20 is estimated at INR 76,848 which is **higher than the state's average per capita income** of INR 65,704 for the same year.
- In case of Ease of Living Index, Bareilly city stood at **47th Rank among 49 cities** with population more than 1 million. Bareilly city has shown **poor performance in the case of two pillars**, i.e., Quality of Life and Sustainability whereas has shown worst performance in the case of Economic ability and satisfactory performance in case of Citizen perception.

Primary, secondary, and tertiary sector of economy

- The contribution of **tertiary sector to the district's GDP is approximately 52%** followed by secondary sector (28%) and primary sector (20%).
 - Contribution of the primary sector has decreased from 35.5% in 2011-12 to 20.1% in 2019-20. Under primary sector, namely (i) Agriculture and (ii) Animal Husbandry are the major contributors.
 - Contribution of the **secondary sector has increased** from 24% in 2011-12 to 28.1% in 2019-20. Under secondary sector, namely construction field is the major contributor.
 - Contribution of the **tertiary sector has increased** from 52.3% in 2011-12 to 69.1% in 2019-20. Under tertiary sector, namely - (i) Real estate, business services, (ii) Trade hotels & restaurants and other classified services are the major contributors.
- Based on the 2018-19 data from the Crop Production Statistics for Bareilly, the crops such as **Sugarcane, Wheat, Banana, rice, and Potato are the major crops**. Based on the production, yield and area utilized for production in Bareilly District.
- At present there are **only two active mines** which are being mined for **Sand** from Tiyula and Mohammadpur.

Industries

- Bareilly emerged as a major industrial & commercial area of the region by 1940s. But by the end of the 1990s, many **industries in the city were shut down due to issues such as un-availability of raw material, availability of substitutes of lower price range, financial & capital loss, legal issues, high cost of operation, etc.**
- The **warehousing, storage, and support activities** for transportation in Bareilly is performing well and has shown growth.
- Two sectors namely **(i) Food Processing, Beverages, (ii) Petro & Chemical Products are the major contributing sectors** across the district. Sectors namely **(i) Wood products, (ii) Pharmaceuticals and (iii) Electrical sectors**, have additionally shown growth in Bareilly due to the investment in particular years.
- **Majority of the IEMs** were filed in Bareilly district in last decade were mainly related to **Agro and food processing industry sectors**.
- On further analyses, it is found that in Petrochemical & Chemical industries, the major chemical industries come out to be **Menthol industries**. The reason for the presence of more Menthol Industries is the availability of raw material, i.e., Mentha which is being grown locally.
- At present there are **two UPSIDA industrial areas** in Bareilly district. Paraskhera industrial area is situated inside the Bareilly Municipal Area limit and is exhausted in terms of availability of land. Whereas Baheri is situated at approximately 60 km away from Bareilly city center.
- District wise skill gap study for the State of Uttar Pradesh by NSDC in 2013, reflected that **(i) Transportation, Logistics, Warehousing and Packaging, (ii) Health Care Services, (iii) BFSI, (iv) Construction Industry** shows the highest growth in Bareilly district.



- The completion of Ganga Expressway will also benefit all the people of the Bareilly district. The distance from the city to Binawar is only about 36 kilometers. From here, Ganga Expressway will be reached in a very short time (approximately 50 minutes).

Handicraft

- Bareilly is known for its **zari zardozi (gold embroidery), surma (kohl), manjha (abrasive kite string), striking cane furniture**. These handicraft forms are struggling to attain its status in the present market.
- There are **various initiatives by the Central and State level government bodies** to upgrade the handicraft ecosystem in Bareilly.
- Lack of raw material bank and retail outlets for handicraft products

Health sector

- Bareilly is among **one of the leading cities of Uttar Pradesh in terms of medical facilities**, the city serves as a gateway to the patients of the nearby areas as well as Kumaun, Rohilkhand, and West Nepal region.
- Approximate **32% shortage of doctors and 52% shortage of paramedical staff**.
- **The high values of Infant Mortality Rate & (Under age 5) Mortality Rates** depicts the wide gaps in basic infrastructure services such as access to electricity, safe sanitation, etc. in surrounding rural areas.
- There is a total of 104 PHC's. Currently, a total 255 registered Private Hospitals with 10,957 number of beds are present. (Bed occupancy rate varies from 65-75%)
- **As per master plan projection, 66 dispensary, 13 nursing homes, 12 general hospitals will be required by 2031.**
- **Bareilly has strong health infrastructure base to be envisioned as Medicity.**

Education sector

- The city is **developing as a major education centre**. There are universities, a no. of Medical, Architecture, Business management and Engineering Colleges are located in the city.
- The Literacy rate of the Bareilly district has improved from 47.84 to 58.49 showing an increment of 22.26%.
- There are gaps in Pre Primary, Nursery Schools, Senior Secondary Schools (VI to XII)
- As per National Institutional Ranking Framework, Ministry of Education, Government of India, there are only 7 institutes from Uttar Pradesh in the top 100 list, and there are **no institutes in this list from Bareilly**.
- **The Pupil Teacher Ratio has decreased** for various category of educational units.
- **The Drop Out Rate at different level of the educational units in the district has decreased**
- Limited access to digital education in schools
- Population with Graduation / higher studies / others are low in number (approximately 10%)
- Lack of synergy between skill requirement in industries and courses offered by ITIs.



Chapter 8. URBAN REGENERATION & HERITAGE OF THE CITY

8.1 Vision: Developing Nath Temple Circuit

8.1.1 PROJECT- DEVELOPMENT OF SPIRITUAL TOURISM BY CREATING RELIGIOUS CIRCUIT OF ALL SEVEN NATH TEMPLES

8.1.1.1 BACKGROUND

The city has a strong religious essence and is called the Nath Nagri owing to the seven Nath temples located at seven entry gates to the city via different cities. The city inherits a very rich spiritual significance that brings pilgrims from many other cities to visit the Nath temples. These Nath temples witness their highest influx of visitors during the Sawan month and Maha Shivratri. Thousands of pilgrims also visit the city for Seven Nath temple parikrama which adds to the religious uniqueness of the city.

8.1.1.2 PROBLEM STATEMENT

Since the construction of Nath temples at the city periphery as its gateways, the city has expanded drastically on all sides and the expansion of the city fabric has enveloped all seven nath temples, making their identity disappear as city gateways. The expansion of city has also resulted in loss of imageability of all nath temple precincts over a period of time, which has further led to disappearing of the overall circuit that connects all Nath temples. There are no proper legible gateways or routes that celebrate their essence and establish their strong image in the context of the city.

8.1.1.3 KEY INTERVENTION

- Identification of roads to develop the Nath temples circuit.
- Integrating IPT, NMT and other public transit nodes to enhance connectivity and accessibility along the circuit
- Development of Tourism infrastructure and public conveniences along the circuit.
- Redesigning Streetscape leading to temple precinct along with organized spaces for parking, pedestrians, hawkers etc.
- Integrating Math Tulsi Sthal in the Nath temples circuit.
- Streetscape for urban streets along the Nath circuit & restructuring its mobility network.
- Reclaiming the spaces for people under flyovers along the Nath circuit to create opportunities for public activity and enhance walkability.
- Strengthening the legibility and identity of the city chowks, chaurahas and market streets through signage's and visual landmarks.
- Creating public activity and vendor zones around the chowks along the circuit.

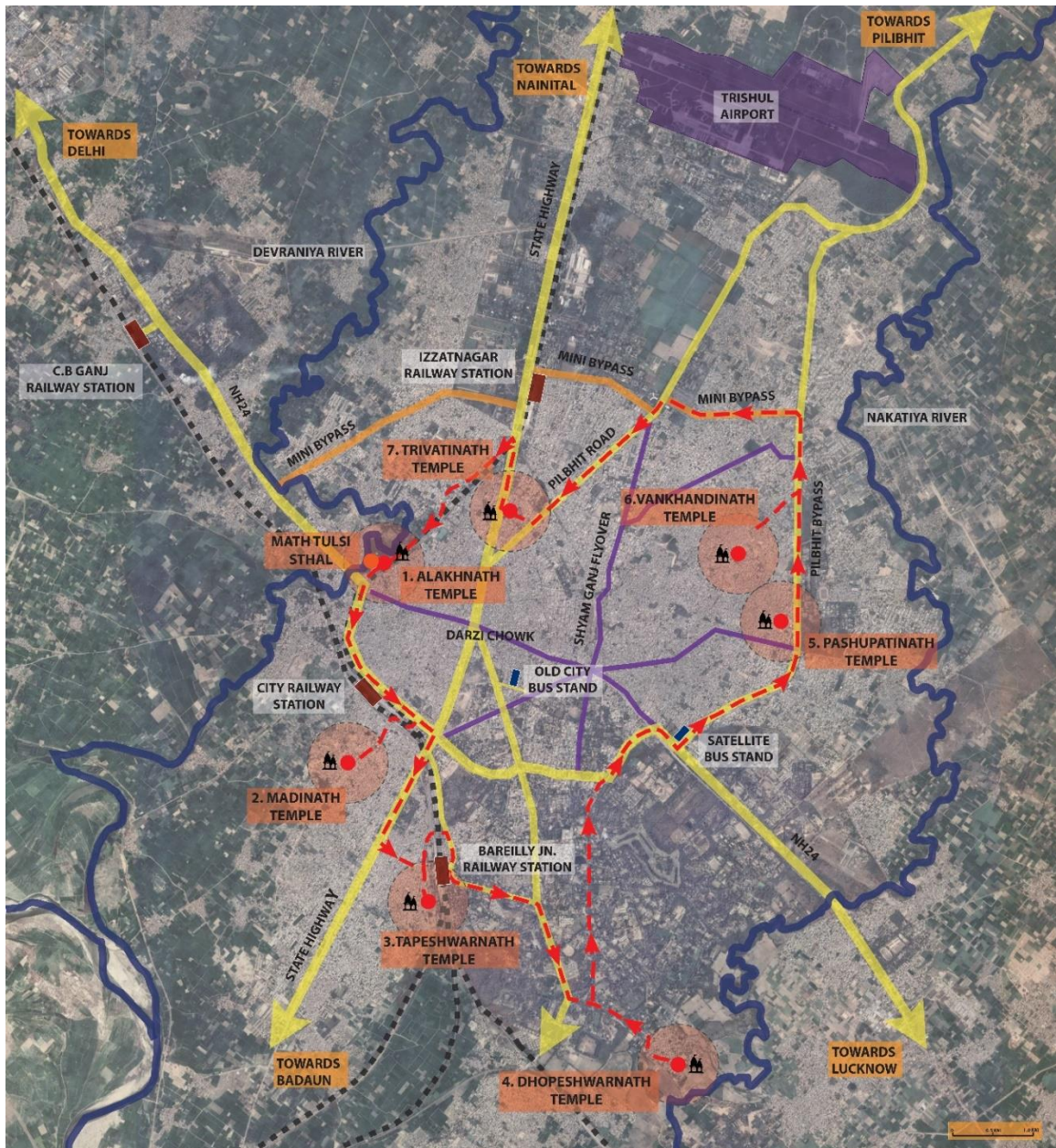
8.1.1.4 SITE DELINIATION

Since the seven Nath temples are situated on different routes which are entrance gateways to the city from other cities, they can be accessed from any of these routes. These seven routes formed the base of city's connectivity to major cities like Nainital (Trivatinath temple), Delhi (Alakhnath Temple), Chandausi (Madinath temple), Badaun (Tapeswar Nath temple), Lucknow (Dopeshwar Nath temple), Bilaspur (Pashupatinath Temple) and Pilibhit (Vankhandinath temple).

Though the city is known for being the **Nath Nagri**, this essence is not reflected in the precincts of the Nath temples and not even along the routes leading to the city. The temples are strategically



located at entry gateways of the city but there is no expression and legibility to their approach. The streets leading to the temples lack the visual character which they should strongly portray.



Map 1: Nath Temple Complex

(Source: Consultant Analysis)

8.1.1.5 PROJECT IMPACTS AND ITS BENEFITS

Considering the spiritual significance of the Nath temple in the city, the development of a dedicated Nath Temple circuit becomes essential to restore city's cultural value. Developing corridor leading to the religious places will enhance the urban character of their precincts. Establishing the Significance of Bareilly as Nath Nagri would enhance the Tourism Potential of the City. Provision of public amenities like parking space, washrooms, etc. along the circuit will offer convenience to the visitors.



8.1.1.6 STAKEHOLDERS

NODAL AGENCY

Nath Temple Association, Bareilly
Bareilly Development Authority

8.1.1.7 HELPING AGENCIES

Bareilly Smart City Limited (BSCL)
Bareilly Nagar Nigam
U.P Tourism

8.1.2 PROJECT- URBAN RENEWAL OF ALL NATH TEMPLE PRECINCTS BY DEFINING ENTRANCE GATEWAYS, CORRIDORS AND ENHANCING THE PUBLIC INFRASTRUCTURE

8.1.2.1 BACKGROUND

Being recognized as Nath Nagri of India, Bareilly portrays a very strong image of the seven Nath temples situated on the seven routes of the city. The city inherits a very rich spiritual significance that brings pilgrims from many other cities to visit the Nath temples. These Nath temples witness their highest influx of visitors during the Sawan month and Maha Shivratri. Thousands of pilgrims also visit the city for Seven Nath temple parikrama which adds to the religious uniqueness of the city.

8.1.2.2 PROBLEM STATEMENT

Since the construction of Nath temples at the city periphery as its gateways, the city has expanded drastically on all sides and the expansion has enveloped all seven nath temples. These religious precincts have lost their imageability and presence over a period of time. Absence of identity markers, gateways, designated corridors, signage, façade lighting has led to degradation of the overall urban character of the precincts.

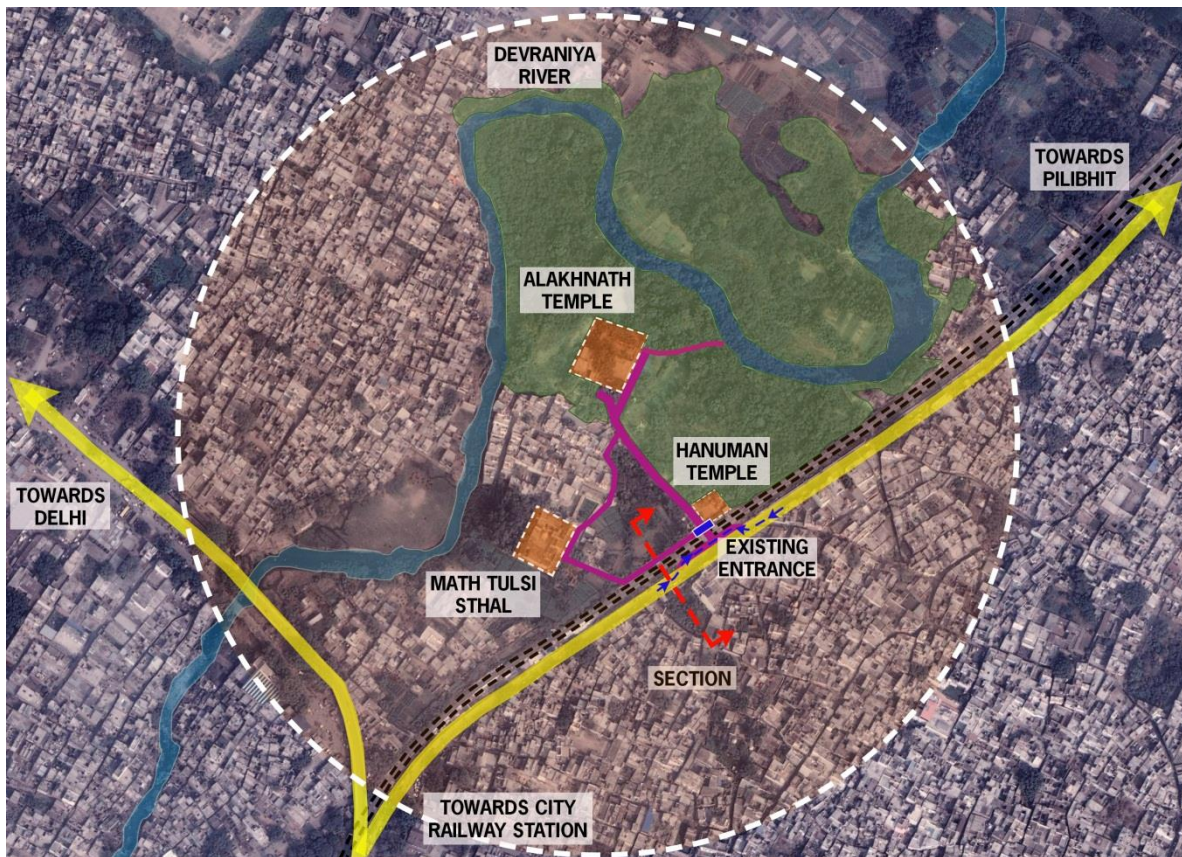
8.1.2.3 KEY INTERVENTION

- Development of symbolic identity/ entrance gateways of all seven Nath Temples.
- Establishing a corridor leading to the temple precincts along with façade treatment guidelines.
- Place making of their precinct with respect to the surrounding neighborhood.
- Enhancing the spiritual character along the street/ corridor.
- Restructuring the temple precinct while adding public infrastructure like designated parking space, washrooms, etc.

