

YEIDA Draft Master Plan 2041



TABLE OF CONTENTS

SECTION – 1: INTRODUCTION AND EXISTING ANALYSIS	x
1 Background	11
1.1 Objectives of the Plan	12
1.2 Methodology.....	13
1.3 Limitations & Assumptions	13
2 Introduction to the Site Area.....	14
2.1 Location.....	14
2.2 Connectivity	15
2.2.1 Road Connectivity	15
2.2.2 Rail Connectivity.....	18
2.2.3 Air Connectivity.....	18
3 Planning Proposals Influencing YEIDA.....	20
3.1 National Capital Region Plan- Draft—2041.....	20
3.1.1 YIEDA in context of NCR Planning Zones:	21
3.1.2 YIEDA in NCR Settlement Hierarchy.....	21
3.2 UP Sub Regional Plan 2021	21
3.3 Planning History of YEIDA	22
3.3.1 City Level Zonal Development Plan.....	22
3.3.2 Master Plan 2021	23
3.3.3 Master Plan 2031	23
3.3.4 Current Status of Development so far	24
4 Demography and Settlement Analysis	26
4.1 Population Size and Distribution.....	26
4.2 Population Growth Rate	26
4.2.1 Population Density.....	27
4.2.2 Urbanization Level	28
4.3 Population Characteristics	29
4.3.1 Literacy rate	29
4.3.2 Sex Ratio.....	30
4.3.3 Scheduled Caste Population	30
4.3.4 Workforce Participation.....	32
4.3.5 Main and Marginal Workers	32
4.3.6 Housing characteristics	35
5 Infrastructure Profile	37
5.1 Physical Infrastructure	37
5.1.1 Water Supply.....	37
5.1.2 Sewerage and Sanitation	39
5.1.3 Drainage	41
5.1.4 Solid Waste Management.....	42
5.1.5 Power Supply	43
5.1.6 Telecommunication	44
5.2 Social Infrastructure.....	44

5.2.1	Education	44
5.2.2	Health	45
5.2.3	Recreational & Green Spaces	45
6	Transportation Profile.....	46
6.1	Transport Proposals in Master Plan 2031.....	46
6.2	Current Status of Master Plan 2031 Proposals	47
6.3	Other Transportation Proposals	48
6.4	Impact of these proposals on YIEDA:.....	49
7	Environment Profile.....	50
7.1	Existing Features	50
7.1.1	Climate	50
7.1.2	Topography	50
7.1.3	Forest	50
7.1.4	Water Bodies.....	50
7.1.5	Ground water resources	52
7.1.6	Flora and Fauna.....	53
7.2	Other Features	54
7.2.1	Geo-morphology	54
7.2.2	Natural Hazards.....	54
7.3	Environmental Threats.....	55
7.3.1	Pollution.....	55
7.4	Disaster Management:.....	55
8	SWOT Analysis.....	57
8.1	Strength.....	57
8.2	Weakness	57
8.3	Opportunity.....	57
8.4	Threat/ Limitations to Development	57
8.5	Inferences & Conclusion	59
Section- II: PROJECTIONS.....		61
9	Population Projection	62
9.1	Expected Employment Generation.....	62
9.2	Population Estimations	63
Section- III: DRAFT MASTER PLAN VISION & PROPOSALS 2041.....		64
10	Vision and Objectives.....	65
10.1	Vision.....	65
10.2	Objectives.....	65
11	Master Plan Proposal	70
11.1	Proposed Land use	70
11.1.1	Land use classification.....	71
11.2	Salient Features of the Plan	75
11.3	Key Proposals	77
11.3.1	Central Business District	77
11.3.2	Aerotropolis	79
11.3.3	Recreational/ Olympic Hub.....	81
11.4	Transportation Proposals and Strategies.....	82

11.4.1	Major Transportation Challenges	82
11.4.2	Mitigation Strategies for sustainable transportation	82
11.4.3	Proposed Road network of YEIDA-I 2041.....	84
11.4.4	Proposed Public Transport System	89
11.4.5	Proposed Transport Infrastructure	92
11.4.6	Institutional framework	98
11.5	Other Infrastructure Plans and Strategies	100
11.5.1	Water Supply.....	100
11.5.2	Sewage	102
11.5.3	Storm water and Drainage	103
11.5.4	Solid waste generation.....	104
11.5.5	Power supply: Application of new and renewable technologies.....	107
11.5.6	Telecommunication	108
11.5.7	Education	109
11.5.8	Health.....	109
SECTION- IV: DRAFT MASTER PLAN ZONING REGULATION 2041		111
12	Zoning Regulations	112
12.1	Zones- Master Plan 2041	112
12.1.1	Aerotropolis	112
12.1.2	Central Business District	114
12.1.3	Recreational/ Olympic Hub.....	114
12.1.4	Transit Oriented Development	115
12.2	Use zones	117
12.3	Defining Land Use/ Activities	118
12.4	Permissible Uses in a Land Use Zone	129
12.5	Subdivision of Use Zones and Subdivision Regulation.....	145
12.5.1	Residential Use Zones	145
12.5.2	Non-Residential Use Areas.....	146
13	Master Plan Implementation & phasing.....	153
	Existing Situation	153
	Phase 1: Year 2021- 2026.....	154
	Phase 2: Year 2026 – 2031	154
	Phase 3: Year 2031 – 2036	154
	Phase 4: Year 2036 – 2041	154
14	Annexure.....	155

List of Tables

Table 2-1: Notified Planning areas	14
Table 3-1: Proposed Land Use- Master Plan 2021	23
Table 4-1: Tehsil-wise population distribution	26
Table 4-2: Decadal Growth rate	26
Table 4-3: Comparison of Urban Population	28
Table 4-4: Literacy Rate at various Administrative Levels- 2011	29
Table 4-5: Tehsil-wise Main workers	33
Table 4-6: Tehsil-wise Marginal worker	34
Table 4-7: Housing condition as per census 2011	35
Table 4-8: Housing condition of urban Centre of YEIDA 2011	35
Table 4-9: Type of household structure	36
Table 5-1: Water Supply Norms as per URDPFI	38
Table 5-2: Physical composition of MSW of YEIDA	42
Table 7-1: Depth to water level trend of ground water monitoring wells for the period 2009-2018	52
Table 9-1: Calculation for employment generation in 2041	62
Table 9-2: Projected population for 2041	63
Table 9-3: Phase Wise Population Distribution	63
Table 11-1: Desirable Shares of Jobs by Employment Location- 2041	66
Table 12-1: Proposed Land use 2041	70
Table 12-2: Population & density of Allotted Sectors in YEIDA	72
Table 12-4: Multiple land use Hospitality	73
Table 12-5: Multiple land use Industrial	74
Table 12-6: Land-use distribution of CBD Area	78
Table 12-6: Land-use distribution of Aerotropolis Area	80
Table 11-7: Water Supply requirement in urban area by 2041	101
Table 11-8: requirement of sewage treatment by 2041	102
D. Table 11-9: Solid Waste Management Process	105
Table 11-10: Solid waste generation by 2041	106
Table 11-11: Education facilities required by the year 2041	109
Table 11-12: Health Facilities Required as per Master Plan 2041	110
Table 12-1: Aerotropolis Major Activities	112
Table 12-2: FAR along TOD	115
Table 12-3: Activities in a Use Premise	118
Table 12-4: Permissible and Supporting Activities of a Use Premise	129
Table 12-5: Permissibility of Activities in Land Uses	147
Table 14-1: Details of Phase Wise Development	153

List of Figures

Figure 1-1: Stage-wise methodology for YEIDA Master Plan.....	13
Figure 2-1: Location of YEIDA Planning area and NCR in India	14
Figure 3-1: City Level Zonal Development Plan for YEIDA	22
Figure 3-2: Proposed Master Plan 2031 & 2031	23
Figure 3-3: Proposed Land Use Classification- 2031	24
Figure 3-5: Current Status of Development.....	24
Figure 4-1: Tehsil-wise Growth Rate	27
Figure 4-2: Tehsil Population Density	27
Figure 4-3: Decadal change in Urban & rural growth rate- YEIDA Phase 1	28
Figure 4-4: Tehsil-wise decadal Sex ratio.....	30
Figure 4-5: SC population.....	31
Figure 4-6: Workforce participation rate, 2011	32
Figure 4-7: Main & marginal workers	33
Figure 4-8: Tehsil-wise Main workers	33
Figure 4-9: Main Worker Categorization- Tehsil.....	33
Figure 4-10: Tehsil-wise Marginal workers categorization	34
Figure 4-11: Housing Characteristics- YEIDA - 2011.....	35
Figure 4-12: Type of Household Structure- YEIDA, 2011	36
Figure 5-1: Existing water supply sources.....	37
Figure 5-2: Education Facilities requirement as per URDPFI section 8.4.2	44
Figure 5-3: Requirement of Health Facilities as per URDPFI as per section 8.4.3	45
Figure 6-1: Alignment of High-Speed Rail Corridor.....	48
Figure 7-1: Natural and manmade ponds and lakes	51
Figure 7-2: Dhanori Waterbody	51
Figure 7-3: Ground Water Level in NCR	52
Figure 7-4: Ground Water in UP Sub Region	52
Figure 7-5: Soil type- YEIDA.....	54
Figure 7-6: Earthquake Prone Zone- Uttar Pradesh.....	54
Figure 11-2: Proposed themes in YEIDA Phase 1	67
Figure 11-3: Infrastructure Provisions in YEIDA Phase 1	68
Figure 12-1: Salient Features of the Plan.....	76
Figure 12-2: Location of CBD.....	77
Figure 12-2: Proposed Central Business District.....	77
Figure 12-3: Visualization of Central Business District with Pedestrian facilities	78
Figure 12-4: Proposed Aerotropolis in YEIDA	79
Figure 12-5: Proposed Olympic City in YEIDA	81
Figure 12-6: 130 m Road.....	85
Figure 12-7 RHS Peripheral Expressway – 120 m.....	85
Figure 12-8: 60 m wide road (60-meter two lane road without Neo Metro).....	85
Figure 12-9: Arterial Road (75-meter two lane road with Neo Metro)	86
Figure 12-10: Arterial (75m wide without Metro Neo)	86
Figure 12-11: Arterial with Metro Neo – 100 m	86
Figure 12-12: Arterial with Metro Neo – 120 m	87
Figure 12-13: Sub Arterial – 45 meters	87
Figure 12-14: Neo Metro	89
Figure 12-15: Metro and Metro Neo	89

Figure 11-17: City Bus Route.....	90
Figure 11-18: Junction Design.....	93
Figure 12-1: TOD Buffer	115
Figure 13-1: Tentative Phase-wise Development of Master Plan 2041	153

List of Maps

Map 2-1: Regional Connectivity	16
Map 2-2: Existing and Proposed Major Rail Network	18
Map 2-3: Air Connectivity	19
Map 3-1: NCR Policy Zones in YEIDA	20
Map 3-2: NCR Policy Zones in YEIDA	21
Map 4-1: Literacy Rate	29
Map 4-2: Sex Ratio, YEIDA- 2011	29
Map 4-3: Percentage SC Population, 2011	31
Map 4-4 Workforce Participation Rate, 2011	31
Map 4-5: Main Workers	34
Map 4-6: Marginal Worker	34
Map 5-1: Water Storage Capacity	38
Map 5-2: Location of WTP, STPs & Water Work YEIDA Phase 1- as per Master Plan 2031	39
Map 5-3: Location of sewage treatment Zones and plants	40
Map 5-4 Sewage treatment zones as Per Master Plan 2031	40
Map 5-5 Sewerage Network- YEIDA Phase 1	40
Map 5-6: Existing Drainage line	41
Map 5-7: Proposed Sub-Station in Master Plan 2031	43
Map 6-1: proposed roads and its width in Master Plan 2031	47
Map 6-2: Status of Developed as per Master Plan 2031	47
Map 7-1: Ground Water Status as per CGWB report-2017	53
Map 8-1: Committed/ Developed Sectors as per Master Plan 2031 YEIDA Phase 1	58
Map 8-2: Building height restrictions around Airport	58
Map 8-3: Restrictions for village abadi	59
Map 12-1: Proposed Master Plan 2041	71
Map 12-2: Proposed Roads for Master Plan 2041	84
Map 11-3: Proposed Rikshaw Stops	91
Map 11-4: Transport Infrastructure Proposal	92
Map 11-5: Proposed Multi modal hubs	97
Map 12-1: Height Restriction around airport (Stage-1) and Delineated Aerotropolis	113

LIST OF ACRONYMS

ATM	Air Traffic Movements
BRTS	Bus Rapid Transit System
CBD	Central Business District
CGWB	Central Ground Water Board
CNCR	Central National Capital Region
CPCB	Central Pollution Control Board
CWC	Central Water Commission
DFC	Dedicated Freight Corridor
DMIC	Delhi Mumbai Industrial Corridor
DNGIR	Dadri Noida Ghaziabad Investment Region
FAR	Floor Area Ratio
GIS	Geographical Information System
HCZ	Highway Corridor Zone
HSR	High Speed Rail
LPCD	Litres Per Capita Per Day
LPG	Liquefied Petroleum Gas
MDR	Major District Road
MPPA	Million Passengers per Annum
MRTS	Mass Rapid Transit System
MSW	Municipal Solid Waste
NCR	National Capital Region
NCT	National Capital Territory
NH	National Highway
NOIDA	New Okhla Industrial Development Authority
ODR	Other District Road
ORC	Orbital Rail Corridor
PAL	Planning Activity Level
PRT	Personalised Rapid Transit
RORC	Regional Orbital Rail Corridor
ROW	Right of Way
RRTS	Regional Rapid Transit System
SC	Scheduled Caste
SH	State Highway
ST	Scheduled Tribe
STP	Sewage Treatment Plant
TOD	Transit Oriented Development
URDPFI	Urban and Regional Plans Development Formulation and Implementation
WPR	Work Participation Rate
WTP	Water Treatment Plant
YEIDA	Yamuna Expressway Industrial Development Authority

SECTION – 1: INTRODUCTION AND EXISTING ANALYSIS

1 BACKGROUND

Urbanisation- the increase in percentage of people living in urban areas compared to rural areas is one of the most significant changes in the human population trends ever recorded. All over the world, people are moving towards the cities as it holds the promise of economic opportunities and social mobility. Urban population of the world overtook the rural population in 2007 and since then world's cities have continued to grow at a faster rate than rural areas. It is estimated that by 2050, the world's population will total approximately 9 billion people, 70 per cent of whom will be living in cities. (United Nations Department of Economics and Social Affairs, 2020) (US Census Bureau, 2020) (World Bank, 2010). Given the expected positive association of urbanization and expected economic growth, this transformation to an urban age offers the world an opportunity for further economic development and improved quality of life. However, it comes with its fair share of challenges as well. Cities are estimated to drain 70 per cent of the global energy resources and emit approximately 80 per cent of the world's greenhouse gases. (World Bank, 2010) These numbers depict a bleak future for the world's cities, but also point to the necessity to put in measures that will ensure the sustainability of these cities to minimise their impacts on the global climate and secure better standards of living for city dwellers. Urban planning is seen as a vehicle that could play a lead role in giving equal attention to the economic, environmental, and social dimensions of cities' development. It has the potential in realizing the economic ambitions of the nations as well as to safeguard cities from negative externalities such as depletion of resources, pollution, waste, and greenhouse gas emissions emanating from market failures and uncertainties.

The total urban population living in India's towns and cities has increased consistently over the last century. Between the period of 1961- 2011, the rate of urbanization, spurred by post-independence agrarian transitions (1950- 70s) and the economic policies of liberalisation (1990's), increased from 17.6 per cent in 1961 to 31 per cent by 2011. Even though current urban population (377 million) attributes to only around one third of the total population (1210.19 million) of the country, the economic output generated from urban areas currently stands around two thirds. These cities are where 70 per cent of net new jobs between now and 2030 are also expected to be generated. Yet, urbanization in India has proved itself to be distinct in many ways and the patterns of human settlement emerging as a result, far from uniform. Whilst urbanization in the post-Independence period was predominantly led by migration to the cities, today, although metropolitan regions are expanding, parallel processes of sub-urbanization are also occurring at their peripheries.

The capital city of Delhi has been witnessing the trend of rapid urbanization since the 1950's. The Government of Uttar Pradesh (UP), Haryana and Rajasthan are capitalizing on the development potential generated due to the proximity to the National Capital. National Capital Region (NCR) is a unique example of inter-state regional planning and development for a region with national capital Delhi as its core.

NCR is among the world's largest urban agglomeration with a population of more than 46 million comprising in an area of 55,083 square kilometres. It accounts to a total of 7-8 percent of the total Gross Domestic Product (GDP) of India. NCR comprises of National Capital territory (NCT) of Delhi, and parts of Haryana (fourteen districts), Uttar Pradesh (eight districts) and Rajasthan (two districts). Supported by high economic growth resulting in significant migration from other parts of the country, NCR has witnessed significant growth in its population, most of which has been in the urban pockets over the last few decades.

UP Government has enacted the UP Industrial Development Act, 1976 to ensure planned development of industrial and allied activities in the state. NOIDA, Greater NOIDA (GNIDA) and Yamuna Expressway Industrial Development Authority (YEIDA) have been created under this Act for the systematic development of their respective notified areas abutting Delhi, which if not planned, would have been prone to unauthorized urban growth owing to its proximity to NCT.

1.1 Objectives of the Plan

The plan aims at sustainable development evolving development vision and road map for balanced growth of the region by regulating future spatial development to be envisaged for the horizon year, 2041.

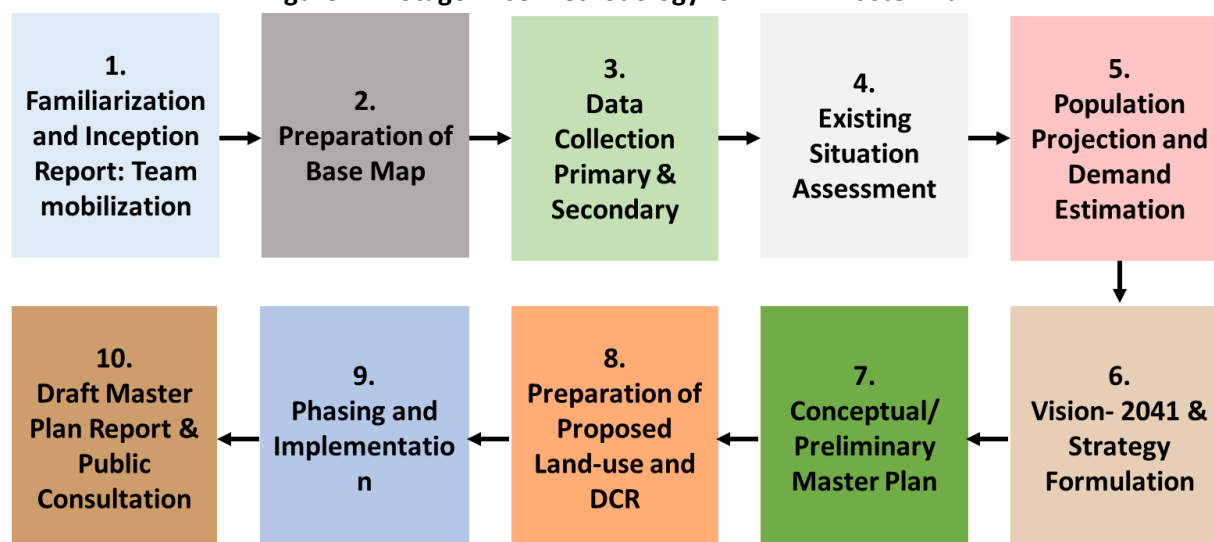
The specific objectives of the Plan are as follows:

- i. **Formulation of Master Plan:** The objective specifies the formulation of Master Plan of city as per the provisions of UP Industrial Area Development Act 1976, including demand assessment, identification of issues, projected requirements, development strategy and draft proposals on the GIS base map and sector-wise data analysis. The deliverables include base map, thematic maps specified, data analysis reports, draft plan document, etc.
- ii. The Master plan for plan area is prepared integrating the road pattern and land uses proposed in horizon year 2041.
- iii. **A Road Map for regulating future growth:** Envisaging a Land use Plan, considering potential growth and emerging development pressure and providing a road map/ strategy for regulating future growth in a planned manner for the plan area.
- iv. **Environmental Sustainability:** Preparation of Master Plan avoiding potential adverse implications on existing environmental resources. A plan ensuring balance between the ecology and proposed development. Urban environmental plans to conserve the ecosystem and suggest ways and means to contain pollution. Planning strategies on conservation and ecologically sensitive zones. Planning strategies on conservation of water bodies, ground water table to improve the quality of water riverfront developments and tourist spots identification and development strategies.
- v. **Participatory and Consultative Plan:** Preparation of a Master Plan combines perceptions and visions of various stakeholders including civil society of both urban and rural areas, agriculture community, industrialists, traders, elected representatives, academicians, government and non-governmental organizations.
- vi. **Capital Investment Plan and Resource Mobilization Strategies (Business Plan):** Preparation of a Master Plan identifies key infrastructure projects, estimated capital investment, resource mobilization strategies and realistic implementation plan. Prepare an exclusive document on "Working Plan" to facilitate YEIDA, in implementation of short-, medium- and long-term projects that are translated from the Master Plan. The Working Plan shall help YEIDA to access funding for various infrastructure projects. Prepare implementable action plans for short term and medium-term plans.
- vii. Evaluation of Housing strategies and plan for socio-economic condition wise future housing need and stock.
- viii. Including the suggestive provisions/guidelines for disaster management in the Master plan.

1.2 Methodology

As mentioned earlier, Master plan is a dynamic long-term planning document that provides a conceptual layout to guide future growth and development. It includes analysis, recommendations, and proposals for a site's population, economy, housing, transportation, community facilities, and land use. It is based on public input, surveys, planning initiatives, existing development, physical characteristics, and social and economic conditions. Therefore, preparation of Master plan is done in a phase-wise manner, which has been elaborated in following stages:

Figure 1-1: Stage-wise methodology for YEIDA Master Plan



1.3 Limitations & Assumptions

The following are a few concerns that could act as limitations to the study:

1. Spatial data accuracy: The accuracy of spatial data is of concern. However, as development plan is a broad level plan document and thus the maps to be used for the same will be in a smaller scale, these spatial shifts might not bear a threat to disturb the output of the study;
2. Data collection: The availability of the secondary data like census and it's time period would determine the accuracy of analysis.
3. Considering the time constraints, the plan preparation is based mainly on available data from secondary sources and field reconnaissance survey.

2 INTRODUCTION TO THE SITE AREA

The concept of the Yamuna Expressway (erstwhile Taj Expressway) conceived by the Govt. in the year 2001 with the idea of cutting down on travel time between Noida and Agra through a 100 m wide and a 165 kms long Expressway on the eastern bank of Yamuna River. It would reduce the travel time considerably to just 100 minutes. The new 6 Lanes (extendable to 8 lanes) access-controlled Expressway with brand name of Yamuna Expressway will also open a vast area on the eastern bank of Yamuna River for Urban Development.

2.1 Location

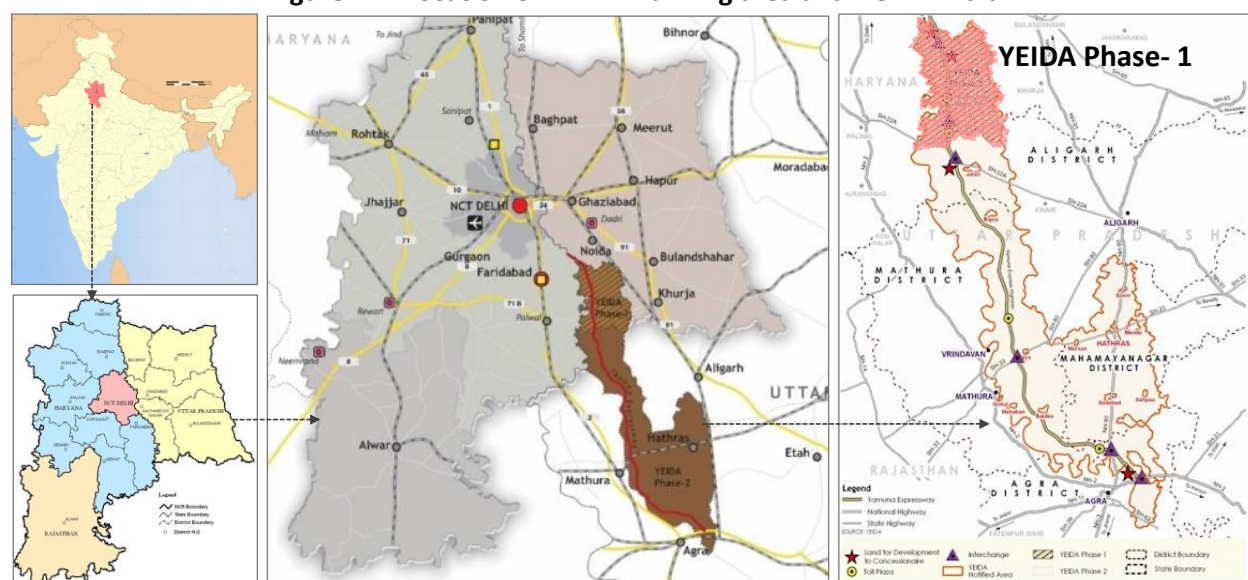
For implementing the Yamuna Expressway Project and allied development in the region, Government of UP constituted Yamuna Expressway Industrial Development Authority (YIEDA) (erstwhile Taj Expressway Industrial Development Authority) vide its Notification No. 697/77-4-2001-3(N)/2001 dated 24th April 2001, under UP Industrial Area Development Act, 1976 (UP Act No. 6 of 1976). 1187 villages of Gautambudh Nagar, Bulandshahar, Aligarh, Hathras, Mathura and Agra districts have been notified under YIEDA vide various Notifications of Govt. of UP. YEIDA notified area covers approx. 2,689 sq. kms. falling in six districts to be developed in two phases.

Table 2-1: Notified Planning areas

	Phase 1		Phase 2				
Districts	GB' Nagar	Bulandshahar	Aligarh	Mathura	Hathras	Agra	Total
Tehsils	Sadar, Jewar	Sikandrabad, Khurja	Khair	Sadar and Math	Sadabad, Hathras	Sadar, Etmadpur	
Notified Villages	131	40	105	431	420	60	1187
Area (Ha)	58397		34291	75751	88968	11455	268862

Source: Master Plan 2031

Figure 2-1: Location of YEIDA Planning area and NCR in India



The area of YEIDA is divided into 2 parts for the purpose of planning and development, i.e. Phase 1 consisting area of 604 sq. km., covering 171 villages of the districts GautamBudh nagar and Bulandshahar. Rest of the YEIDA area comes under phase-2. However, there is a difference in area indicated in table 2-1 which is based on revenue records and the one calculated through satellite imagery. For this master plan area calculated through satellite imagery is considered.

2.2 Connectivity

YEIDA Phase 1 is influenced by the growth dynamics of Noida and Greater Noida which is to the North of the area. The area is bounded by Greater Noida Area in the North, Bulandshahar and Khurja Development Area in the East, and Aligarh District in the South.

2.2.1 Road Connectivity

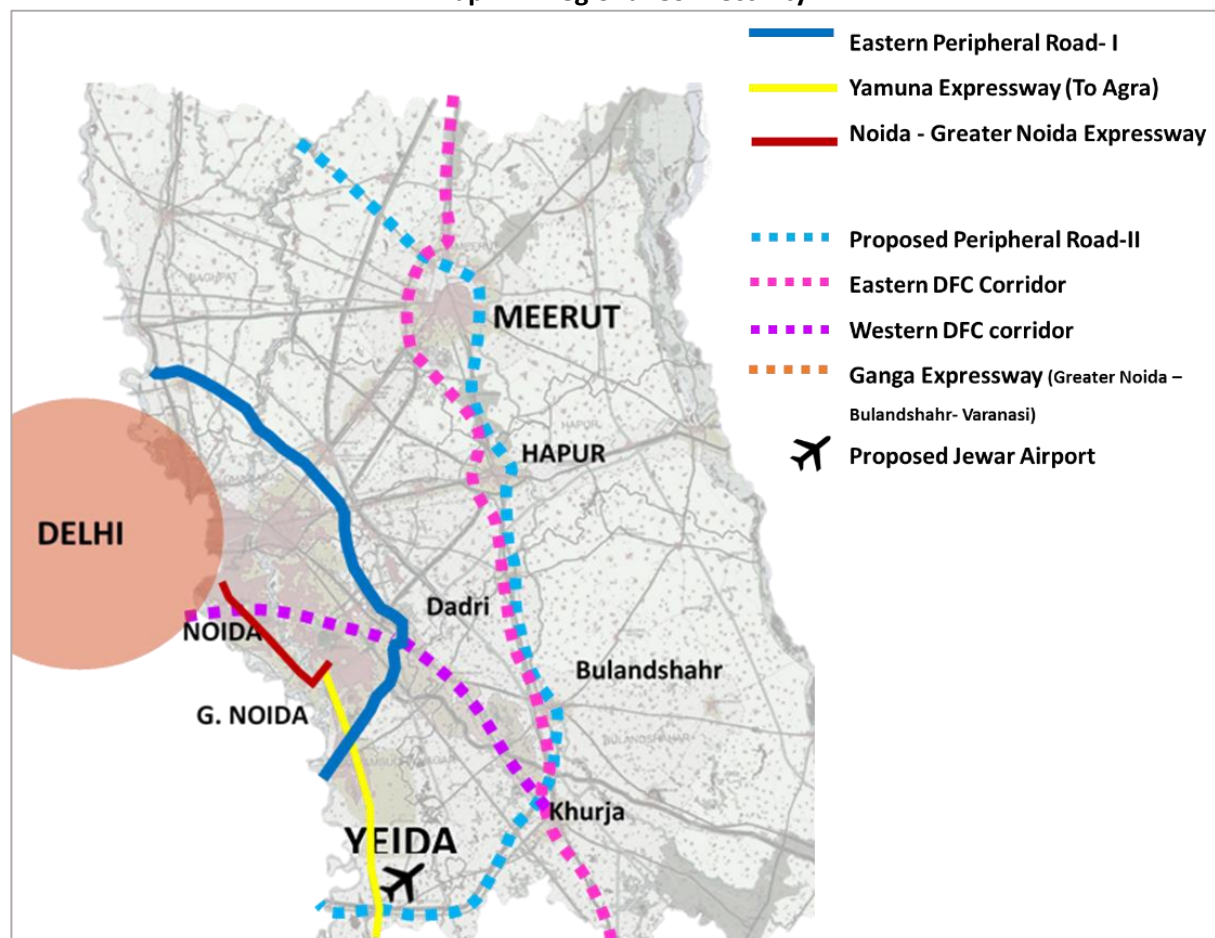
YEIDA is strategically surrounded by major cities such as Noida, Greater Noida, Faridabad, Khurja, Dadri, Aligarh, Mathura, Agra etc. This provides YEIDA strong road Connectivity with the surrounding areas. YEIDA phase-1 is at distance of around 50 km from Delhi and it is connected with NH-9 and Mahatma Gandhi Marg. In addition to Yamuna Expressway, Dankaur-Sikandrabad Road, Jewar-Khurja Road and Jewar -Bulandshahar Road are the major roads passing through the area. There is no other major road infrastructure in the area.

a) Existing Road Connectivity:

Yamuna expressway and Eastern peripheral expressway are two major existing roads and provides good regional connectivity to NCR region. It is directly connected to the ring road of Delhi through Yamuna expressway on the northern side. Eastern peripheral express pass through YIEDA region and connect to

Palwal and Manesar in the west and Ghaziabad on north. The expressway is 135 m long, and it connects NH-1 at Kundli to NH-2 at South of Faridabad at Sikri through Ghaziabad and Noida on the Eastern side of NCT Delhi. In addition, the city is adjacent to Yamuna expressway which is directly connected to NH-24,

Map 2-1: Regional Connectivity



NH-1, NH-334 SH-65, SH-22A, SH-71B as well as with major district road and other district roads. The stretch of Yamuna Expressway has 100 m ROW with 50m wide. Two interchange points (At the intersection of Eastern Peripheral Expressway and Yamuna Expressway in the north and at the intersection of 120 m wide peripheral ring road and Yamuna Expressway in the South near Jewar) along the stretch of Yamuna Expressway falls within the YEIDA.

b) Proposed Connectivity:

Proposal of Extension of Delhi Metro network up to the upcoming Noida International airport, Orbital rail corridor, Regional Rapid transit system, Dedicated Freight Corridors, High-Speed Rail and RRTS to khurja and Palwal will be conducive in intercity movement through Public transport mode as the both the towns are close to YIEDA phase 1 region. RRTS will significantly reduce travel time and will provide fast connectivity to other centres of NCR. To attract the traffic to the proposed airport at Jewar, 8 rail corridors are identified by NCRTC i.e., Rapid Rail Transit System. Ganga Expressway will connect surroundings of Delhi NCT such as: Palwal, Ghaziabad and Noida. North South Corridor will directly connect Phase – 2 of

YEIDA Region to Delhi NCT. Eastern DFC will directly connect Phase -2 of YEIDA region with Aligarh, Khurja, Bulandshahar, Hapur and Meerut. Western DFC will be helpful to connect Rewari, Faridabad and Ghaziabad. The Proposed Peripheral Expressway II will pass from YEIDA and connect to the other surrounding cities of Delhi NCR like Khurja, Bulandshahar, Hapur, Meerut, and others.

The regional expressways which are in close vicinity to YEIDA region and will be conducive in enhancing the connectivity to the NCR region.

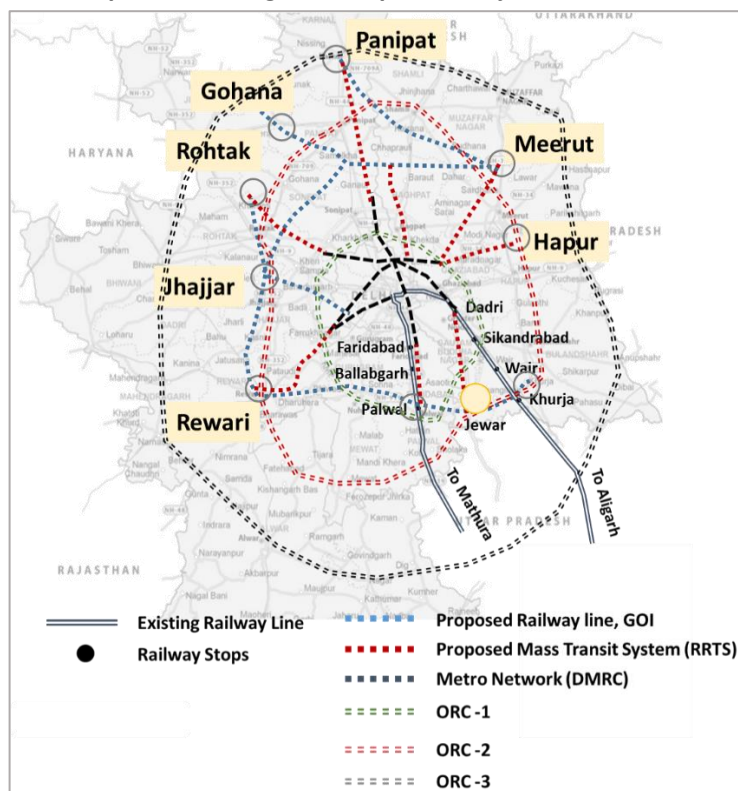
- **Greater Noida – Bulandshahr – Varanasi (Ganga Expressway):** Ganga expressway is 594 km long six lane road with a route alignment connecting NH-334 in Meerut with Prayagraj. The proposed right of way is 120 m with service road on one side of the expressway for the movement of local village traffic. The expressway will pass through 12 districts of Meerut, Amroha, Bulandshahar, Badaun, Shahjahanpur, Farrukhabad, Hardoi, Kannauj, Unnao, Rae Bareilly, Pratagarh and Prayagraj.
- **Rewari-Palwal Khurja Expressway :** This expressway proposed between Rewari and Khurja will provide East West connectivity across NCR.
- **Kundli – Manesar – Palwal Expressway :** The expressway is under construction and runs on west of Delhi. As Palwal is in a close proximity to YEIDA region this will directly help YEIDA phase 1 in connecting to the west part.
- **Ghaziabad – Bulandshahr – Khurja Expressway :** Ghaziabad-Khurja Expressway provides a direct link to Khurja where the proposed Eastern Dedicated Freight Corridor (Rail) passes through. Khurja has great potential for development as a major transportation hub for collection and distribution of goods. Khurja is on the SE side of the YEIDA phase 1 region and approximately 33 km from proposed Noida airport.
- **Delhi – Faridabad – Ballabgarh – Palwal Expressway:** Faridabad-Ballabgarh complex, an important industrial town of NCR, is re-emerging as a fast-growing urban centre with metropolitan dimensions. This Expressway also connects Delhi with the proposed 2nd International Airport at Jewar.
- **Rewari-Palwal-Khurja Expressway:** The Rewari-Palwal-Khurja Expressway forms the southern portion of the outer grid Expressway system. This provides connectivity to the proposed 2nd International Airport at Jewar.
- **Khurja-Hapur-Meerut Expressway:** The Khurja-Hapur-Meerut Expressway forms the eastern portion of the outer grid Expressway system.

2.2.2 Rail Connectivity

Presently there are no railway lines or stations in YEIDA Phase 1 while nearest railway stations are Dankaur and Chola stations of Delhi Kolkata Railway line which connects through a broad-gauge line to Delhi. **The proposed Orbital Rail Corridor is passing through Southern part of the city, connects major town centres in the Delhi NCR. The Eastern Dedicated Freight Corridor is passing adjacent to the city boundary parallel to Delhi Kolkata Railway line. YEIDA falls under the jurisdiction of northern railway, and it is surrounded by Eastern and western DMIC (Delhi-Mumbai Industrial corridor currently known**

as DFC). The western DFC is used for passenger and freight movement and eastern DFC is heavily loaded and it connects Delhi to Howrah. There is proposal of railway line connection from Khurja to Palwal which are close to YIEDA phase 1.

Map 2-2: Existing and Proposed Major Rail Network



2.2.3 Air Connectivity

Nearest Airport to YEIDA Phase 1 is the Indira Gandhi International Airport at New Delhi at a distance 72 km presently. A new greenfield Noida international airport is being proposed in the southern part of the planning area and considered to be the nearest airport once it is operational. The total area of 4725 hectare has been earmarked for the development of Noida International Airport. It is situated at a distance of 36 km from Bulandshahr, 60 km from Noida, 70 km from Faridabad and Ghaziabad, about 48 km from Greater Noida, 65 km from Gurgaon (Gurugram), 89 km from Mathura and 130 km from Agra.

The techno-economic feasibility report at Noida international airport states that there will be four development stages which would handle a traffic of 12 MPPA, 30 MPPA, 50 MPPA and 70 MPPA. These activity levels have been denoted as Planning Activity Levels (PAL). Future activity levels are projected as the annual forecast of passenger traffic, air cargo tonnage, and air traffic movements (ATMs) for each PAL. Presently, the execution of development work is under progress.

Map 2-3: Air Connectivity



As per Noida International airport (NIA) master plan report the NIA will be the second airport in the NCR and will complement Indira Gandhi International Airport to meet the aviation demands of the growing population in the region. The Airport is expected to accommodate multiple runways in the long term and become one of the busiest airports in the world. NIA's mission is to activate Greater Noida's catchment area and extended catchment areas in neighboring regions to connect it to other metropolitan areas in India and the world. It would be a user-friendly and efficient Airport. The vision of the airport is to provide an airport to the passenger, which has an ease of finding way, convenient dwell time and seamless travel experience. For Airlines, it aims for efficient with cost-effective processes with low turnaround Cost.

It will help domestic Business Traveler, to fly between Metro cities in India. It would also enhance the Domestic and International tourist flow for Taj Mahal and other tourists' attractions in NCR and surrounding areas of Uttar Pradesh and Rajasthan. Moreover, it would encourage religious tourism by improving the connectivity via Mathura, Vrindavan, Rishikesh, Haridwar in Uttar Pradesh and Uttarakhand State.

3 PLANNING PROPOSALS INFLUENCING YEIDA

This section details out the various planning efforts and strategies done by various agencies which have a direct or an indirect impact on the planning process of YEIDA. This includes the existing master plan prepared for YEIDA for the horizon year of 2031, Uttar Pradesh Sub Regional Plan- 2021, and National Capital Region Plan for 2021 and 2041.

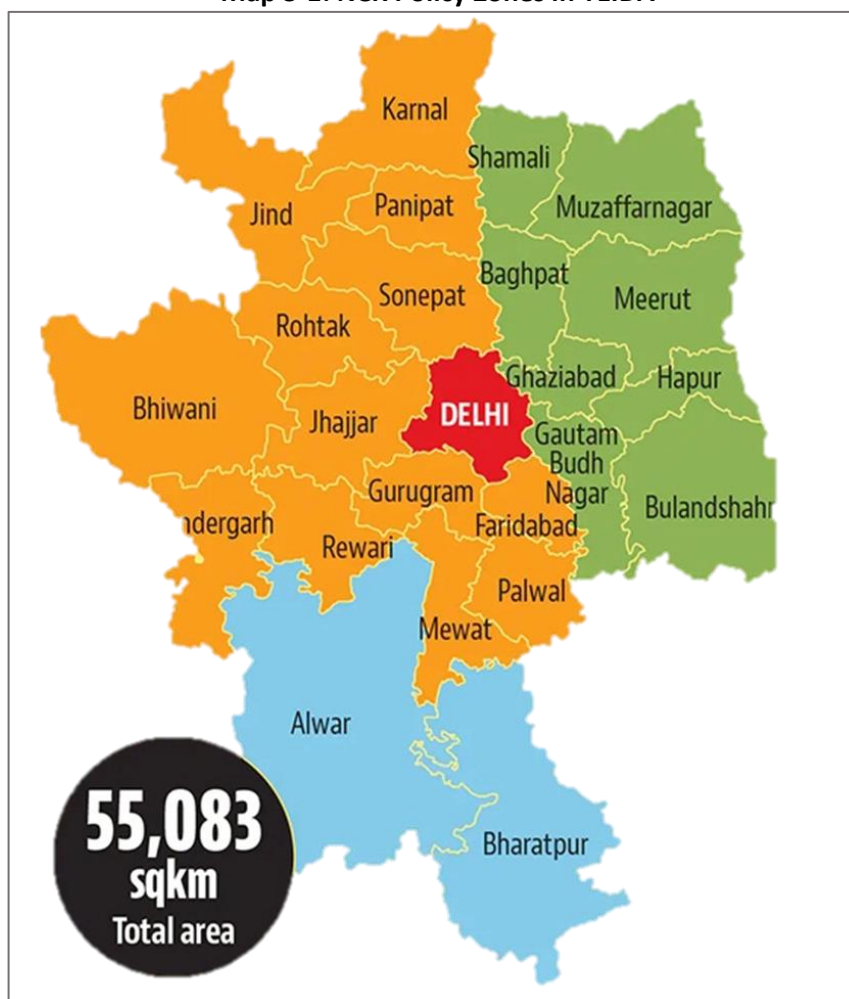
3.1 National Capital Region Plan- Draft—2041

NCR region has been created under the NCRPB Act, 1985 of Government of India, based on authorization of the Parliament by all the four States/UTs. The NCR area is 55,083 sq. km. The plan aims for people centric planning and ensuring development with conservation. Exploration of possibilities of establishing 5 to 8 new greenfield townships are proposed, based on productive economic impulses in UP, Haryana and Rajasthan sub regions. The plan priority areas are transport and logistics, economic corridor, future ready citizen infrastructure etc.

Regional Plan-2041 has proposed the development

of NCR through five policy zones, namely, (i) NCT Delhi, (ii) Central National Capital Region (CNCR) (iii) Highway Corridor Zone (iv) Conservation Zone (natural and manmade) and (v) Rest of NCR.

Map 3-1: NCR Policy Zones in YEIDA



3.1.1 YIEDA in context of NCR Planning Zones:

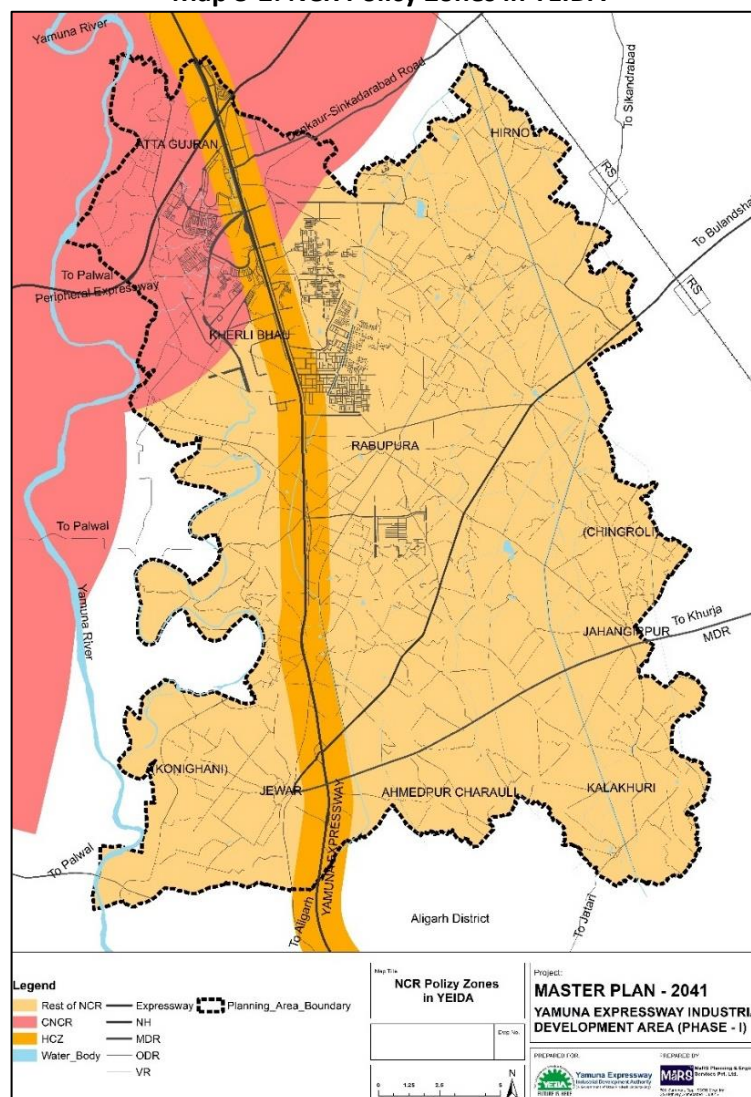
CNCR: area is defined as area from the boundary of NCT Delhi to the Eastern Peripheral Expressway (EPE) and Kundli- Manesar-Palwal expressway (KMP) up to 5 Km beyond outer edge of the ROW of this first ring of expressways.

Highway Corridor Zones is defined as Intense development is encouraged on both sides of all the rail transit corridors, expressways, NHs and their transit nodes in an area up to 800 meters to 01 kms on both sides. **Rest of NCR** promotes Large Rural Investment Zones, special economic zones, heavy industries. It is also proposed to introduce the concept of short & medium-term lease of land for 5-10 year instead of current 70 to 90 years industrial uses.

3.1.2 YIEDA in NCR Settlement Hierarchy

NCR plans for a seven-tier settlement hierarchy for 2041 with the highest in the pyramid being a metro centre. Metro centres are defined as settlements having a population of greater than 10 lakhs. YEIDA is one of the 11 metro centres proposed in NCR regional plan for 2041. Others being Muzaffarnagar, Meerut and NCT of Delhi. The envisaged population of YEIDA was fixed to be at 20 lakhs owing to large projects like International Airport at Jewar, and upcoming World Class Film City.

Map 3-2: NCR Policy Zones in YEIDA



3.2 UP Sub Regional Plan 2021

Uttar Pradesh sub regional plan of 2021 mentions YEIDA in the context of "Dadri- Noida- Ghaziabad Investment Region" (DNGIR). The sub regional plan envisages a requirement of land for greenfield townships for the increase in new population and non-agricultural economic activities due to the investment regions and the transport infrastructure along with it. **Hence, Yamuna Expressway Industrial Development Authority (YEIDA) has proposed an Industrial Green field Township of a Metro size along**

Yamuna Expressway outside CNCR in UP Sub-region with an approximate Urbanisable area of 20,000 Ha for 2021 with an approximate population of 20 lakh.

3.3 Planning History of YEIDA

Planning proposals for YEIDA started with a conceptual structure plan prepared in 2007. Master plans for both 2021 and 2031 were prepared and approved by 2013.

3.3.1 City Level Zonal Development Plan

In the year 2007, YEIDA prepared a Conceptual Structure Plan for the Yamuna Expressway Area. The key concern of the plan was to strike a balance between development and environment protection. The Conceptual Structural Plan was approved by the Board of Authority in its 17th Board Meeting held on 14.11.2007. **The Plan basically laid out a network of roads in the area dividing it into land parcels of approximately 1000 Ha each as Special Development Zones (SDZs).** Later in the year 2008 the Conceptual Structure Plan was re-designated as 'City Level Zonal Development Plan' and slightly modified based on the satellite imagery data. Some policy framework for its development was also laid out. The Plan was approved by the Board of the Authority in its 23rd meeting held on 24.07.2008. The Plan envisaged a **population of 7.0 lakhs by the year 2031** (excluding Rural settlement).

The area under plots in the plan was divided into sectors of modules of 1000 Ha, which included land-uses such as- Core Activities, Residential, Commercial, Institutional/ Amenities, Roads, Open spaces, and other circulation etc. **The city level zonal development plan is a broad plan with provision of mainly SDZ land use.** These SDZ's were obligated to provide minimum 35 percent of the core activities- Industries, IT Parks, Institutional area/ Parks, BT parks, Sports Complex, Recreational Hubs and Service Industry Hubs. However, the authority experienced a lack in demand for SDZ. However, the demand of land for specific land uses was experienced in its various schemes, also in accordance with SDZ Policy. Hence the authority decided to prepare the master plan specifying various land uses such as residential, industrial, commercial, recreational etc. and earmarking some of the areas for mixed use.

Figure 3-1: City Level Zonal Development Plan for YEIDA



3.3.2 Master Plan 2021

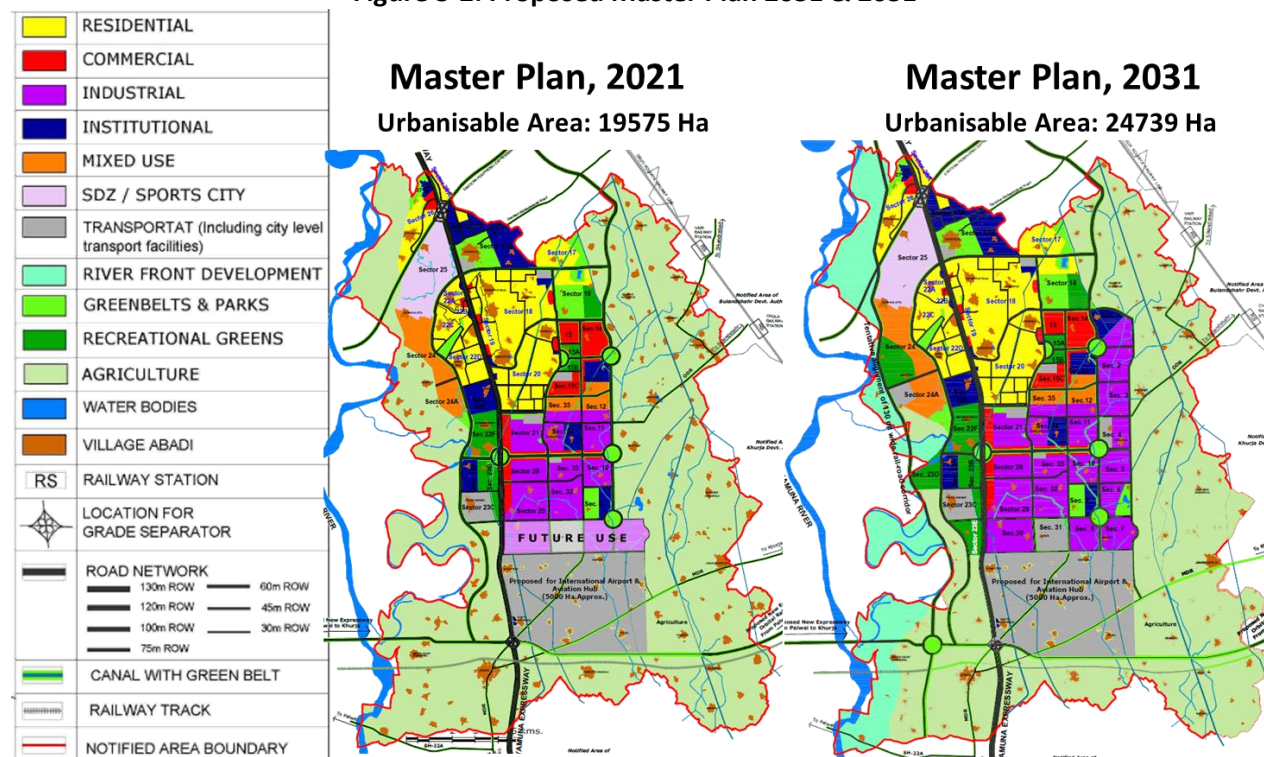
Master Plan 2021 envisaged an Urbanisable area of 19,575 hectares. The proposed Land use classification for area focused on creating residential areas at Sector 18 and Sector 20 towards the opposite side of Yamuna Expressway from that of the Sports city.

Table 3-1: Proposed Land Use- Master Plan 2021

Land Use	Area (Ha)	Percentage
Commercial	1275.12	6.5
Industry	2394.15	12.2
Institution	1617.02	8.3
Mixed Use	1219.82	6.2
Special Development Zone	1142.87	5.8
Residential	4569.76	23.3
Transportation	2480.34	12.7
Greens	3751.59	19.2
Village Abadi Area	1124.69	5.7
Total	19,575.36	100

Source: YEIDA Master Plan, 2031

Figure 3-2: Proposed Master Plan 2031 & 2031



3.3.3 Master Plan 2031

The Master Plan 2031 envisaged a development concept of Industrial Eco-City for YEIDA Phase- 1. Eco city parameters included natural environment, healthy balance in manmade environment, urban systems and lifestyle habits, and energy efficient economy and qualitative factors such as preservation actions, policies

and sustainable models of development and industrialization. The overall principles employed for the master plan was of polycentric city, Green City, Eco- Industrial City, Integrated Infrastructure and marking appropriate densities. The **Population projected for Master Plan 2031 was 35 lakhs in an Urbanisable area of 24739 Ha.** The break-up of Proposed Land-use 2031 for YEIDA has been shown in the table below:

Figure 3-3: Proposed Land Use Classification- 2031

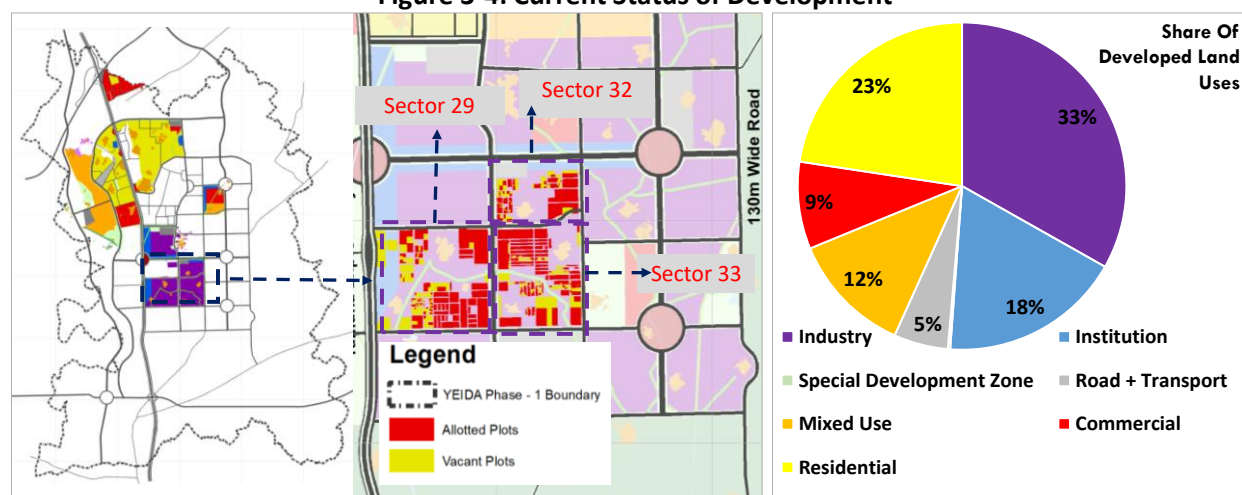
Land Use Category	Area (ha)	Percentage
Commercial	1275.12	5.15
Industrial	4698.15	18.99
Institutional	1759.03	7.11
Mixed Use	1370.23	5.54
Special Development Zone	1142.87	4.62
Residential	4569.52	18.47
Transportation	3512.13	14.20
Greens	5148.19	20.81
Village Abadi Areas	1263.79	5.11
Total	24739.03	100.00

Source: Master Plan 2031

A grid iron structure was chosen as the basic structure of the plan. The 130 m road acts as the major spine of the city with high intense activities planned around it. The city centre was proposed towards the eastern side of the centre of the planning area. A hierarchical residential system of residential block, community and sectors were proposed. The Plan tried to ensure unhindered connectivity to ensure support to the industries and act as a logistics hub. Comparing the Master Plan 2021 & Master Plan 2031, we can observe that the total urbanizable area in 2021 increased from 19575 ha to 24739 ha. Transportation area was increased from 880 ha to 3512 Ha. Green areas increased significantly from 908 Ha to 5148 Ha. Residential area has remained same but due to increase in urbanizable area landuse percentage differs.

3.3.4 Current Status of Development so far

Figure 3-4: Current Status of Development



As shown in the graph above, 1/3rd part of the land developed is Industrial followed by Commercial. Sector 29, 32, 33 are mainly those industrial sectors where land has been allotted. Commercial areas (18%) have been proposed in hierarchy, in areas with prime connectivity planned as commercial to avoid congestion. Residential plots have been the highest to be sold/ layouts approved on ground compared to the other land uses. The highest sale in residential plots could be attributed to the higher demand of housing for the people working in Greater Noida and other parts of NCR. Although, the numbers show that the targets of 2021 have not been achieved as per the implementation stages of Master Plan 2031, but after the development of Noida International Airport, the resultant development is expected to take place in form of residential, commercial and industrial uses.

4 DEMOGRAPHY AND SETTLEMENT ANALYSIS

Demographic trends help in analysing the population size, territorial distribution and composition including the changes over decades. It provides a lot of indicators regarding the economic growth of the region. Demography not only research the current population, but it works more with the factors that can influence population change. This chapter is based on the demographic dataset of 2001 and 2011 census.

4.1 Population Size and Distribution

The YEIDA phase 1 comprises of two districts i.e., Gautam Buddha Nagar and Bulandshahr which includes four tehsils that are Jewar, Khurja, Sadar and Sikandrabad. Four Tehsils comprise of 171 villages and 4 towns. **Total population of the existing planning area as per census 2011 is 3, 74,431 in which 19.3% is urban population and 80.7% is rural population. Jewar tehsil had the highest population of 1, 99,722 and Khurja tehsil had the lowest population of 45,997.**

Table 4-1: Tehsil-wise population distribution

District	Tehsil	Population (2011)		
		Rural	Urban	Total
Gautam Buddha Nagar	Jewar	1,51,999	47,723	1,99,722
	Sadar	68,056	13,520	81,576
Bulandshahr	Sikandrabad	47,136	-	47,136
	Khurja	34,991	11,006	45,997
Total		3,02,182 (80.7)	72,249 (19.29)	3,74,431

Source: Census of India 2011

4.2 Population Growth Rate

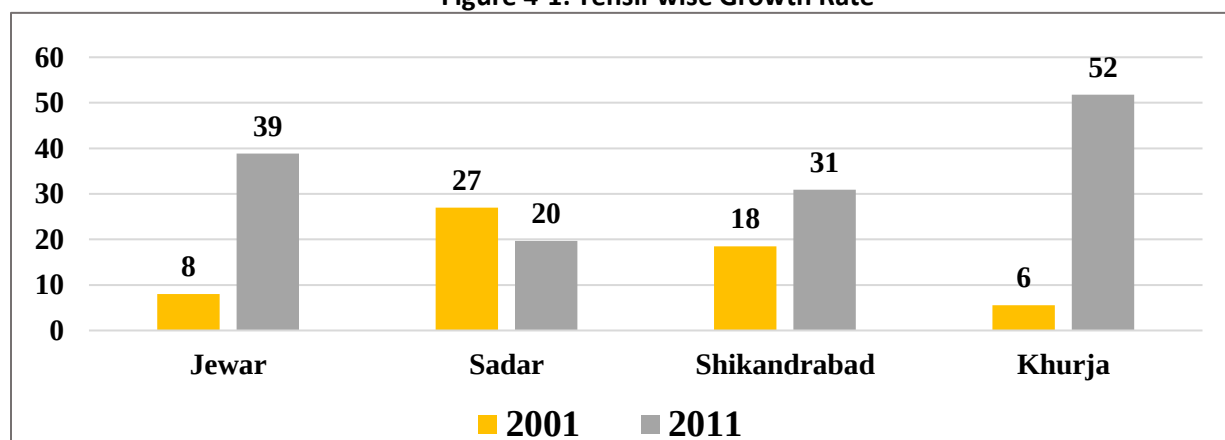
The trend analysis of growth rate provides a brief understanding regarding the growth potential along with growth direction of the region. The decadal population growth rate of Uttar Pradesh as per census 2011 is around 20.2%, while the growth rate of Gautam Budha Nagar and Bulandshahr districts is 49.1% and 16.3% respectively. The growth rate of tehsil Jewar, Sadar, Sikandrabad and Khurja is 39%, 20%, 31% and 52%.

Table 4-2: Decadal Growth rate

Sr. No.	Administrative level	Name	Decadal Growth Rate	
			2001 (%)	2011(%)
1	State	Uttar Pradesh	26	20
2	District	Gautam Budh Nagar	41	37
3		Bulandshahr	29	20
4	Tehsil	Jewar	9	39
5		Sadar	37	20
6		Sikandrabad	23	31
7		Khurja	6	52

Source: Census of India 2011

Figure 4-1: Tehsil-wise Growth Rate

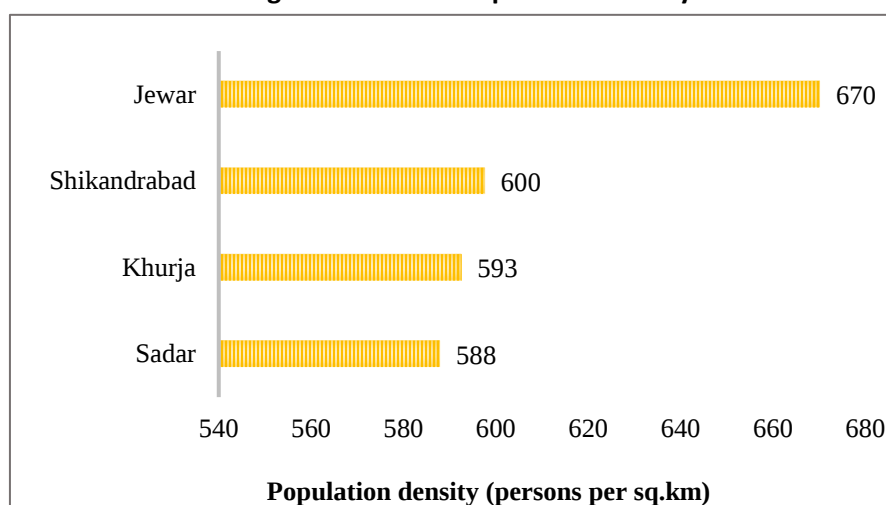


In tehsil – wise classification, Jewar tehsil and Khurja tehsils have shown rapid increase in growth rate from 2001 – 2011 which is 39% and 52% respectively as per census 2011., whereas the tehsils Sadar have shown decline in population growth rate. Thus, it can be said that in Sadar tehsils the out-migration rate of rural people has increased over a decade. This decline in the population of the rural areas also indicates the need of economic opportunities for the sustenance of the rural areas as well as the developing urban centres.