8.1.2.4 SITE DELINIATION – ALAKH NATH TEMPLE PRECINCT AND MATH TULSI STHAL

Situated on the Delhi route is the Alakh nath Temple, that portrays its strong presence on the road. As the site is situated across the railway tracks, the approach to the temple complex from the by-lane is not feasible and becomes a challenge for the visitors. Enveloped with greens all around and Dev Raniya River passing by, the temple precinct holds a great potential to be developed as a prominent public node. The site also lacks parking infrastructure to accommodate the high influx during fairs and festivals. Abutting to the Alakh nath temple entrance is the approach road that leads to the Math Tulsi Sthal, a place that holds a very important historic and spiritual significance.





Map 2: Alakh Nath Temple Precinct

(Source: Consultant Analysis)

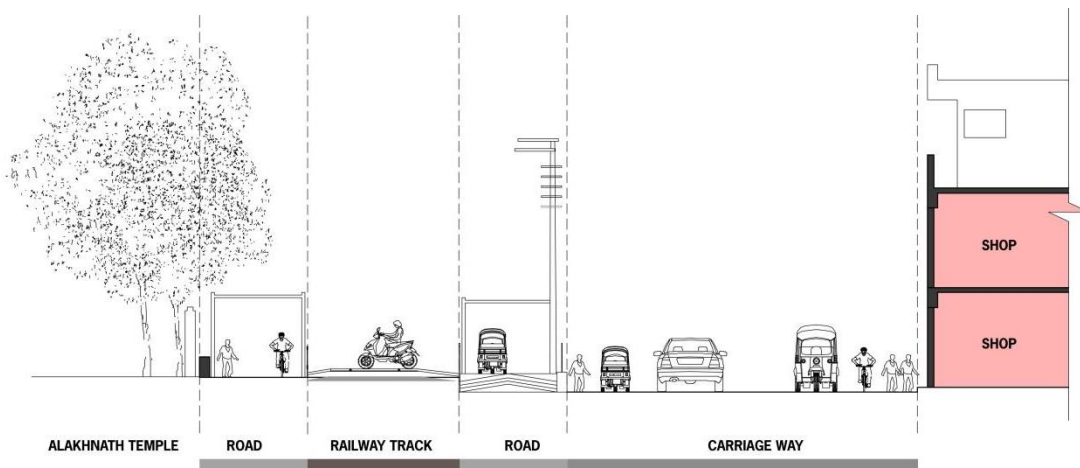


Image 1: Alakh Nath Temple Section

(Source: Consultant Analysis)





Image 2: Road to Alakh Nath Temple



Image 3: Alakh Nath Temple
Connecting Bylane



Image 4: Alakh Nath Temple Entrance



Image 5: Alakh Nath Temple Complex





Image 6: Pathway to Devraniya River



Image 7: Devraniya River



Image 8: Bylane to Math Tulsi Sthal



Image 9: Math Tulsi Sthal Entrance
Gate



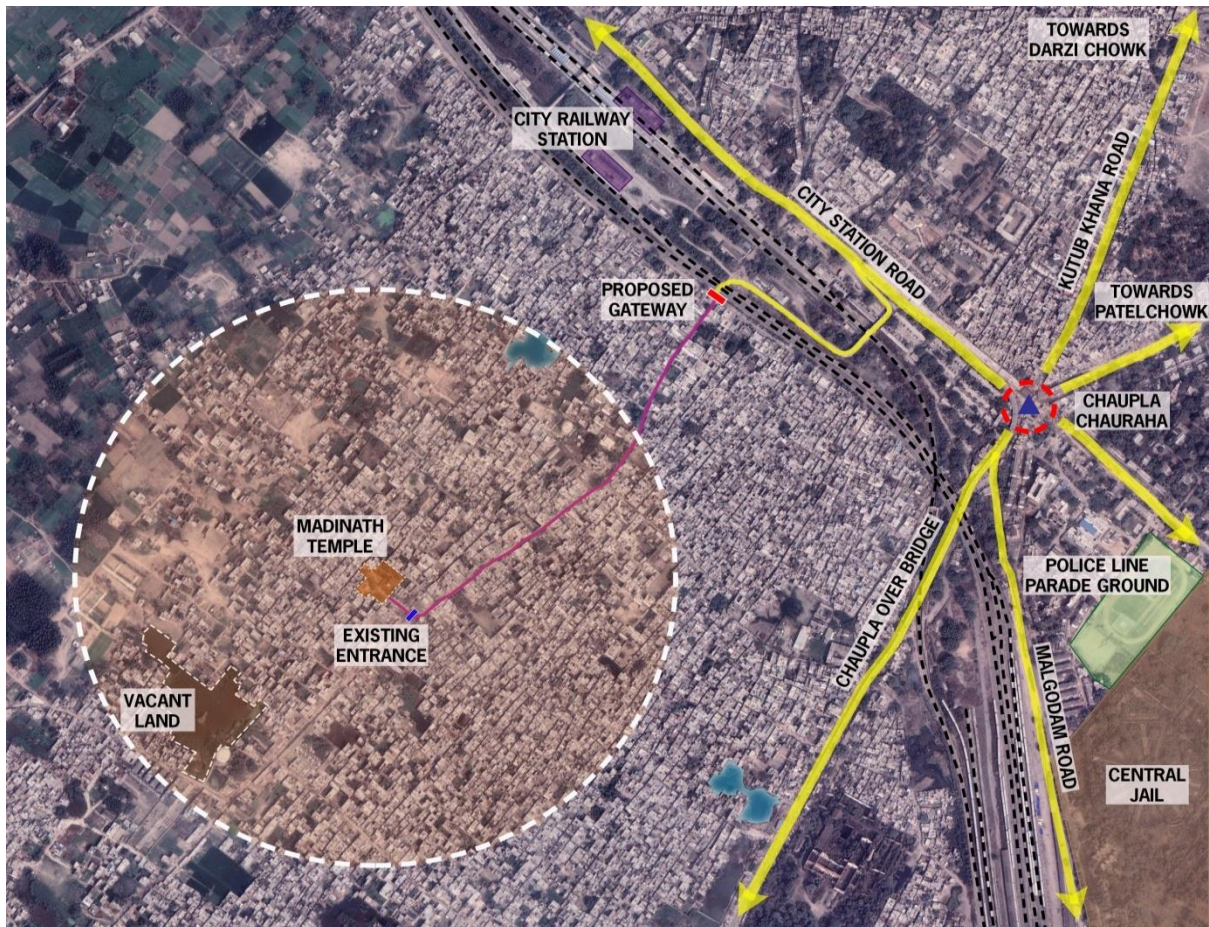
Image 10: Math Tulsi Sthal Complex

8.1.2.5 SITE DELINEATION – MADINATH TEMPLE PRECINCT

Situated on the south-west corner of the city, across the City Railway station is the Madinath temple. Despite of being one of the seven nath temples, the temple fails to mark its presence in the precinct due to its location and having a dense settlement all around. The inappropriate access to the temple from the city station road also becomes another challenge to the visitors, with lack of signage, identity markers and designated approach road. The narrow streets leading to the



temple showcase the lack of organization and urban character. Open sewerage/ drains, uneven width on the road can also be seen, that showcase a dire need of infrastructural development.



Map 3: Madinath Temple Precinct

(Source: Consultant Analysis)



**Image 11: Madinath Temple
Approach Road**



Image 12: Madinath Temple Precinct

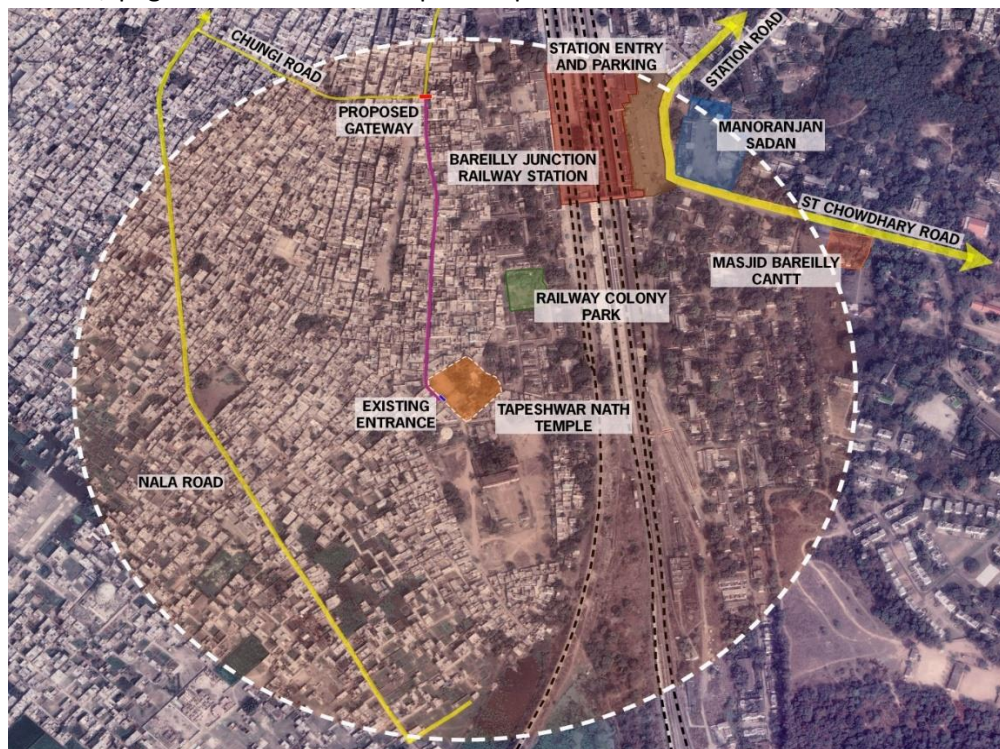




Image 13: Madinath Temple Entrance Gateway

8.1.2.6 SITE DELINEATION – TAPESHWARNATH TEMPLE PRECINCT

The Tapeshwar nath temple is situated in the southern part of the city opposite to the Bareilly Junction Railway station. Surrounded by a dense residential fabric, the temple lacks its connectivity to any of the city’s main arterials. Due to undefined corridor/pathway leading to the temple complex, the narrow street network showcases a lack of imageability and way-finding in the overall precinct. Absence of signage, identity markers and designated approach road possesses a challenge for the visitors/ pilgrims to reach the temple complex.



Map 4: Tapeshwar Nath Temple Precinct

(Source: Consultant Analysis)





Image 14: Tapeshwar Nath Temple Approach Road



Image 15: Tapeshwar Nath Temple Approach Road



Image 16: Tapeshwar Nath Temple

8.1.2.7 SITE DELINEATION – DHOPESHWAR TEMPLE PRECINCT

Dhopeswar temple, also known as the birth place of Draupadi (Mahabharata) is situated in the southern part of the city near Sadar bazaar of cantonment area. The temple is one amongst the



seven nath temples present in the city and was initially a gateway to the city from Lucknow route. The temple inherits a historic and spiritual value of very high significance. Due to the development of neighborhood over the years, the temple has eventually lost its presence in the precinct. The precinct portrays no sense of place, identity markers and lack of imageability.



Map 5: Dhopeswar Nath Temple Precinct

(Source: Consultant Analysis)





Image 17: Dhopeshwar Nath Temple Approach Road



Image 18: Dhopeshwar Nath Temple Entrance



Image 19: Dhopeshwar Nath Temple Kund

8.1.2.8 SITE DELINEATION – PASHUPATI NATH TEMPLE

Situated just two hundred meters away from the Pilibhit Bypass road is the Pashupati nath temple. Despite of being connected to such a major city bypass, absence of signage, identity markers and possesses a challenge for the visitors/ pilgrims to reach the temple complex. The two-hundred-



meter approach road tends to be an advantage to the site and holds tremendous potential for establishing a Gateway and reviving the overall street character. The site not only lacks public conveniences but also has no open space to cater high influx of people or organize any fair. With the temple in the middle of the site and kund (water body) on all four sides, the architecture of Pashupati Nath temple provides it with a distinct identity from all other Nath temples.



Map 6: Pashupati Nath Temple Precinct

(Source: Consultant Analysis)



Image 20: Pashupati Nath Temple Entrance



Image 21: Pashupati Nath Temple



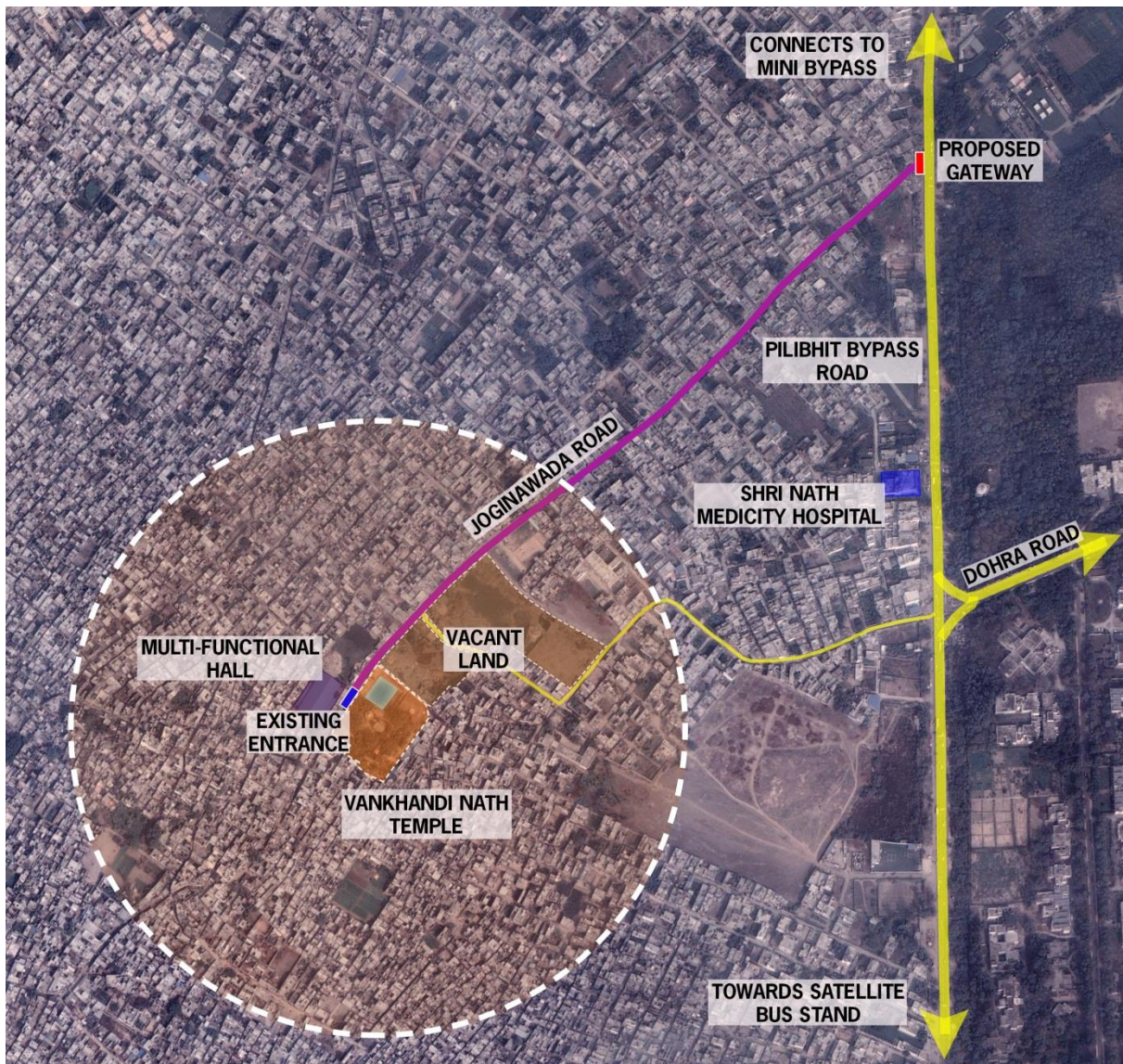


Image 22: Pashupati Nath Temple Precinct

8.1.2.9 SITE DELINEATION – VANKHANDINATH TEMPLE PRECINCT

Located just one kilometer away from the Pilibhit bypass is the Vankhandinath temple, connected through Joginawada road. This one kilometer long stretch of Joginawada road is a designated corridor that not only forges a strong connectivity to the temple complex but also caters to all the informal vendor activity. Despite of having such a prominent connectivity, absence of signage, identity markers and designated approach road possesses a challenge for the visitors/ pilgrims to reach the temple complex. The temple complex is equipped with a multi – purpose hall that is used to cater pilgrims during special occasions. Availability of vacant land parcels also help in organizing fairs and accommodate the high influx. Lack of public conveniences is also one of the major issues that the visitors face while visiting the temple.





Map 7: Vankhandi Nath Temple Precinct

(Source: Consultant Analysis)



Image 23: Vankhandi Nath Temple Approach Road





Image 24: Vankhandi Nath Temple Approach Road



Image 25: Vankhandi Nath Temple
Fairground

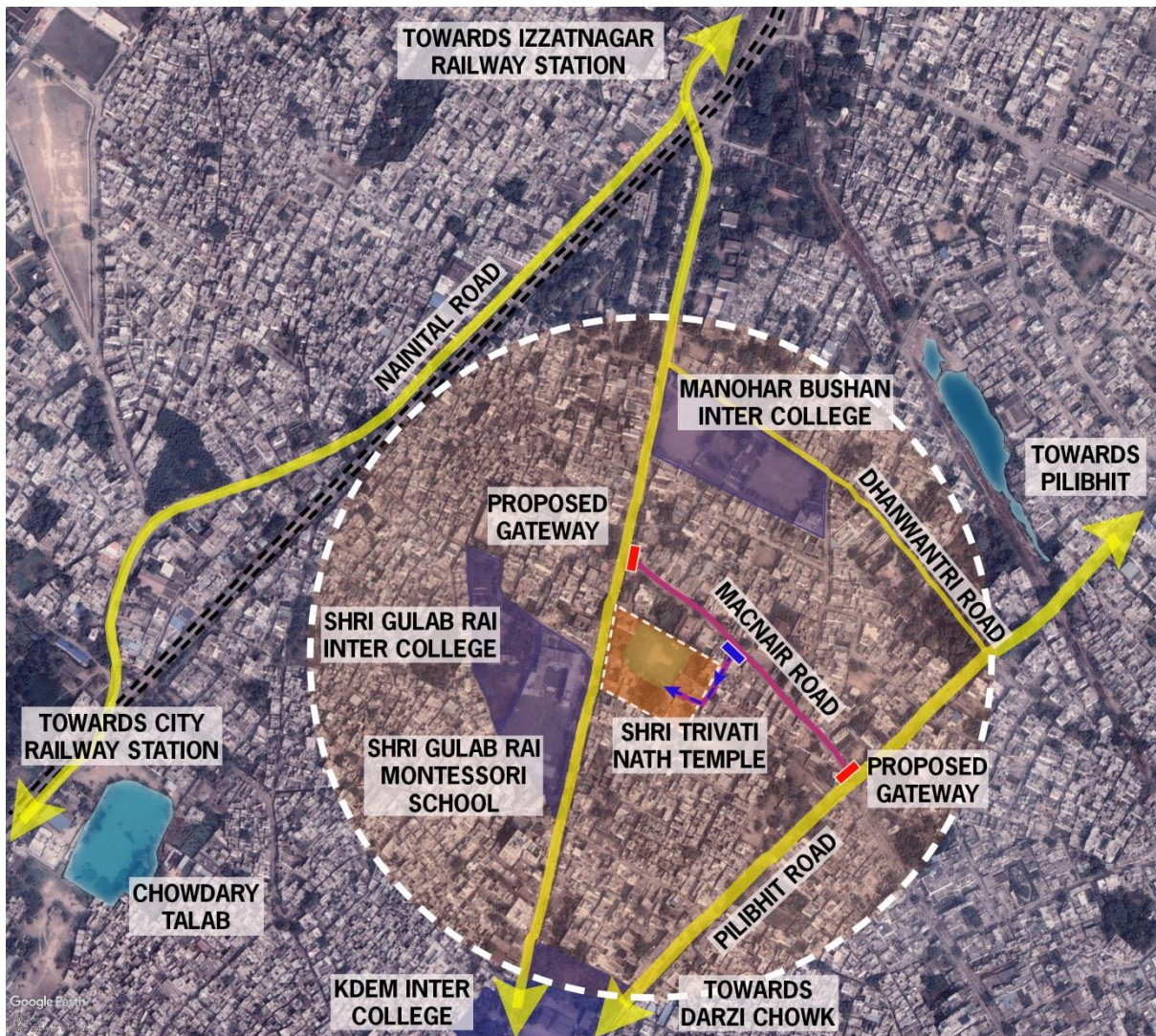


Image 26: Vankhandi Nath Temple

8.1.2.10 SITE DELINEATION – TRIVATI NATH TEMPLE PRECINCT

Situated in the Northern part of the city towards the Nainital route is the Trivati nath Temple, which holds a strong presence on the road. Though, the Macnair road becomes a designated corridor to the temple complex forging its connection to the Nainital road and Pilibhit road, it still lacks the urban character and organization. Though the existing temple complex is very well developed in terms of infrastructure which easily caters to the high influx of visitors, the approach to the temple seeks intervention to define the spiritual character of the corridor and provisioning of signage/identity markers.





Map 8: Trivati Nath Temple Precinct

(Source: Consultant Analysis)



Image 27: Trivati Nath Temple Entrance





Image 28: Trivati Nath Temple

8.1.2.11 PROJECT IMPACT AND ITS BENEFITS

Considering the spiritual significance of the city, the revival of these religious precincts becomes essential to restore city's cultural value. Establishing identity markers/ entrance gateways and development of corridor leading to the religious places will enhance the urban character of their precincts. Provisions of public amenities like parking space, washrooms, etc. will not only offer convenience to the visitors but will also create a better user experience. Development of temple precincts will help in reclaiming the lost identity of all Nath temples and conserving the city's cultural value. The intervention envisions initiating more tourism influx to the city, which will further contribute to the city's economy.

8.1.2.12 STAKEHOLDERS

8.1.2.13 NODAL AGENCY

Bareilly Market Association
Nath Temple Association, Bareilly

8.1.2.14 HELPING AGENCIES

Bareilly Development Authority
Bareilly Smart City Limited (BSCL)
Bareilly Nagar Nigam
U.P Tourism

8.1.2.15 DATA REQUIRED FOR THE PROJECT

- Demarcation of seven Temple areas
- Vacant Government land parcels in all Temple precincts



8.1.3 Vision: Streetscape of City Core and Development of Dargah Precinct

8.1.4 PROJECT – STREETScape OF MARKET STREET FROM QILA TO SHYAM GANJ ALONG WITH URBAN RENEWAL OF DARGAH PRECINCT BY DEFINING ENTRANCE GATEWAYS, CORRIDORS AND ENHANCING THE PUBLIC INFRASTRUCTURE

8.1.4.1 BACKGROUND

The city of Bareilly is a predominant trade city where different market typologies co-exist and form the base of the city economy and business culture. The market streets have a clear hierarchy based on the predominance of the functional activity and products sold as we move along the streets connecting Delhi to Lucknow. Upon arrival from Delhi, the Bada bazaar market street stretches from Qila to Darzi chowk which caters to multiple segments of retail and wholesale markets and from Darzi chowk to Shyam Ganj flyover is the Shyam Ganj market where Zari zardosi works and karkhanas used to flourish a few years back.

Situated in the dense fabric of Bada bazaar is the world famous - Dargah-e-Ala-Hazrat which invites lakhs of pilgrims from all over the country. It holds a historic and spiritual value of very high significance in the city. The dargah is also known for its annual Urs which takes place in the grounds of Islamia College of Bareilly, which invites over five lakh people to the city. Thus, the precinct of Dargah-e-Ala-Hazrat becomes a very important public node. Situated in its close proximity is the Khanqah e Niazia, which is also a significant spiritual landmark of the city.

8.1.4.2 PROBLEM STATEMENT

The narrow street of Bada bazaar and Shyam ganj market is the harbour for all kinds of activity and with extended retail activities, IPT and light freight vehicles obstruct smooth pedestrian flow leading to congestion and noise pollution. Often the IPT is seen hitting the pedestrians, hence making the streets very uncomfortable to walk upon. Though a clear distinction can be observed in terms of function and products, the market streets lack imageability and a distinct character that can aid visitors in orienting themselves within the bazaars.

Situated in the close proximity of Bada bazaar and clock tower, Dargah e aala hazrat and Khanqah e Niazia have witnessed the effects of increasing density in the core. These religious precincts have lost their imageability and presence over a period of time. Absence of identity markers, gateways, designated corridors, signage, façade lighting has led to degradation of the overall urban character of the precincts.

8.1.4.3 KEY INTERVENTION

- Restructuring mobility networks to facilitate walkability and Para transit within the Bada bazaar and Shyam ganj market street
- Prioritize the use of public transport.
- Provision of signage design scheme for Bada Bazaar and Shyam Ganj market by standardizing the size & its location on the façade to create uniformity in streetscape.
- Development of symbolic identity/ entrance gateways for both, Dargah and Khanqah.
- Establishing a corridor leading to the religious precincts along with façade treatment guidelines.
- Place making of their precinct with respect to the surrounding neighborhood.
- Enhancing the spiritual character along the street.

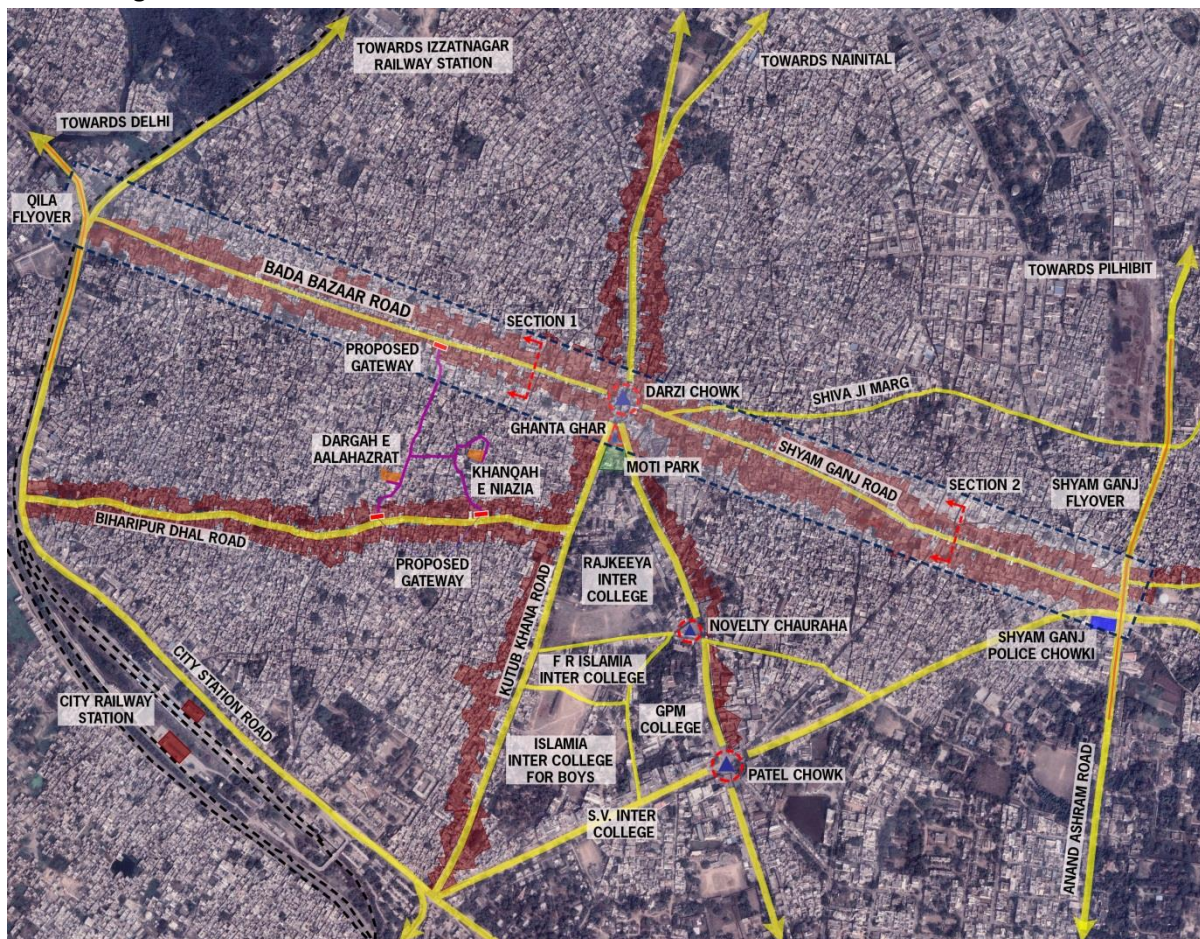


- Restructuring the Dargah precinct while adding public infrastructure like designated parking space, washrooms, etc.

8.1.4.4 SITE DELINEATION – BADA BAZAAR, SHYAM GANJ MARKET, DARGAH E AALHAZRAT AND KHANGAH E NIAZIA

Upon arrival from Delhi, the market streets start from Qila with the grain market and move in a straight line to Bada Bazaar featuring Sarafa Bazaar (gold and silver jewellery), Surma market, Cloth and cosmetic market respectively. Following the Bada Bazaar which terminates at the Darzi Chowk and further leads to Shiva ji marg road (featuring Sarafa bazaar) and Shyam ganj market (featuring utensils, Zari Zardosi and furniture markets respectively).

Situated in the dense fabric of city core is the Dargah e aalahazrat, which is one of the important pilgrim destinations in the city. With no defined access point/ entrance gateway, the dargah is approached from various routes from Bada bazaar road and Kutub khana road. This results in an unfeasible approach for the pilgrims who are new to the city. Lack of identity markers and a designated corridor fails to establish imageability and legibility of the precinct. Due to the existing situation in the current scenario, the working of bazaar streets also get hampered, eventually affecting the business.



Map 9: Qila to Shyan ganj Road, Dargah e Aalahazrat and Khanqah e Niazia Precinct

(Source: Consultant Analysis)



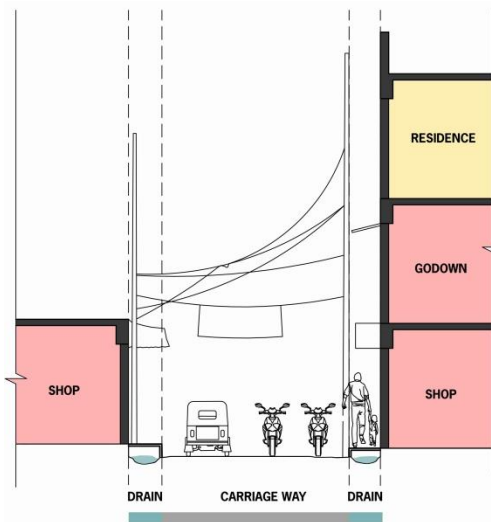


Image 29: Bada Bazaar Street (Section - 1)

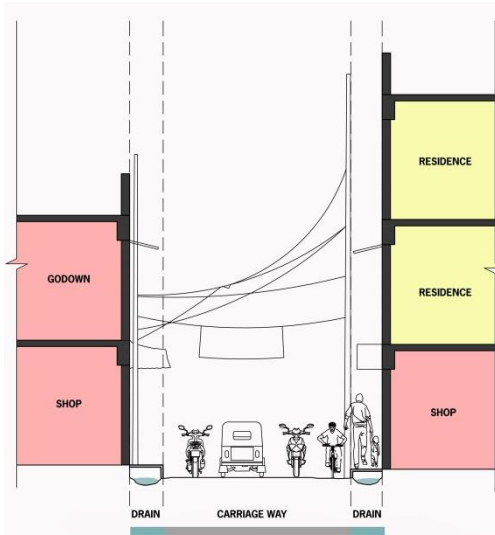


Image 30: Shyam Ganj Market Street (Section - 2)



Image 31: Bada Bazaar Street



Image 32: Shyam Ganj Market Street

(Source: Consultant Analysis)



Image 33: Street leading to Dargah-e -
Aalahazrat



Image 34: Dargah e Aalahazrat





Image 35: Street leading to Khanqah E



Image 36: Khanqah E Niazia

8.1.4.5 PROJECT IMPACT AND ITS BENEFITS

The project aims to define the character of the city market streets. The core city roads shall be defined as internal streets that will be prioritized on cycle and pedestrian infrastructure. These streets shall be designed to reduce the carriageway for low vehicular speed. The peripheral city streets will be developed as the outer loop where provisions for cycling, IPT, parking near intersections, cycle stands at regular intervals shall be given.