4.2.1 Population Density

Population density is one of the key indices of population concentration. It refers to the number of people living per square kilometre in a given area. Population density of Uttar Pradesh is 828 persons per sq. km., which is higher than the national average density. However, population density of Gautam Buddha Nagar district is around 1100 sqkm. While

Figure 4-2: Tehsil Population Density



comparing the population density of Jewar, Khurja, Sadar and Sikandrabad tehsil it was found that Jewar tehsil has the highest density of 670 persons per sq.km followed by Sikandrabad, Khurja and Sadar which are low as compared to the state level density.

4.2.2 Urbanization Level

The urbanization level can be measured with the increase of urban population of the area. Urbanization enhances productivity of the rural sector through two kinds of complementarities. First, the rural sector benefits from a higher demand for rural goods from urban residents and from infrastructure, like farmers' markets, that lower transaction costs in catering to that demand. Second, the productivity of the rural sector is also enhanced due to availability of new technologies. However, as per census 2011 the percentage increase of urban population is seen highest in Khurja tehsil that is 66.05%.

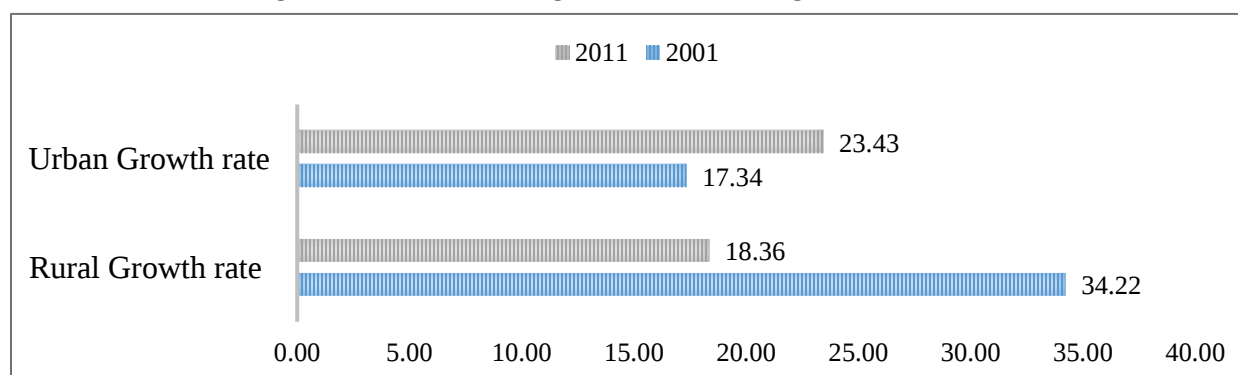
Table 4-3: Comparison of Urban Population

Indicator	National Avg.	State Avg	District		Tehsils				Total YIEDA phase- 1
			GB nagar	Bulandshahr	Sadar	Jewar	Sikandrabad	Khurja	
% Urban Population	34	22.27	59	24.79	16.05	23.62	–	32.35	19.25

Source: Census of India 2011

Gautam Budh Nagar District owing to its proximity to NCR has higher percentage of urban population. However, coming to the parts which fall under YEIDA phase 1, Urbanisation levels are low. This is expected to increase with the development of the area.

Figure 4-3: Decadal change in Urban & rural growth rate- YEIDA Phase 1



Thus, from the graph above the growth rate of urban areas has increased over a decade whereas the growth rate of rural population has decreased over a decade. This is also an indication of inclination of people towards better opportunities.

- Urban population growth rate has increased from 17.34 in 2001 to 23.43 in 2011
- Rural population growth rate has declined from 34.22 in 2001 to 18.36 in 2011
- Hence out migration rate of the rural areas has increased over a decade.

4.3 Population Characteristics

4.3.1 Literacy rate

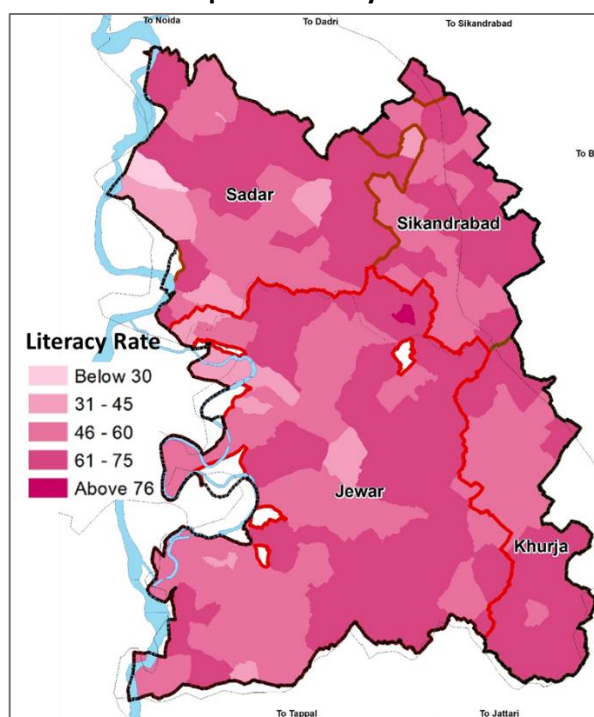
Literacy rate is the key for socio-economic progress. Literacy forms an important input in overall development of individuals enabling them to comprehend their social, political, and cultural environment better and respond to it appropriately. Higher levels of education and literacy lead to a greater awareness and also contributes to improvement of economic and social conditions. The average literacy rate of Jewar, Sadar, Khurja and Sikandrabad is 60%, 58%, 60% and 59% respectively which is low as compared to national and state average. The literacy rate of the female population is lower than the male literacy rate in all four tehsils.

Table 4-4: Literacy Rate at various Administrative Levels- 2011

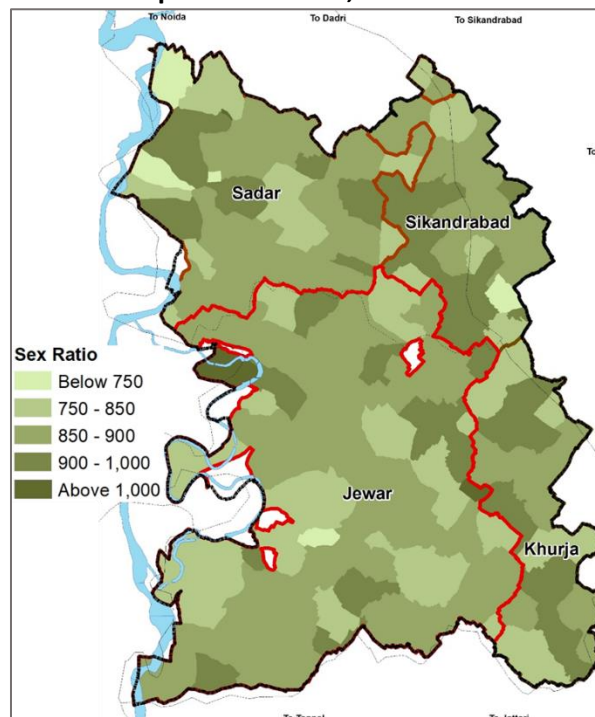
Administrative level	Name	Literacy rate (%)		
		Total	Male	Female
National	India	63.07	69.76	55.97
State	Uttar Pradesh	67.70	77.30	57.20
District	Gautam Budh Nagar	80.10	88.10	70.80
	Bulandshahar	68.90	80.90	55.60
Tehsil	Jewar	59.66	62.74	37.25
	Sadar	58.00	62.04	37.95
	Khurja	60.00	62.25	37.75
	Sikandrabad	59.80	62.16	37.84

Source: Census of India 2011

Map 4-1: Literacy Rate



Map 4-2: Sex Ratio, YEIDA- 2011

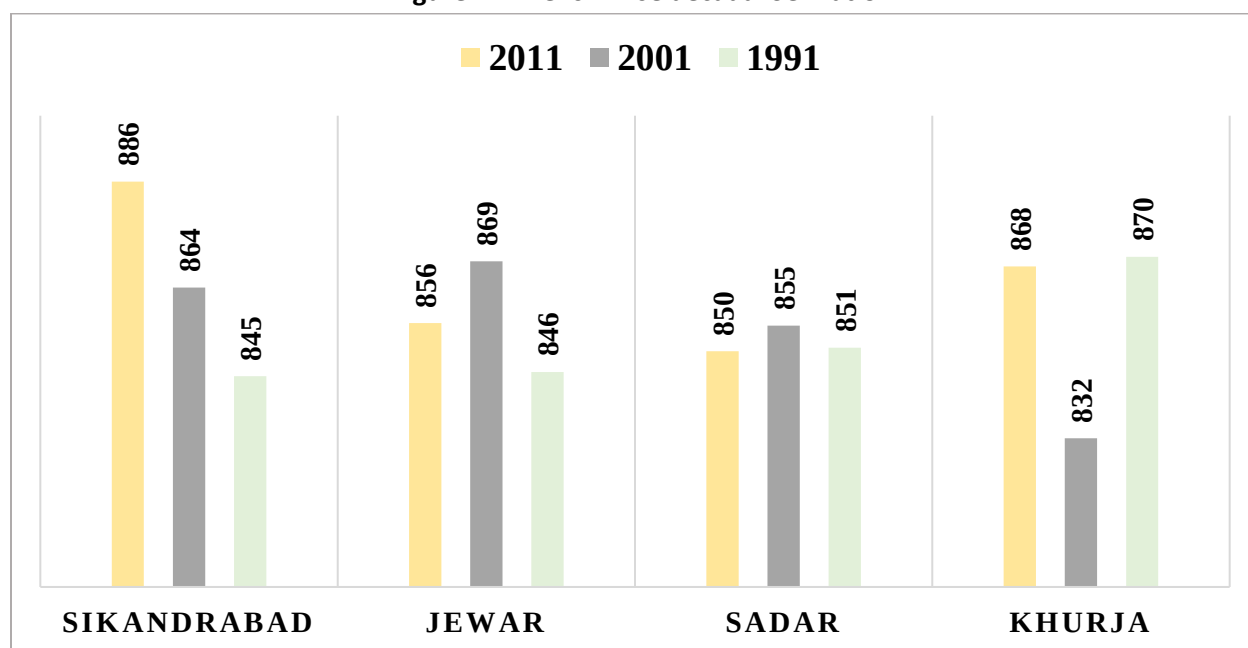


4.3.2 Sex Ratio

The sex ratio of the population affects, and is affected by, birth, death, immigration, and emigration rates. It is measured as the ratio of the number of individuals of one sex to that of the other sex, or the ratio of allocation in each. Sex ratios are among the most basic of demographic parameters and provide an indication of both the relative survival of females and males and the future breeding potential of a population. The average sex ratio of four tehsils Jewar, Sadar, Khurja and Sikandrabad is 862, 877, 879 and 886 which is low as compared to the national and state level sex ratio.

Out of all the four tehsils, the sex ratio of Sikandrabad and Khurja shows slight improvement in 2011 from that observed in 2001. This gain can be attributed to better health facilities for women and, to some extent improvement in the status of women and availability of better economic opportunities for women. But any complacency over this development must be tempered by the fact that there are sharp differences in Jewar and Sadar tehsil.

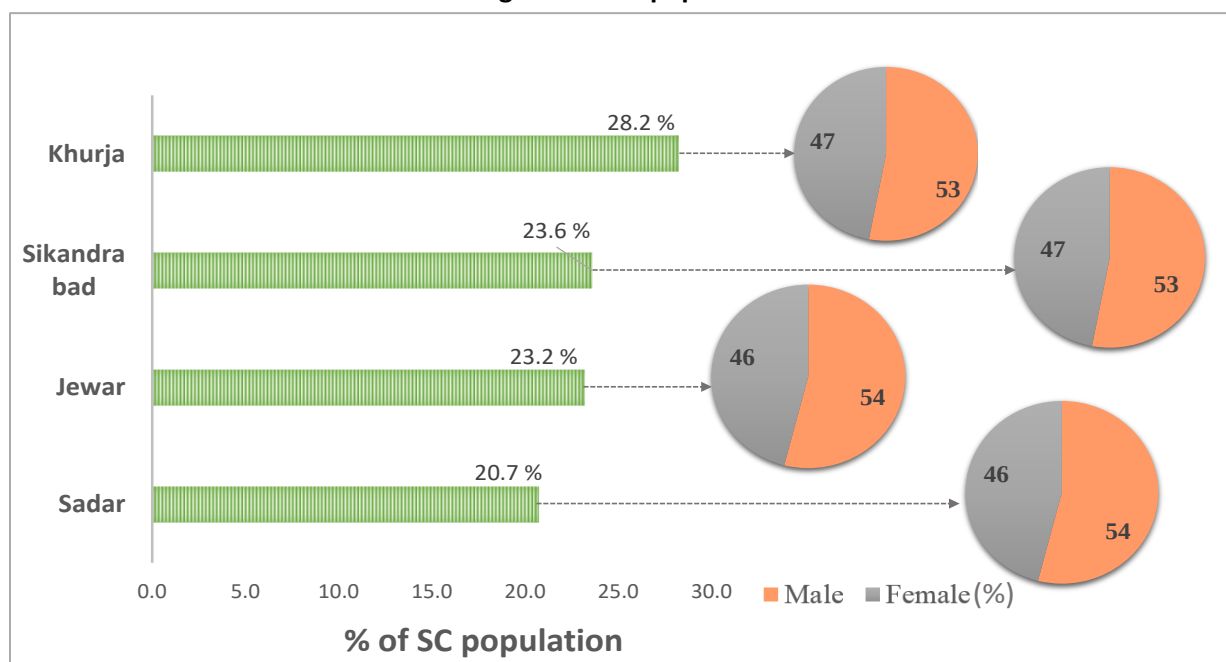
Figure 4-4: Tehsil-wise decadal Sex ratio



4.3.3 Scheduled Caste Population

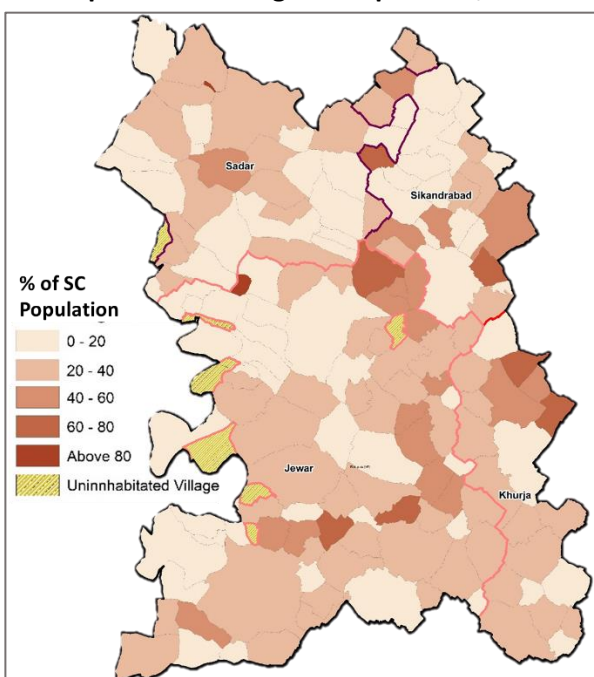
The SC population of YEIDA is around 87,401 that is 23.3% of total population. Khurja tehsil has the maximum concentration of SC population which is 28.2% as per census 2011.

Figure 4-5: SC population

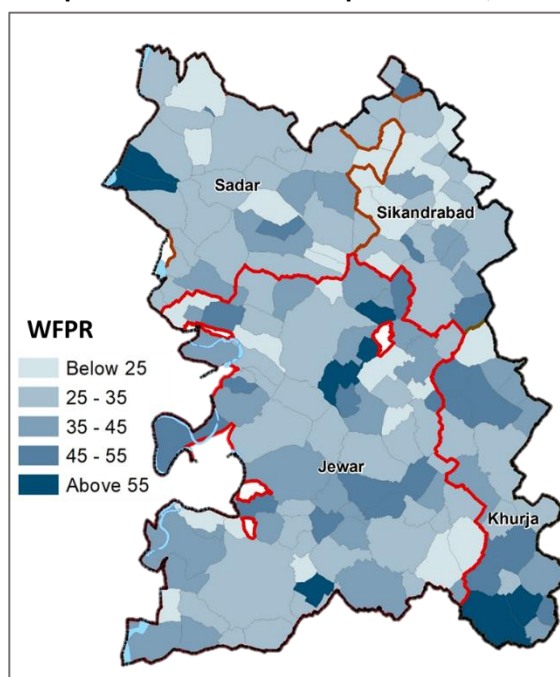


Source: Census of India, 2011

Map 4-3: Percentage SC Population, 2011



Map 4-4 Workforce Participation Rate, 2011



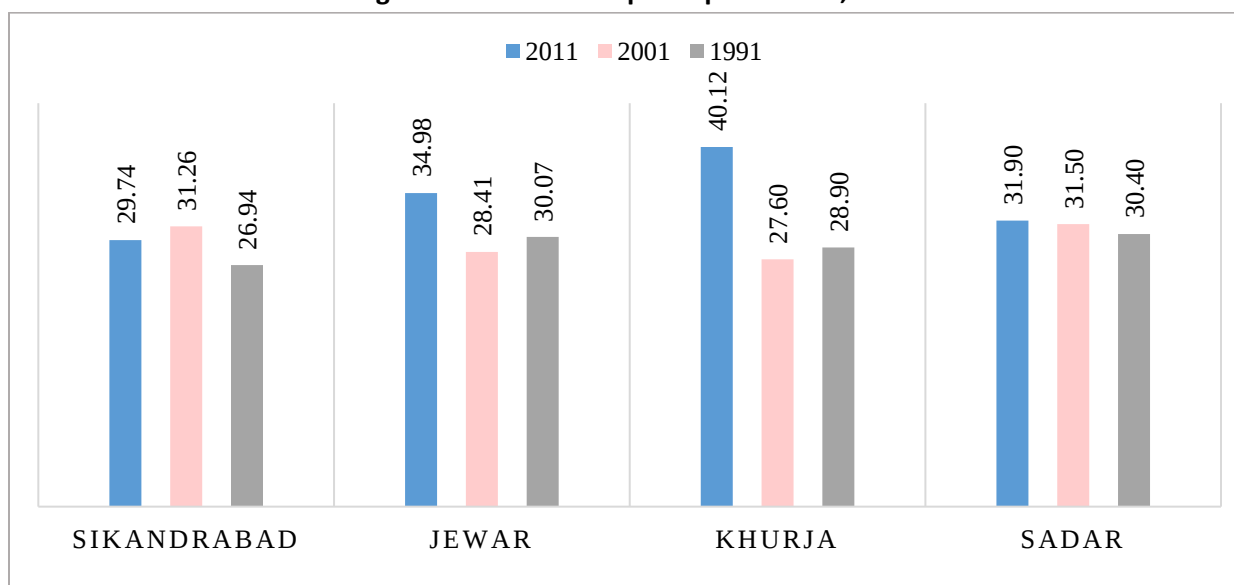
Source: Census of India, 2011

4.3.4 Workforce Participation

Demographic and non-demographic factors appear to be important in any analysis of labour force changes in developing countries. Under the demographic factors high rate of population growth directly affects the work participation rates. On the other hand, the initial efforts to develop an economy, expansion of school enrolment, improved health and welfare services, increased urbanization may be accompanied by declining trend in work participation rates and increase in the unemployment rates (*Rayappa and Erpensshade: 1975*).

Workforce participation rate is the measurement of number of persons employed in an area. As per census 2011 Sikandrabad tehsil, Jewar tehsil, Khurja tehsil and Sadar tehsil has workforce participation rate of 29.74%, 34%, 40.12% and 31.19% respectively. The workforce participation rate of Jewar, Sikandrabad, Sadar and Khurja is much less than the state average and national average workforce. The decadal change in the workforce participation rate is shown below, where we may infer that the workforce participation rate has increased over decades in Jewar, Khurja and Sadar tehsil. However, the workforce participation in Sikandrabad tehsil was observed to be decreasing over decades.

Figure 4-6: Workforce participation rate, 2011

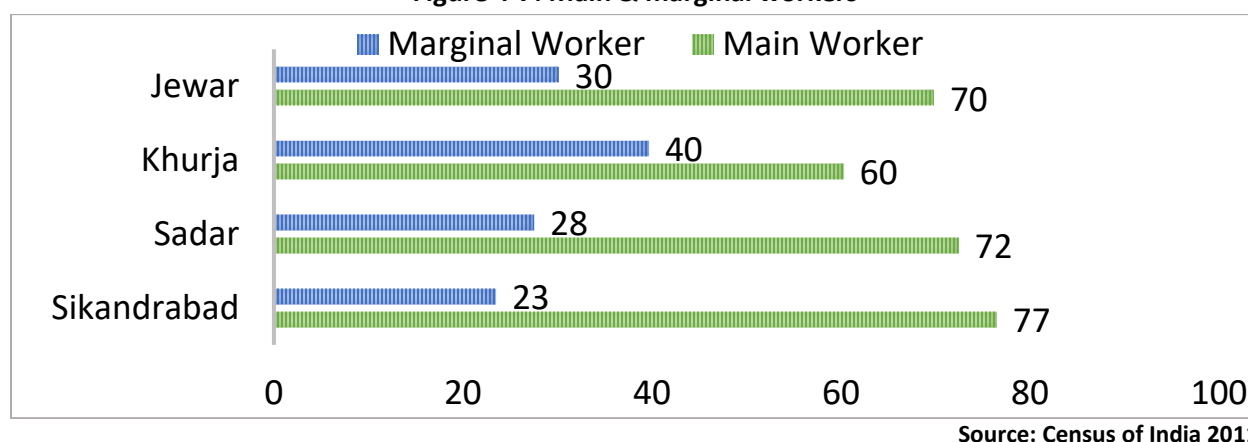


Source: Census of India, 2011

4.3.5 Main and Marginal Workers

In the previous section it is observed that the work force participation rate is in the range of 29%-40% within the planning area. The total workforce is further divided into Main and marginal workers. Main workers are the workers who work for more than 6 months. In rural areas main workers are mostly associated with agricultural activities. Marginal workers are engaged in work for only 3 to 6 months duration, and they are mainly migrating from one place to another for work.

Figure 4-7: Main & marginal workers



Main and marginal workers are categorized into cultivator, agriculture laborers, Household industry worker and other workers.

Figure 4-8: Tehsil-wise Main workers

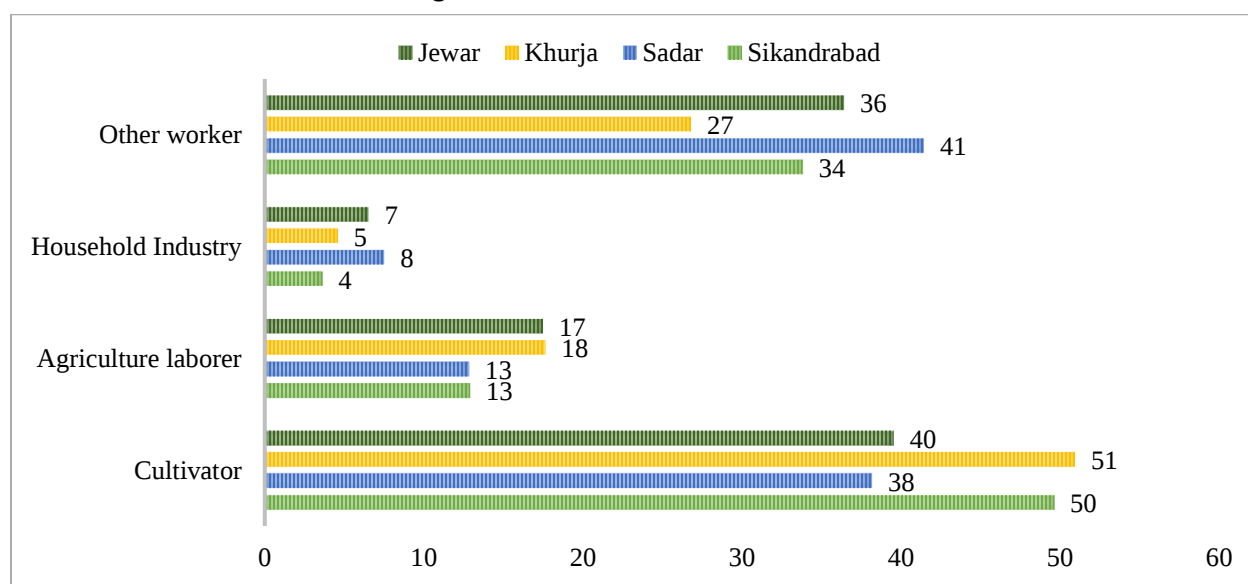


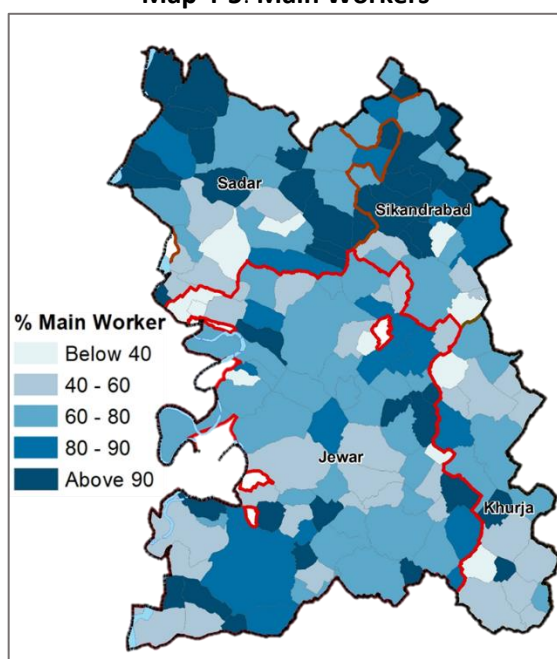
Table 4-5: Tehsil-wise Main workers

Tehsil	Main Worker	Cultivator	Agriculture laborer	Household Industry	Other worker
Sikandrabad	10792	5356	1393	392	3651
Sadar	18104	6912	2327	1361	7504
Khurja	10377	5287	1832	477	2781
Jewar	46200	18269	8083	3022	16826

Source: Census of India 2011

Therefore, from the above graph Jewar and Sadar tehsils have a greater number of workers who are associated with service sector, whereas in Khurja and Sikandrabad people are more into agricultural activities.

Map 4-5: Main Workers



Map 4-6: Marginal Worker

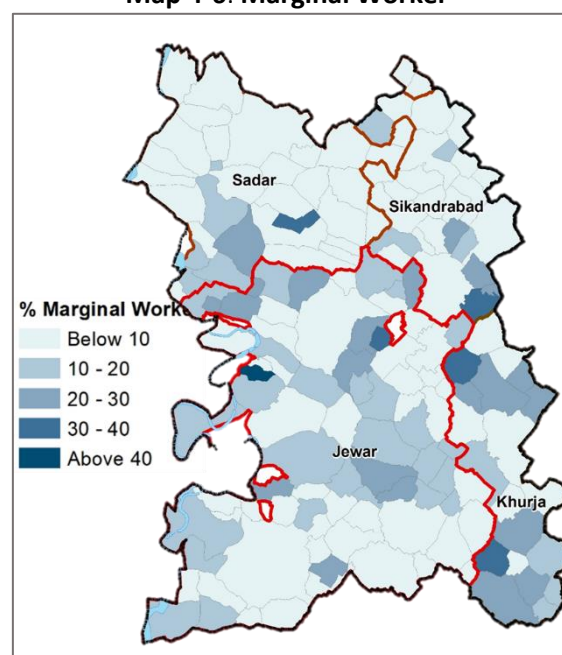
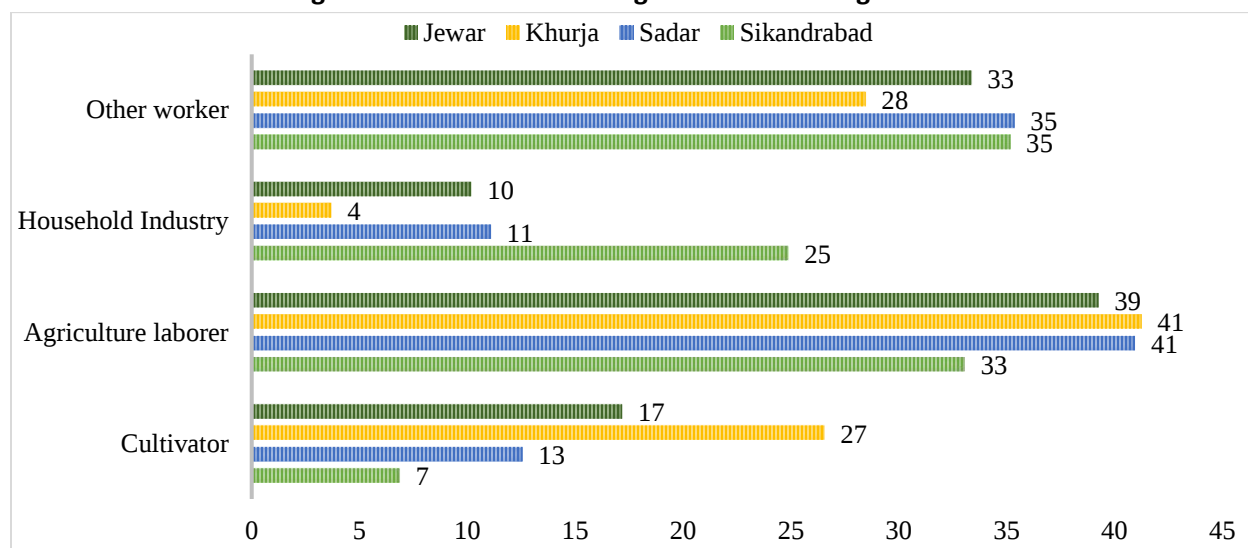


Table 4-6: Tehsil-wise Marginal worker

Tehsil	Marginal Worker	Cultivator	Agriculture labourer	Household Industry	Other worker
Sikandrabad	3315	228	1096	825	1166
Sadar	6878	864	2818	763	2433
Khurja	6829	1814	2818	253	1944
Jewar	19948	3426	7832	2033	6657

Figure 4-10: Tehsil-wise Marginal workers categorization



Therefore, from the above graph it can be seen that a greater number of marginal workers are agricultural labourer.

4.3.6 Housing characteristics

The houses which do not require any repairs and in good condition may be considered as 'Good', the houses which require minor repairs may be considered as 'Liveable' and the houses which are showing the sign of decay or breaking down and require minor repairs or ruined & are far from being in conditions that can be restored or repaired may be considered as 'Dilapidated'. Bulandshahar district housing condition is liveable in residential and residential-cum-other uses. Gautam Budh Nagar district has the good quality of housing condition in both residential and residential-cum-other uses.