Taking the spiritual significance of the Dargah and Khanqah into consideration, the revival of these religious precincts becomes essential to restore city's cultural value. Designating corridor leading to these religious places and defining its street character will elevate the essence of the precinct. Establishing identity markers/ entrance gateways and development of public amenities like parking space, washrooms, etc. will offer convenience to visitors in terms of approach and user experience.

8.1.4.6 STAKEHOLDERS

8.1.4.6.1 NODAL AGENCY

Bareilly Market Association
Dagrah Association

8.1.4.7 HELPING AGENCIES

Bareilly Development Authority
Bareilly Smart City Limited (BSCL)
Bareilly Nagar Nigam
U.P Tourism

8.1.4.8 DATA REQUIRED FOR THE PROJECT

- Demarcation of Dargah area



8.2 Vision: Development of Areas near Transit Points as New Gateways to the City

8.2.1 PROJECT – DEVELOPING TRADE CUM BUSINESS EXPO CENTERS NEAR TRANSIT NODES

8.2.1.1 BACKGROUND

Well known for its Nath temples, Dargah e aala hazrat and its craft of Zari – Zardozi, Bareilly; the Nath nagri of U.P happens to be a tourist destination for people of many culture across the nation. The city also inherits a very strong craft culture which has made Bareilly renowned for its Zari – Zardozi art all over the world. This brings thousands of businessmen/ traders/ retailers to the city in search of the finest products of their native craft. The craft of Zari – Zardozi becomes a catalyst for the city tourist infrastructure and holds a potential to scale up the tourism influx, contributing to the city's economy.

8.2.1.2 PROBLEM STATEMENT

Considering the craft value of such prestige, the city still does not offers any platform to showcase the craft. In the old city core of Bareilly, **Sailani road** and **Jagatpur** are the two hubs dedicated for its retail, wholesale and manufacturing units, which are amongst the oldest and densest areas in the city. Despite of two dedicated retail areas for Zari – Zardozi, the placement of these markets in the dense city core makes it unfeasible for any visitors to reach.

8.2.1.3 KEY ACTIVITIES, TASK & INTERVENTION

The proposed project focuses on providing the artisans a platform on major transit hubs for showcasing the native craft. Bareilly Jn. Railway station and Izzatnagar Railway station are the two main entrance gateways to the city. In close proximity to these two gateways are the two existing structure

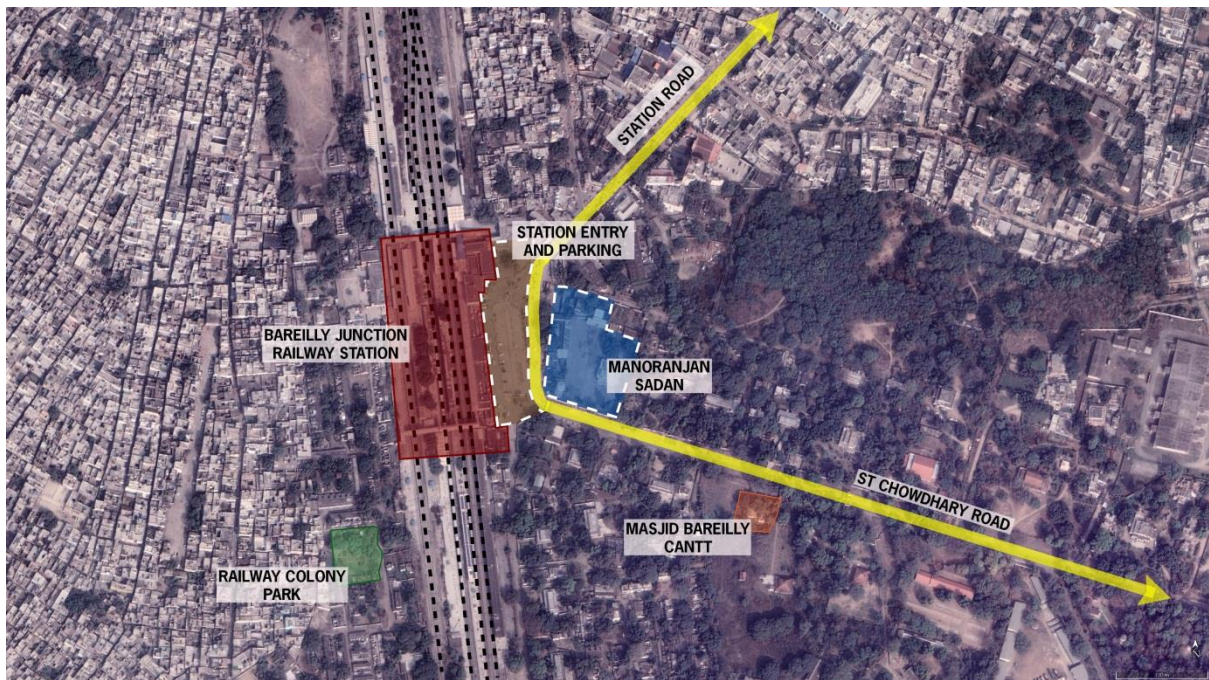
1. Manoranjan Sadan – Opp. Bareilly Jn. Railway station
2. Manoranjan Sansthan – Opp. Izzatnagar Railway station

Thus, the proposal aims the urban renewal of these two existing structures into an Integrated Tourist complex along with parking facility and multimodal integration. These will be developed as major trade centres that will facilitate adequate infrastructure for the display of the craft and will also be venue for holding large exhibitions and conventions.

8.2.1.4 SITE DELINEATION – MANORANJAN SADAN

The existing building of **Manoranjan Sadan** situated opposite to the **Bareilly Jn. Railway station** is the primary selected location for this intervention. The site shares its side edge with forecourt of the railway station which further has a great potential to be developed as a public plaza. Well-connected by 2 major roads, the site also has many hotels in its close proximity appropriate to support the tourism influx. The site holds a great potential to be developed as an anchor point, featuring infrastructure to support the craft sector of the city.





Map 10: Manoranjan Sadan at Bareilly Junction Railway Station

(Source: Consultant Analysis)



Image 37: Manoranjan Sadan Entry Gate

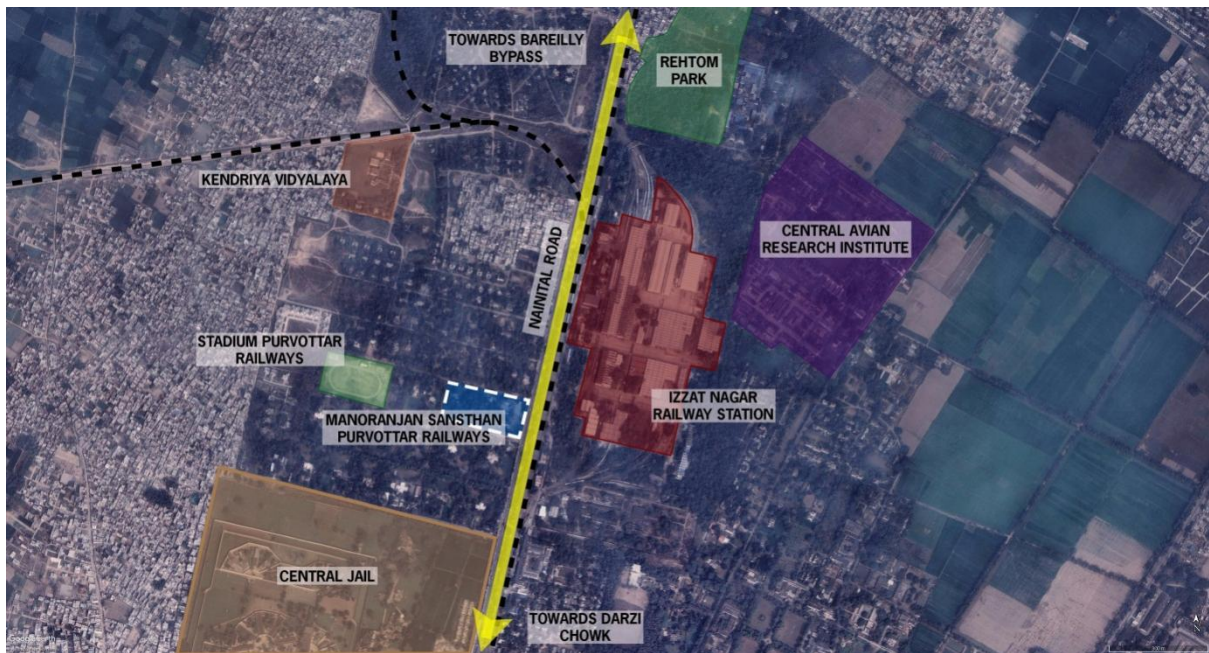


Image 38: Manoranjan Sadan

8.2.1.5 SITE DELINEATION – MANORANJAN SANSTHAN

The existing building of **Manoranjan Sansthan** situated opposite to the **Izzatnagar Railway station** is another selected location for this intervention. The site is situated on Nainital road, which is an important gateway to the city from the Northern side. Its connectivity to the Izzatnagar railway station further makes it an appropriate location for establishing as a showcase platform for Zari – Zardozi. Being an entry point to the city from north, the site holds potential to be developed as a trade hub for exhibiting city’s native craft of Zari – Zardozi.





Map 11: Manoranjan Sadan at Bareilly Junction Railway Station

(Source: Consultant Analysis)



Image 39: Izzatnagar Railway Station – Bareilly- Nainital Road



Image 40: Izzatnagar Railway Station

8.2.1.6 PROJECT IMPACT AND ITS BENEFITS

Introduction of Integrated Tourist complex along with parking facility and multimodal integration in the craft city of Bareilly is one of the most essential developments needed in the city. The project will help in providing a platform to the artisans for showcasing their craft at major transit hubs of



the city. This will bring the art of Zari – Zardozi in the forefront & eventually become a revenue generating model for the whole city. The infrastructure will be beneficial specifically for the artisans of Zari – Zardozi to conserve the native art.

8.2.1.7 STAKEHOLDERS

8.2.1.7.1 NODAL AGENCY

Zari – Zardozi Association, Bareilly

8.2.1.8 HELPING AGENCIES

Bareilly Development Authority

Bareilly Smart City Limited (BSCL)

Bareilly Nagar Nigam

Bareilly Market Associations

U.P Tourism

Northern Railways

8.2.1.9 DATA REQUIRED FOR THE PROJECT

- Ownership of Manoranjan Sadan & Manoranjan Sansthan

8.2.2 PROJECT – REDEVELOPMENT OF PILIBHIT SATELLITE BUS STAND

8.2.2.1 BACKGROUND

Situated in the middle of the national capital and the state capital Lucknow, the city's strategic location makes the mobility infrastructure very crucial for its growth. Along with its Railway network, city's road transportation also becomes an integral part that contributes to its development. Major transit hubs like city bus stand tend to be the backbone of public transport, forging its connectivity to its neighboring cities. Since the city is expanding throughout from all directions, the Satellite bus stand was developed at the junction of NH 24 and Pilibhit bypass road in order to cater to the high influx of buses from Lucknow.

8.2.2.2 PROBLEM STATEMENT

Similar to Railway station, Bus stands are also the city gateway that casts an image of the city for the visitors. Despite of its strategic location, the existing Satellite bus stand precinct and road are thoroughly lacking in legibility, identity and organization. Due to unorganized street space and mobility infrastructure, the bus stand tends to be a prominent cause of congestion on the road.

8.2.2.3 KEY INTERVENTION

- Reviving the identity of the Bus stand and uplifting its visual character as a prominent city gateway.
- Redevelopment of its precinct and introduction of a prominent public plaza space at bus stand.
- Redesigning Streetscape of the junction along with organized spaces for parking, pedestrians, hawkers etc.



8.2.2.4 SITE DELINEATION

The strategic location of Satellite bus stand at the intersection of NH - 24 & Pilibhit Bypass establishes it as a gateway to the city while approaching from Lucknow. Thus the bus stand becomes an important transit junction where city level and regional level mobility network intersect. Since the regional level transport is not allowed to enter the city interiors, Para transit network becomes very crucial for such space. Also, the existing bus stand portrays a much unorganized image of the precinct.



Map 12: Pilibhit Satellite Bus Stand

(Source: Consultant Analysis)

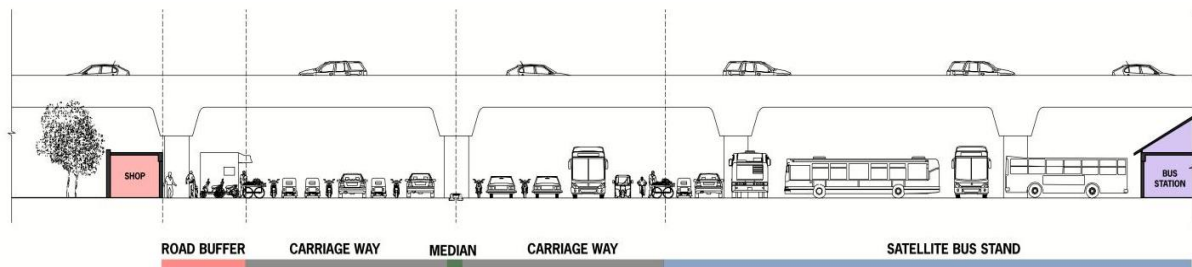


Image 41: Pilibhit Satellite Bus Stand Section

(Source: Consultant Analysis)



Image 42: Satellite Bus Stand Entry





Image 43: Satellite Bus Stand Exit



Image 44: Pilibhit Satellite Bus Stand



Image 45: Pilibhit Satellite Bus Stand

8.2.2.5 PROJECT IMPACT AND ITS BENEFITS

The development of Satellite Bus stand as a gateway will revive the overall urban character of the precinct and define city's imageability. Streetscape of this major transit hub will help in organizing the mobility infrastructure along with creating integrated zone for NMVs, IPTs, and other transport modes. This will also form a welcoming approach for the visitors/ tourists and will be beneficial for the city people as well. The project will initiate infrastructure development, boosting more people to visit the city contributing to the city's economy.

8.2.2.6 STAKEHOLDERS

8.2.2.7 NODAL AGENCY

R.T.O, Bareilly

8.2.2.8 HELPING AGENCIES

Bareilly Development Authority
Bareilly Smart City Limited (BSCL)
Bareilly Nagar Nigam

8.2.2.9 DATA REQUIRED FOR THE PROJECT

- Data of existing/ proposed bus routes in the city
- Total influx of buses at the bus stand



8.3 Vision: Promotion & Innovation of Craft Products – Kala Sanskriti

8.3.1 PROJECT – REJUVINATION OF ZARI – ZARDOZI (SHYAM GANJ MARKET) – ONE DISTRICT ONE PRODUCT

8.3.1.1 BACKGROUND

Renowned all over the world, Bareilly is a city very well known for its craft of Zari and Zardozi. The native craft has established Bareilly's identity in the national as well as international market. The skill has been eventually been carried on by generations of artisans over past many decades. Many artisans have adopted this as their main occupation or profession. It has provided employment opportunities to thousands of artisans spread over the city as most of the artisans have inherited art to be converted into an occupation.

8.3.1.2 PROBLEM STATEMENT

Situated in one of the dense fabric of the city is the **Sailani market road** dedicated for retail of Zari Zardozi. Before the construction of Shyam ganj flyover, its prime location on Stadium road made the market easily accessible from all parts of the city. The flyover passing over the market entrance has not only disrupted its linkage from the city's main arteries but has drastically changed the approach to the market underneath.