Table 4-7: Housing condition as per census 2011

Sr. No.	District	Good (%)	Livable (%)	Dilapidated (%)
Total Housing condition				
1	Bulandshahar	42.9	53.1	4.0
2	Gautam Budh Nagar	65.3	33.0	1.7
Residential Housing condition				
1	Bulandshahar	44.0	52.0	4.0
2	Gautam Budh Nagar	66.0	32.3	1.7
Residential-cum-other use Housing condition				
1	Bulandshahar	36.9	59.5	3.6
2	Gautam Budh Nagar	50.9	46.9	2.2

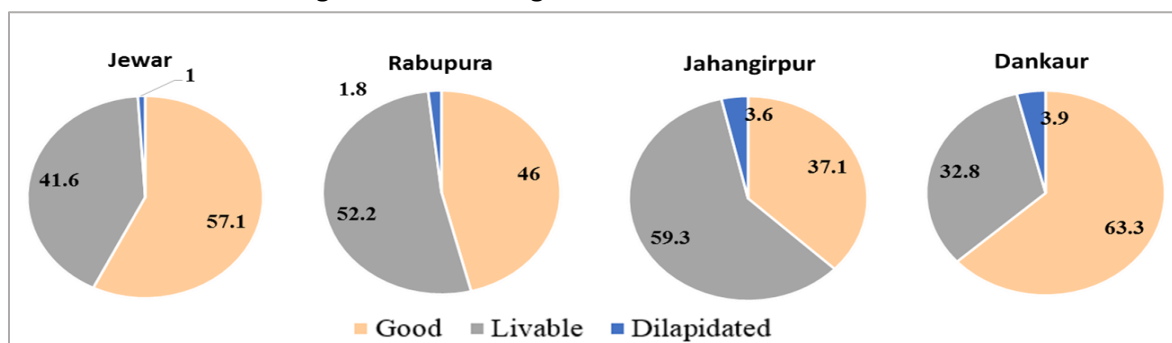
Source: Census of India, 2011

Table 4-8: Housing condition of urban Centre of YEIDA 2011

Sr. No.	Urban center	Total Household	Good	Livable	Dilapidated
1	Jewar	7007	57.1	41.6	1
2	Rabupura	3511	46	52.2	1.8
3	Jahangirpur	2916	37.1	59.3	3.6
4	Dankaur	3482	63.3	32.8	3.9

Source: Census of India, 2011

Figure 4-11: Housing Characteristics- YEIDA - 2011



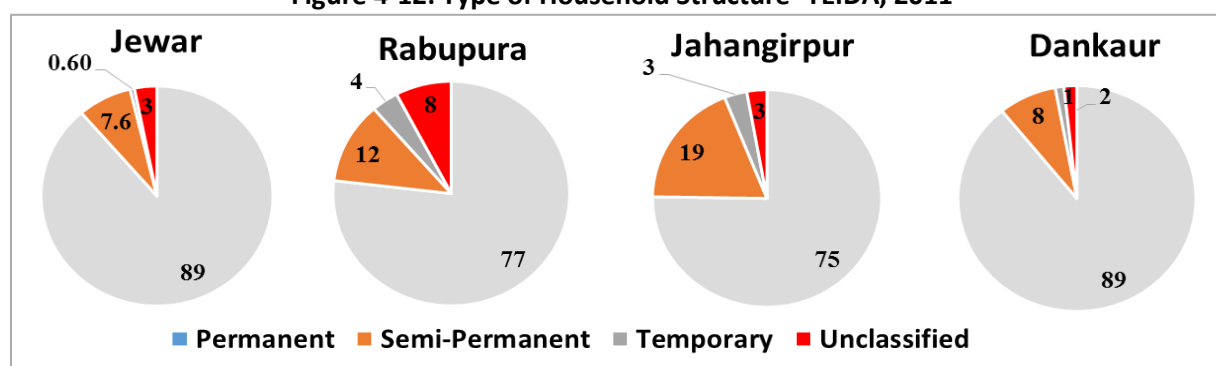
Thus, it can be observed that the housing condition of the urban centres of the planning areas is mostly good and liveable. Therefore, the exiting housing infrastructure is adequate in condition and therefore further provision should be provided for the future population.

Table 4-9: Type of household structure

Sr. No.	Urban center	Total Household	Permanent	Semi-Permanent	Temporary	Unclassified
Total Housing condition						
1	Jewar	7007	6218	532	37	220
2	Rabupura	3511	2698	414	130	269
3	Jahangirpur	2916	2194	546	93	83
4	Dankaur	3482	3104	276	41	61

Source: Census of India, 2011

Figure 4-12: Type of Household Structure- YEIDA, 2011



5 INFRASTRUCTURE PROFILE

The section details out the infrastructure presently available in YEIDA Planning Area. The section is divided into two parts. i.e., Physical Infrastructure which comprises of Water Supply, Sewerage, Drainage and Solid waste management while the second sub section talks about Social Infrastructure. (Education, Health, and Recreational and Green spaces).

5.1 Physical Infrastructure

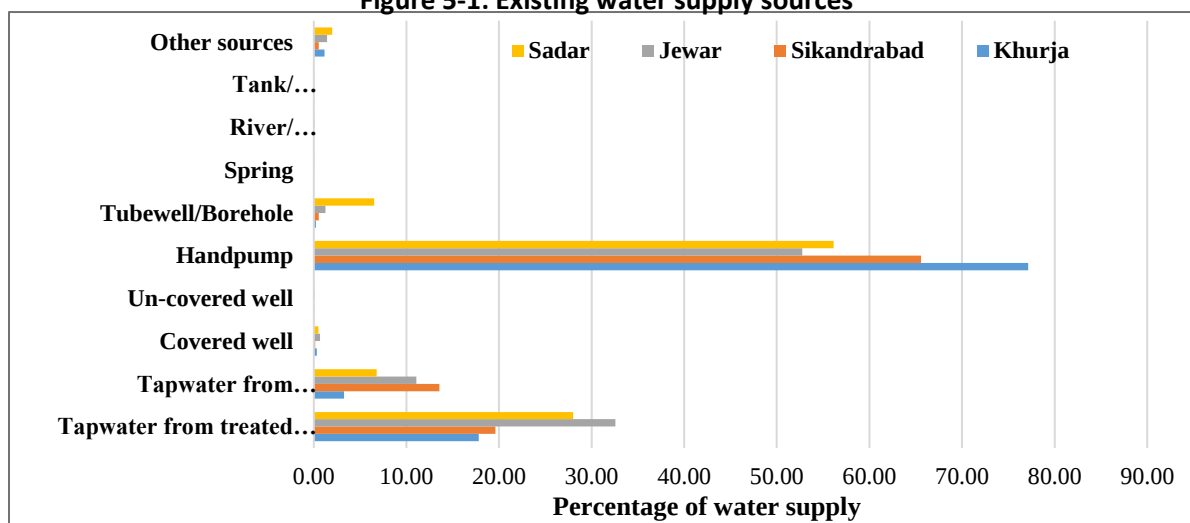
5.1.1 Water Supply

A dearth in the supply of drinking water has been continuously observed in YEIDA planning area. The driving forces for a holistic water management with the basin are strong population growth and urbanization, tourism and industrialization, globalization, and climate variability and change leading to decreasing precipitation.

The source of water supply in city is surface water and groundwater. Extraction from Groundwater is predominant for both irrigation and domestic use. Available water sources in the area are as followed:

1. **Upper Ganga Canal (Mat Branch):** The canal originates from Dehra Village. The upper part of the canal passes through Sunpehra-Rawani-Subra-Kapna-Hasanpur-Kolukhur-Machar. This canal serves to Inayatpur, Jewar and Barauda distributaries. In this branch the water flow is maintained throughout the year.
2. **Jewar Distributary System:** It originates from Upper Ganga Canal and it flows from Talra-Dhanon Kalan-Parsaul-Rustumpur-Bhaipur-Nangal Narayansingh-Dayanatpur & Jewar Villages in the area.
3. **Inayatpur Distributary:** It passes through Amanullahpur-Bhikanpur-Mandra-Banka.
4. **Barauda Distributary:** A very small portion of this canal passes through the city. IT passes through Siryal, Bhunnajathan and Alampur Hotla Village. The major water source for all the villages in YEIDA Region is Ground water (Hand Pumps, etc.). Except for Bela Khurd, jaganpur doawa, latifpur bangar, mathurapur, mustafabad, and Rampur khadar.

Figure 5-1: Existing water supply sources



The water supply sources in each tehsil are shown in the figure above, where it can be observed that the major source of water supply in villages is ground water. However, 20-30% Tap water supply is also available in the villages as well as in the urban centres of Jewar, Khurja, Sikandrabad and Sadar Tehsil.

Table 5-1: Water Supply Norms as per URDPFI

S.No	Classification of town/cities	Recommended maximum water supply levels (lpcd)
1	Towns provided with piped water supply but without sewerage system	70
2	Cities provided with piped water supply where sewerage system is existing / contemplated	135
3	Metropolitan and Mega cities provided with piped water supply where sewerage system is existing/contemplated	150

Source: URDPFI Guidelines section 8.3.1.1

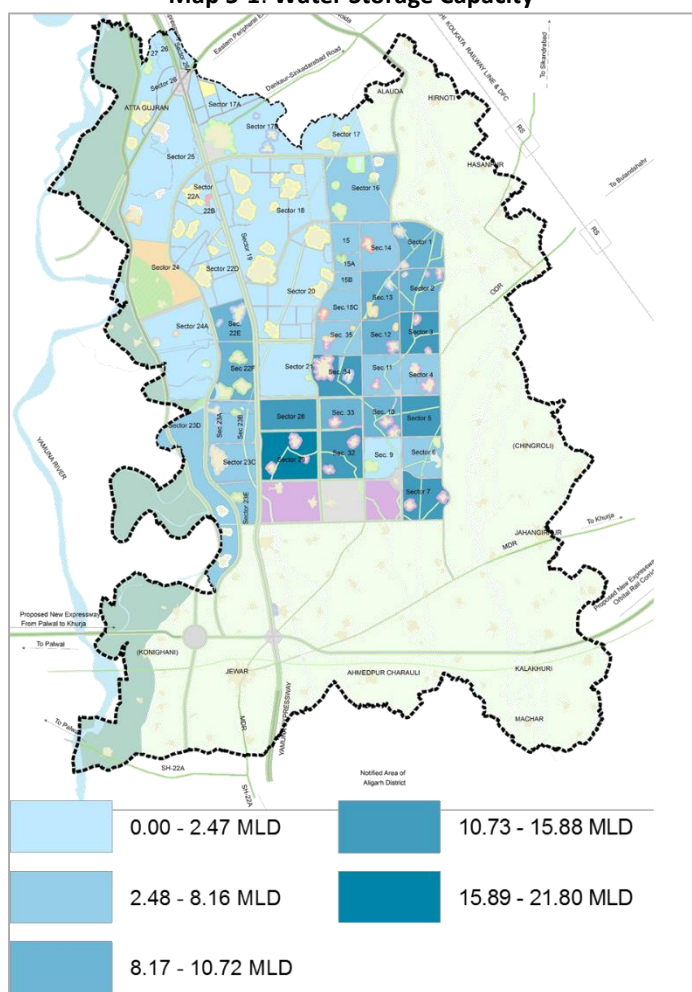
The URDPFI guideline suggests water supply demand to be calculated considering 135-150 LPCD for the projected population. In the city at present the requirement of water supply is 150 LPCD +15%. As per YIEDA 2031 master plan the Jewar Distributory in Sector 18 having water supply of 293 MLD will cater the demand of 25.7 lakh population.

The map shown here, depicts the sector-wise storage capacity of water in YEIDA phase 1 area. There are total 27 water works to fulfil the water demand of the city.

Issues and Observations:

It is estimated that through ground water sources, a large amount of water is being used for irrigation in the area. This would lead to over-exploitation of ground water resulting in lack of water supply for domestic use. Moreover, with the proposed development in the area, there would be a wide gap in demand supply of water which would become acute in summer due to the dependency on ground water.

Map 5-1: Water Storage Capacity



Therefore, alternative sources of water should be explored to meet the water supply requirements of the projected population. Non-traditional sources such as Rainwater Harvesting and Recycled Water should be introduced. Water demand for the area would be calculated keeping in view the envisaged developmental activities in the area. The per capita water demand has to be planned as per recommended standard including wastages. There would be regional approach while planning for the infrastructure facility in YEIDA Phase-1.

5.1.2 Sewerage and Sanitation

Earlier in YEIDA Abadi areas in Sadar, Jewar, Sikandrabad and Khurja the sewerage is discharged directly into local nallas which ultimately flows into Yamuna River.

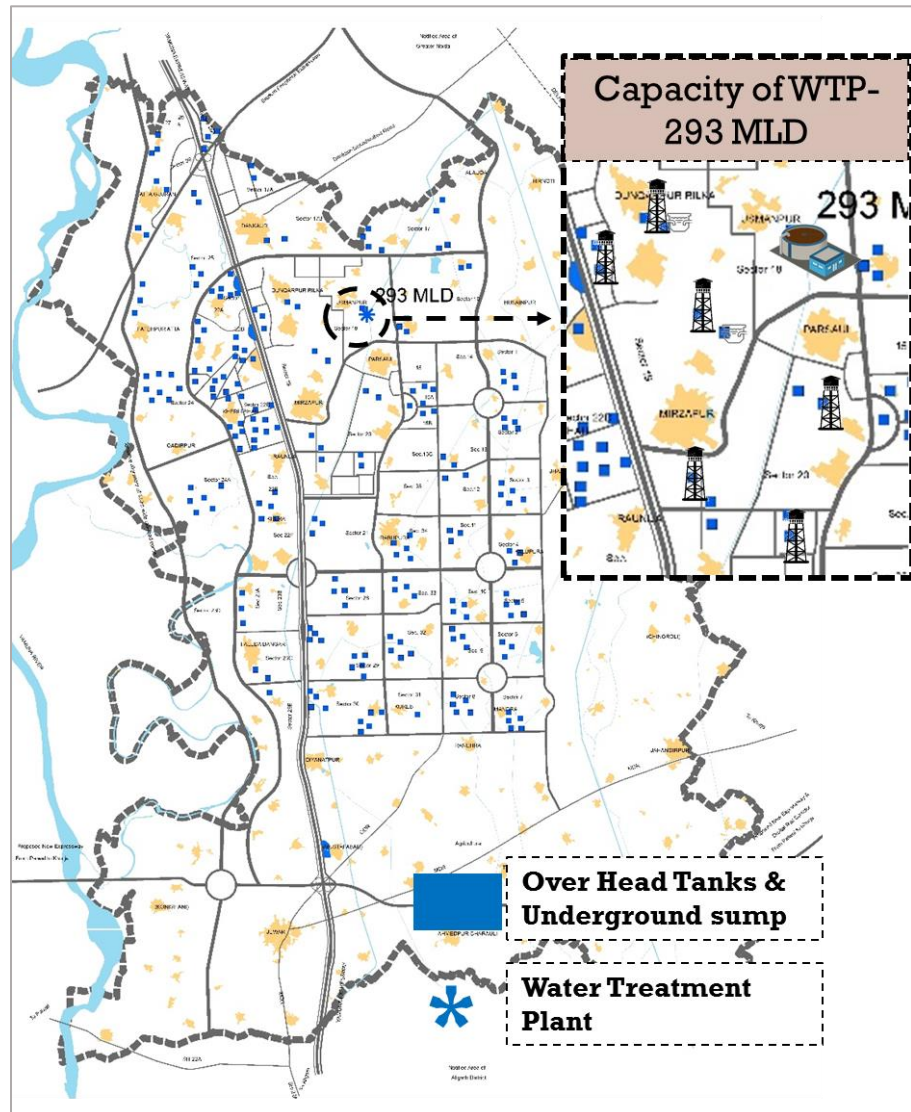
However, to prevent the water pollution and to conserve Yamuna River, sewerage treatment plants are proposed in sector 15B, Sector-6, sector-11 and sector – 29 with a capacity of 5-10 MLD, 20-40 MLD, 20-20 MLD and 20-40 MLD respectively.

As per CPHEEO manual, 80% of water supply may be expected to reach the sewers and accordingly will be treated and disposed as per the existing disposal network. The Map 5-2: Location of WTP, STPs & Water Work shows the location of STPs and WTP whereas the Map 5-3: shows Location of sewage treatment Zones and plants.

Sanitation is the process of safe disposal of human

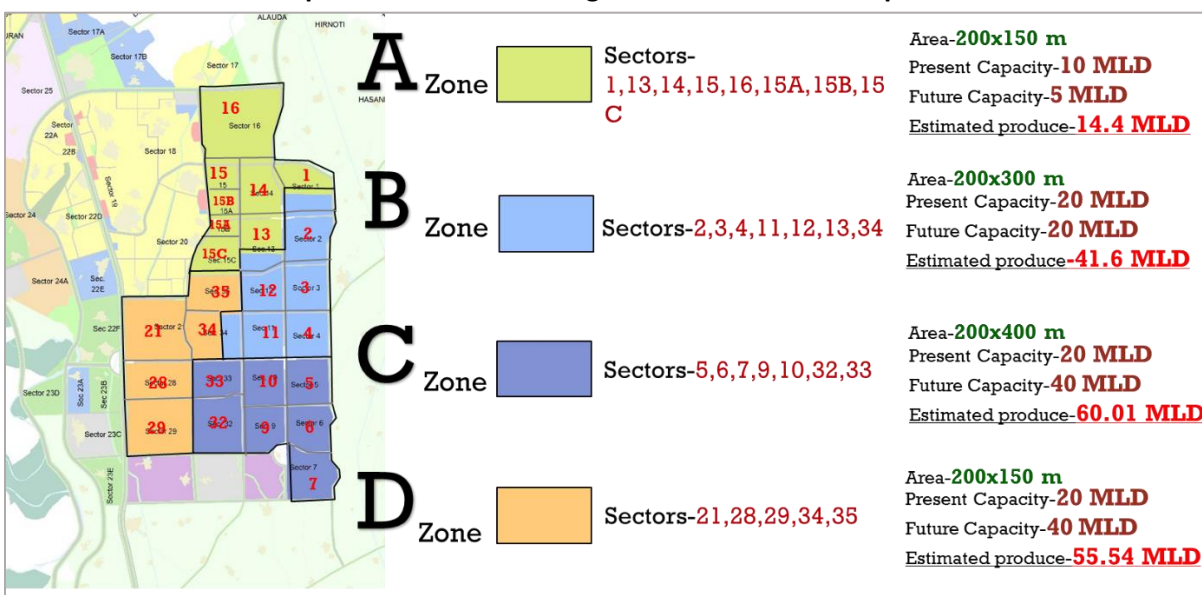
excreta in order to maintain a hygienic as well as disease free living environment. Basic issues in establishing proper sanitation framework are lack of awareness, social and occupational aspects,

Map 5-2: Location of WTP, STPs & Water Work YEIDA Phase 1- as per Master Plan 2031

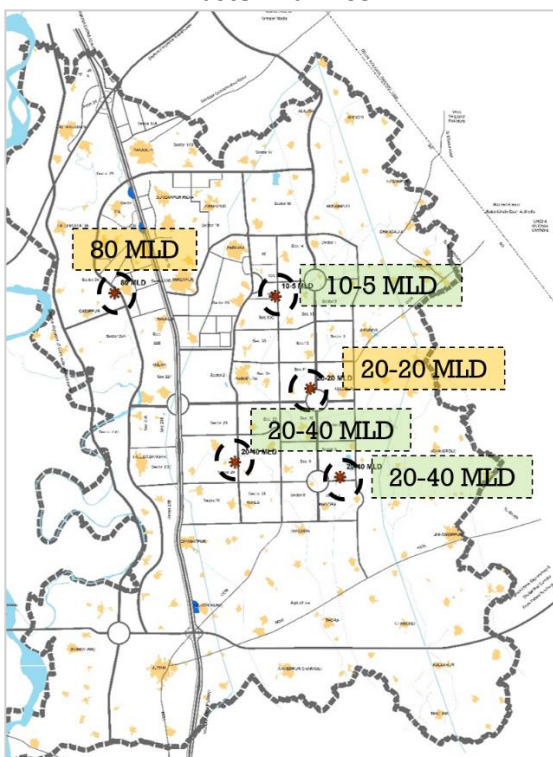


fragmented institutional roles, lack of integrated city approach and lack of demand responsiveness etc. Hence this can be effectively achieved by preparing a framework of sanitation at local level.

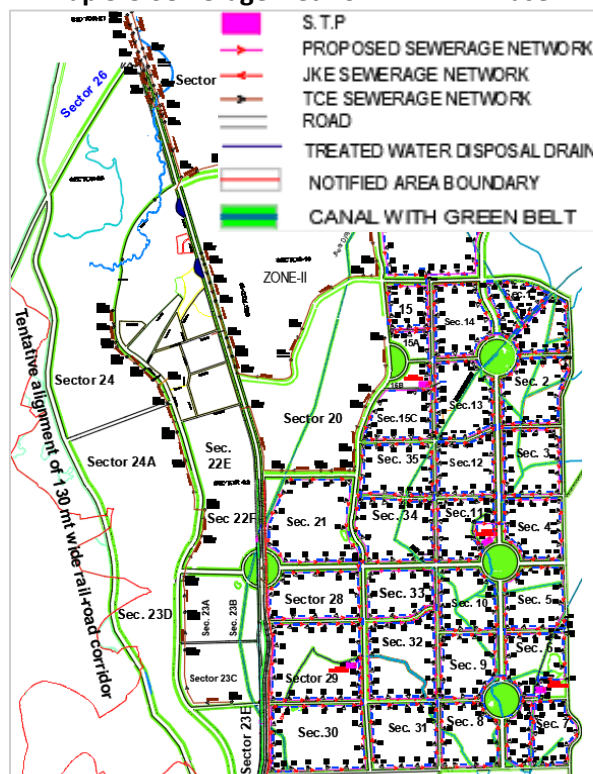
Map 5-3: Location of sewage treatment Zones and plants



Map 5-4 Sewage treatment zones as Per Master Plan 2031



Map 5-5 Sewerage Network- YEIDA Phase 1



Issues and Observations:

Lack of formal sewerage system in the urban centers have caused disposal of untreated sewerage into Yamuna through local nallahs; Moreover, use of irrigation fields as toilets by the local population would lead to contamination of ground water and unhygienic living condition. Therefore, Master Plan 2041 for YEIDA should aim to achieve zero discharge through following steps:

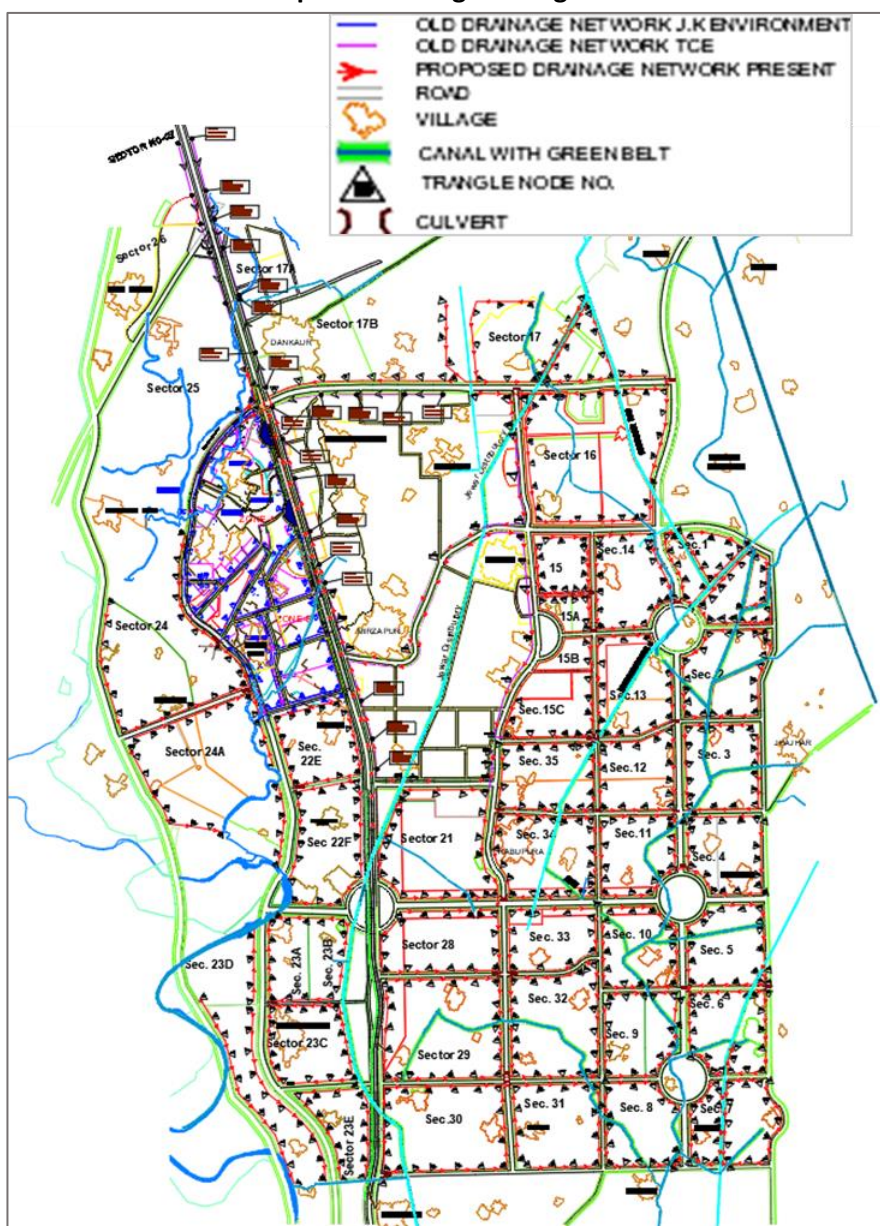
- By use of treated sewage for irrigating agricultural fields and watering green areas;
- Recycling and reuse of sewerage discharge.
- Taking into account the lack of toilet facilities in the area, provision of low cost sanitation facilities would be provided in the villages.

5.1.3 Drainage

Improved drainage is often a high priority for people living in urban areas, poor communities may be less apparently concerned about drainage problems than may be expected. In YEIDA planning Area, there are several small to medium sized natural water bodies in the area which collect, store and eventually discharge rainwater into the tributaries and finally fall into river Yamuna or percolate into ground. There are total 5 major natural drains in the YEIDA Phase-1 which finally discharge into the Yamuna River. These natural drains are: Bhuria Nala, Kund Nala/ Old Yamuna, Kharia Nala, Pathwaya Nala and Parauri Nala.

At present, apart from a couple of locations, no major water logging has been observed in the area. Since, the area is

Map 5-6: Existing Drainage line



agricultural and most of the areas are unpaved, most of the rainfall finds its way in the subsoil through percolation and very less rainwater flows through the natural drain. But once the area will be developed, major portion of the rainfall will not find its way to the underground water and hence would result in flooding of low lying areas. The proposed development in the area would also create increased run off. Hence, it is crucial to have a proper planning for a storm water drainage system in YEIDA Planning Area. It is also important to integrate the storm water drainage system with rain water harvesting system so that impact of tapping of ground water as a water supply source would be minimized.

5.1.4 Solid Waste Management

Solid waste is the amount of waste generated by citizen. It refers to the range of garbage materials arising from various animal and human activities that are discarded as unwanted and useless. Categorization of waste can be done based on organic and inorganic wastes. Also, categorization may also be based on hazardous waste, including radioactive, flammable, infectious, toxic, or non-toxic wastes. Further, categorization can also be done based on the origin or type of the waste, whether the waste is industrial, domestic, commercial, institutional, or construction and demolition. Solid waste management is the process associated with control of generation, storage, collection, transport or transfer, processing, and disposal of solid waste materials in a way that best addresses the range of public health, conservation, economic, aesthetic, engineering, and other environmental considerations. Solid waste management also includes planning, administrative, financial, engineering, and legal functions. Proper management framework of solid waste management can lead to generation of economic development of the city.

In 2001 the UP-Sub region has generated 2270 MT of solid waste per day, and it was estimated to be 6138 MT per day in 2021. It has been revealed that the towns in NCR are not disposing solid waste in environmentally friendly manner. In 2011 the waste generated in the city is 179.65 TPD with a population of 3.82 lakh. In 2011, the waste generation rate of YEIDA was 0.16 kg per capita per day. To calculate the total waste generation for the year 2041, 0.47 kg per capita per day is assumed for YEIDA on baseline trend of NOIDA as it is similar industrial town.

Table 5-2: Physical composition of MSW of YEIDA

Item	Item Wise Generation %
Organic Waste Comprising of leaves, fruits, vegetables, food waste, fine organic matter, hay, and straw etc.	40- 60%
Recyclables Comprising of rubber and leather, plastics, rags, paper, wooden matter, metals, glass, coconuts, bones, straw, fibers	10-18%
Inert matter Comprising of ash, crockery, earthen ware (pots), stones and bricks, sand & silt etc.	25-35%

The physical composition of solid waste is given in the above table as organic, recyclable, and inert matter.

Issues and Observations:

There is no solid waste management system in the YEIDA Phase-1 at present. However, increase in solid waste generated is expected in the region due to the proposed developments in YEIDA Phase 1 area. Inefficient disposal techniques may result in the contamination of ground water effluents from it and run off from the waste. Hence, there would be a need to adopt various strategies for solid waste management. Segregation of waste at source, effective transportation to the site and segregation for processing needs to be considered as the key steps in the solid waste management process. Scientific solid waste management needs to be ensured. Aim should be to minimise the amount of solid waste generated so as to minimise the area required for waste disposal. Waste generated needs to be considered as a resource and suitable recycling techniques needs to be adopted so that the percentage of waste reaching the disposal site is minimised.

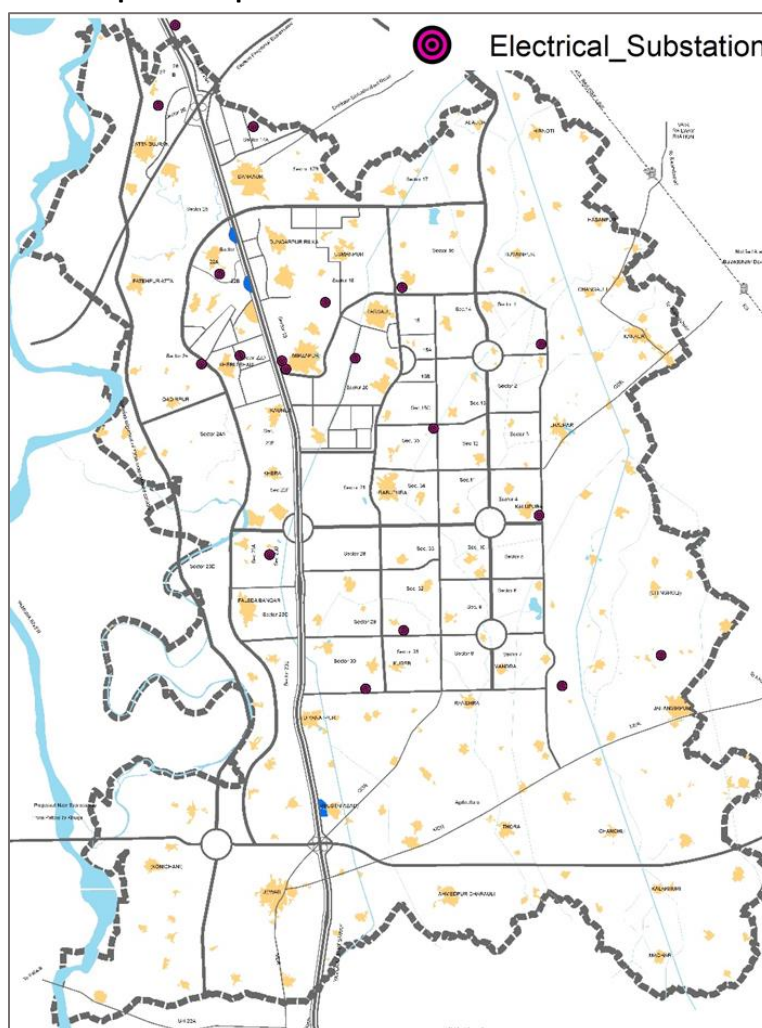
5.1.5 Power Supply

Paschimanchal Vidyut Vitran Nigam Ltd (PVVNL) is responsible for the power distribution in Bulandshahar and Gautambudh Nagar districts. The various activities which consume power are domestic and commercial lighting, industries, public light system, rail/traction, agriculture and public water supply. Out of this industrial sector consumes the highest percentage of power which is 50% of the total consumption.