8.3.1.3 KEY INTERVENTION

- Designing the streetscape for pedestrians and NMT system
- Façade Development to establish the identity of the market
- Traffic decongestion of Market Street and parking proposals

8.3.1.4 SITE DELINEATION

Despite of being covered by the Shyam ganj flyover, the strategic location of Sailani market road still holds a potential for an urban renewal for its transformation. The road from Patel chowk to Satellite bus stand passes under the flyover gives the site an advantage for a fair mobility. The space available underneath the flyover can be better utilized for place-making of the market's entrance.



Map 13: Sailani Market Road

(Source: Consultant Analysis)



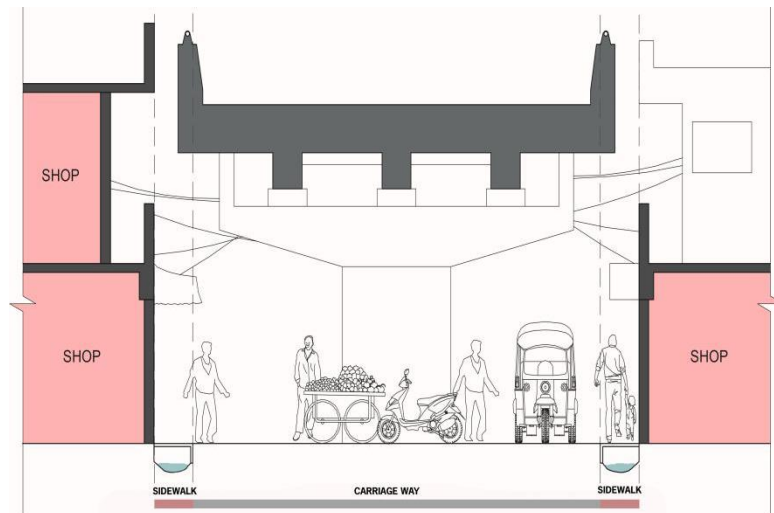


Image 46: Shyam Ganj Flyover Road Section

(Source: Consultant Analysis)



Image 47: Shyam Ganj Flyover Road



Image 48: Sailani Market Road

8.3.1.5 PROJECT IMPACT AND ITS BENEFITS

Redevelopment of Sailani Market road is one of the most significant developments needed for the revival of Bareilly's native craft. The urban renewal of the road underneath the flyover will not only



enhance the approach to the Sailani market street but will also address a prominent access point for the visitors/tourists. The intervention will redefine the urban character of the whole market street and will also emphasize on the underlying market of Zari - Zardozi. This will initiate more influx to the market street and help in restoring the city's native craft.

8.3.1.6 STAKEHOLDERS

Bareilly Development Authority
Bareilly Smart City Limited (BSCL)
Bareilly Nagar Nigam
Bareilly Market Associations
Sailani Market Association
Bareilly Zari – Zardozi Association
U.P Tourism

8.3.1.7 DATA REQUIRED FOR THE PROJECT

- *Location of addas near the market street*

8.4 Vision: A Place for Spiritual Tourism and Nature Retreat

8.4.1 PROJECT - RAMGANGA RIVERFRONT DEVELOPMENT

8.4.1.1 BACKGROUND

The Ramganga River is the largest river passing through the city and the river ghat is one of the well-known religious places in the city. The place inherits a rich historic as well as spiritual value that brings lakhs of pilgrims annually to the ghat. A fair after every 14 days is also organized on the river banks attracting tourists and pilgrims from all over the city. The river banks are flooded with people taking baths, performing religious activities and celebrating the festival.

Since the river crosses in close proximity to Chaubari village, a major fair is organized annually at the banks of the river known as Chaubari fair. The fair takes place on the occasion of Kartik purnima. One of the biggest attractions of this fair is the horse market, where people from far off areas visit the city to buy or sell horses. The fair is attended by lacks of pilgrims, which initiates tourism for the city on a large scale.

8.4.1.2 PROBLEM STATEMENT

Despite of having a spiritual value of such prestige, the river ghat and the fairground still remains redundant. Due to lack of identity markers, entrance gateway and way-finding, the approach to the ghat area is not feasible for the visitors. The Ramganga fairground is not only an ecological asset but also holds a significant value in the social infrastructure of Bareilly.

8.4.1.3 KEY ACTIVITIES, TASK & INTERVENTION

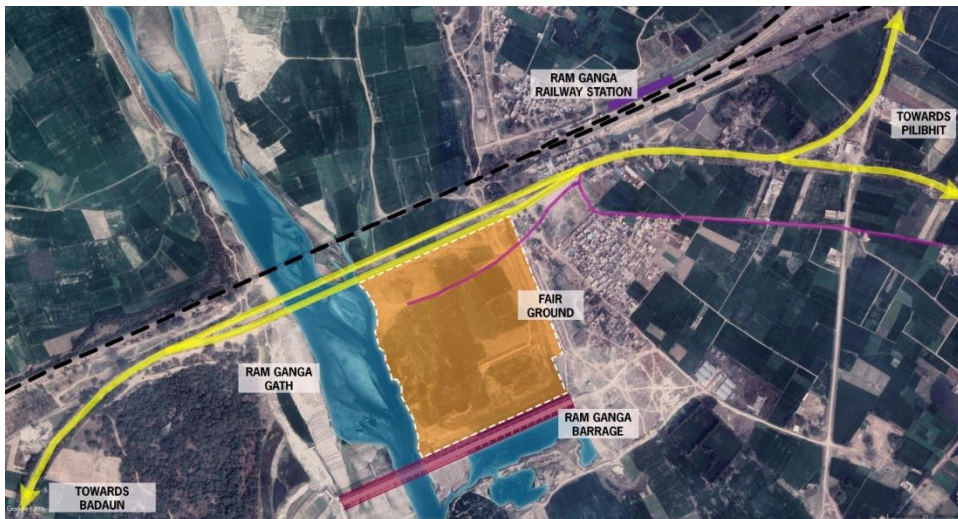
- Crafting Ramganga river ghat into a multi-functional public space that caters to all pilgrimage activity, fairs and festivals.
- Development of symbolic identity/ entrance gateway to the riverfront.
- Place making of their precinct with respect to the surrounding neighborhood.
- Revival of the existing precinct while adding public infrastructure like designated parking space, washrooms, etc.



- Up gradation of Ramganga Jn. Railway station and improving its connectivity with the riverfront

8.4.1.4 SITE DELINEATION

The current scenario of riverfront displays a very abrupt image of city’s natural features. Despite of being well connected to the city through state highway & railway line, the site completely lacks a prominent connectivity and a symbolic identity. The existing ghat and fairground does not contain any public infrastructure to support the monthly holy bath and Chaubari fair. This has led to the depletion of the condition of the riverine, eventually affecting the overall ecology.



Map 14: Ramganga Ghat and Fair Ground

(Source: Consultant Analysis)



Image 49: Dilapidated Ghat along river edge and connecting bridge

(Source: Author)



Image 50: Vacant land parcels near connecting bridge

(Source: Author)



Image 51: Provision of boating to cross the River



Image 52: Provision of boating to cross the River



8.4.1.5 PROJECT IMPACT AND ITS BENEFITS

Development of the riverfront will help in revival of the overall river edge and restoring its ecology as well. Integration of the riverfront along with the fairground will result in rejuvenation of the overall precinct benefiting the pilgrims and city residents. Also, provision of public amenities will add to the overall development and initiate more pilgrims to visit. The urban renewal of the existing ghat will eventually result in upliftment of the city social infrastructure.

8.4.1.6 STAKEHOLDERS FOR THE PROJECT

8.4.1.6.1 NODAL AGENCY

Bareilly Development Authority

8.4.1.7 HELPING AGENCIES

Bareilly Smart City Limited (BSCL)

Bareilly Nagar Nigam

U.P Tourism

8.4.1.8 DATA REQUIRED FOR THE PROJECT

- Hydrology and topography map for the city
- Ownership of the Ramganga fairground
- River revival projects in the city - existing/ proposed
- LFL & HFL of the existing rivers
- Areas along the river that need to be conserved

8.5 PROJECT – DEVELOPING MEDICAL INFRASTRUCTURE FOR NATUROPATHY AND ECO-TOURISM

8.5.1.1 BACKGROUND

Naturopathy is a field of science that specifically focuses on healing from Nature. It also involves other segments of treatment like Yoga, Meditation etc. that add more value to the system. A well-developed Naturopathy center includes space for multiple such facilities along with complementary techniques such as massage, acupuncture, or aromatherapy.

8.5.1.2 PROBLEM STATEMENT

Due to lack of medical infrastructure specifically for Naturopathy in the city, Bareilly fails to cater to the growing demand.

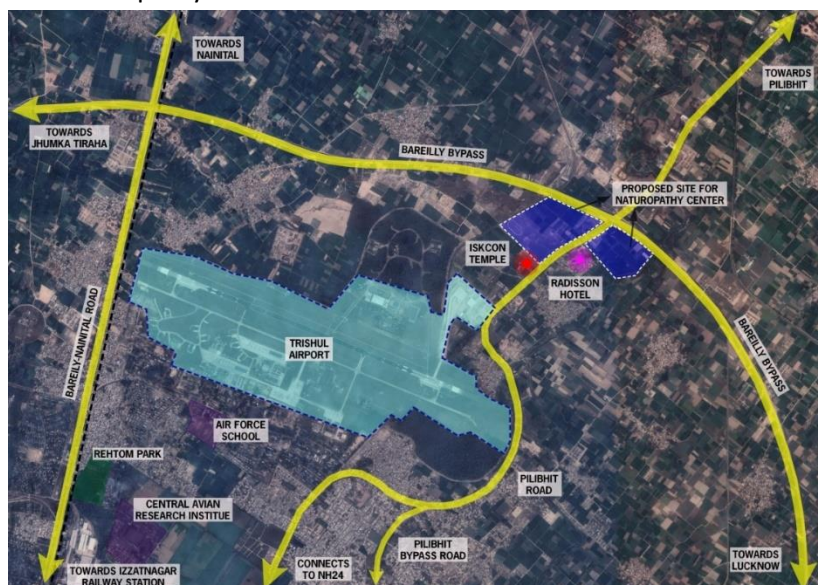
8.5.1.3 KEY ACTIVITIES, TASK & INTERVENTION

- Development of Naturopathy and Nature retreat Centre along with promoting Eco Tourism.
- Development of space that offers Yoga, Sound meditation and Ayurveda treatments.
- Development of symbolic identity/ entrance gateway to the city.
- Place making of their precinct with respect to the surrounding neighborhood.
- Revival of the existing precinct while adding required public amenities.



8.5.1.4 SITE DELINEATION

Located at the intersection of the Bareilly bypass and Pilibhit road, the proposed site is a strategically selected location for the development of medical infrastructure for naturopathy and eco-tourism. Considering the context of the proposed site, the Radisson hotel and Airport in its close proximity can be foreseen as a supportive infrastructure for medical tourism. The existing Iskcon temple also adds a spiritual dimension to the overall precinct. Along with the existing mobility infrastructure and the available assets around the site, an integrated precinct for development of Naturopathy center can be envisioned.



Map 15: Proposed site for Naturopathy & Eco-tourism

(Source: Consultant Analysis)

8.5.1.5 PROJECT IMPACT AND ITS BENEFITS

Development of the Naturopathy Center will not only provide medical facilities to the city residents but will also escalate the level of Medical infrastructure in the city, providing people with therapeutic treatments, Ayurveda training, various medical programs, recreational activities with the Indian tradition of hospitality. The Center is envisioned to cater the growing demand of the city residents, specifically in the Naturopathy sector. The proposal will also initiate Medical tourism to the city, which can further contribute to the city's economic growth.

8.5.1.6 STAKEHOLDERS FOR THE PROJECT

8.5.1.7 NODAL AGENCY

Bareilly Development Authority

8.5.1.8 HELPING AGENCIES

Bareilly Smart City Limited (BSCL)
Bareilly Nagar Nigam
Indian Medical Association, Bareilly
U.P Tourism

8.5.1.9 DATA NEEDS FOR THE PROJECT

- Ownership of the Proposed site



8.6 Vision: Tourism Infrastructure upgradation of a.s.i sites

8.6.1 PROJECT: AHICHCHHATRA – TOURISM INFRASTRUCTURE UPGRADATION OF A.S.I SITE IN CONSULTATION WITH A.S.I AND U.P TOURISM REGIONAL MANAGERS

8.6.1.1 BACKGROUND

From archaeological point of view the district of Bareilly is very rich. The extensive remains of Ahichchhatra, the Capital town of Northern Panchala have been discovered near Ramnagar village of Aonla Tehsil in the district. The site of Ahichchhatra was briefly explored by Sir Alexander Cunningham in 1871, and then excavated by the ASI from 1940 for “about five years”. The excavations found brick fortifications and continuity of occupation from a period before 600 BCE to 1100 BCE. It was during the first excavations at Ahichchhatra (1940-44) that the painted gray ware, associated with the advent of the Aryans in the Ganges-Yamuna valley, was recognised for the first time in the earliest levels of the site. Nearly five thousand coins belonging to periods earlier than that of the Guptas have been yielded from Ahichchhatra. It has also been one of the richest sites in India from the point of view of the total yield of terracotta. On the basis of the existing material, the archaeology of the region helps us to get an idea of the cultural sequence from the beginning of the 2nd millennium BC up to the 11th century AD.

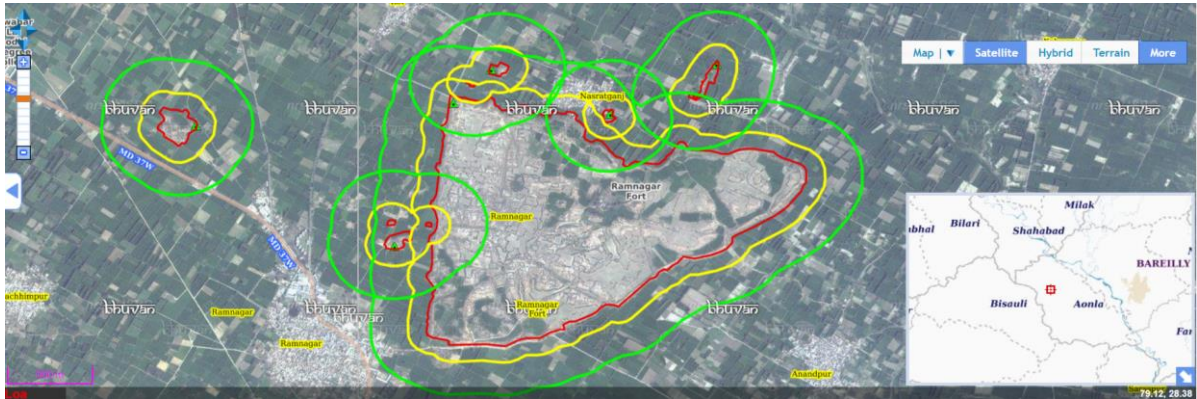
Near Ahichchhatra, 2 km to its West there is a big pond which is said to trace its ancestry to the time of Mahabharata. The pond, located in the village of Jagannathpur is said to have been made by the Pandavas at the time of their forest dwelling.

Table 1: List of ASI sites in Bareilly district (3 sites in Bareilly, 7 sites in Ramnagar, 2 in Aonla and 1 site in Pachomi)

S.NO.	NAME	LOCATION	DISTRICT
1.	Tomb of Hafiz-ul-Mulk Rahmet Khan, the Rohila Chief	Bareilly, Bakar Ganj	Bareilly
2.	Tomb of Hermit Shah Dana	Bareilly, Bakar Ganj	Bareilly
3.	Large obelisk of red sandstone	Fateh Ganj	Bareilly
4.	Several ancients ruined mounds in which Indo-Scythian coins are found.	Pachomi or Wahidpur Pachaumi	Bareilly
5.	Ancient Site	Ramnagar, Alampur Kot	Bareilly
6.	Fort	Ramnagar	Bareilly
7.	Mound called Chikatia Khera	Ramnagar	Bareilly
8.	Mound to the south of the tans known as of the Gandhan Sagar and Adisagar	Ramnagar	Bareilly
9.	Small hillock called Katari Khera or Kottari Khera	Ramnagar	Bareilly
10.	Stupa mound	Ramnagar	Bareilly
11.	Two Buddhist mounds close to the Konwaru Tal	Ramnagar	Bareilly
12.	Begum's Masjid with three lofty domes	Aonla	Bareilly
13.	Site near Aonla railway station	Rehtioia	Bareilly

(Source: Consultant Analysis)





Map 16: ASI sites with buffer demarcation

(Source: Bhuvan Portal)



Map 17: Location of ASI Protected Structures in District of Bareilly



Image 53: Archival image of the site excavation activities (1940-1945)





Image 54: Archival image of Excavated Site (1940-1945)

(Source: Alexander Cunningham)

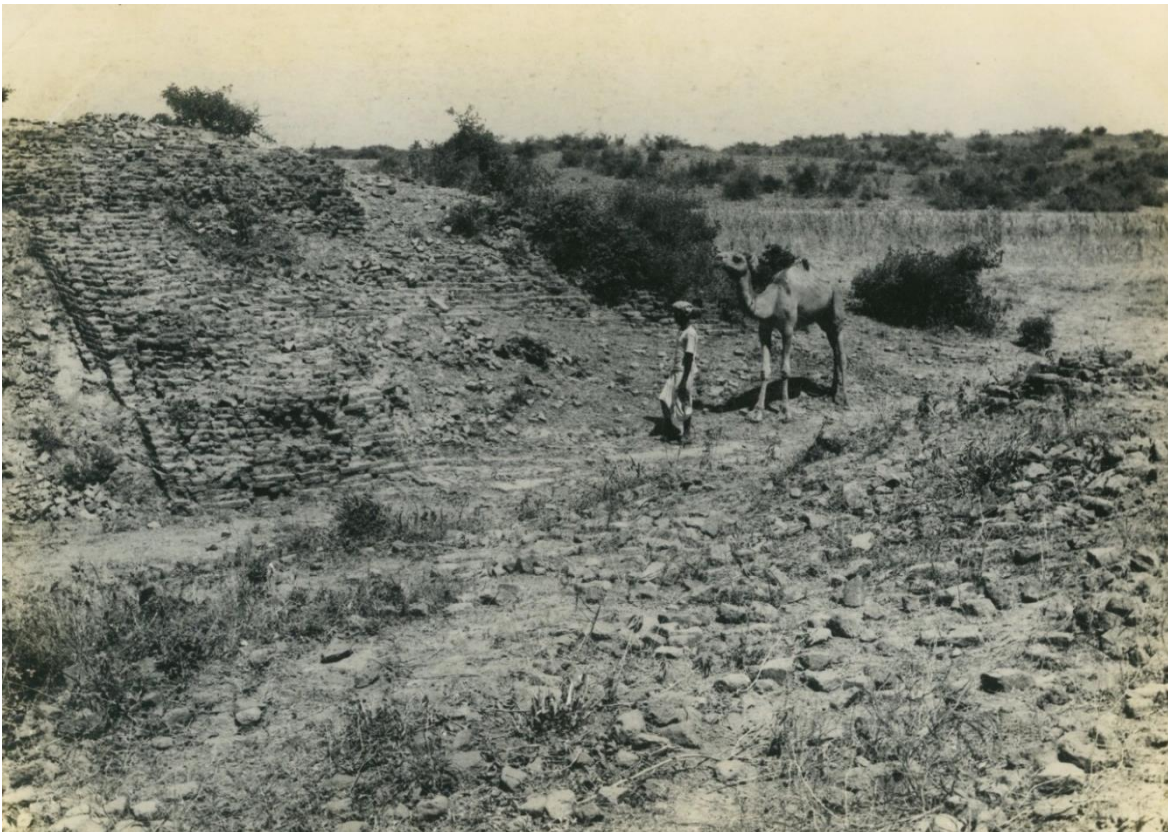


Image 55: Archival image of Excavated Site (1940-1945)

(Source: Alexander Cunningham)





Image 56: Archival image of Excavated Site (1940-1945)



Image 57: Archival image of Excavated Site (1940-1945)

(Source: Alexander Cunningham)

1.1.3.5. PROBLEM STATEMENT

The site is located at a distance of 55.4 km from Bareilly with poor tourism infrastructure and site interpretation facilities. It is also located in close proximity of a Jain Teetha which is highly visited by the pilgrims as well as the visitors. There are 7 ASI protected sites in Ramnagar and other unprotected sites including Jain Temples Shri Ahichchhatra Parshvanath Atishya Teerth Kshetra Digambar Jain Mandir, Ramnagar, Lakes and temples in Aonla, etc. which are not explored to its full potential due to lack of awareness, poor infrastructure facilities, lack of connectivity and improper visitor infrastructure facilities.



8.6.1.2 VALUE ADDITION OF THIS PROJECT TO THE TENTATIVE VISION

The provision of proper visitor amenities, support infrastructure facilities and improved last mile connectivity will enhance the tourist footfall to these sites. The site interpretation would help to generate interest of different categories of tourists.

8.6.1.3 OBJECTIVES

- To improve last mile connectivity from the nearby towns/cities such as Bareilly, Badaun and other nearby towns.
- Development of Site Interpretative Museum for creating awareness about site, and to develop outreach programmes.
- Site development and landscape improvement to provide visitor amenities such as food and beverage, toilet facilities, tourist information centre.

8.6.1.4 KEY ACTIVITIES, TASKS, INTERVENTIONS INVOLVED

- Identification of area for development of Museum
- Connectivity enhancement to the identified sites located in close proximity
- Site Development & Landscape Improvement
- Providing wayfinding and interpretative signage in and around the sites

8.6.1.5 STAKEHOLDERS LISTING

- Department of Tourism, Government of Uttar Pradesh
- Archaeological Survey of India
- Bareilly District Administration
- Gram Panchayat/Tehsil

8.6.1.6 NODAL AGENCIES

1. Archaeological Survey of India	For site development
2. Department of Tourism	For developing Tourism Infrastructure facilities

8.6.1.7 DATA NEEDS FOR THE PROJECTS

S.No.	Data	Status
1.	Visitors footfall in Ahichachhatra , Aonla, Bareilly	500 – 700 Daily (Average)
2.	Tourist Profile	No Records
3.	Average stay of Tourist	No Records

8.6.1.8 SWOT ANALYSIS**8.6.1.8.1 STRENGTH**

- Close proximity with Bareilly makes it an apt site to be developed as a destination for one/two day excursion
- Eight ASI protected sites are located in close proximity along with the Jain Temples which can be explored and be used for creating tourist interest
- Regional connectivity with Badaun
- The fort has potential to be designated as World Heritage Site, therefore site development with proper infrastructure facilities, site Museum with Interpretation



Center, last mile connectivity would enhance the future tourism prospects of the district

8.6.1.8.2 WEAKNESS

- Last mile connectivity
- Lack of awareness of other tourism attractions both built and natural heritage
- Lack of infrastructure facilities

8.6.1.8.3 OPPORTUNITY

- Ahichchhatra/ Ramnagar Fort is the most visited site in Bareilly
- Improved infrastructure facilities will help to increase the footfall
- Regional connectivity of Bareilly – Ramnagar and Badaun can be explored to develop a tourist circuit
- Site sensitive interventions would help to enhance the importance of the site

8.6.1.8.4 THREAT

- Any insensitive interventions in and around the site would be detrimental to the significance of the site.
- Any development around the archaeological areas is to be protected and conserved.



Chapter 9. ENVIRONMENT

9.1 Solar Energy

9.1.1 Project Background

As the electricity power tariff is very high (Rs. 8 – 17 per Unit) as compared to other states of India. It is very essential specially for the high-power consumers to install their own power plant. Solar energy is readily available that to free of cost. We Suggest & proposed use of Solar power. Through our vision we can suggest & focused on the particular segments & sector where we can use solar power thereby cost cutting in government revenue. One can generate required power for 25 years free of cost & will become self-sufficient.

9.1.2 Objectives.

To make clean, green & pollution free environment. Use of solar power at different potentials such as rooftop & ground mounted solar power plants, Agriculture solar pumps, Solar Street lights, Solar high mast & flood lights, solar water heaters, solar traffic signals & blinkers.

9.1.3 Scope of Work.

Identifying the projects & making pre-feasibility reports. Electrical load calculation, Availability of land & roof, mapping, designing with techno commercial advantages.

9.1.4 Approach & Methodology.

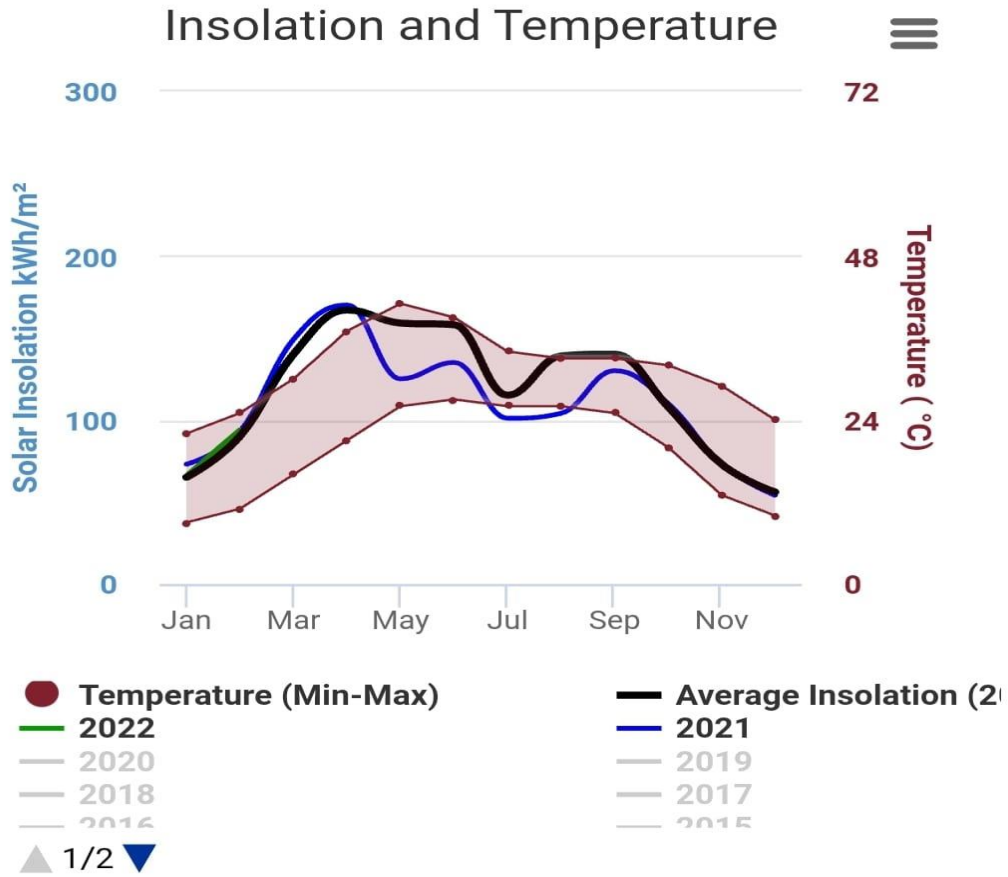
- Existing power consuming analysis, Electrical bill analysis.
- Daily / Monthly / Yearly Units consumed.
- Energy Forecast.
- Solar Plant size.

9.2 City Climate Analysis

Longitude / Latitude :	79.427345 / 28.379725
DayLength (Min / Max):	10.19 / 13.81 hours
Avg Temp. (Min / Max):	19.0 °C / 32.0 °C
Tilt Angle for Solar PV:	25° [Summer : 5°, Winter : 44°]
Annual Global Insolation:	1410 (kWh/m ² /year)
Power Production of PV:	282.0 kWh/m ² /year considering 20 % efficiency and energy loss.
	10 m ² of PV will generate 2820.0 units per year.
	or
	7.7 units per day.

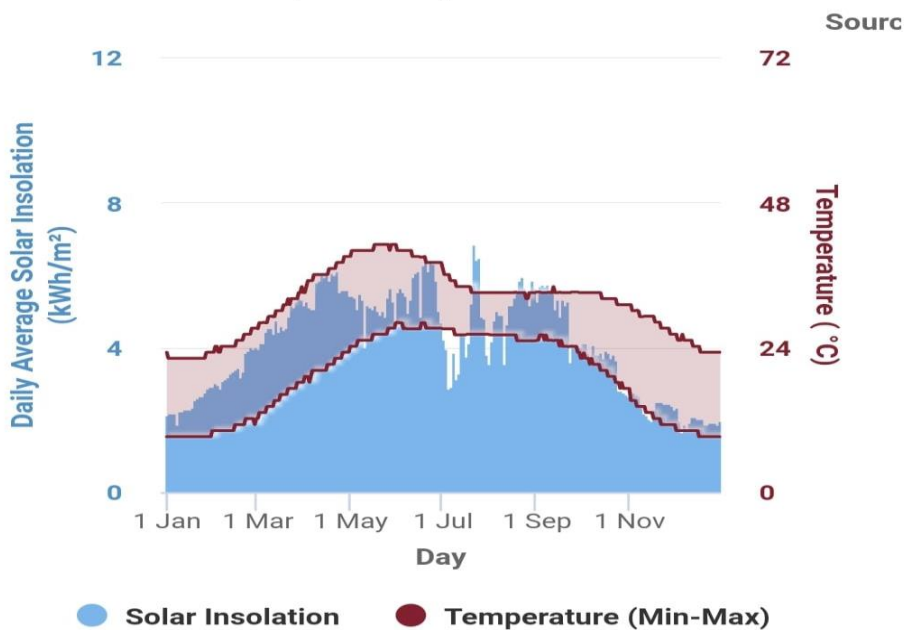


9.2.1 Isolation & Temperature.

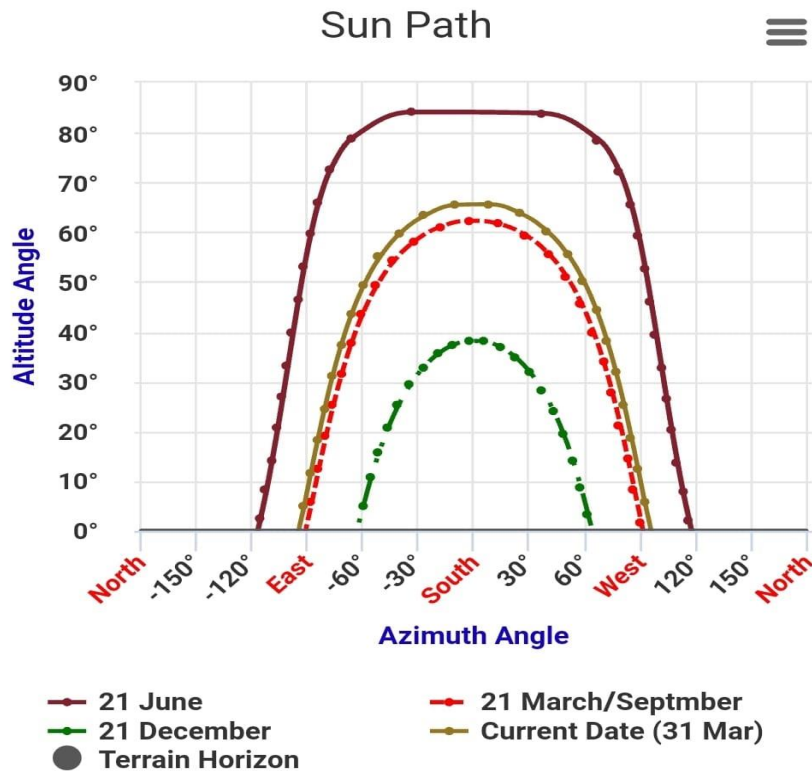


1.1.4. Daily Average Solar Isolation

Daily Average Solar Insolation (2014-17) & Temperature



1.1.5. Sun Path & Day length.



9.3 Environment

9.3.1 Pollution.

As solar is a clean energy, it emits zero emission hence zero pollution in atmosphere.

9.3.2 Energy generation.

Ample amount of sun light is available throughout the year, solar energy generation is about 4.6 KW / meter square (i.e. average 4.2 units per KW) energy can be generated.

9.3.3 Aesthetic View

As single cable runs from panel string (Array) to inverter that to in PVC conduct. Doesn't affect Aesthetic view. Unwired Solar Street lights, High Mast & Traffic signals improves beauty of city.

9.3.4 Observation on Past Installation.

Visits, Study, survey, technical inspection reveals that the existing solar plants, solar trees at various places are not functioning / performing as per specification, some plants are almost in dead condition.

This is due to zero maintenance of solar plants.

Madhyanchal Vidhyut Vitran is divided in 4 divisions.

THESE KHAND SUPPLY TOTAL POWER OF 4834 KW TO GOVERNMENT

TOTAL CONSUMPTION OF HYDEL IS 155750 KW.