Gautambudh Nagar is one of the districts which have a high requirement for power (34% of the total requirement of the UP Sub Region. Moreover, the proposed development activities in the YEIDA Phase-1 would impose a high demand on the existing power supply in the UP Sub Region;

Plan for power sector should be integrated with the sub- regional plan so as to meet the additional power demand of the area. In addition to meeting the additional power requirements, promotion of non-conventional energy sources such as solar energy plants needs to be emphasized by the government.

Map 5-7: Proposed Sub-Station in Master Plan 2031



5.1.6 Telecommunication

Out of 171 notified villages in YEIDA Phase-1, 81 villages have post office, telegraph offices and telephone Connections (Census of India 2011). It can be observed that the area have poor coverage in terms of communication facilities, as there is less than 40% coverage of communication facilities in the notified villages of YEIDA Phase-1.

Dedicated telecommunication exchanges to meet the communication needs of the existing and the projected population by 2041 in the YEIDA Phase-1 should be proposed. The possibility of integration of telecommunication service network with the power distribution network could be explored wherever it is technically and commercially feasible.

5.2 Social Infrastructure

5.2.1 Education

In the National Capital Region as per 2016-17 UDISE data there are 45,261 elementary schools and 12,200 secondary/ Higher Secondary schools. In the National Capital Region, it has been found that number of elementary schools per lakh population was 74 nos. in 2016-17, while the same for secondary/higher secondary schools was 20 nos.

In Bulandshahr, 40% of the elementary schools are Government schools while the other 60% of the schools are private. 11% of Secondary/ Higher secondary schools are Government schools and 82% are private schools. In Gautam Buddha Nagar, 41.9% of the elementary schools are Government schools while the other 58.1% of the schools are private. 3.3% of Secondary/ Higher secondary schools are Government schools and 97 % are private schools.

Figure 5-2: Education Facilities requirement as per URDPFI section 8.4.2

Sr. No.	Category	Population served per unit (URDPFI Norms)	Area (Ha) Required Per Unit (URDPFI Norms)
1	Pre – Primary School	2500	0.08
2	Primary School	5000	0.4
3	Senior Secondary School	7500	1.8
4	Other Colleges	1,25,000	4
5	Engineering College	10,00,000	6
6	Medical College	10,00,000	15
7	Polytechnic, Vocational Training School, Non-Formal Training Centre	10,00,000	4
8	Special School for Disabled	45,000	1
	Total		

However, in order to make education accessible and affordable to each and every child of India the Government of India as started certain initiatives such as DIKSHA Portal, SWAYAM Programme, NEAT (National Educational Alliance for Technology), National Skills Qualifications Framework (NSQF), a quality assurance framework, NSDC (National Skill Development Corporation). There are 206 educational

institutions in Jewar, Sadar, Khurja and Sikandrabad, which includes primary schools, secondary, and high schools. The required facilities will be calculated based on the population projected for the year 2041.

5.2.2 Health

For an industrial city it is mandatory to have adequate health facilities for both the residents as well as the workers. At present, there are 141 health institutions in the city that includes primary healthcare centres, dispensaries, and other health centres. According to census 2011 population and URDPFI the requirement for health facilities are around 54 units.

Figure 5-3: Requirement of Health Facilities as per URDPFI as per section 8.4.3

Sr. No.	Category	Population served per unit (URDPFI Norms)	Area Required Per Unit (URDPFI Norms)
1	Dispensary	15,000	1
2	Nursing home, child welfare and maternity Centre	75000	0.25
3	Family Welfare Centre	50,000	0.08
4	General Hospital	2,50,000	6
5	Veterinary Hospitals	5,00,000	0
6	Polyclinic	1,00,000	0.25
7	Intermediate Hospital (Category A)	1,00,000	3.7
8	Multispecialty Hospital	1,00,000	9
9	Specialty Hospital (NBC)	1,00,000	3.7
10	General Hospital (NBC)	2,50,000	6
11	Diagnostic center	50,000	0.08
12	Dispensary for pet animals and birds	1,00,000	0.03
	Total		

5.2.3 Recreational & Green Spaces

As per the Master Plan 2031 sector-25 of YEIDA is sports city, racing tracks and residential units are also there within the sector. Apart from sector 25, YEIDA could be developed in such a way that it will have potential to be a host city for Olympic game, international expositions, or other related events. Open space includes, recreational areas, green areas, vacant lands, flood plains etc. URDPFI suggests that for open space, 10-12 Sqm per person is desirable.

Housing Area Park	5000	
Neighbourhood Park	15000	
Community Park	1 lakh	
District Park	5 Lakh	
Sub City Park	10 lakh	

***The suggested standards for open spaces in large and metropolitan cities are 1.2 to 1.4 ha per 1000 persons, depending upon the land availability.**

6 TRANSPORTATION PROFILE

A transport network of a city comprises of road, rail and air network and it provides one of the major supports for economic development of the city. As per the existing scenario, YEIDA has good local and regional connectivity. YEIDA phase-1 is directly connected to the ring road of Delhi through Yamuna expressway and eastern peripheral expressway connecting Faridabad on west and Ghaziabad on east. on the northern side. It is also connected to Jewar, Palwal, and Aligarh through Yamuna expressway. The regional context in detail has been discussed in the section 2.2

6.1 Transport Proposals in Master Plan 2031

1. **Roads:** In Master Plan 2031, higher width of roads were proposed. The 130 m wide road is connecting to Greater NOIDA and NOIDA. The 120 m width road is connecting to 130 m width road and proposed peripheral expressway on the southern side of the city. The 100 m wide roads connect peripheral roads and passes through the city. Also, Yamuna Expressway, Easter Peripheral Expressway and Proposed Peripheral Expressway have a width of 100 m.
2. **Metro:** A metro link is also proposed in the Master Plan 2031 connecting Greater NOIDA Metro line to the YEIDA.
3. **Multi-Modal Hub:** In the Multi modal hub MRTS, BRTS, Metro, parking facilities and intermediate public transport mode are considered and given space. The metro is contemplated along the main spine of the city which will support the concept of Transit oriented development (TOD) in the Master Plan.
4. **BRTS:** A median side BRTS is proposed to improve the public transport connectivity in the city and to give a feeder service to the proposed metro line.
5. **Personalized Rapid Transport:** Personalized rapid transport was proposed in order to connect Noida International Airport to Film city which covers sector-21, 35, 34, 33, 28, 32, 29, 30, and Sector-3. Its alignment Length is 14.6 km and has 12 stations and the stations are planned at every 500m to provide easy access to nearby commuters.
6. **Logistic Park:** Logistic Park is located within Aligarh district of YEIDA Phase 2 region which is approximately 70 km South of Delhi and 24 km East of Palwal. The area of land provided by YEIDA is 494 Ha, the area is surrounded by major cargo clusters such as Delhi, Noida, Bulandshahr, Faridabad, Mathura, etc.

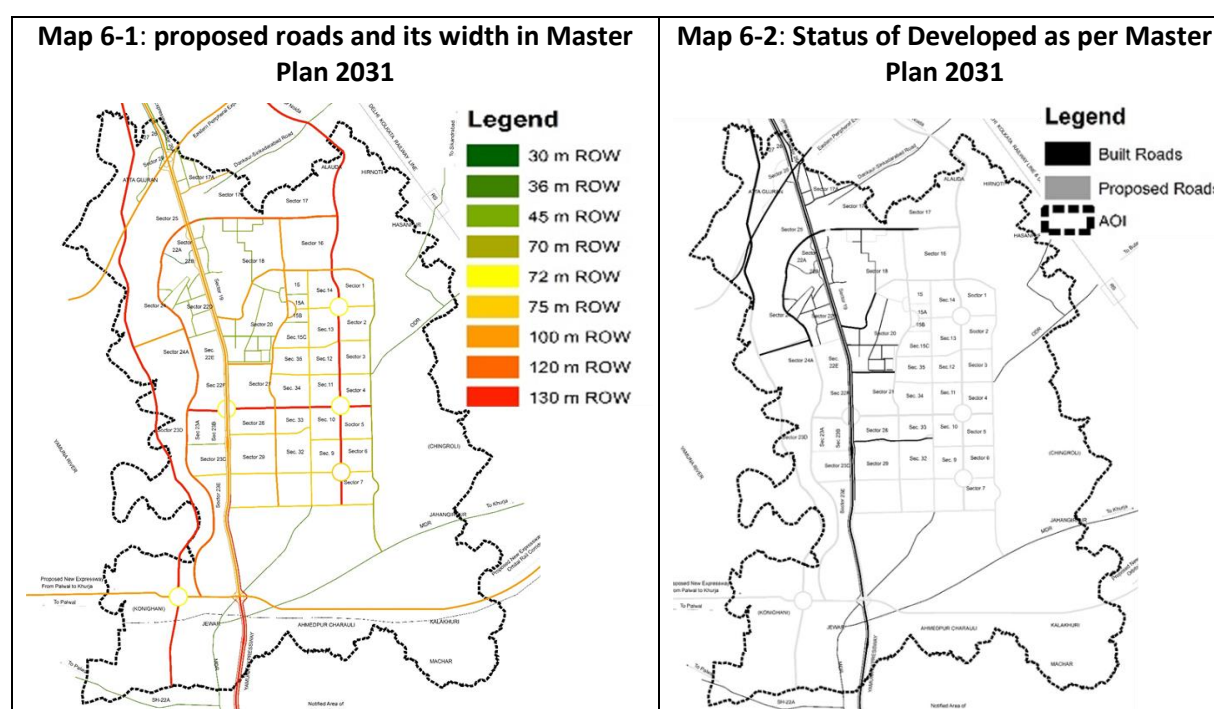
As per draft report on feasibility study cum detailed project for development of logistic park in Tappal Bajna Urban Centre in YIEDA region the entire region is expected to undergo large scale development and industrialization. The region is strategically located in the southern NCR, which is witnessing a large-scale regional transformation. Further, the overlapping catchments of Tappal-Bajna UC, NCR, and Delhi Mumbai industrial Corridor (DMIC) adds on to the cargo potential in the region. The region's excellent connectivity

and potential for intermodal integration covering rail, air and road transport would act as a catalyst for development of the proposed master plan and attract commodities from the larger catchment area.

The principal infrastructure facilities in the logistics park would comprise storage infrastructure, handling area, vehicle parking area for trucks and other vehicles, equipment yards, maintenance facilities, office space, gate complex, open plots and support infrastructure including utilities such as road, water, sewerage, power, telecommunication among others.

6.2 Current Status of Master Plan 2031 Proposals

The roads proposed in Master Plan 2031 are shown below:



In the above map it is given that some of the roads proposed in the Master Plan 2031 are implemented. It includes the roads of width 130 m, 120 m, 100 m, and 75 m. The city is still in the initial stages of development and this proposal has not yet been realized on ground.

6.3 Other Transportation Proposals

The proposed transportation networks in the area are as follows:

1. High Speed Rail (HSR):

HSR Corridor is proposed parallel to the Yamuna expressway with an aim to meet the growing passenger demand and to optimize the high-speed rail connectivity between major cities/commercial/economic centres, the following high-density passenger routes were identified for developing High Speed Railway (HSR) corridors. **High speed rail will have a stop at Noida International Airport.** This system will increase the connectivity and travel speed of YEIDA and Noida International Airport significantly.

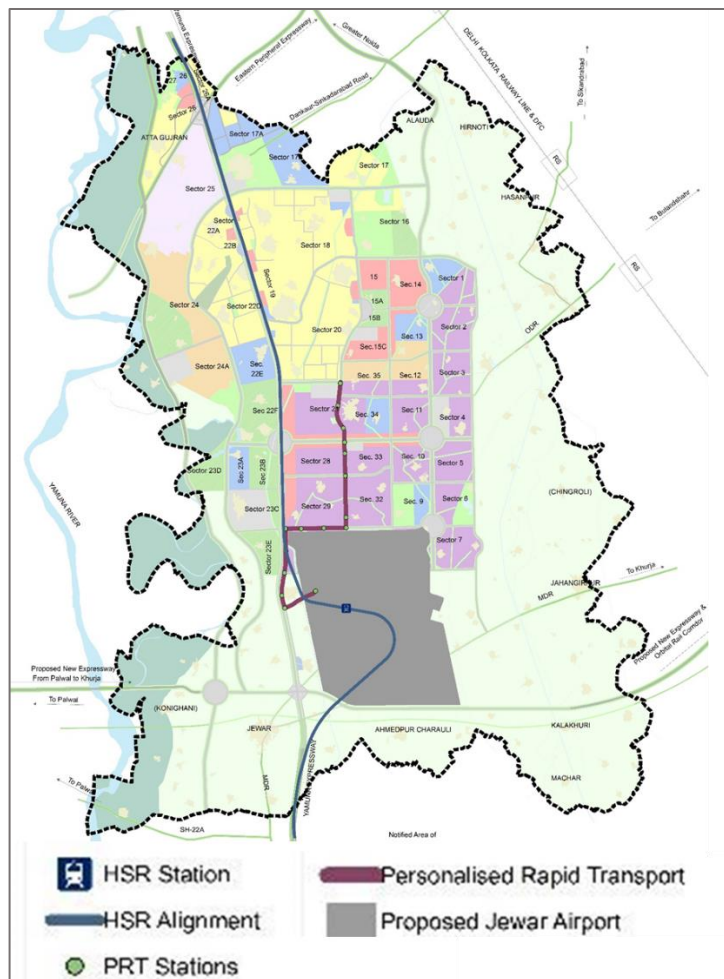
2. Rapid Rail Transit System (RRTS):

National Capital Region Planning Board (NCRPB) has proposed eight RRTS corridors for commuter traffic travelling between Delhi in NCR. Three corridors are already under implementation by National Capital Region Transport Corporation (NCRTC) and are proposed to be implemented by 2026. The remaining corridors will be implemented by 2031. Implementation of Delhi-Ghaziabad-Meerut RRTS Corridor is expected to shift the modal share in favour of public transport from 37% to 63% in the region, which ultimately help in curbing pollution.

3. Metro:

A metro link is also proposed that will connect Noida International Airport to Delhi. This metro line will ease the movement of passengers to travel from one airport to the other in two and a half hours and also makes travel easier for those travelling from airport to Noida or South Delhi to Greater Noida.

Figure 6-1: Alignment of High-Speed Rail Corridor



6.4 Impact of these proposals on YEIDA:

Today, commuting in the shortest time is always the preference of the end users. The proposals like HSR will be conducive in connecting YEIDA phase 1 region to the state level like Punjab in the north and Kolkata in the east. Another proposal, RRTS would increase the high speed and minimum commute time at NCR level. Metro would effectively be communicating people in mass number on daily basis from YEIDA airport to Delhi IGI.

It is still evident that the role of transport and logistics in YEIDA Phase-1 is dependent on the implementation of transport projects in the region. The overall development of the YEIDA Phase-1 is strongly related to the proposed economic and transportation projects in the regional and sub-regional plans. However,, in order to support the industrial development of YEIDA Phase-1, enhanced freight and passenger movement would be given a priority in near future. And with the enhanced connectivity to Delhi and other urban centres in the NCR, YEIDA planning area will become a major economic center in the urban hierarchies of UP and NCR, because of industrial and airport related activities.

7 ENVIRONMENT PROFILE

YEIDA consists of natural drains, rivers, agricultural cultivable land, plantations etc., the city is a part of the fertile and agriculture rally productive land with alluvial soil plains formed by deposition of soil by rivers originated in Himalayas. This section attempts to outline the current condition of the environment in YEIDA.

7.1 Existing Features

7.1.1 Climate

This city experiences extreme climate. The average minimum temperature in winter varies from 3 degree C to 5 degree C and in summer maximum temperature reaches to average of 40 degree C to 45-degree C. In 2006-07 the temperature recorded was varying from 6 degree C to 43 degree C **(2006-2007). (YEIDA-approved masterplan report-master plan phase 1 2031)**. Southwestern monsoon is the major source of rain. The region receives an average of 700 mms of rain annually. 85% of the average annual rainfall is received in the months of monsoon.

7.1.2 Topography

Tehsils Jewar, Sikandrabad, Khurja and Sadar falls in upper Ganga plains and Trans Ganga Plains. Apart from the rivers, the area supports numerous wetlands and dry deciduous to Thorn forests. YEIDA lies on Upper Gangetic alluvial plain. It has a gentle slope of 22m over an area of 35km. The highest point is at Dankaur railway station in the north-western area of the region, where it descends towards the Yamuna River. There is a ridge of width 500m from north to south in the middle left with a slope from west to east and this corridor has more gradient compared to the rest of the areas.

7.1.3 Forest

As per India State of Forest Report (ISRF) 2019, of Forest Survey of India, total forest cover and tree cover is 24.56 % of the total geographical area of the country (forest cover is 21.67% and tree cover is 2.89 %). As per the report, the area under forests in NCR is about 3262 (sq. km) which constitutes about 5.75% of its total area, which is much below national average. On the south of Dankaur there is a strip of land and on the eastern Kund nala there is one patch of fairly dense forest. **(Draft regional plan-2041)**. At present, agriculture is the main economic activity in YEIDA phase-1 and it is supported by natural water bodies, canals and ground water. The main crops in the region are sugarcane, wheat, rice, maize, barley, oilseeds, potato and sugar cane.

7.1.4 Water Bodies

- 1) **Tributaries and Streams:** Rivers passing through the urban areas are their lifelines and for rural areas its blessing. However, due to unprecedented urbanization and manufacturing activities in the areas along the rivers, many of these have become polluted and, in some cases, unfit even for bathing. Flood plains of the rivers in urban areas have witnessed the construction activities including the unauthorized residential development, a phenomenon which has severely degraded the overall natural environment and river ecology. **(River centric urban planning Guideline 2021)**. An urban river is a stretch or section of a water resource located within a catchment that contains a town or a city, where the structure and function

of that water resource is altered from its natural state. Rivers are essential not only from the point of view of water demand, but it provides a fabric of social connectivity. YEIDA phase-1 is adjacent to Yamuna River, and it also has natural drains and tributaries of Yamuna River. The smaller drains together form a network which helps in the drainage of surface water during the times of rain. The pollution load in rivers has been increasing over the years due to disposal of human and industrial waste in the rivers. According to the guideline of river centric development, cities should be responsible for the conservation and rejuvenation of its river. Thus, special emphasis is given on the conservation of Yamuna River.

- 2) **Natural and manmade ponds and lakes:** Other than Tributaries & Streams, there are 10 major lakes in the YEIDA Phase-1. These lakes and ponds could be conserved in order to facilitate ground water recharge of aquifers. The climate change is causing effects on these lakes, besides the agriculture activities are also responsible for reduction in water availability in the waterbodies. Hence, restoring the water level and protecting the ecology around / of the lake/pond is a must, with necessary conservation measurements. In order to preserve the waterbody, the foremost step involves delineation of the waterbody and its zone of influence. Hydrological regime should be considered as the primary delineation characteristics for defining waterbody boundary of lake/ pond.

Figure 7-1: Natural and manmade ponds and lakes

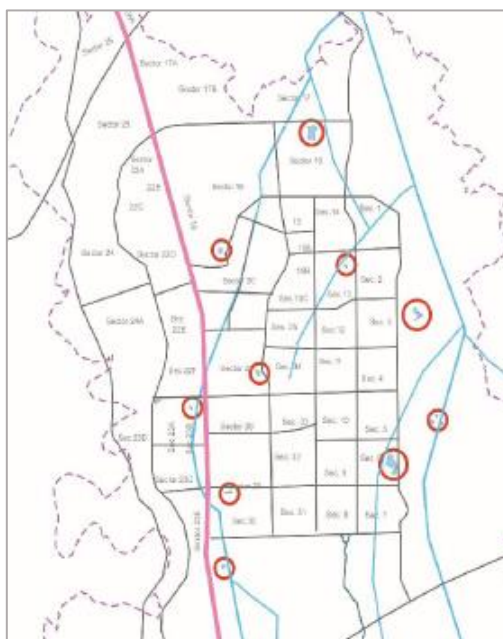
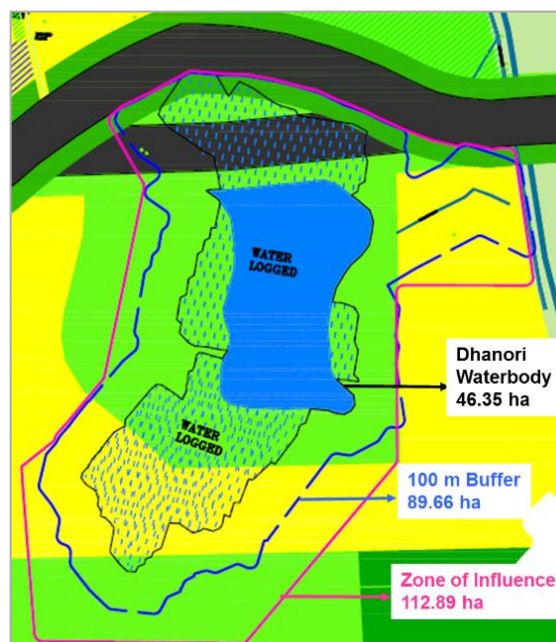


Figure 7-2: Dhanori Waterbody



Dhanori lake/ pond falls under the YEIDA Planning Area, situated in North-east part. This pocket of marshy land is surrounded by green multi-crop agricultural fields, is spread over an area of 100 acres (40 hectare). Dhanori covers a total land of 46.35 hectare which includes marshy land/water logged area. For the preservation of lake, the zone of influence area has been demarcated as 112.89 ha (including a 100 m buffer of 89.66 ha, waterbody area & come other additional area for ground water recharge of aquifer).

- 3) **Kund Nalah Rivulet:** This rivulet passes through the YEIDA Phase-1 is part of the larger system of rivulets related to Yamuna River. Hence, development activities in the area need to be sensitive to the natural systems and they could be integrated with the recreational and conservation zone of the Master plan.
- 4) **Upper Ganga Canal:** The upper Ganga canals are a part of larger system of irrigation networks that water the huge agricultural hinterland. Care needs to be taken when they get included in urban areas because they can become subject of pollution and development pressures. Hence the Master plan identifies the canal as green preservation zone and major open spaces of the proposed city are developed along them. Conservation measures such as repairing of the canals and controlling their usage for various purposes could be addressed in a conservation master plan. Protection of flora and fauna in the YEIDA region through development of biodiversity parks, sanctuaries etc.

7.1.5 Ground water resources

As per the required water supply demand for YEIDA phase-1 its 50% demand will be fulfilled by surface water demand and 50% demand will be fulfilled by ground water.

Figure 7-3: Ground Water Level in NCR

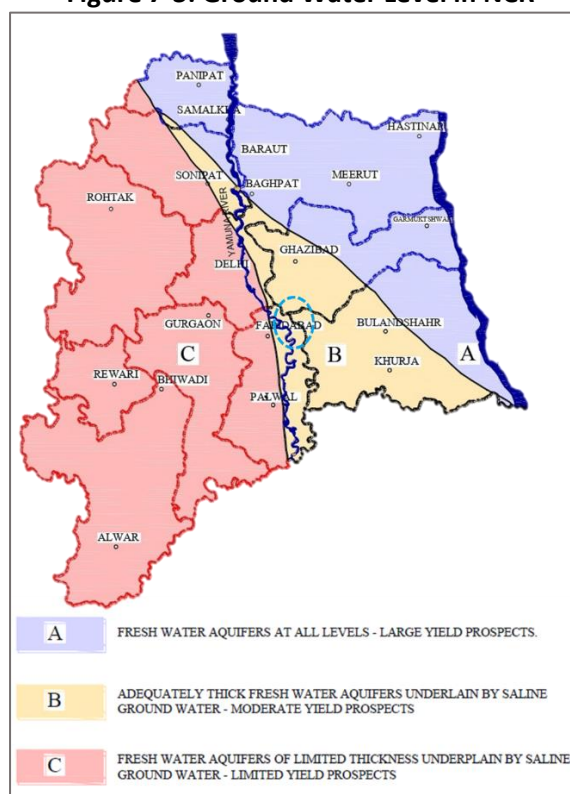


Figure 7-4: Ground Water in UP Sub Region

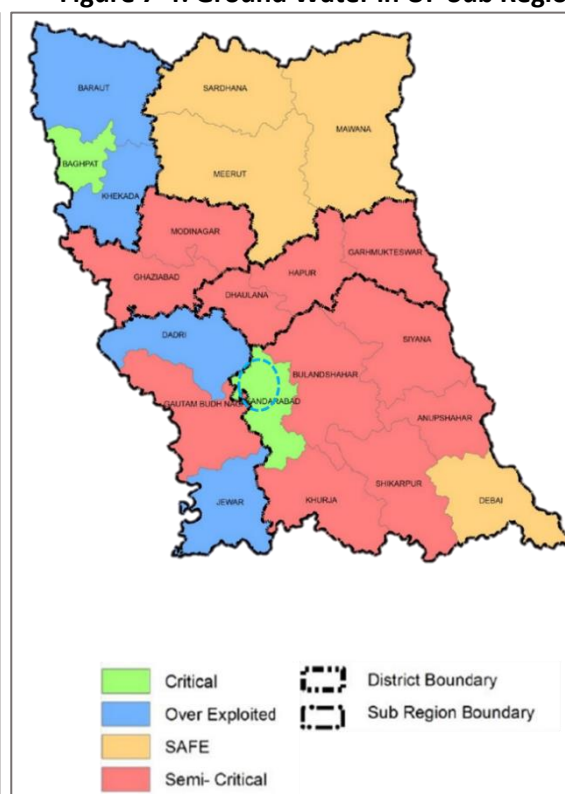
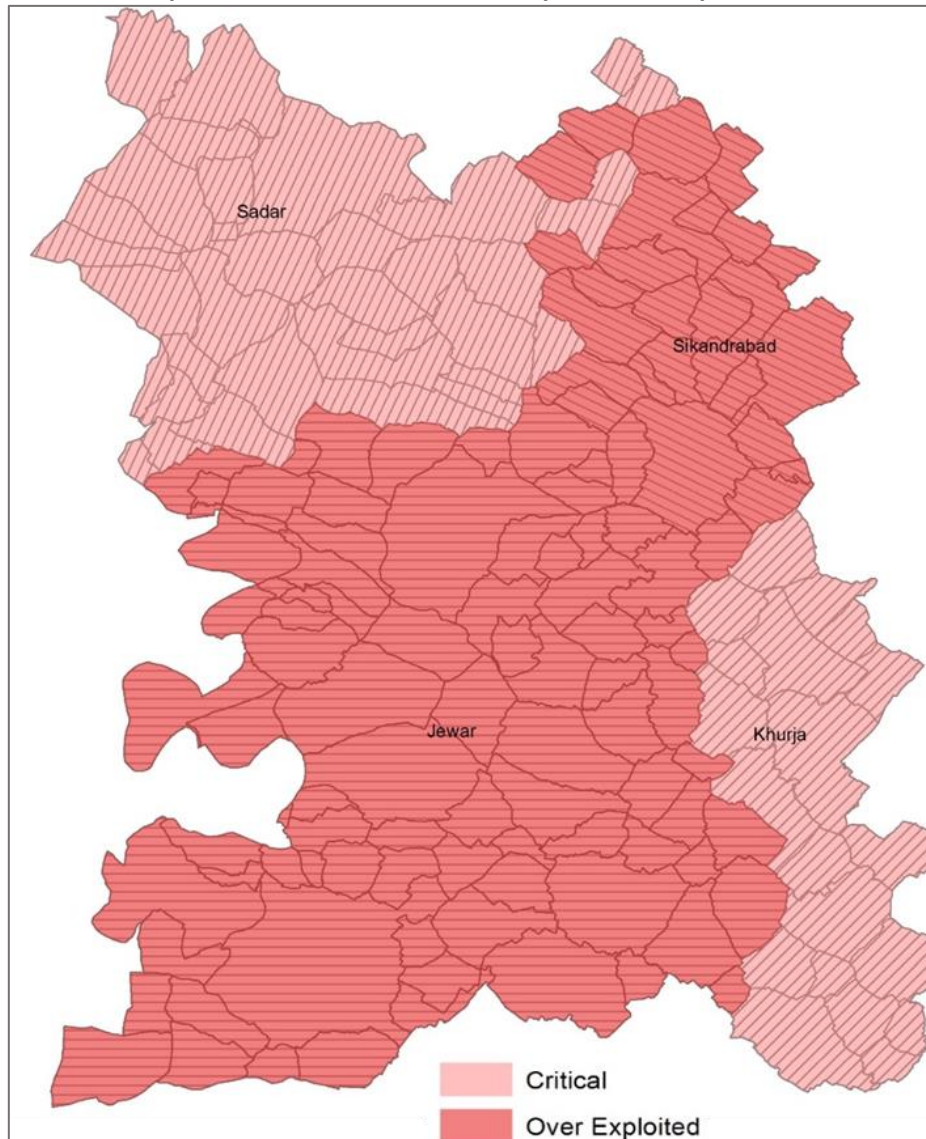


Table 7-1: Depth to water level trend of ground water monitoring wells for the period 2009-2018

Location	Pre-Monsoon fall (m/ Year)	Post Monsoon fall (m/Year)
Jewar Pz	0.4901	0.4933
Jewar nw	0.1799	0.1817
Sikandrabad	0.0282	0.2182

From the map it can be seen that the city lies on the bottom right side of the river which falls under an adequately thick fresh water aquifers at shallow depth but underlain by saline ground water where there are moderate yield prospects. Thus water supply demand could be fulfilled by ground water sources.

Map 7-1: Ground Water Status as per CGWB report-2017



Also as per ground water assessment report-2017 by Central Ground Water Board, it was found that Bulandshahr and Gautam Buddha Nagar are the region have increased water table depletion and ground water is either critical or over exploited especially in Jewar, Sikandrabad, Khurja & Sadar Tehsils.

7.1.6 Flora and Fauna

YEIDA falls under sub-tropical deciduous type of vegetation. The important trees found here are Shishum, Mango, Jamun, Imli and Babul. Ornamental trees found here are Gulmohar, Ashok, Eucalyptus and Chameli. Scrubs and bushes found here are Arua, Hina, Panwar, Madar, Karauda and Mako. Wildlife is not much seen in this region. Most common animals found here are wolf, monkey and pig and the most common birds seen are peacock, duck, partridge, and snipe.