POWER SUPPLY TO GOVERNMENT BODIES:

Division	Power Consumption
Urban Vidhyut Nagari Vitran Khand Pratham.	765 KW (TOTAL LOAD 155750 KW)
Khand No.2	1389 KW



Khand No. 3	1344 KW
Khand No. 4	1336 KW
TOTAL POWER CONSUMPTION	4834 KW

SECTOR WISE POWER CONSUMPTION

DEPARTMENT	KW
Jalkal	12068
Police Stations & Colonies	14091
Swastha Vibhag (Public Health & Hospitals)	916
Zilla Prashashan	400
PWD	134
Irrigation	100
Sales Tax Office	460
Schools & Collages	845
Total Consumption	29014

NAGAR NIGAM POWER CONSUMPTION

Division 1	900 KW
Division 2	296 KW
Division 3	308 KW
Division 4	360 KW
Gramin	33 KW
Total Consumption	1897 KW

LOAD DISTRIBUTION: NAGAR NIGAM.

Items	Nos	Bill / KW
Street Lights	45000	Rs. 4200 / KW + 20% Electric Charges of Tariff
High Mast	19	5 KW Each
Buildings & Gardens	7	344 KW

DEMAND ASSESSMENT OF PROJECTS & UPGRADATION OF EXISTING SOLAR PLANTS

SITE	PLANT SIZE IN KW	STATUS	UPDATION
Sales Tax Office	18	Need Maintenance	10 KW
SSP Office	25	Need Maintenance	NIL
Commissioner Office	23	Need Maintenance	10 KW
Irrigation	5		10 KW
Hydel Chief Engineer	12		10 KW
Commissioner Advocate Office	12	System Not Working	Need Maintenance
Employment Exchange	9	Need Maintenance	NIL
Irrigation Flood Dept	5		10 KW
PWD CE Office	20	Maintenance & Cleaning of Panels	NIL
PWD Guest House	5		
Guard Quartet & Admin Building	18		25
Sabhagaar & Control Room	19		25
Police Modern School	20		25
TB Hospital	9		10
Nagar Nigam	25	Need Maintenance	10
District Hospital	28		100
Mental Hospital	18		40
SSP Office	25		20



Nagar Nigam	25		100
New Sola Trees		Existing Plants are not working	10

NEW PROPOSED SOLAR PLANTS

Street Light	Ward / Zone Wise	3 Megawatt
High Mast	Solar System on Poles	100 KW
Post Office Building	Solar Roof Tops	150 KW
Police Stations	Solar Roof Tops	200 KW
Government Schools	Solar Roof Tops & Solar Tree	800 KW
Government Collages	Solar Roof Tops & Solar Tree	1 MW
Hospitals	Solar Roof Top & Solar Tree	1 MW
Solar Street Lights	Gardens, Government Premises, Schools Collages, City Streets, Bus Stops, Public Utilities,	5000 Nos
Solar High Mast	Streets of City, Railway Station, Gardens	15 Nos
Hotels	City	3 Mw
Industries		10 MW
Ram Ganga River Front, Canals & Nullhas	Floating Solar Plant / Banks	5 MW
District Education Inspector	Solar Plant & Tree	50 KW
Traffic Signals	Automizes Smart Solar Traffic Signals	25 Nos
BSNL	Solar Roof Top	70 KW
Banks	Solar Roof Tops	2 MW
Private Hospitals	Solar Roof Tops	3 – 5 MW
Urban Cooperative Bank	Solar Rooftop	50 KW
Officers Bungalows	Solar Rooftops	500 KW
Jalkal	Solar Agriculture Pumps	55 Nos
Irrigation	Solar Agriculture Pumps	15 Nos
Public Gardens	Solar Street Lights, Solar Tree & Solar Garden Light	150
Solar EV Charging Stations	3 & 5 KW For Two & Four Wheeler EV Charging	10

9.3.5 SWOT ANALYSIS

STRENGTH:

The Climatic conditions are very much favorable to generate electricity from solar.

WEAKNESS:

Solar Panels need to be cleaned / wash regularly for 100% power generation, but all the plants in city have dust on panels the reason why these plants are not working.

OPPORTUNITY

This is one time investment the ROI calculated is 3-4 years. 25 Years of free & clean energy.

THREATS

Almost nil.



2. ANNEXURES

2.1. Annexure - Data received from DIC Bareilly

जनपद-बरेली के प्रमुख उद्योग						
क्र.सं.	इकाई का नाम व पता	इकाई स्वामी का नाम	मोबाईल नं०	उत्पाद का नाम	कुल पूंजी निवेश लाख में	सृजित रोजगार
1	मै० द्वारिकाेश शुगर फॅक्ट्री फरीदपुर, बरेली	श्री आर के गुप्ता	9412713921	गार्ड क्विन्टल शुगर	40000.00	538
2	मै० युनायन बेबरेंज लि०, परसाखेड़ा, बरेली	श्री अम्बीश शर्मा	9890013537	खाद्य पे पदार्थ	23358.00	460
3	मै० किसान सप्लायर पीपी मिल्स, सेमीखेड़ा, बरेली	श्री राकेश मोहन	9890019400	पीपी	15077.00	485
4	मै० ओसवाल ओवरसीज लि०, औरंगाबाद सेथल, नवादायन, बरेली	श्री बी एन मिश्रा	9997511555	पीपी	15000.00	410
5	मै० केंसर इण्टरप्राइजेज बहेड़ी, बरेली	श्री शरद मिश्रा	9837052433	शुगर	11208.00	650
6	मै० डी०ए०ए० शुगर मीरयुंज, बरेली	श्री ए०के० दीक्षित	9837534440	शुगर	10900.00	469
7	मै० सुपीरियर इंडस्ट्रीज लिमिटेड सी बी गंज बरेली	श्री अमित माहेश्वरी	9359901598	एल्कोहल	9000.00	109
8	मै० इण्डियन फार्मर फर्टिलाइजर कम्पनी प्रा० लि०, बरेली	श्री प्रदीप	9412345462	अमोनिया यूरिया	7605.00	871
9	डोटल वर्क इन रेडिशन ब्लू, ग्राम मुडिया अहनदनगर, पीलीभीत रोड, बरेली	श्री मंगलाब सिद्धकी	9892300085 NAPS	डोटल	5000.00	125
10	मै० रामरथाना पंपल लि०, रजक परसपुर, बरेली	श्री दिनेश गोयल	9837001815	पोस्टर पेपर	4767.00	135
11	मै० बी०ए०ए० आर्ग्युलेंट लि०, परसाखेड़ा, बरेली	श्री घनश्याम खण्डेलवाल	9837027302	ब्लेन्डेड डेडबिल आर्ग्युलेंट	4600.00	1250
12	मै० मारिया फौज एगो फूड्स प्रा० लि०, मोहनपुर ठिरिया नकटिया, बरेली	श्री राकील कुरेशी	9839585000	फौज बॉकलॉ मीट	3400.00	248
13	मै० केंसर इण्टरप्राइजेज (डिस्ट्रीब्यूटिव) बरेली	श्री शरद मिश्रा	9837052433	ईथल एल्कोहल	3300.00	150
14	मै० प्रियारा इन्फ्रास्ट्रक्चर प्रा० लि०, ग्राम-नवादायन, फरीदपुर, बरेली			जनरेशन ऑफ सोलर एनर्जी	3100.00	45
15	मै० एन०पी० एगो इण्डिया इण्डस्ट्रीज लि०, सिसईया मगनपुर, फरीदपुर, बरेली (एक्सपेंशन)	श्री संदीप झावर	9756782000	टरप्लान, फोब्रिक, मास्टर ग्रेड, बीओपीपी लेमीनेशन फिल्ट	2500.00	150
16	मै० कॅम्पर एण्ड एलाईड प्रोडक्ट लि० सी०बी०गंज, बरेली	श्री जयवर्षि पाठक	9997267788	कॅम्पर एण्ड अदर कॅमीकल्स	1575.00	228

17	मै० नेमानी पनल प्रा० लि०, पी-27 रोड नं० 4, जी० रो० परसाखेड़ा, बरेली	श्री प्रियम गुप्ता नैनजर	8218998434	प्लाईवुड	1500.00	50
18	मै० कुनाल विनियर, गाटा लो 95 ग्रा० पोमी रोड फरीदपुर, बरेली	श्री रविश अग्रवाल	9837759887	शटरिंग प्लाई	1000.00	250
19	कावेरी अक्वा प्रा० लि० परसाखेड़ा बरेली	श्री अम्बीश शर्मा	9890013537	खाद्य पे पदार्थ	942.00	78
20	मै० यादवील प्रा० लि०, परसाखेड़ा, बरेली	श्री देवाशु गोंधी	9897898855	आईसकीम	868.00	161
21	मै० कनकान इंड्रीज लि० आंगांगिक आस्थान सी०बी०गंज, बरेली	श्री राजीव अग्रवाल	9837180881	एसिम्पल ऑयल एवं मेन्थल	850.00	35
22	मै० अशांका फोन मट्टी प्लांट लि०, फरीदपुर, बरेली	श्री उदित गोयल	9720029000	ऑल प्लास्टिक प्रोडक्ट	804.00	64
23	मै० गीन फ्लोर एगो फा- विपुलिया नैनीताल रोड, बहेड़ी, बरेली	मै० शादबाज एण्ड मंगू हसन	9917318140	कॉल्ड स्टोरेज	600.00	25
24	मै० धर्मराज काल्ड स्टोरेज एण्ड एलाईड, बरायू रोड, बरेली	श्री वरुण मोर्च	9759232230	कॉल्ड स्टोरेज	500.00	50
25	मै० अनालक इण्डस्ट्रीज, नवादायन शाहजहावर रोड, फरीदपुर, बरेली	श्री गुरुवीर सिंह	7252880000	प्लास्टिक प्लाईवुड काईट बोर्ड	500.00	40
26	मै० प्रिन्सिपल मिल्स फूड्स प्रा० लि०, ग्राम अजयपुर, फरीदपुर, बरेली	श्री सोम अग्रवाल		मिल्क प्रोसेसिंग, मिल्क पाउडर, ची	484.00	15
27	मै० फ्रायर ट्रेडर्स, कार्मिटेन्ट इण्डस्ट्रीज मार्क, फरीदपुर, बरेली	श्री संजय झावर	9368052734 9111122699	बेन्स, स्मॉल गारमेन्ट्स/युनिफार्म	400.00	100
28	मै० गड्डू प्लाईवुड इण्डस्ट्रीज, फरीदपुर, बरेली	श्री संजय झावर	9368052734	प्लाईवुड	400.00	100
29	मै० एगमेटिक एण्ड एलाईड कॅमीकल्स आंगांगिक आस्थान, सी०बी०गंज, बरेली	श्री गायक मित्तल	9412290048	एसिम्पल ऑयल	350.00	20
30	मै० अशांका पॉलीमिनेटर्स लि०, फरीदपुर, बरेली	श्री नीरज अग्रवाल	9720018000	टैपोलाईन लेमिनेटिड फोब्रिक ग्रेट्टेज ग्रेग	300.00	4
31	मै० पीडी फूड्स, आ०आ०, भाजीपुरा, बरेली	श्री अजय शुक्ला	9412290023	नमकीन बेकरी प्रोडक्ट	300.00	40
32	मै० खण्डेलवाल इंडविल ऑयल प्रा० लि०, बरेली	श्री दिलीप खण्डेलवाल	9837030977	इंडविल ऑयल	300.00	500
	मै० वरुण मटल आंगांगिक आस्थान, सी०बी०गंज, बरेली	श्री आकाश अरोरा	9412736490	रडीमेड गारमेन्ट्स	296.00	17

appurtenancesup.india.org/ MAPS 827950691: श्री पण अगार (3)

34	श्री टिमको औद्योगिक आस्थान, सी0बी0गंज, बरेली	श्री संजय शर्मा	9927072720 941289430	एपीकल्वर इन्वेलोपमेंट	287.00	15
35	श्री अयोतो फर्नीचर टाउस नं0 सिकतापुर, बरेली	श्री गोरव गर्ग	9412189333	स्टील बुडेन फर्नीचर	286.00	8
38	श्री जी एनजैटिक बायोफ्यूल प्रा0 लि0, युजाटांडा, बरेली	श्रीमती रंजना सिंठ पत्नी श्री दिनेश सिंठ	8171885555	बायोडीजल, बायो एथेनाल	270.00	15
37	श्री गौरव इन्जैन इंडिया प्राइवेट लिमिटेड सी बी गंज औद्योगिक आस्थान	श्री तनुज भसीन	9359100843	इलेक्ट्रिक वायर पैनल बोर्ड	267.00	130
38	श्री मनी उगांग, कल्का रिछा, बरेली	श्री जटागीर अंसारी	9411425807	राईस, राईस ब्रान, ट्रस्क	265.00	20
39	श्री एलवेंडो कीड प्रोडक्ट प्रा0 लि0, ग्राम गोसगंज, फरीदपुर, बरेली	श्री अशोक अग्रवाल	9837574155 Romy N-	आटा, मैदा, सूजी	265.00	17
40	श्री इण्डियन बुड प्रोडक्ट, इज्जतनगर, बरेली	श्री कं0कं0 ध्यानी	9359102444	कल्का	261.00	345
41	श्री वस्त्रा महल सी बी गंज औद्योगिक आस्थान	श्री आकाश अरोरा	9412736490	रेडीमेड गारमेंट्स	260.00	30
42	श्री आरिप्युल फर्नीचर टाउस नं0 सिकतापुर, बरेली	श्री नीरव अग्रवाल	9837074875	स्टील बुडेन फर्नीचर	258.00	10
43	श्री अटूकवाग डेपरी कार्म, गजनेरा, फरीदपुर, बरेली	श्रीमती खुरश खण्डेलवाल, प्रतिनिधि	9897805801	डेपरी प्रोडक्ट	257.00	10
44	श्री अमर इण्डस्ट्रीज सी0बी0गंज, बरेली	श्री विलोचन सिंठ	9837350091	ट्रान्समीशन टूल्स	256.00	10
45	श्री आरिप्युल स्टील वर्क, नं0 सिकतापुर, बरेली	श्री सोहन गर्ग	9412292291	स्टील बुडेन फर्नीचर	254.00	15
48	श्री मारिया काल्ड स्टोरज एण्ड आईस, नियर घोयान बकमरिया फरीदपुर, बरेली	श्री तादिर	9719217890	कोल्ड स्टोरज, आईस बर्फ	253.00	15
47	श्री हिमको सी बी गंज औद्योगिक आस्थान	श्री संजय शर्मा	927072720	सिल्ली	253.00	18
48	श्री एलवेंडो कीड प्रोडक्ट प्रा0 लि0, फरीदपुर, बरेली	श्री अशाक अग्रवाल	9837572155	कुषि यन्त	251.00	17
49	श्री कबीर राईस इण्डस्ट्रीज, ग्राम-दमखोदा रिछा, बरेली	श्री हसीन अहमद, श्रीमती मुनब्वर जटा	9758722548	आटा, मैदा, सूजी राईस	250.00	40
50	श्री किसान कोल्ड स्टोरज एण्ड आईस फौवट्री, बुखारा रोड, धरमपुर, फरीदपुर, बरेली	श्री संजीव सिंठ	9045810912	बर्फ सिल्ली, आलू संरक्षण	250.00	100