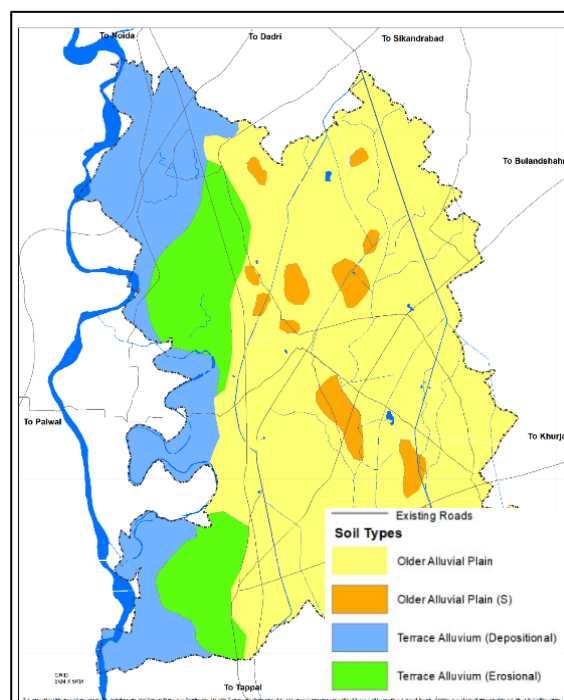
7.2 Other Features

7.2.1 Geo-morphology

The city has a quaternary alluvial soil which comprises of sand, silt, and gravel. The soil thickness is around 400 m hence this area is characterized by uninterrupted agricultural fields mixed with open scrub and sparsely scattered trees and constitutes of potential water bearing zones. Gautam Buddha Nagar has a moisture content of 11.3% and a water holding capacity of 30%. The Groundwater is depleting at a rate of one metre per annum in Gautam Budh Nagar district.¹

However, in 2020, ground water level for Bulandshahr District was 19.44 meters below ground level. Ground water level of Bulandshahr District **increased from 7.85 meters below ground level in 2014 to 19.44 meters** below ground level in 2020 growing at an average annual rate of 18.81%. However, in Jewar, Sadar, Khurja & Sikandrabad the ground water level has shown declining trends.² In Sadar tehsil the ground water is at level of 7.46 metres bgl and in Jewar its 5.6 metres bgl.

Figure 7-5: Soil type- YEIDA

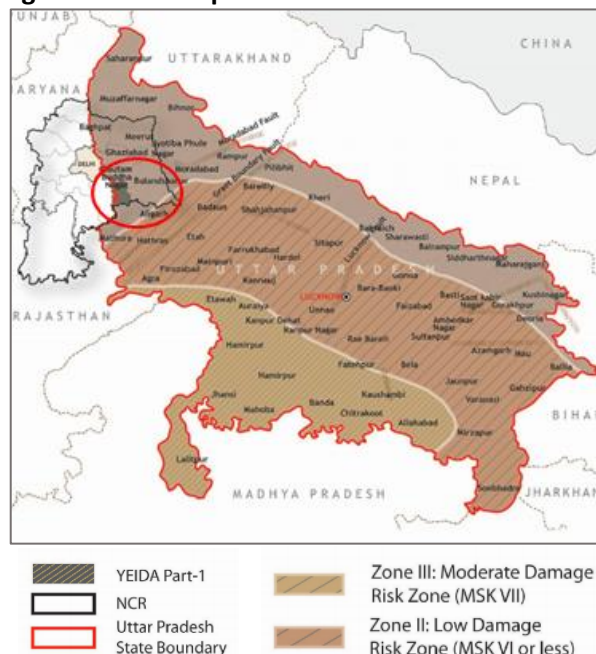


7.2.2 Natural Hazards

Bulandshahr and Gautam Buddha Nagar districts lie in zone 4 of earthquake prone zone which is a severe intense zone. Earthquakes of intensity between 8 to 9 on the Richter scale can be experienced in Zone 4. Earthquakes with such severity can cause damage to property.

Accordingly, Jewar, Sadar, Khurja & Sikandrabad Tehsils are also in the earthquake prone zone and because of proximity to Yamuna River all the tehsils are in the flood prone area of Yamuna River. **Thus, planning has to be done keeping in mind the flood prone area of YEIDA and mostly recreational are proposed so that impact of flood is comparatively lower on other land uses.**

Figure 7-6: Earthquake Prone Zone- Uttar Pradesh



1. Article by Sunil Ghosh- MAR14-2018

2. <https://jjmup.org/wq/gwd.php>

7.3 Environmental Threats

7.3.1 Pollution

Urbanization, transportation, industrialization, power generation, and agricultural activities are the key drivers that lead to air pollution through release of emissions. Also, it is most concerned topic in the entire NCR. Increased air pollution level in NCR is very concerning at present. As per NCR draft master plan 2041, there are about 64 of Ambient Air Quality Monitoring Stations in NCR. With rising air pollution in the region, 07 cities in NCR i.e., Delhi, Faridabad, Ghaziabad, Noida, Meerut, Khurja and Alwar are identified as non-Attainment cities under the National Clean Air Action Plan.

Therefore, it is very necessary to have a proactive effort in managing the adequate air quality. For developing a programme for the effective management of ambient air quality and to reduce the damaging effects of air pollution, development of national ambient air quality standards (NAAQS) is a pre-requisite.

Also, as per The Air (prevention and control of pollution Act)1981, the pollutant generating from the industrial emission and from certain human activities such as traffic, heating, use of domestic fuel, refuse, incineration etc. Hence proposal for solar lighting, use of cleaner fuels, controlling refuse burning, application of fuel quality and vehicle emission norms and generating awareness.

- **Encouraging use of cleaner fuels and supply of cleaner fuels in rural areas:** In urban areas people should be encouraged to use cleaner fuels for their domestic use. Also, in rural areas subsidies should be provided for using LPG/PNG and people should be encouraged to use traditional biomass as cooking fuel.
- **Solar lighting:** people of Urban and rural areas should be encouraged to adopted solar lighting systems and incentives should be provided to them as per the provisions of UP solar power policy.
- **Controlling refuse burning:** Solid waste generated in urban and rural areas are needed to be taken care in a scientific manner. Traditionally, landfill sites are proposed for disposal of solid waste and incineration method is followed. However, these methods generate a lot of pollutants and results in increase in pollution level. Therefore, SWM policy should be strictly followed in YEIDA phase 1. Collection and segregation of solid waste at source, and application of 5 R's i.e., Reduce, Re-fuse, Recycle, Reuse, Recovery should be promoted into YEIDA.
- **Generating Awareness:** The main and important task for reduction of air pollution is generating proper awareness among people regarding the increased pollution level and its hazardous impact on human health. However increased pollution levels ultimately lead to negative impact on climate change effects.

7.4 Disaster Management:

Through the years, cities and towns have witnessed loss of countless human lives and so many communities and livelihoods ruined because of floods, landslides, storms, earthquakes, volcanic eruptions, wildfires, droughts, and more recently tsunamis. Disaster management is a process of effectively preparing for and responding to disasters. However, it is essential to identify the potential disasters in YEIDA Planning area, in order to prepare for disaster preparedness, mitigation and responsibilities. The possible hazards in the form of natural disasters in YEIDA phase 1 are earthquakes, floods, as well as manmade disasters such as fire, traffic, and industrial accidents etc.

- Rivers Yamuna, though important ecological features of the notified area are prone to possible flood hazards. It lies in the flood plains of the Yamuna River on one side, exposing it to unprecedented urban flood situation at any time.
- YEIDA phase 1 falls in seismic zone IV and shares common boundaries with vulnerable states like Delhi, Haryana, and Ghaziabad District in Uttar Pradesh, all of which are in seismic Zone IV.
- The area is located in a high damage risk zone ($V_b = 47\text{m/s}$) due to high wind velocity as per the Wind Hazard Map of Uttar Pradesh (Map 13) (BMTPC, 2006).
- Possibilities of manmade disasters occurring in the area due to pollution, accidents that may cause emission of large volumes of chemicals and poisonous gasses, possibility of heavy vehicles getting involved in road accidents as well as oil spillage, explosions of highly inflammable material that the trucks/tankers may be transporting and damage likely to be caused by high wind velocity in the event of storm or cyclonic formations.
- Expressways and highways roads, though essential for development of YEIDA, are potential hazards for possible major accidents unless adequate prevention, mitigation and preparedness measures are integrated with the development process so that disaster risk is reduced.
- As per the study by NIDM 2010 It indicates that in the rural areas of Noida and Greater Noida a large percentage of buildings are at risk and their vulnerability is very high. Whereas, in the newly planned areas of Noida and Greater Noida, most of the buildings being engineered buildings, the risk appears to be comparatively less. Similarly, for the YEIDA region where there are existing villages which will go to be urbanized and would need steps to ensure structural and fire safety of the buildings in the villages.
- With the kind of visioned master plan there is going to be plethora of multi-story buildings in sectors and also highly populated urban villages making it more vulnerable from earthquake and fire disasters. Most importantly, the city will be going to be the industrial hub of the NCR and chances of CBRN (chemical, biological, radiological, and nuclear) emergency cannot be ruled out.

UP sub regional plan has specified the institutional framework and policies for addressing the issues of Disaster Management Committees at State level. Also, at district level, Disaster Management Plan for Gautam Buddha Nagar, 2010 also exists. However, only few mitigation strategies have been listed which can be adopted at master plan level to mitigate the impact of disasters. As per NCR plan, Disaster Management Centres may be established at strategic locations in the region for sensitizing people, training of personnel and mitigation measures. Vulnerability and risk assessment to be undertaken at the city level to strategize on disaster prevention and mitigation plans, keeping following considerations in mind:

1. Regulations for the urbanized villages to ensure structural safety and also roads with sufficient width which allows free movement of fire vehicles.
2. Provision of seismic safety provisions to be incorporated in the byelaws.
3. Drainage level
4. Assessment of vulnerable zones of major accident hazard units based on worst-case scenario should be done to mitigate industrial and chemical disaster hazard.
5. Planning, adopting, and enforcing stringent building codes, flood-proofing requirements, seismic design standards and cyclone wind bracing requirements for new construction or repairing in the urban sectors.

8 SWOT ANALYSIS

Based on the above-mentioned situational analysis and stakeholder consultation a SWOT analysis is carried out to identify the potential and problem sector that requires immediate attention to achieve the envisaged vision for achieving a balanced development.

8.1 Strength

1. The city has strong connectivity with Delhi, Noida, Greater Noida, and other Major centres of the NCR. It has developed strong linkages with Delhi and attracts a lot of activities. The city will act as an industrial hub that will connect all the economic centres of the NCR.
2. The city has efficient regional road and railway network which provided connectivity to major cities and surrounding rural areas. The surrounding region of the city has rich tourism and heritage linkages.
3. The economic activities of the city will be positively impacted by the international Airport at Jewar, and it will have increased economic benefits, generated because of the airport as well as Aerotropolis.
4. Adequate recreational areas are easily available within the city, and it is blessed with natural resources such as Dhanauri wetland.

8.2 Weakness

1. Development of International Airport has resulted in height restrictions on the surrounding areas of the airport.
2. **The source of 50% water supply is ground water and extensive use of ground water has resulted in decrease of ground water table.**
3. YEIDA falls in an agglomeration of urban areas with competition prevalent from adjacent areas of Noida, Greater Noida and DNGIR.

8.3 Opportunity

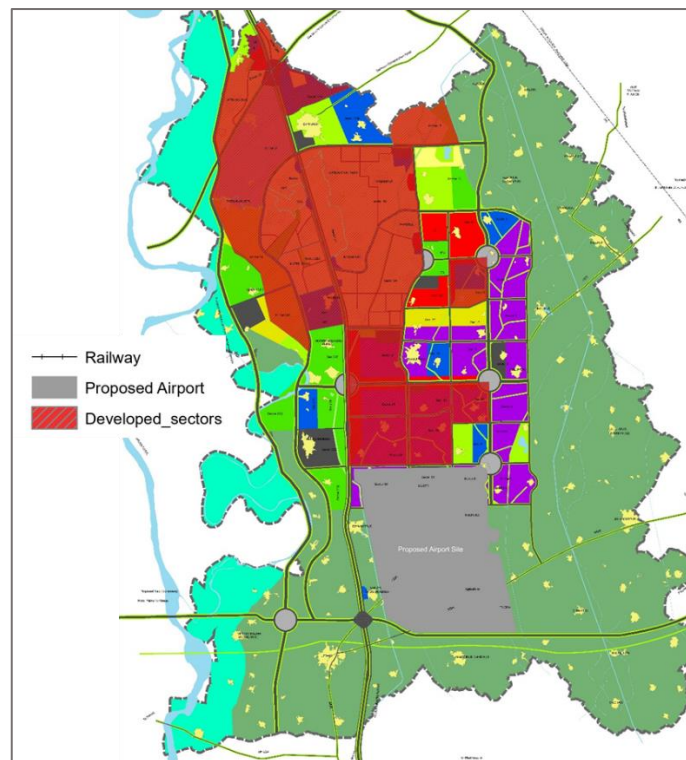
1. The upcoming projects such as **film city development, toy city, Apparel Park, Olympic city, Expo centre, Sports city** and various manufacturing sectors can be housed within YEIDA, and it should be planned in a manner that it could be recipient of spill over activities of Delhi.
2. YEIDA has huge **potential for various small and medium scale industries including cottage industries**. Provision for **logistics facilities** is also to be planned in order to fulfil the future industrial demands.
3. Heritage and cultural aspects may not be prominent in YEIDA at present. But the city will act as a gateway for the region due to upcoming International Airport.

8.4 Threat/ Limitations to Development

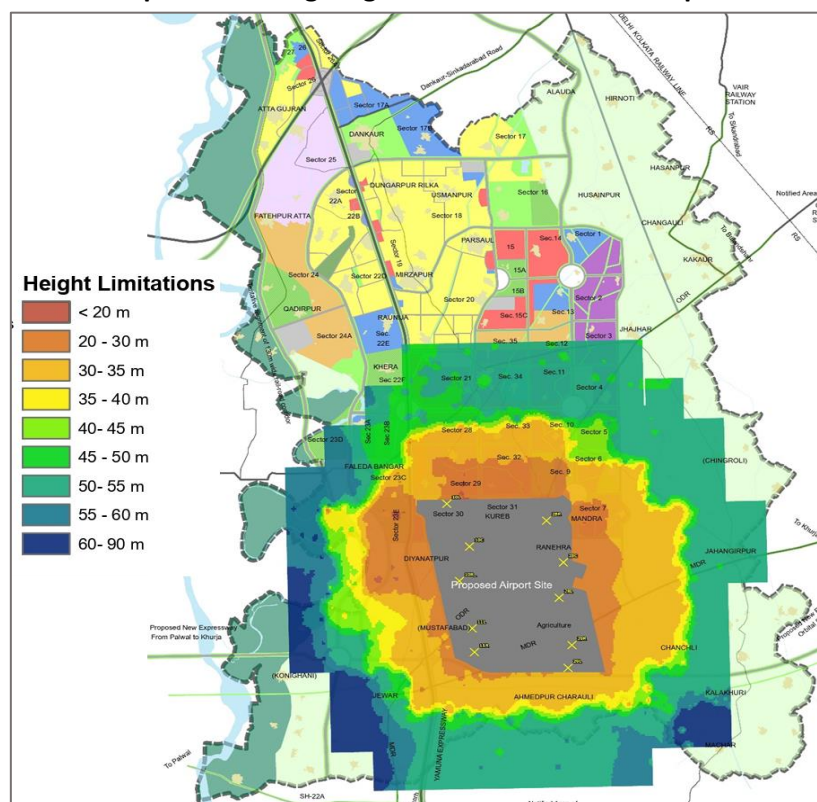
Some of the sectors have already been allotted as per the Master Plan 2031. Thus, change cannot be imposed on the sector 25, 24A, 24, 22D, 22E, 22C, 22A, 22B, 20, 18, 19, 13, 21, 28, 29, 32, 33 and 13. Thus land use of these sectors is kept as proposed in master plan 2031. The area earmarked for the airport extends to Sectors 8, 30 and 31 in MP 2031.

1. Provisions for buffer along high-tension line, Gas pipeline, water bodies, wetlands, forest area etc. No development should be allowed in the green buffer provided.
2. Land for certain projects have been marked viz. Noida International Airport, Electronic City at Sector 10, Noida International Airport Resettlement, and rehabilitation site etc. Master Plan 2041 has incorporated these and ensured the plan has Building height restrictions around Airport with no disturbance to these allotted projects.

Map 8-1: Committed/ Developed Sectors as per Master Plan 2031 YEIDA Phase 1

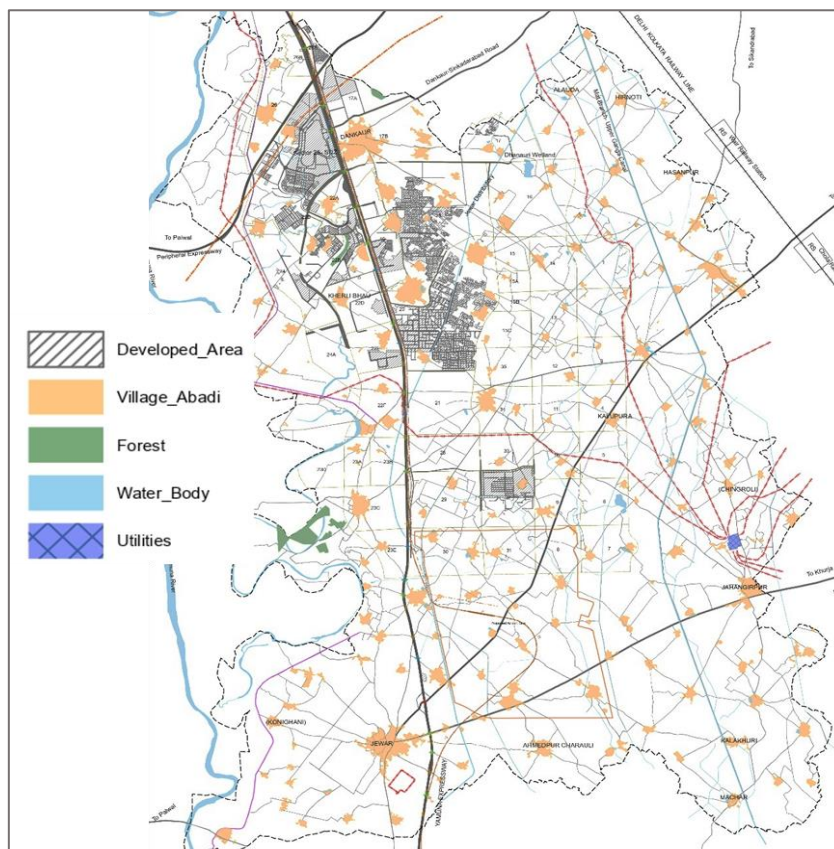


Map 8-2: Building height restrictions around Airport



3. Along with these existing built-up areas such as village Abadi has been marked and a buffer of 100 meters are kept for future Abadi extension.

Map 8-3: Restrictions for village abadi



8.5 Inferences & Conclusion

YEIDA Phase-1 is being developed to envisage planned growth along the expressway. Being adjacent to the expressway provides locational advantages to the city. The expressway connects the city with important major growth centres like Delhi, Mathura, Agra, Gurgaon, Noida & greater Noida. It will have the benefits of being the part of the loop. The impact of other influencing proposals such as NCR regional plan, NCR functional plan, UP-Sub regional plan, and city level zonal plan, YEIDA Master Plan 2021 and YEIDA Master plan 2031 was analysed that provided an insight about the existing and future policies, corridors, conservation zones, investment zones, special economic zone.

NCR has identified YEIDA as one of metro centres of NCR and it is expected to have positive economic potential for the future population. Depending upon the decadal trend analysis it can be said that the urbanization levels has increased over decades, and it is expected to increase more in search of better economic opportunities. However, the workforce participation rates indicate towards involvement into service sectors other than agricultural sectors. Therefore, depending upon the market demand analysis, infrastructure shall be developed in a manner that it attracts more economic opportunities. In Greenfield development availability of abundant labour is very much important in correspondence to the capital generation. Thus, encouraging the development of labour-intensive industries and labour-intensive sections of capital-intensive industries can (i) create more job opportunities for the poor; (ii) increase wage rates; (iii) allow the poor to have a share in the benefits of growth; and (iv) keep the income gap low in the primary distribution.

Economic growth due to industrialization demands more educated and specialized labour. With an average literacy rate of 60% need of skill development centre is also observed. However major discrepancy was observed in male and female literacy rate. Also, sex ratio of Jewar and Sadar has

decreased over decades while Sikandrabad and Khurja has shown significant increase of sex ratio over the decades. These trends therefore point towards planning needs for better educational as well as health facilities for the region. Increased urbanization trends were observed in Jewar and Sadar that is again an indicative of better infrastructure needs in the region along with increasing population. The depending upon the population projection infrastructure should be provided to cater the needs of the city in future.

In terms of physical infrastructure, the water supply capacity is around 293 mld and 27 water works for storing water. At present 50% source of water supply is upper Ganga Canal and 50% source is ground water, also the water table level in the region was found to be decreased over decades and thus an alternative source of water supply should be identified along with application of rainwater harvesting system. As far as solid waste management is concerned the concept of recycling the waste with segregation of waste at source should be adopted. One of the sustainable methods for solid waste management is the concept of 3 R's i.e., Recycle, Reuse, Refuse.

Man-made and natural resources must go hand in hand, thus environmental assessment is also an important factor. With temperatures ranging from 6 Degree to 43 Degree and forest cover including the highly fertile land, it can be said that the region blessed with the natural resources and thus maintaining sustainability in this region is necessary. However, as per the ground water report of CGWD, ground water table of Bulandshahr district and Gautam Buddha Nagar has decreased or in critical condition. Therefore, the proposals for master plan 2041 is planned in such way that the city can cater the demand of the growing population and at the same time, it has positive impact on the existing natural resources.

As far as transportation is concerned YEIDA has a lot of locational advantages and it has better connectivity with all the major centers in NCR and it is a part of a lot of transportation projects such **HSR, Metro, POD taxi, Neo-Metro etc.** The road hierarchy varies between 75 m ROW to 130 m ROW. Jewar International Airport is proposed in YEIDA which is again a major source of economic development within the region. This Airport will connect both international and domestic areas with YEIDA, thus increasing the value of this city. **The major impact will be seen in the cargo and logistics section due to the functionality of the international airport.**

However, apart from having all the locational as well as circumstantial benefits of this region, some constraints were also seen during the planning process. Firstly, some of the sectors were already allotted as per the previous Master plan 2031, secondly the height restriction due to the upcoming international Noida International Airport and other factors includes the existing natural resources as well as its protection.

SECTION- II: PROJECTIONS

9 POPULATION PROJECTION

Demographic factors are components which are the causes of and responses to future economic, environmental, and social change. Interdisciplinary studies of change can draw on projected trends in population size, growth rate, age structure, urbanization, and migration, among other variables.

The demographic analysis has provided the insights regarding urbanization trend of the tehsils in which YEIDA is planned. The development concept adopted for the city was to cater to the working population of the adjacent areas as well as to provide quality infrastructure in the planning area.

The projected population according to Master Plan 2031 was 35 lakhs in which 26 lakhs were projected by the employment generation and 9 lakhs from the abadi areas. The Master Plan 2041 revisits these numbers and incorporates the potential spill over employment generated through the upcoming Airport. The estimates for potential employment generated in the planning area is evaluated from employment generated from various land uses adopted from case studies.

9.1 Expected Employment Generation

YEIDA Phase-1 was developed as an Industrial township and Noida International Airport is an added advantage. The expected employment will be because of the commercial, industrial as well as the Airport related activities. A major portion of population will be attracted to YEIDA due to the available employment opportunities at local level. **Creation of employment is a natural part of the social development process and YEIDA will cater the need of employment opportunities of the surrounding areas.** For calculating the possible employment generation in YEIDA, case studies of NOIDA master plan, Greater NOIDA master plan, Gurgaon master plan and Faridabad master plan was analysed and for airport city side development case studies of Bangalore, Hyderabad and Nagpur Airport have been analysed. The activity structure is segregated into parts with respect to the land use and it gives an insight about the employment generation in YEIDA.

The Table shows the potential employment generation from the land uses from Master Plan 2041.

Table 9-1: Calculation for employment generation in 2041

Land Use (2041)	Area in Ha	Area in sqm	After reduction of 25%	Assumption	Employment
Commercial	1607				
Non CBD	1132	11320070	8490052	1 in 30 sqm	283002
CBD	480	4797254	3597940	1 in 15 sqm	239863
Industrial Small scale	4022			100 per ha	402247
Industrial Large scale	3291			50 per ha	164556
Institution	2521	25207218	18905414	1 in 30 sqm	630180
Airport Employment					5000
Total Employment Generation (2041)					17,24,848

In commercial areas (CBD) one job is estimated to be created for 15 sq. m area. In the case of retail activities (Non CBD) one job is estimated at 30 sqm. The same estimate is again taken for hotels and hospitality as well. **The employment generation for industrial area is calculated as one job per 100 pph for MSME and one job per 50 pph for large scale industries.** Job creation of **institutional land uses is estimated at one job per 50sqm area.** The estimates for commercial and institutional land uses are taken from various benchmarking studies from Bangalore, Mumbai, and Nagpur while the assumption for Industrial land use is adopted from Master Plan 2031 for YEIDA. Expected employment hence generated from land uses of Master Plan 2041 would be **17.24 lakhs.**

9.2 Population Estimations

According to YEIDA Master Plan 2031 for Phase 1, the projected population was 35 lakhs considering a workforce of 9.0 lakhs. **For the purpose of population estimation for 2041 master plan, the estimated employment generation of 17.30 lakhs is taken based on assumptions as discussed above. Work Participation rate of 34 percent is assumed which would create a total population of 50.73 lakhs.**

Table 9-2: Projected population for 2041

Total Employment	Work Participation Rate	Total Population	Containment Ratio	Population
17,24,848	34%	50,73,083	70%	35.51 Lakhs

As YEIDA is being envisaged to have good connectivity with adjoining towns of Greater Noida, Noida, Bulandshahr etc, the potential population of 50.73 lakhs is not expected to reside in YEIDA. It is estimated that a certain percent would float from the adjoining cities of Noida, Greater Noida, and Bulandshahr etc. In order to estimate the percent of population that would reside in the planning area, the containment ratio of adjacent cities have been studied. The containment ratio of **Noida (containment ratio-64%), Gurgaon (containment ratio-82%) and Faridabad (Containment ratio-75%)** were analysed. Keeping in mind the enhanced connectivity proposals and the location of YEIDA in NCR the Containment ratio is taken as 70%. And in consonance with the vision to limit the floating population in the city hence the estimated population for YEIDA for 2041 is estimated to be **35.51 lakhs.** Phase wise population distribution is discussed in the table given below:

Table 9-3: Phase Wise Population Distribution

Phase	Population Projections	Cumulative Population
2011 (Urban+Rural, as per Census)	374,431	
Phase-1 (2026) (Planned Population as per employment generation)	708,128	1,082,559
Phase-2 (2031) (Planned Population as per employment generation)	1,181,491	2,264,050
Phase-3 (2036) (Planned Population as per employment generation)	660,792	2,924,842
Phase-4 (2046) (Planned Population as per employment generation)	626,316	3,551,158

SECTION- III: DRAFT MASTER PLAN VISION & PROPOSALS 2041

10 VISION AND OBJECTIVES

10.1 Vision

The vision statement for the development of any place/region becomes very much important since it helps in visualization of where and how one wants the city to be in the coming years. The vision statement is carefully carved and encompasses the aspirations of various stakeholders involved directly or indirectly in the development process. YEIDA aspires to attract residents with a demographic profile that aligns with a vision, particularly young creative thinkers, through businesses that will relocate to work with those people. YEIDA aspires to develop a reputation as the place to be for particular industries and lifestyles. This would in turn creates a buzz about the city which later will grow into national, and sometimes global, mass consciousness. Considering this the vision of this Master Plan has been derived which is to develop YEIDA as:

“A sustainable, efficient, well-connected, and globally recognized City that capitalizes on the economic opportunity surrounding the Noida International Airport and economic corridors while ensuring the highest living standards for its citizens”.

10.2 Objectives



OBJ 1- To strengthen the economic base and generate an employment surplus region through creation of an Aerotropolis and cities within the city.



OBJ 2- To provide high quality and affordable infrastructure ensuring quality of life



OBJ 3- To provide safe, reliable, economical and environment friendly mobility



OBJ 4- To create a unique identity for the city through culture and public life

OBJECTIVE 1- To strengthen the economic base and generate an employment surplus region through creation of an Aerotropolis and cities within the city.

Key Features

1. Tapping the potential of strategic location between DFC and Yamuna Expressway and upcoming Noida International Airport.
2. Promoting various zones of the city as themed zones such as logistics and sports city zones, smart city, Fun city developing “Cities within City” to enhance global outreach.
3. Norms for Ancillary facilities like serviced apartments, dormitories in Industrial & commercial zones.
4. Dedicated zones for informal land use to ensure inclusivity of stakeholders into the plan and support for unorganized economies.
5. Provisions for multiple land use to respond to dynamic and evolving market conditions.

6. Logistic facilities to cater to industrial demand.
7. The medical park has been proposed in sector 28 in YEIDA phase 1 region. The Park will have campuses for medical industries that will cater to the growing medical industrial need of the nation. The total land area of the park is 350 Acres while the estimated available area for allotment to Medical Device Units is 193 Acres. The Master plan have Industrial plots that makes 55 % of the total available land and space for data Centre Park and common facilities.

YEIDA aspires to be a globally recognized city, expecting to contribute to be a vibrant and a booming economic center in the National Capital Region. It aspires to be an economy at par with the major metropolitan cities of the country once fully developed. The growth of the economy and the city depends upon the ability to attract investment and industries to the region. There are projected to be more than 17 lakh jobs in YEIDA by 2041 owing to various strategies and plans adopted in YEIDA.

The new jobs created are distributed across YEIDA phase 1 owing to its locational advantage of being adjacent to the Yamuna Expressway, Economic corridors such as dedicated freight corridors (E-DFC and NS DFC) and the upcoming Noida International Airport. The Master Plan for 2041 will plan for this anticipated growth through its objectives and strategies.

Table 10-1: Desirable Shares of Jobs by Employment Location- 2041

Type of employment location	Approximate Jobs in 2041	Proportion
Strategic Centers – (Industrial Land Use)	591,304	34%
Commercial Centers- (Commercial Land Use)*	651,044	38%
Institution (Public & Semipublic)	479,500	28%
Airport (Direct Employment)	3,000	0.17%
Total	1,724,848	100%

*Includes Indirect Employment to Airport as well

The Master Plan 2041 seeks to strategically locate employment, ensure good management of existing land resources, ensure there is sufficient supply of suitable commercial sites and employment lands and efficiently utilise existing infrastructure. A dispersed city with low concentrations of jobs would have high economic, social and environmental costs. By 2041, the majority of jobs are likely to be located in strategic centres or industrial lands, which will provide the basis for more sustainable and targeted infrastructure and transport planning. There will be a new emphasis on innovation. Increasingly, global competitiveness depends on investment in knowledge and innovation. The Master Plan 2041 supports an innovative and efficient economy, focusing on where these industrial/ employment lands will be located and how YEIDA can work with industry and the community to influence economic and job outcomes. Ensuring there is sufficient land for employment and delivering this land with services in a timely fashion, is essential.

In order to encourage and attract the employment surplus, YEIDA would harbor a variety of themed zones/ sub cities within Phase 1. They will focus on businesses, tourism, cultural, education and entertainment activities. These centres will attract new shopping, health, education, business, and cultural facilities.

Themes envisaged in YEIDA Phase 1 includes Sports city developed as a Special Development Zone in Sector 25, Film City envisioned in Sector 21, Toy City, Financial City, Electronic City, Aerotropolis, medical park envisioned in sec 28 etc. Tentative locations of each of these is denoted in figure below

Figure 10-1: Proposed themes in YEIDA Phase 1



Each of these zones are intended to create a global outreach for strengthening the economic base and generating the employment opportunities, in YEIDA area. All these centres are connected through 130 m wide roads.