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51	श्री राजश्री गेलर फ्लोर मिल प्रा0 लि0, फरीदपुर, बरेली	श्री टिमशु गायल	9758802702	आटा, मैदा, सूजी	250.00	19
52	श्री अंशु एण्ड फूड्स इण्डिया प्रा0 लि0, बटंडी, बरेली	श्री आशीष गायल	9837008895	अंशु	248.00	15
53	श्री अमर एलम एण्ड एलाईड कमीकल्स प्रा0 लि0, फरीदपुर, बरेली	श्री नंदलाल गर्ग	9359102150	फरिक एलम एण्ड सालिट लिवियड	242.00	15
54	श्री एम आर इंस्ट्री सी बी गंज औद्योगिक आस्थान	श्रीमती नाजमा परवीन	9399939971	बैटरी निर्माण	241.00	15
55	श्री ओ0पी0 एग्री अंशु एलम प्रा0 लि0, बजादपुर रोड गाटा नं0 93 नं0 रजउपरसुपर फरीदपुर, बरेली	श्री विपुल अग्रवाल	9389297314	इंडेविल अंशु	231.00	30
56	श्री हरनान दात फूड प्रोडक्ट प्रा0 लि0, 44 रयामगंज, बरेली	श्री शास्वत अग्रवाल	9834583188	बेकरी प्रोडक्ट	231.00	12
57	श्री कॉन्सुमर काप केयर, नगरिया केंसपुर के पास, बरेली	श्री विनीत कुमार	9458489578	सूहन पोषक तत्व	230.00	7
58	श्री शास्त्री इण्डस्ट्रीज प्रा0 लि0, प्लाट नं0 944 गंज एण्ड पं0 उडला जागीर, गियरी, बरेली	श्री दीपांशु अग्रवाल	8398857770	माडुलर फर्नीचर	215.00	10
59	श्री ए0आ0जे0 राईस मिल, मुडिया टाकिज, घांसा टाण्डा, बरेली	श्री सुपेल	8447485517	राईस	214.00	80
60	श्री लसोल फ्रॉसेस सी बी गंज औद्योगिक आस्थान	श्री गौरव मित्तल	9412290048	सेन्ट सोप	169.00	18
61	श्री एरोमेटिक एंड अलाइड केमिकल सी बी गंज औद्योगिक आस्थान	श्री गौरव मित्तल	9412290048	परफूम मैथा क्रिस्टल	167.00	84
62	श्री घरदान प्रिन्टिंग एण्ड एलाईड इण्डस्ट्रीज, ओ0आ0 सी0बी0गंज, बरेली	श्री पवन अरोरा	9780878887	पेपर प्रिन्टिंग	164.00	9
63	श्री श्री रघुनन्दन दाल इण्ड, अंधरपुरा, फरीदपुरा, बरेली	श्री अनुज अग्रवाल	9917088555	दाल	153.00	10
64	श्री स्टार एग्री इण्डस्ट्रीज, रजउ इण्डो पार्क, बरेली	श्री कदीर मियां	9837023138 9780875548	त्रिपाल	149.00	25
	श्री बरेली प्लाईवोर्ड प्रा0 लि0 इण्डस्ट्रीज एल-16 से एल-74 ओ0आ0 परसाखंडा, बरेली	श्री रविकान्त	9557793811	प्लाईवोर्ड, फ्लेशवोर्ड कोर विनियर ब्लेकवोर्ड	146.00	37

Monday को कारागरो गेलो जी
Monday को गेलो मं कारागरो
बैटरी निर्माण 93/93997/9
अभी कर रहे हैं (हो गरी है)
जारी है Monday को गेलो जी अगरी
बाहर है गेलो जी गेलो जी आ गरी जी गेलो जी अगरी



TAN/PAN GST NAPS पोर्टल 8279506591

66	रोहित इंडस्ट्रीज सी बी गंज औद्योगिक आस्थान	रोहित भाटिआ	9359121314	इजीनरिंग वर्कशॉप	143.00	4	
67	श्री कम्पर्ट इन, सेंटैलाईट कं पास, गुप्ता कार बाजार कं पास, बरेली	श्री सरोज कुमार मौर्य	9412401558	टोटल	142.00	50	
68	श्री आनन्द फुड्स प्रोडक्ट्स, 842 गोपालपुर नगरिया, बरेली	श्री जतिन आनन्द	9837508567	अचार	142.00	10	
69	श्री अशोक पीपू फोम लि, फरीदपुर, बरेली	श्री पंकज गोयल	9720024000	पालीमर्त फलेवसिबिल रिजिड कार फोम	138.00	36	
70	विकास फाउंड्री सी बी गंज औद्योगिक आस्थान	श्री विकास शर्मा	9411087999	फाउंड्री वर्क	136.00	8	
71	श्री शिव सागर बुड प्रो लि, औद्योगिक आस्थान, परसाखंडा, बरेली	श्री राजीव कुमार गोयल	9837087667	प्लाईवुड ब्लेक बोर्ड	134.00	39	
72	श्री एम्.एम्. इण्टरप्राइजेज, कम्पौटेन्ट इण्डो पार्क, फरीदपुर रोड, बरेली	श्री अजय शर्मा	8958455028	रस्क	134.00	15	
73	श्री शंकर राईस मिल, फरीदपुर, बरेली	श्री वीरेंद्र प्रकाश	9837005440	राइस मिल	134.00	40	
74	श्री युनाईटेड एग्रो. प्लाट नं 08 कम्पौटेन्ट इण्डस्ट्रियल पार्क, फरीदपुर रोड, बरेली	श्री अनुप अग्रवाल	8934099999	जैविक खाद, माइक्रो ब्यूटीफिन्ट	133.00	10	
75	श्री एम्.आर. इण्डस्ट्रीज, औद्योगिक आस्थान, सीबीगंज, बरेली	श्रीमती नजमा परवीन	9319399719	ब्रेडी उगोमा	126.00	8	
76	श्री आर.आर. फुड्स प्रोडक्ट अंशुआ सीबीगंज, बरेली	श्री राकेश अग्रवाल	9780353359	रस्क बनाना	123.00	8	
77	श्री अमर नागयन इण्डस्ट्रीज लि, फरीदपुर, बरेली	श्री विनोद कुमार गर्ग	9359114801	एलम एण्ड मिनरल साल्ट	121.00	8	
78	श्री राधे स्वीट्स, टरुनगला रोड, बरेली	श्री सधिन गुप्ता	8909328272	स्वीट्स शोरूम	119.00	5	
79	श्री गोयल कोयल फार्म प्रो लि, फरीदपुर, बरेली	श्री नीरज गोयल	9720040000	रबड्राइज कोयल फार्म कुरान घेयर शीट	118.00	30	
80	श्री तरुण एलम प्रो लि, फरीदपुर, बरेली	श्री कुलजीत सिंह	9359113539	फेरिक एलम, नान फेरिक एलम, अमारिया एलम	113.00	22	
81	श्री नाथ केमिकल्स इंडस्ट्रीज सी बी गंज औद्योगिक आस्थान	श्री पंकज सूरी	9897755550	डिफॉर्मर आयल पोस्टिंग गम	112.00	6	

81	श्री महावीर बुड काफ्ट स-10 औद्योगिक आस्थान, परसाखंडा, बरेली	श्री अशोक कुमार गोयल	9837067424	प्लाईवुड ब्लेक बोर्ड विनियर	109.00	27	
82	श्री बी एसोसिएट्स सी बी गंज औद्योगिक आस्थान	श्री जगजीत सिंह	8959003897	जनरल इन्जिनर्स	105.00	34	
84	श्री तेजस फुड प्रो लि, 37 इण्डस्ट्रियल एरिया परसाखंडा, बरेली	श्री अमित अग्रवाल	9837074858	ब्रेड	104.00	43	
85	श्री रिलायबल कियेशन्स ग्राम-बन्धरी, बीसलपुर रोड, बरेली	श्रीमती रोली, गर्ग	9412292291	युडेन फर्नीचर	68.00	15	
86	श्री ओ सुपर बेटरी सी बी गंज औद्योगिक आस्थान	श्री ओ इकरार	9319399719	बेटरी निर्वाण	67.00	6	
87	श्री सुपर बेटरी सी बी गंज औद्योगिक आस्थान	श्री ओ इकरार	9319399719	बेटरी निर्वाण	64.00	5	
88	श्री वेस्ट ब्रिक इण्डस्ट्रीज, उदयपुर जसस्थपुर, बिथरीधेनपुर, बरेली	श्री मतीन टसन खॉ	9719992001	ईट भट्टा	63.00	100	
89	श्री बालाजी एल्मोनियम इण्डस्ट्रीज, कंसरपुर, बरेली	श्री हरिजोम अग्रवाल	8128808299	एल्मोनियम पार्ट्स	58.00	8	
90	श्री ए.ए. इण्टरप्राइजेज, ग्राम- परेड़ा, धाना कौटगज पूर्वी, बरेली	श्री अतार अली	7455939781	आटा, तेल, मसाले	57.00	20	
91	श्री शांति बिजस, मिलक रोड़ी, बरेली	श्री राफी	9758471784	ईट 9758297583	56.00	200	
92	श्री बालाजी पेट इण्डस्ट्रीज, एफ-34 औद्योगिक आस्थान, परसाखंडा, बरेली	श्री पंकज अग्रवाल	9837095230	पेट बॉटल एण्ड जार	48.00	9	
93	श्री कंसर इण्डस्ट्रीज, इण्डस्ट्रियल पार्क, फरीदपुर, बरेली	श्री विकास अग्रवाल	8830303532	डिटर्जन्ट पाउडर	47.00	12	
94	श्री एम्.आर.एम्.आर. आईएमरस प्रिन्ट-2 ग्राम-रम्पुरा माफी, मार्जीपुरा, बरेली	श्री आदित्यमूर्ति	9412293356	मेडिकल सर्विस	46.00	9	
95	श्री आर.आर. इण्डस्ट्रीज, डी-2 औद्योगिक आस्थान, परसाखंडा, बरेली	श्री ईशान मनघन्डा		साईस, साईसब्रान एण्ड टस्क	44.00	14	
96	श्री जयमाता स्वीट्स डी-7 औद्योगिक आस्थान, परसाखंडा, बरेली	श्री राजकुमार मटलानी	9412293151	कन्फेक्शनरी स्वीट्स	42.00	9	
	श्री खास इण्टरनेशनल, टाफिजगंज, बरेली	श्री माओ टवीच वारसी	6397522106	बायो मार्स्क वोल	39.50	6	



132	मै० एन०पी० एम० इण्डस्ट्रीज लि० मिन औद्योगिक आस्थान, फरीदपुर, बरेली	श्री संदीप झावर	958782000	एचडीपी बेग बनाना	26.00	150
133	जी वि इंजिनियरिंग वर्क्स सी बी गंज औद्योगिक आस्थान	ग्यास बेग	8077528030	इंजिनियरिंग वर्क्स	26.00	11
134	मै० युनियन राईस मिल, जटानाबाद रोड, रिछा, बरेली	श्री जगदल टलीब	9412359140	राइस, राईसब्रान एण्ड टस्क	25.00	10
135	मै० राजधानी राईस मिल डाडी टनीर, रिछा, बरेली	श्री खलील अटमद	9927877748	राइस, राईसब्रान एण्ड टस्क	25.00	7
136	कृष्णा इंजीनियरिंग वर्क्स सी बी गंज औद्योगिक आस्थान	श्री के के शर्मा	9411272228	जनरल इंजिनरीस	25.00	4
137	मै० सगीर इण्टरप्राइजेज डाडी टनीर रिछा बटेंडी, बरेली	श्री जुबेर अटमद	9412401175	राइस, राईसब्रान एण्ड टस्क	24.00	8
138	मै० प्रकाश बिस्किट डी-32 औद्योगिक आस्थान, परसाखंडा, बरेली	श्री संताराम दास	963707128	बिस्किट	29.00	13
139	मै० मटालकनी पल्प्स परसा खंडा बरेली।	श्री अकित माटेरवरी	8899788880	दालें	64.00	6
140	मै० वी०के० इण्डस्ट्रीज परसा खंडा बरेली।	श्री विनीत सवसना	9697808672	बेकरी प्रोडक्ट्स	27.00	7
141	मै० ए०पी०ए० इण्टरप्राइजेज, परसा खंडा बरेली।	श्री गोतम कृपलानी	9897882346	सोया पफ एण्ड ननकीन	45.00	16
142	मै० जय कमीकल्स परसा खंडा बरेली।	श्री सन्तोष कुमार	9837041772	मेग्नेशियम सल्फेट	34.15	12
143	मै० श्री मटालक प्लास्टिक्स ग्राम रजक परसपुर बरेली।	श्री सजल	9045534535	प्लास्टिक प्रोडक्ट्स	27.00	5
144	मै० जे०के० इण्डस्ट्रीज परसा खंडा बरेली।	श्री शिव कपूर	7830455555	वायर नेल्स	26.00	10
145	मै० फाइजर फूड्स परसा खंडा बरेली।	श्री सधिन अग्रवाल	9319928385	बेकरी प्रोडक्ट्स	24.00	5
146	मै० टायड एण्ड सुथीर एरिजम फरीदपुर बरेली।	श्री अभिनव गुप्ता	9899898382	जरी प्रोडक्ट्स	900.00	45
147	मै० मार्टन पाली पैक इण्डस्ट्रीज परसा खंडा बरेली।	श्री टर्प खण्डेलवाल	9837030174	पैकेजिंग मेटेरियल	75.00	25
148	मै० खण्डेलवाल इडिबिल आयल फरीदपुर बरेली।	श्री दिलीप खण्डेलवाल	9837030997	इडिबिल आयल	735.00	725
149	मै० टाइगर पेन्सिल, परसा खंडा बरेली।	श्री धरन कवंल	9837082589	पेन्सिल	110.00	18
150	मै० इण्डस अजन्ता प्रा० लि० डाटारा रोड बरेली	श्री अमित	9719019129	मिठाई	900.00	60

151	मै० सरला एण्ड आयल्स परसा खंडा बरेली।	श्री सधिन	9837528888	इडिबिल आयल	45.00	16
152	मै० मटालकनी कमीकल्स सी०पी०गंज बरेली।	श्री अनिल अग्रवाल	9837009701	सल्फर	115.00	14
153	मै० श्री श्याम जी इलेक्ट्रोटेक भांजीपुरा बरेली।	श्री मुनीरा गर्ग	9412781377	इलेक्ट्रिक प्रोडक्ट्स	40.00	9
154	मै० अषार इण्टरप्राइजेज, परसा खंडा बरेली	श्री सुमित अग्रवाल	9837177228	कचरी	26.00	8
155	मै० वेंल्यूमेंट पैक एण्ड प्रिन्ट ग्राम रजक परसपुर बरेली।	श्री दिनेश गोयल	98370001815 9690555333	पैकेजिंग मेटेरियल	805.00	52
156	मै० मटालकनी इण्डस्ट्रीज परसा खंडा बरेली।	श्री संजीव कुमार	9897823776	प्लॉई बोर्ड	54.00	136
157	मै० गनपति सोया फूड्स परसा खंडा बरेली।	श्री पीपूय	9927041468	सोया बड़ी	32.00	12
158	मै० विनाय सांघ फेडरी वान खाना बरेली।	श्री विनोद घोषर	9837042111	साबुन सोडा	28.00	13
159	मै० घोषर ट्रेड लिमिटेड प्रा० लि० रामपुर रोड बरेली।	श्री अभिषेक घोषर	9927500999	ट्रान्सपोर्ट	500.00	66
160	मै० भगवती पेट इण्डिया लिमिटेड मेगी नगला बरेली।	श्री राजेश मेटरोया	9897034241	पेट बॉटल	486.00	22
161	मै० रवालिटी विनियर बटेंडी बरेली।	श्री विकास नांग	9834700002	प्लॉइबुड	80.00	70
162	मै० सी०एन०एन० ग्राफिकल्स परसा खंडा बरेली।	श्री अनिताम नलिक	9927073318	प्रिन्टिंग	70.00	40
163	मै० जाधपुर एमरी स्त्रॉन परसा खंडा बरेली।	श्री हरनाम सिट	9997578779	पत्थर कार्य	27.00	8
164	मै० शकुन्तला इण्डस्ट्रीज भांजीपुरा बरेली।	श्री अजय शुक्ला	9412290023	पैकेजिंग	40.00	8
165	मै० नीलम विनियर सेतुपर खजुरिया बरेली।	श्रीमती वीना नीमानी	9897590001	प्लॉइबुड	36.00	22
68	मै० अमन नारायण इण्डस्ट्रीज ग्राम रजक परसपुर बरेली।	श्री विकास गर्ग	9927074753	फिटकरी	43.00	160
67	मै० बिस्मिल्लाह टिन्चर्स बाई पास रोड बटेंडी	श्रीमती निगट परवीन	9412565813	फर्नीचर	54.00	16
68	मै० लता पीलीपैक प्रा० लि० ग्राम इदयपुर फरीदपुर बरेली।	श्री दीपेन्द्र गुप्ता	9412527834	पैकेजिंग मेटेरियल	73.00	35
39	मै० श्री टिन्चर ट्रेडर्स सम्राट सिनेमा बटेंडी	श्री अलीम अटमद	9027482850	फर्नीचर	27.00	10
76	मै० रेनी इन्टर प्राइजेज ग्राम रजक परसपुर बरेली।	श्री अशोक कुमार	9997827815	प्लॉइबुड	145.00	40
77	मै० अमर एलम एण्ड एलाइड प्रा० लि० ग्राम रजक परसपुर बरेली।	श्री नन्द लाल गर्ग	9359102150	फिटकरी		35
78	मै० आर०के० इण्डस्ट्रीज स्वाले नगर बरेली	श्री प्रनीत घडडा	7088955555	ट्रान्सफार्मर	119.00	50