OBJECTIVE 2- To provide high quality and affordable infrastructure ensuring quality of life

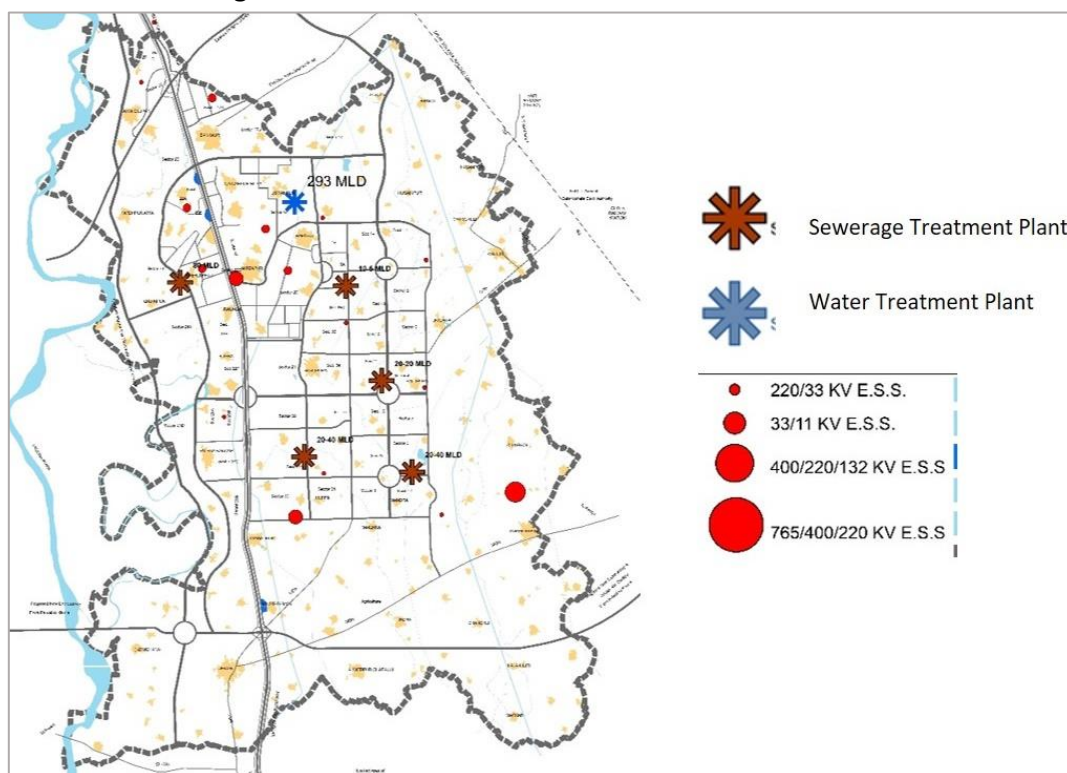
Key Features

1. Rationalisation of supply norms of water
2. Norms for decentralisation of wastewater treatment, recycling of wastes, and maximum reuse of recycled water and solid waste
3. Priority for affordable housing for industrial workers
4. Ensuring the natural drain features are preserved to eliminate the risk of urban flooding

Forecasts show that YEIDA's population will grow by around 35.51 lakh people by 2041 and will require a range of housing options that differs significantly. With the population growing to 30 lakhs by 2031, YEIDA would have approximately 7.5 lakhs additional dwelling units. Currently, YEIDA has approximately 2 lakh dwellings, but a proportion of the total is always vacant or otherwise not

available owing to the nascent stage of the development of the city and various other issues. Making an allowance for this, means that YEIDA would need a minimum additional 5 lakh new dwellings by 2041. This additional housing and existing dwelling units including the village Abadi areas needs to be provided with necessary physical infrastructure (water, sewerage, Drainage etc.) to ensure that a futuristic city such as YEIDA provides the basic infrastructure to 100 percent of its citizens.

Figure 10-2: Infrastructure Provisions in YEIDA Phase 1



OBJECTIVE 3- To provide safe, reliable, economical and environment friendly mobility

Key Features

1. Utility based street classification system.
2. Reliable and seamless Regional Connectivity.
3. Transit oriented development aligned with mass transit
4. Identification of mobility corridors
5. Ensuring accessibility of public transport within 5 minutes of walk.
6. Multi modal Integration and facilitation of first and last mile connectivity
7. Integration of Public transport system through Metro Neo, buses, cycle track, Pedestrian Street and IPT.

The transport network envisaged for YEIDA supports the economic growth of the city by getting people to jobs and services and other daily activities in a fast, safe, and reliable way, and through efficient freight movements. The system encourages travel choices which create stronger communities and improve people's health while reducing impact on the environment.

The trunk public transport system is the Metro which connects to Delhi, while a network of Metro Neo, buses and para transit facilities complement this.

Land use and transport planning proposed in Master Plan 2041 enhances access and connections between where people live, work and visit. As YEIDA grows, YEIDites need to be supported by appropriate transport.

Transportation facilities is not limited to the movement of people. Envisioned as a burgeoning industrial and commercial hub, Master Plan 2041 supports efficient and appropriate freight transport facilities for the transportation of raw materials and finished goods.

OBJECTIVE 4- To create a unique identity for the city through culture and public life

Key Features

1. Creation of pedestrian friendly public squares and plazas with state-of-the-art street facilities
2. “Image of the City” city level CBD with world class infrastructure along with iconic pedestrian promenade
3. A distinctive and appealing low rise smart city with horizontal mixing to complement the Noida International Airport

People become attached to parks, gardens, and other open places, and appreciate them for what they offer culturally, socially, and personally. A high-quality public environment can have a significant impact on the economic life of urban centres big or small and is therefore an essential part of any successful development strategy. As towns increasingly compete with one another to attract investment, the presence of good parks, squares, gardens, and other public spaces becomes a vital business and marketing tool: companies are attracted to locations that offer well-designed, well-managed public places and these in turn attract customers, employees, and services. In town centres, a pleasant and well-maintained environment increases the number of people visiting retail areas, otherwise known as ‘footfall’. A good public landscape also offers very clear benefits to the local economy in terms of stimulating increased house prices, since house-buyers are willing to pay to be near green space. Access to good-quality, well-maintained public spaces can help to improve our physical and mental health by encouraging us to walk more, to play sport, or simply to enjoy a green and natural environment. In other words, our open spaces are a powerful weapon in the fight against diseases such as obesity and its associated risks.

Master Plan 2041 intends to create a hierarchy of public spaces ranging from an iconic square of the likes of La Défense, Paris to neighbourhood open spaces and parks which are age friendly and accessible to all.

11 MASTER PLAN PROPOSAL

11.1 Proposed Land use

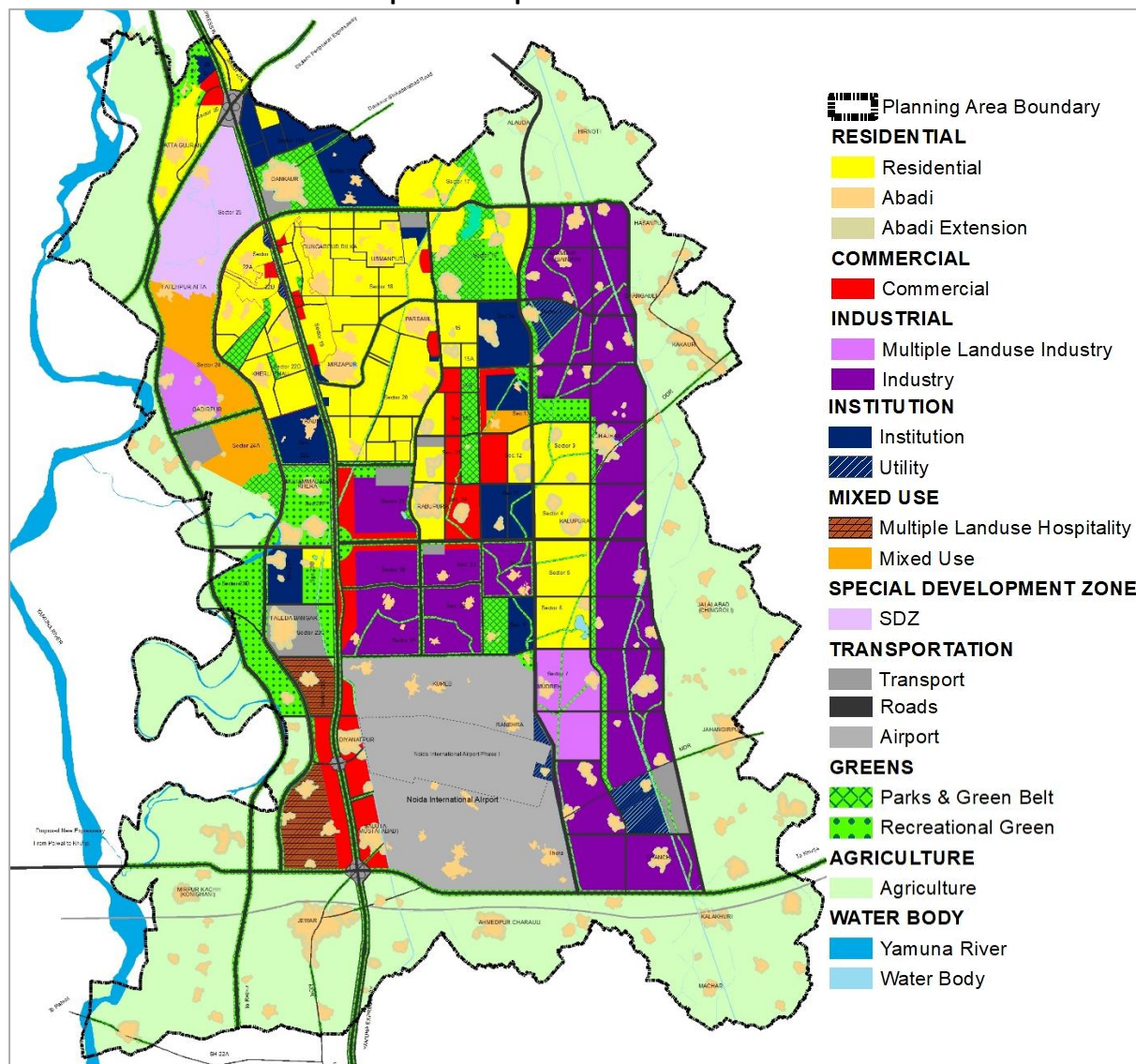
The conceptual plan provides an insight regarding the structure of the YEIDA by the year 2041. Depending upon the concept various densities were analysed and accordingly proposed land use was formulated. The land use proposed is based on the population projected for the year 2041 and a concept of multiple land use was introduced as a part of airport city development with reference to the case study of Rajiv Gandhi international airport of Hyderabad-Telangana. The total planning area of YEIDA phase-I is **58397 ha (583.9 Sq. km)**, out of which **32,167 ha** of land is urbanisable area. The table shows the proposed land use for master plan 2041.

Table 11-1: Proposed Land use 2041

Landuse		Area (Ha)	%
Residential	Residential	6394	19.88
	Village Abadi within Developable area	1654	5.14
	Village Extension	1009	3.14
Commercial	Commercial	1113	3.46
	Wholesale	15	0.05
	CBD	480	1.49
Industry	Industry	6381	19.84
	Multiple Landuse Industry	933	2.90
Institute	Institute	2069	6.43
	Facility	452	1.40
Multiple Landuse	Multiple Landuse Hospitality	644	2.00
	Mixed use	1045	3.25
SDZ	SDZ	1143	3.55
Transportation	Transport Facilities	765	2.38
	Roads	3314	10.30
Greens	Recreational	1409	4.38
	Park & Green Belt	3009	9.35
Waterbody	Ponds, Nala, River, Wetland	340	1.06
Urbanisable Area (A)		32167	100
Airport		4752	16.8
Village Abadi out side developable area		1005	3.56
Village Buffer out side developable area		1065	3.77
Remaining Non-urbanisable area		19408	
Other Area (B)		26230	100
Grand Total (A+B)		58397	

Thus, the total Urbanisable area 32167 Ha for a projected population of 35.51 lakhs by 2041. YEIDA phase-1 has kept provision for group housing as well as plotted development. In the master plan various density are considered for different residential sectors which is explained in the subsequent section. **The total area including industrial, multiple land use industrial is 22.7% of the total Urbanisable area.** This area was proposed considering the data analysis and the suggestions received from during stakeholder consultation. YEIDA being an industrial development authority, primary focus was to provide sufficient land for maximizing the employment generation.

Map 11-1: Proposed Master Plan 2041



11.1.1 Land use classification

1) Residential

The residential land use is proposed for plotted development and group housing, the residential area is evenly distributed in the master plan. In Approved master plan 2031, the residential area was proposed to be 4569.52 which has been increased in 2041 Master Plan to constitutes of 19.88% (6394 ha) of total area. Residential area also include Village Abadi area of 1654 Ha, around which a buffer of 100 m has been provided as village extension to ensure future development of Abadi Area.

Location of the residential area is based on the location of employment generating uses and correlated with transportation facilities. The facilities proposed at the sector level are senior secondary, primary and nursery schools, dispensaries, community halls and libraries, local shopping centres, auto rickshaw and taxi stand, etc. Parks and playgrounds shall be provided at convenient distances from the residential pockets within the sectors.

For finalizing the population density, it was proposed to differentiate the residential area into two categories such as group housing and plotted housing. Group housing was further categorized into High density and medium density. **In already developed sectors it was proposed to have a population net density of 1000 pph for high density group housing that included, EWS, LIG and MIG. For medium density housing the population was proposed to be 700 pph and for plotted development the density was proposed to be 200 pph.** The development of infrastructure facilities and services was also be planned to accommodate the high density of population. Green buffers and supportive facilities will help in containing any adverse effect of the proposed high population density. The overall gross density of Urbanisable Area would be within 500 pph. As per Master Plan 2031, 22 lakh population has already been allotted in the sectors 17, 18, 20, 19, 22A, 22B, 22C, 22D, 25 and 26. **(As shown in Map 8-1)**

Table 11-2: Population & density of Allotted Sectors in YEIDA

Sector	Population	Net Sector Area (ha)	Density (pph)
Sector 17*	211000	199.12	1060
Sector 18*	270000	996	271
Sector 20*	216000	1151	188
Sector 19**	250000	415	602
Sector 22 B**			
Sector 22 C**			
Sector 22 A*	945000	901.4	1048
Sector 22D*			
Sector 25	236000	1142	207
Sector 26***	100000	286	350
Total	22,28,000	5090.52	438

2) Commercial

Trade and commerce play a vital role as a supporting activity for proper industrial growth in an industrial township. The centres for trade and commerce have to be planned with much more liberal standards for parking and open space requirement and should leave enough scope for accommodating dramatic changes in the pattern of use of commercial areas.

At present, in YEIDA area, the commercial activity exist in the northern tip of the boundary. Rest of the commercial area has developed in form of small-scale retail and service use based shops in nature around the residential area and in the city centre. Majority of the shops are single unit. Previously, the commercial land use was proposed to be 1275 Ha, i.e., is 5% of the total Urbanisable area. It included activities such as retail, wholesale, central business district, other commercial centres like malls, shops, district, and sub district shops, etc. However, the percentage of commercial land use as per URDPFI guidelines should be around 3-4%, hence the commercial land use is proposed around 1607 Ha which is 5% of the total Urbanisable area and it is proposed in different areas of the city for the easy reach of the entire city. Moreover, to accommodate the required shopping, commercial offices, and other activities like cinema, hotel and related facilities, the following 4-tier system of commercial development is proposed.

- a. **District Level Commercial Centre:** To cater to the city-level business and shopping facilities, a new CBD has been proposed in **Sector 15 B, 15 C, 35, 12 & 34, over an area of 900 ha. The details of the same have been provided in section 11.3.1**
- b. **Sector Level Commercial Centres:** Within the proposed land use, in new developments, two categories of shopping centres shall be provided:
 - i. Local Shopping for a Neighborhood of 15,000 population, area 0.46 hectare, and
 - ii. Convenience shopping for 5,000 populations, area 0.11 hectare.
- c. **Housing Area Retail Shops (remaining commercial area):** The lowest level of commercial shopping in terms of standalone shops or cluster of shops shall be provided under this category.

2.a Multiple land use hospitality

The concept of multiple land use was developed about two decades ago alongside the mixed land use concept. Multiple land use is not a land use category, but 'presents a concept of action, more than of content. It is about the creation of synergy between land use functions. The Multiple Use planning agenda tries to improve areas as places to live and as spaces for investment. The market conditions for a horizon period of 20 years are uncertain. There remains a percentage of uncertainty even after the various methods adopted to predict the outcome of the area. The traditional planning norms tend to be regulatory in nature with limited avenues for flexibility in terms of permitted activities. The investors in certain cases require a flexibility in the use of land to cater to the evolving market conditions and technological developments. The multiple land use hospitality is around 644 Ha that is 2%. This is catered through multiple land use where the same area is used for distinct functions over a period of time through various percentage of different land uses as defined below. Horizontal mixing of activities is envisaged in this zone as depicted in the following table.

Table 11-3: Multiple land use Hospitality

Land Use	Percentage
Commercial	Minimum 65%
Industrial	Maximum 10%
Residential/ Institutional	Maximum 19%
Institutional (Facilities)	Minimum 5%
Informal Use	Maximum 1%

3) Mixed Use

The concept of mixed land, in recent planning paradigms has become a common practice. A judicious mix of activities like residential, commercial, institutional and non-polluting type of economic activities can have a positive impact by reducing travel needs and thereby the energy consumptions. This also leads to greater efficiency of manpower by saving time and energy generally lost in commuting between residence and workplace. An area of about 1045 Ha is earmarked for mixed use in the Plan 2041, which is same as Master Plan 2031. The type of Land uses, their extent in the mixed-use zone shall be as follows:

Industrial/Institutional/Recreational	- Minimum 75%
Residential	- Maximum 12%
Commercial	- Maximum 8%
Institutional (facilities)	- Minimum 5%

4) Industrial

YEIDA phase-1 is planned as an industrial area, and with the development of the international airport the focus on logistics has increased in the area. **Earlier the area proposed for industrial use was around 4698 Ha that is 13.5 % of the total area.** However as per the current situational analysis the potential for industrial development will have to increase since the city need to cater the needs of the surrounding areas along with its own requirements. **Therefore, 7314 Ha is proposed for industrial land use that is 22.74%** which includes the industrial area of 6381 ha and multiple land-use industry area of 933 ha. The industrial area is planned as a characteristic, prominent and diversified industrial area with flexibility in providing type and size of industrial units. Several infrastructure requirements are suggested for the development of industries. These are mainly - i. Custom based warehouses, ii. Container depots, iii. Stock yard for essential materials like cement, steel, etc, iv. Quality Testing Centre, v. Exhibition Centre, vi. Weigh Bridges, vii. Related Offices of public/private organizations.

4.a Multiple Land Use Industrial

Table 11-4: Multiple land use Industrial

Land Use	Percentage
Industrial	Minimum 70%
Residential	Maximum 10%
Commercial	Maximum 13%
Institutional (Facilities)	Minimum 5%
Informal Use	Maximum 1%

5) Institutional

This category of includes office buildings, administrative buildings, facilities, and sports city (Special Development Zone), schools, colleges, healthcare facilities, post office, fire station etc. The institutional land use is proposed to be around 2521 Ha that is 7.84% of the total Urbanisable area and depending upon the influence zone of the institutional land use is spatially distributed in the entire city various locations.

6) Transportation

Transportation and roads include all the transport related utilities and roads (expressways, arterial, sub-arterial and collector roads.). The proposed area for Transportation is around 4079 Ha (12.69% of total urbanisable area). Also, relative pockets are given at different locations for facilitating bus station, truck parking, general parking etc. In further section, detail proposals in transportation have been elaborated.

7) Recreational, Parks and Green Belt

This land use category is further divided into different activities and uses related to recreation and green spaces. The area near Yamuna River is specifically given for a riverfront/ waterfront development, which will function as a city level recreational space for the township. Open spaces are provided in such a way that one can find an open space in near proximity. These spaces will increase the liveability of the area and also bring good quality of life to the residents as well as the workers. The total area for recreational area is proposed to be 4418 Ha that is approximately 14.72% of the total Urbanisable area. However, provision should be kept for designated playgrounds in the recreational land use.

11.2 Salient Features of the Plan

1. Create an appropriate urban form for the Greenfield city.

Quality of life is determined by various parameters, such as physical and mental health, safety and security, health and education, economic and financial opportunities, education and culture, spirituality and right to personal beliefs, public services, and transportation, and a well-balanced live, work, and play environment. Therefore, determining of urban form in Greenfield city.

2. Provide adequate space for airport city side development

Aerotropolis development requires adequate amount of space for increasing the functionality and economic benefits from the Aerotropolis.

3. Balanced regional development and conformity with regional plan

The city is planned to create as well as maintain the regional development balance and the proposal of the NCR regional plan is also incorporated in the Master Plan.

4. Provision of high containment ratio to control traffic demand within the city limits.

5. Sustainable development of a new planned Greenfield city along with surrounding urban centres.

The city is planned by considering the concept of sustainability so that development and environmental protection can be done simultaneously. A well-planned city with ICT-enabled infrastructure allows for zero waste, systems for 100 percent recycling & reuse, renewable energy generation, and desalination. These in turn make our cities self-dependent and sustainable in all aspects.

6. Flexibility in land use to respond to dynamic and evolving market conditions.

Greenfield smart cities have the potential to maximise with flexibility in land use. Flexibility in land use enables efficient use of natural, human, and economic resources and promote cost saving.

7. Prioritization of affordable housing for industrial workers

Affordable housing is a segment of economy that is of critical importance and requires long term funding. Urban local bodies and Urban Development Authorities need to be delegated power to undertake the required initiatives for providing affordable housing. The schemes for potential schemes are required to be identified and adequate availability of land for housing should be provided.

8. Integration of public transport system through Metro Neo, buses, NMT, cycle track, pedestrian pathway and IPT

A successfully integrated transport system involves the coordination and optimisation of timetables, to ensure that users do not have undue waiting times between different modes. The central aim should always be the decrease in time of the user's journey from the origin to destination.

9. "Image of the City:" City level CBD with world-class infrastructure along with iconic pedestrian promenade.

Central business district is known as the most frequently used and most expensive area of the city. It is the business hub of the city and has high real estate value. Thus, the city is planned with a prime location of CDB that will consist of high-quality infrastructure, skyscraper along with the provision of pedestrian promenade.

10. Facilities and movement of heavy industrial traffic through peripheral road.

Peripheral roads are planned in such way that most of heavy industrial traffic can be directed outside the city without causing any traffic congestion within the city and at the same time it ensures the safety of the citizens.

11. Logistics facilities near airport to cater to industrial demand

Air cargo logistics play a vital role in the economic development. Speedier services in the Air Cargo supply chain facilitate large number of business entities to become more competitive. The air cargo industry incorporates an industrial supply chain, which includes airlines, customs, ground services, air cargo forwarders, brokers, domestic transportation, air cargo terminals, distribution centres and integrated international express services.

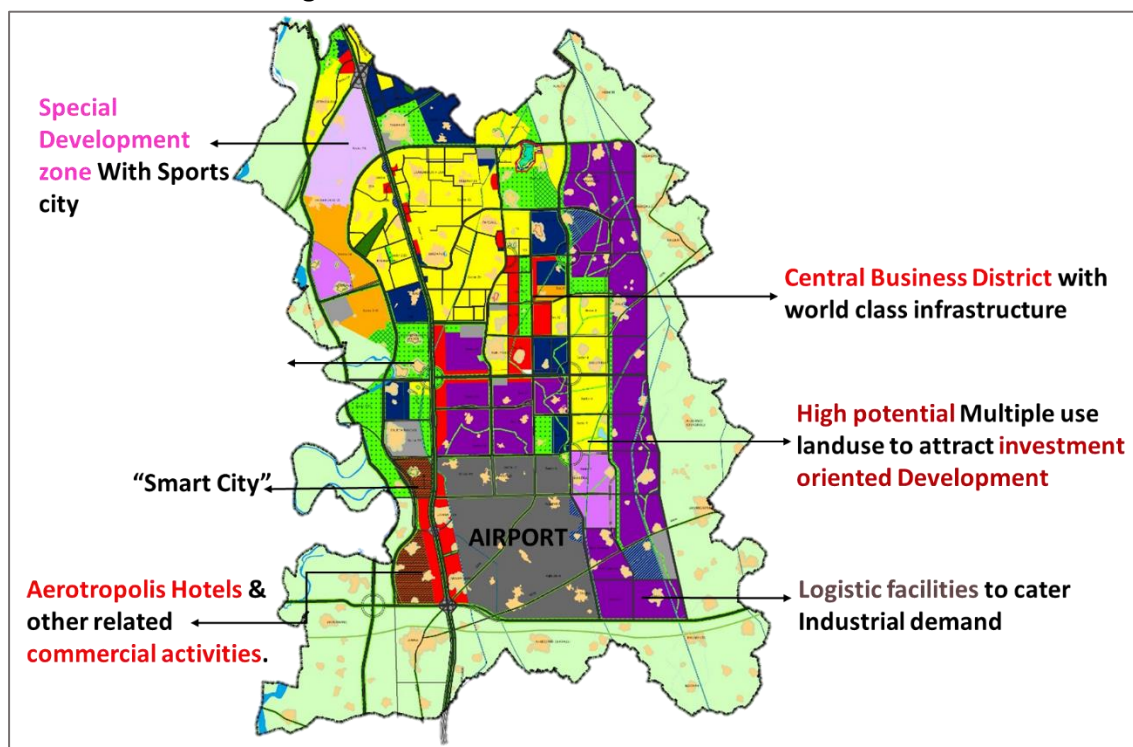
12. Integration of existing villages :

All the existing villages in the city should be integrated so that the development can be done in a regulated manner

13. Green buffer along Yamuna River, water bodies and canals.

Dhanauri wetland, forest cover, tributaries of Yamuna are some of the existing natural resources that must be protected. Thus, green buffer along the natural resources shall be provided to conserve and to avoid encroachment.

Figure 11-1: Salient Features of the Plan



11.3 Key Proposals

11.3.1 Central Business District

This new zone in YEIDA expects to create a high-density district with a distinct character and a clearly identifiable urban form. The land uses in this central commercial core would include a mix of offices, retail and other business uses, along with some residential developments. CBD should be strengthened by a transit shuttle route to serve the CBD and to connect with Mass transit and metro stations at the northern and southern ends. This zone will provide a distinct character and form to YEIDA and provide a unique image to the city.

Central Business district (CBD) integrates a great deal of financial, business, culture, and service institutions, and lots of supporting facilities, such as business office buildings, hotels, and apartments, etc., with perfect and convenient traffic, communications and other infrastructures, favourable economic development environment as well as places which are convenient for commercial activities. Among other things, corporate headquarters, financial centres, and specialized production service are also a part of it.

Figure 11-2: Location of CBD

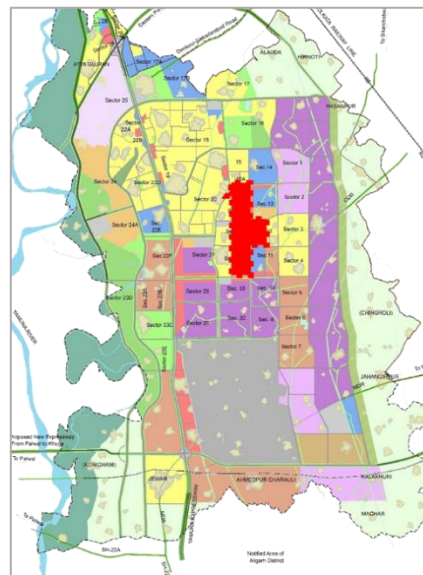
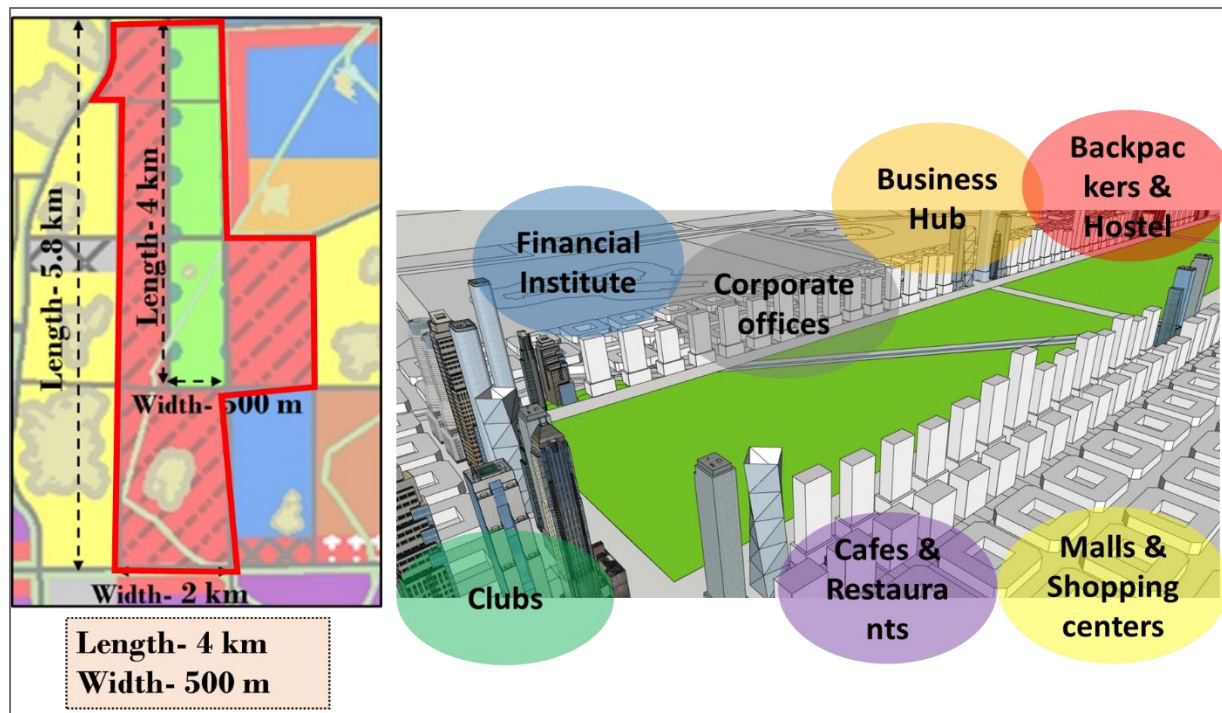


Figure 11-3: Proposed Central Business District



The multi-functional business central districts would spread over an area of 900-1000 ha; and the building capacity is relatively high. This area would have the highest service centralization level and can provide extensive services for economy, management, recreation, culture and even administration. The CBD usually has a peak land value. Intensity of land exploitation and utilization is

higher. This district has the highest land price and rent in the city. The floor area ratio and building density are high and the building form grows vertically.

Figure 11-4: Visualization of Central Business District with Pedestrian facilities



CBD is the comprehensive representation of the gathering and distributing of urban population, land utilization patterns and the level and trend of industrialization. The focusing effect can bring more business opportunities with lower cost and promote economic development of city. **Looking towards the positive impacts, CBD in YEIDA is proposed in Sector 15 B, 15 C, 35, 12 & 34.**

Table 11-5: Land-use distribution of CBD Area

Land use	Area in Ha
City Level Park	197.09
Green Belt	24.62
Commercial	482.82
Roads	917.1
Total	917.1

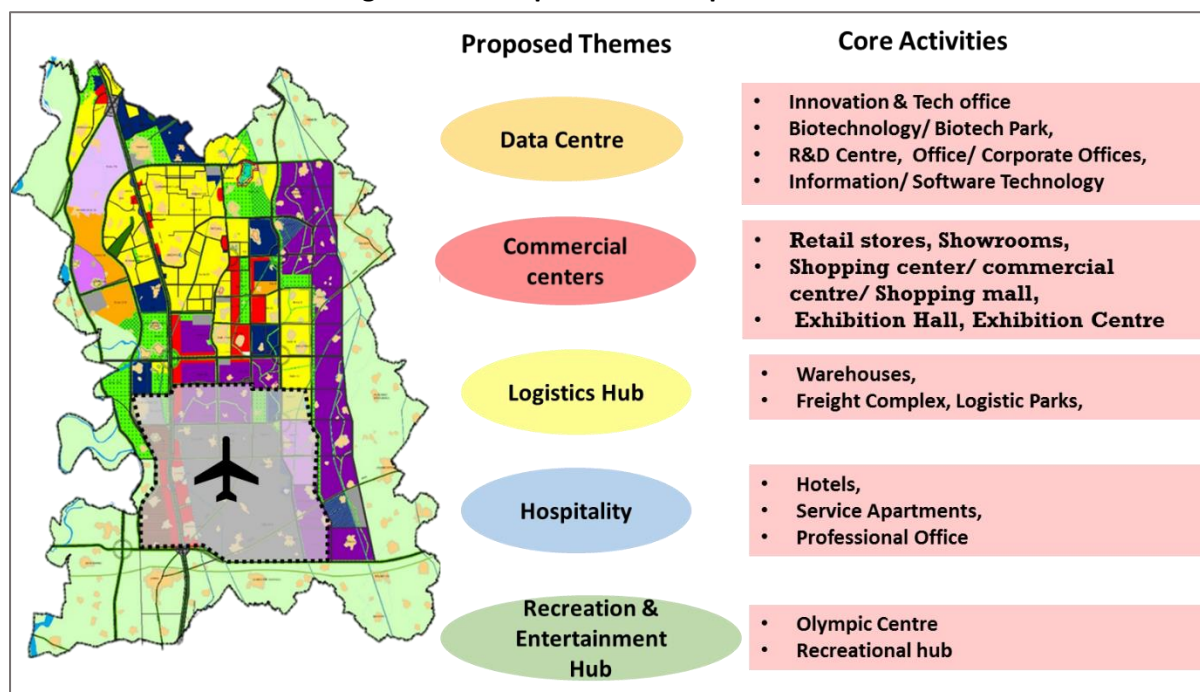
The CBD also has a central park in its centre which is city level park proposed with a point of view of recreational facility. This area of 220 Ha is proposed to be developed. The commercial area constitute for 482 ha.

11.3.2 Aerotropolis

Towards the south in YEIDA part 1 close to the expressway an International Airport and Aviation Hub to be developed in an area about 5000 ha. as regional facility with world class Aeronautical & Non Aeronautical facilities related to Airport / Aviation hub. The hub would be self contained with logistic activities, business zones, recreation, commercial, hospitality & other supporting activities in it and connected to the major movement corridors in the region. The proposed International Airport and Aviation Hub shall be developed and existing village and facilities shall be relocated as per detail plan of the proposed Airport and Aviation Hub approved by the competent authority of State/ central Government.

The goal in future would be to develop the Airport and Aviation Hub as an Aerotropolis. As per NCR Functional Plan 2032, an aerotropolis is a number of air transport related functional complexes along with a new town of reasonable size". An airport accommodates corporate suits, flex offices, business meetings, support services, retail, and airline services etc. The broad tentative activities proposed for aerotropolis have been listen in section 12.1.1. However, competent authority may decide to add similar kind of other activities in view of the demand which may arise in future.

Figure 11-5: Proposed Aerotropolis in YEIDA



Key Component of Airport city-side development:

1. **Smart infrastructure for Logistics:** New technologies are the main driving force for the development of the society and smart logistics will embrace the smart service as well as smart product within logistics.
2. **Aero-services and Manufacturing:** design and manufacture of items for the aviation, and transport industries.
3. **E-Commerce and Distribution:** Advancement in technologies has benefited all the possible commerce activities by increasing efficiency in very short time.

4. **Intermodal Freight Hub:** Reduces cargo handling with better safety, reduced damages and has resulted in faster freight transport.
5. **Office parks and office corridors:** The location of business centres would be based upon the proximity to the airport based on their frequency of use. They connect executives and professionals quickly to distant markets more efficiently.
6. **Hotels, Entertainment and Retail Clusters:** They will serve all the travellers as well as they will be fulfilling the local needs.
7. **Medical and Wellness centres:** The airport and the airport city-side development both requires provisions of health care facilities. Thus, airport city-side development will have a zone for health care facilities.

Table 11-6: Land-use distribution of Aerotropolis Area

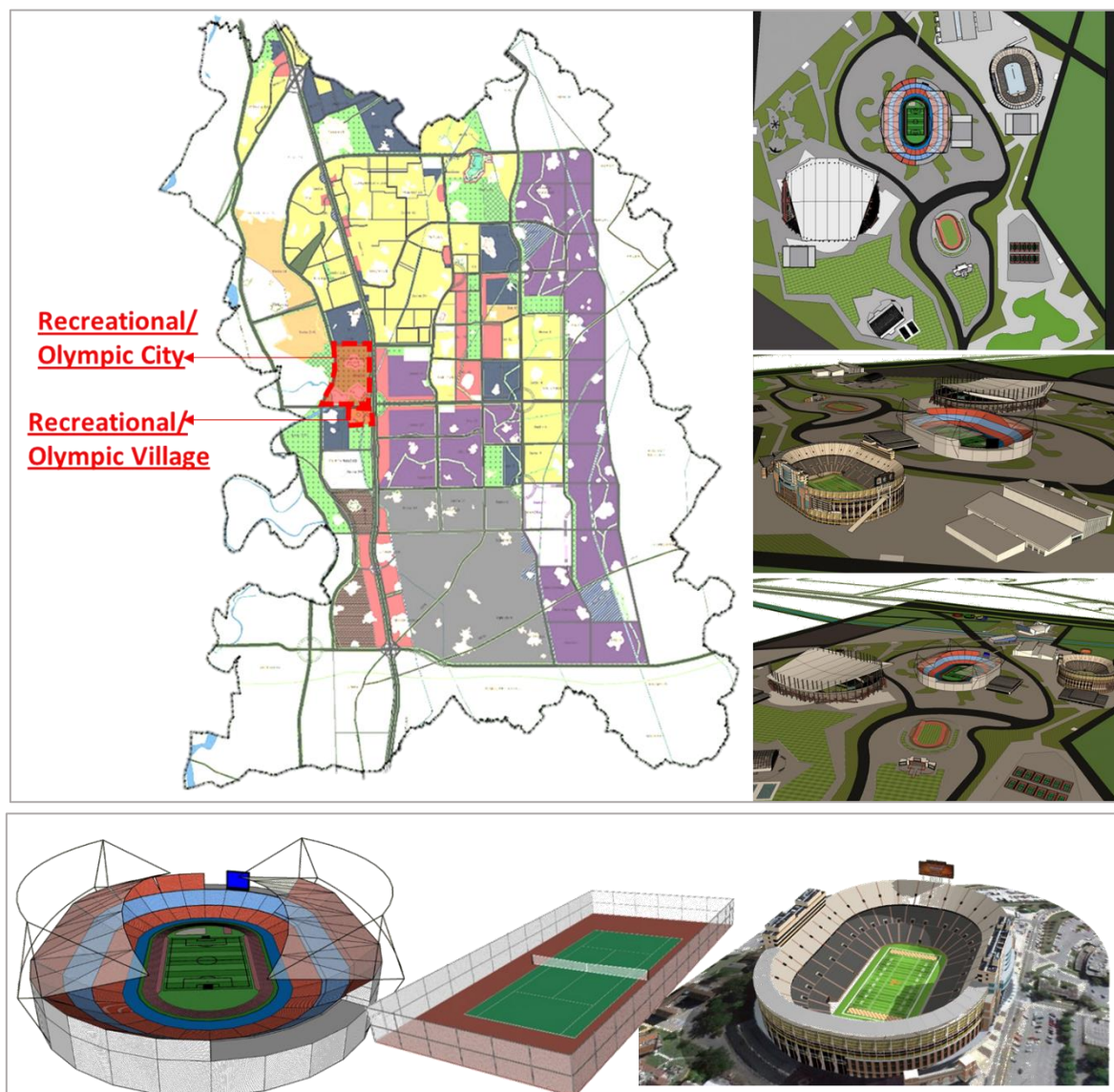
Land use		Area in Ha	%
Residential	Residential	504	4.57
	Village Abadi within Urbanisable area	315	2.85
	Abadi Extension	237	2.15
Commercial	Commercial	601	5.45
	Facility	56	0.51
Mixed	Multiple Landuse Hospitality	662	6.00
Industry	Industry	84	0.76
	Multiple Landuse Industry	608	5.51
	Aero services	330	2.99
	Logistics	313	2.84
Transportation	Transport Facilities	197	1.79
	Roads	1822	16.51
Institute	Institute	138	1.25
Recreational	Park	240	2.17
	Green Belt	366	3.32
	Water Body	81	0.73
Total (Aerotropolis Area without Airport)		6554	59.40
Airport		4480	40.60
Aerotropolis		11034	100.00

The existing Abadi area in the phase 1 development of aerotropolis will be resettled and decision of the remaining Abadi area and its population in the further development will be based on the airport authority. The total area delineated as Aerotropolis covers an area of 11034 hectares. It consists primarily of multiple land use – hospitality and multiple land use industrial along with a mix of commercial activities including space allotted to logistics. The airport height restrictions are expected to limit the achievable FAR in this area.

11.3.3 Recreational/ Olympic Hub

In YEIDA phase-1, sector 22 would be developed as recreational city. It may include various activities such as Olympic city, sports club or recreational park and some residential provisions for players/ sports students/ trainers. In other words, the sector 22 can be developed in two parts- one will be developed as Olympic city and Recreational/Sports Park and other will be as Olympic village. Capturing the Games will allow authority to undertake long-term activities designed to boost or alter the image of YEIDA as a city. The area would comprise a set of interlocking component festival rather than a single festival.

Figure 11-6: Proposed Olympic City in YEIDA



- **Recreational/ Olympic City Area: 390 Ha**
Can be converted into sports club or recreational park with chargeable entry tickets.
- **Recreational/ Olympic Village Area: 52.4 Ha**
Olympic village can accommodate 4000-4500 Residential Units.

11.4 Transportation Proposals and Strategies

11.4.1 Major Transportation Challenges

The major transportation challenges found by the analysis of existing situation as well as the proposed projects in YEIDA are as follows:

1. The Catchment of transportation and logistics services for YEIDA is presently limited to UP State (and excludes Haryana and Delhi) because of prevalent taxation on interstate movement on goods and commercial vehicles.
2. The proposed road network in the Master Plan 2031 has proposed road width of 100m, 120m and 130m with a buffer of 50m green belt. However, the road width greater than 80m is not viable.
3. Residential sector i.e., sector 18 lacks adequate road connectivity. Thus, the internal road residential layout of sector 18 needs to be properly connected with the city road.
4. The area has to be properly connected with public transport system and provisions for effective parking facilities are required.

11.4.2 Mitigation Strategies for sustainable transportation

The concepts that are to be implemented for the proposal of transportation are as follows.

1. Roads according to adjacent land use-transport demand

In the Master Plan 2031 ROW was proposed to be 75 m to 130 m. The Master plan 2041 majorly focuses on public transportation and current analysis trend the maximum road width required is 90 m. Hence the roads proposed in Master plan is 60 m to 90 m. Higher Road width promotes more use of private motorized vehicles which ultimately results in adding more vehicles. To avoid that NMT and Public Transport are promoted which requires lower width of road.

2. Promotion and supply of high-capacity public transport and support systems to facilitate integration.

The public transport systems such as Metro, Neo Metro and city bus are proposed to reduce the transport issues. To integrate these systems, the Multi Modal Transport Hub is proposed.

3. High-capacity low-cost public transport system such as Neo Metro, which is financially and economically viable.

The Neo Metro system which has a capacity of 250 persons and costs 71 cr. per km as per MoHUA which is 20 to 25% of the conventional metro system. This system is rail-guided system with rubber-tyred electric coaches powered by an overhead traction system, generally at grade alignment, simple stations on central median similar to normal bus stops.

4. Provisions for transport terminal (Transport Nagar) as per the demand.

The transport terminal is provided to support the freight movement in the city at the peripheral road to ensure these freight does not cause congestion inside the city.

5. Designating areas for Intermediate public transport facilities

The rickshaw stands for the IPT vehicles is proposed at every 1 to 3 km of distance. To integrate it with the public transport the IPT stands are provided near the city bus and Neo Metro stops. So that it can be used as feeder system to the public transport.

6. Creation of peripheral expressway on eastern boundary for the free flow to and from the city.

To ease the movement of traffic coming within city and going outside the city a peripheral expressway is proposed on the eastern side of the city which connects all the important roads going in the city.

7. Pedestrian and cycle track demarcation on major roads

To promote the future population of the city to travel by walk and cycle the cycle tracks and footpaths are proposed on all major roads of the city. These NMT infrastructure is ensured to be continuous, comfortable, and convenient to travel.

8. Pedestrian precinct in the city centre to give vibrant atmosphere.

To create a vibrant environment in the city, a pedestrian street is proposed going from the Central Business District (CBD) area. This street has a wide spread of footpath and cycle track along with three lane carriageway and space for public transport.

9. Provisions for parking facilities.

10. Connectivity to NIAL through metro, HSR and local Metro Neo.

To support the traffic demand of Noida International Airport in the future, Delhi –Varanasi High Speed Rail (HSR) is already proposed by the NHSRCL. The HSR connects the major cities through U.P. and Delhi. The Metro extension from Greater NOIDA is majorly proposed to connect major parts of YEIDA and other NCR cities like NOIDA, Greater NOIDA, Delhi.

11. Transit Oriented Development (TOD) framework for effective transportation and land use integration.

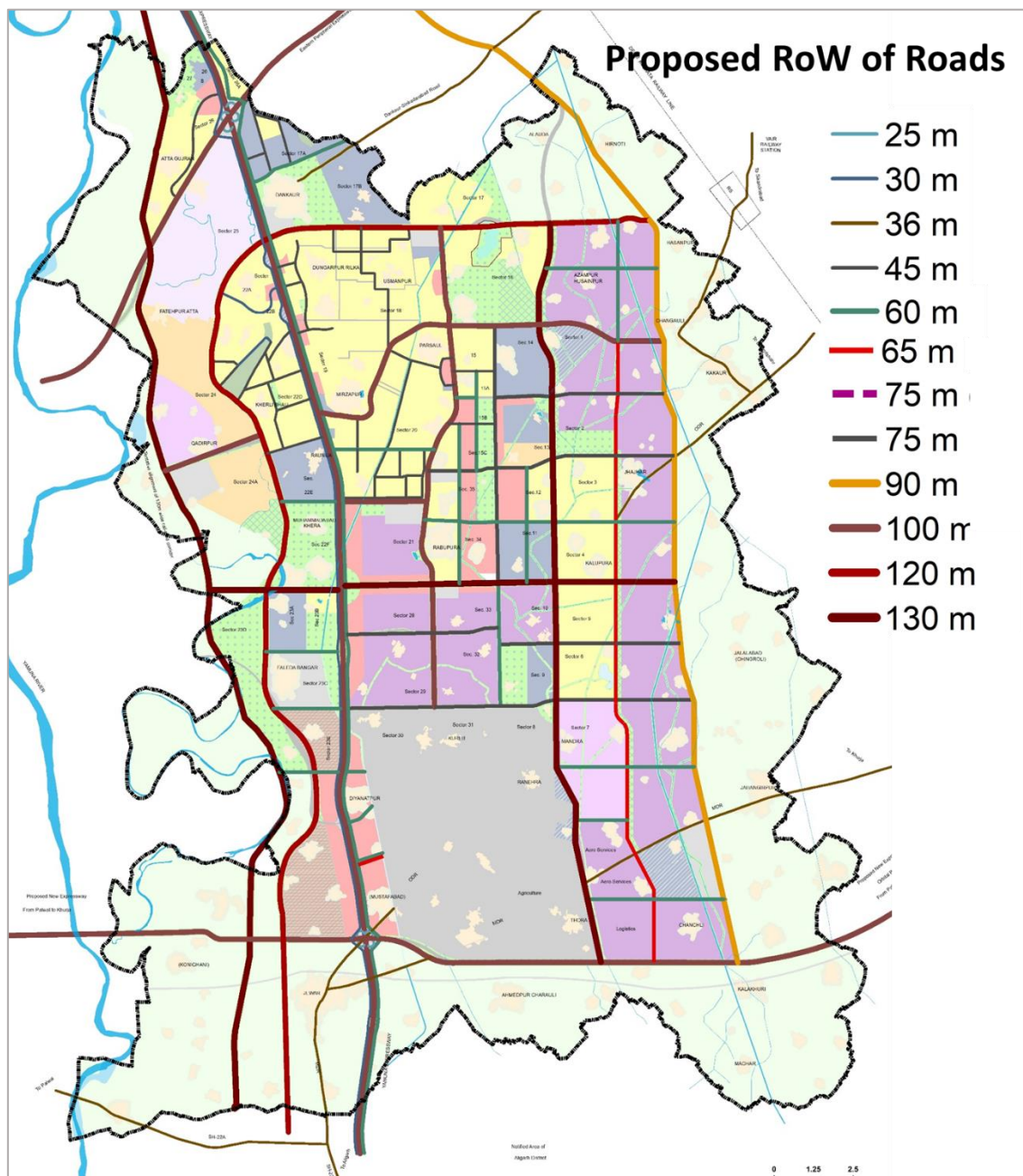
The TOD Zone is proposed within 500 m of Neo Metro route. These zones will have high density buildings, ensuring accessibility to public transport by wider footpaths and cycle tracks to ensure convenience.

Keeping the major transportation challenges and goals for sustainable transportation system, proposals at various level have been identified. The first proposal is through robust hierarchical road network, second through public transportation system in the form of metro, neo metro and city bus, the third proposal through intermediate transport system where rickshaw stands, charging stations for E-rickshaw and fourth proposal through transport infrastructure in the form of ISBT and depot, followed by freight transport and fuel stations.

11.4.3 Proposed Road network of YEIDA-I 2041

For an efficient public transport system and also for multiple movement options thereby facilitating better dispersal of traffic, Grid iron pattern of road network has been proposed as the basic structure of the urban form for the YEIDA planning area. It is also framed by a ring road all around to provide connectivity to the expressway and surrounding connections. The next step is to plan and classify the hierarchy of proposed road network based on importance and right of width of the road. These also considers the length of the street, land use characteristics etc. First hierarchy of roads include- Yamuna expressway, Eastern Peripheral expressway and proposed new expressway from Palwal to Khurja. Then Peripheral expressway, Arterial Road, sub arterial road, collector road and local road. Hierarchy of proposed road network is as follows-

Map 11-2: Proposed Roads for Master Plan 2041



Peripheral Road

These streets are mainly used to cater the through movement of the city. The freights, passenger or public vehicles travelling from other cities and passing through or stopping inside the city will be the major purpose of this road. It will be the longest roads within city boundary after expressway. It is proposed to be 120 m wide right of way, it will have three service roads because of the major freight movement.

Figure 11-7: 130 m Road

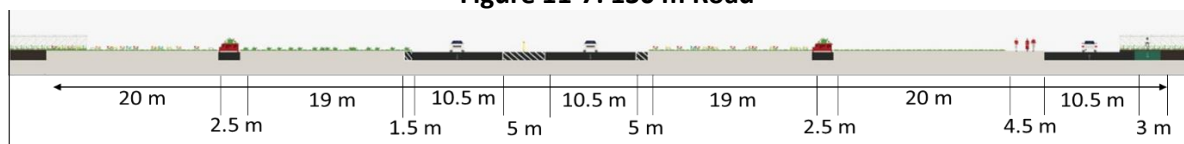
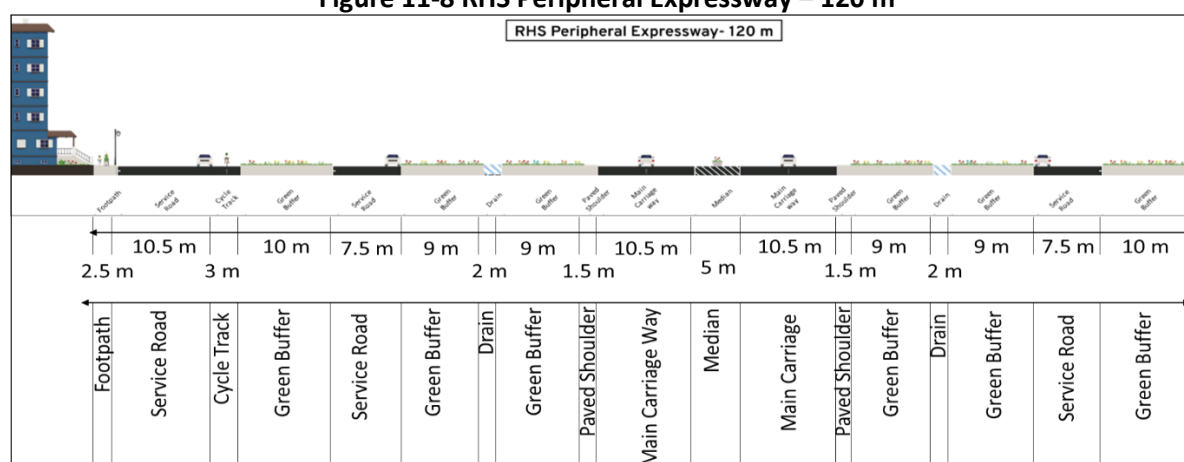


Figure 11-8 RHS Peripheral Expressway – 120 m



• Arterial Road

These are some of the most important roads of the city which connects important parts of the city like railway station, bus stops, and city level tourism places etc and connects city's network with intercity roads of highways and expressways. In the proposed road network, the arterial roads vary from 75 meter to 120 meters. Neo Metro and city bus. NMT infrastructure is highly recommended on these roads.

Figure 11-9: 60 m wide road (60-meter two lane road without Neo Metro)

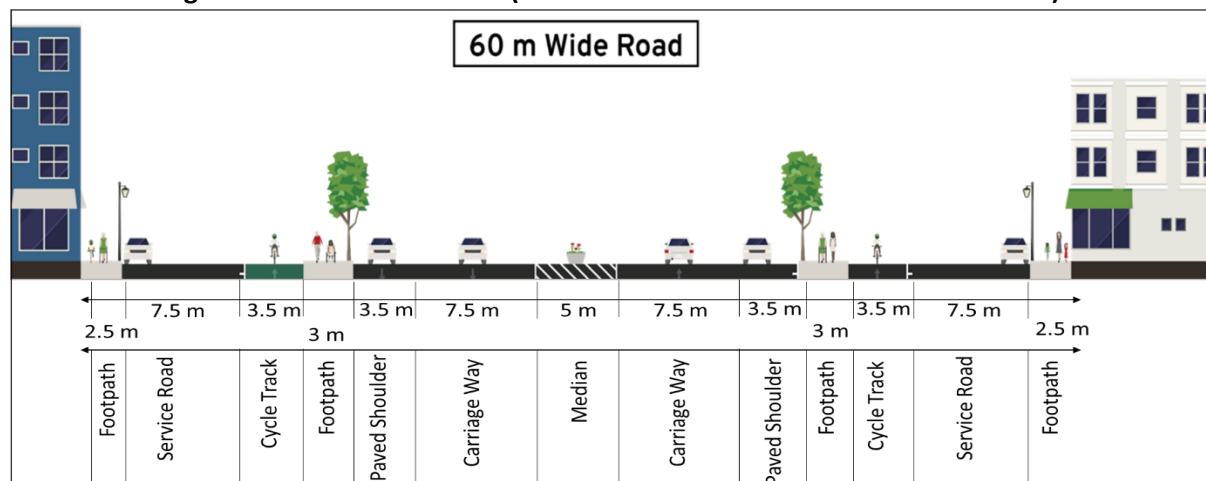


Figure 11-10: Arterial Road (75-meter two lane road with Neo Metro)

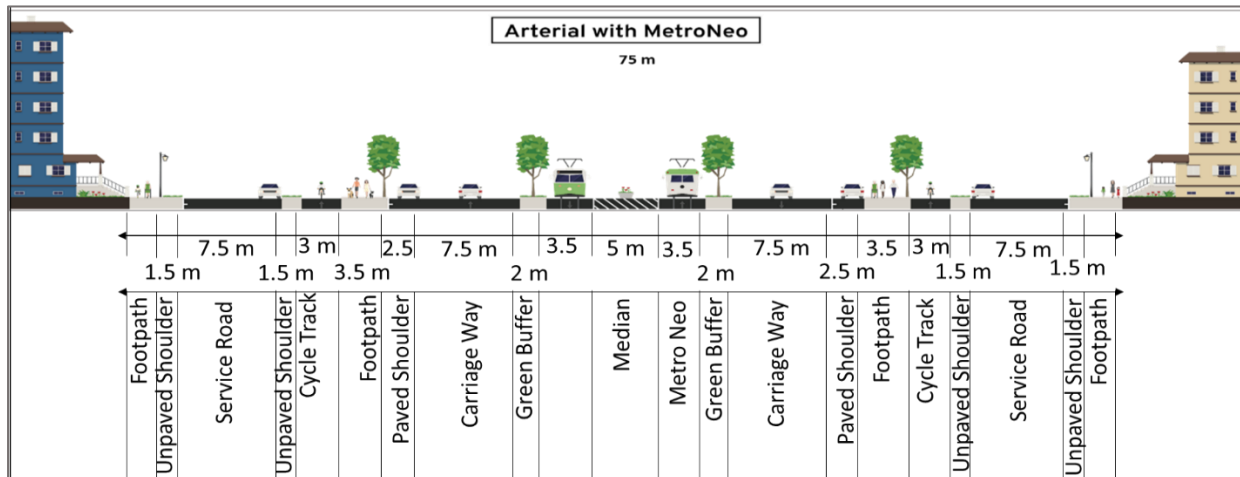


Figure 11-11: Arterial (75m wide without Metro Neo)

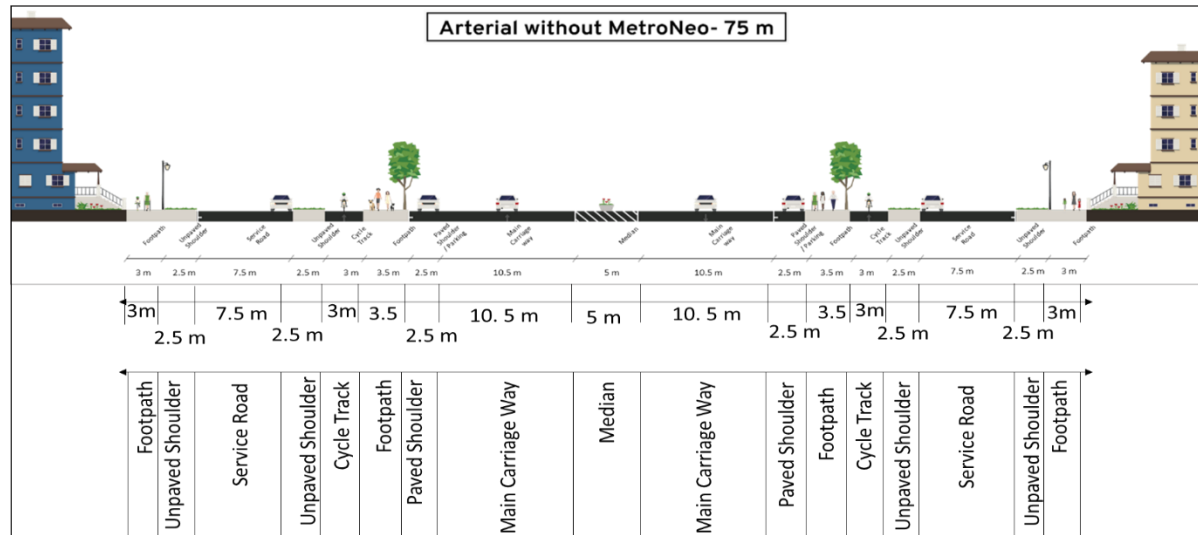


Figure 11-12: Arterial with Metro Neo – 100 m

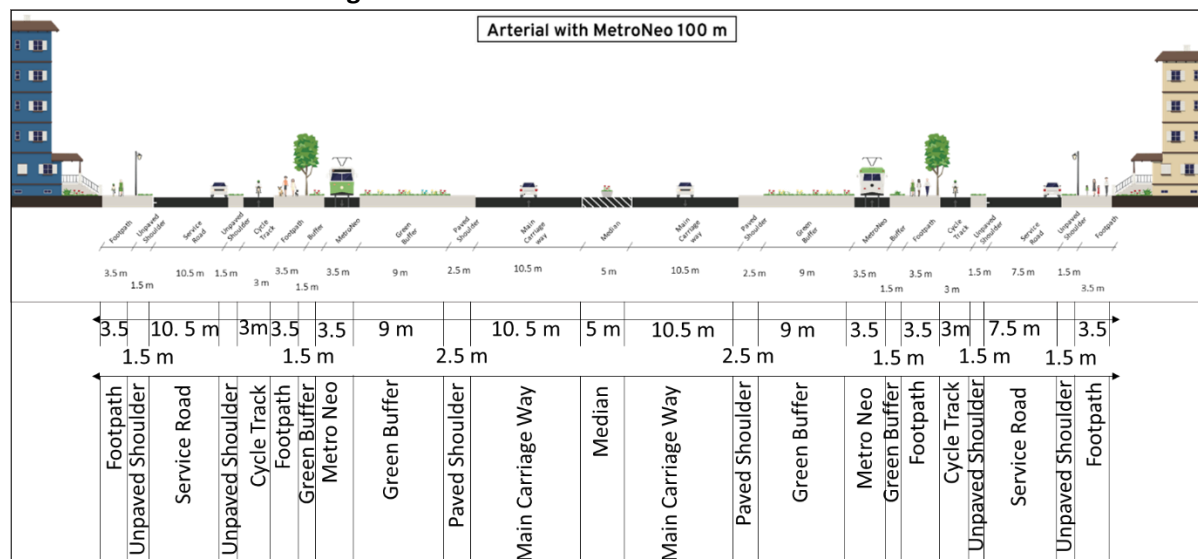
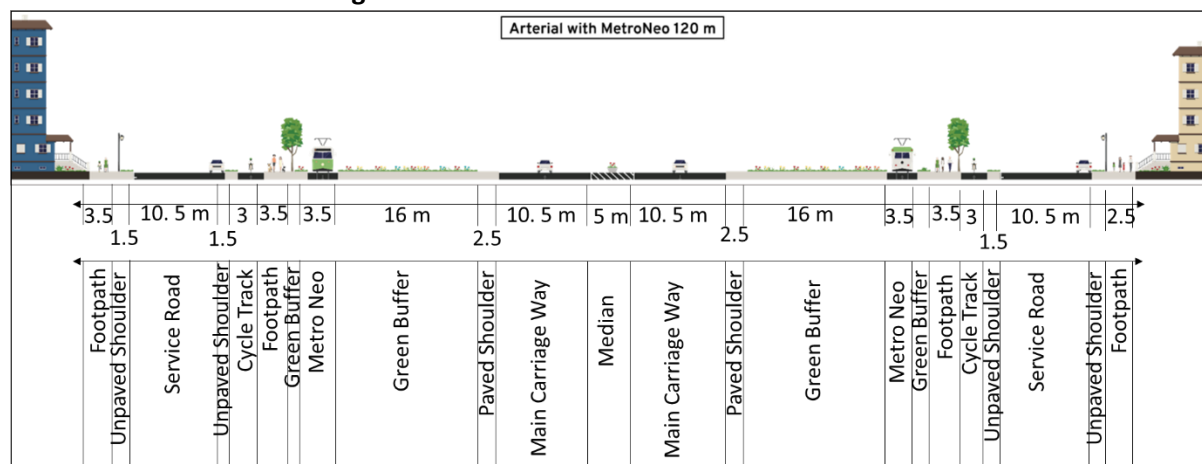


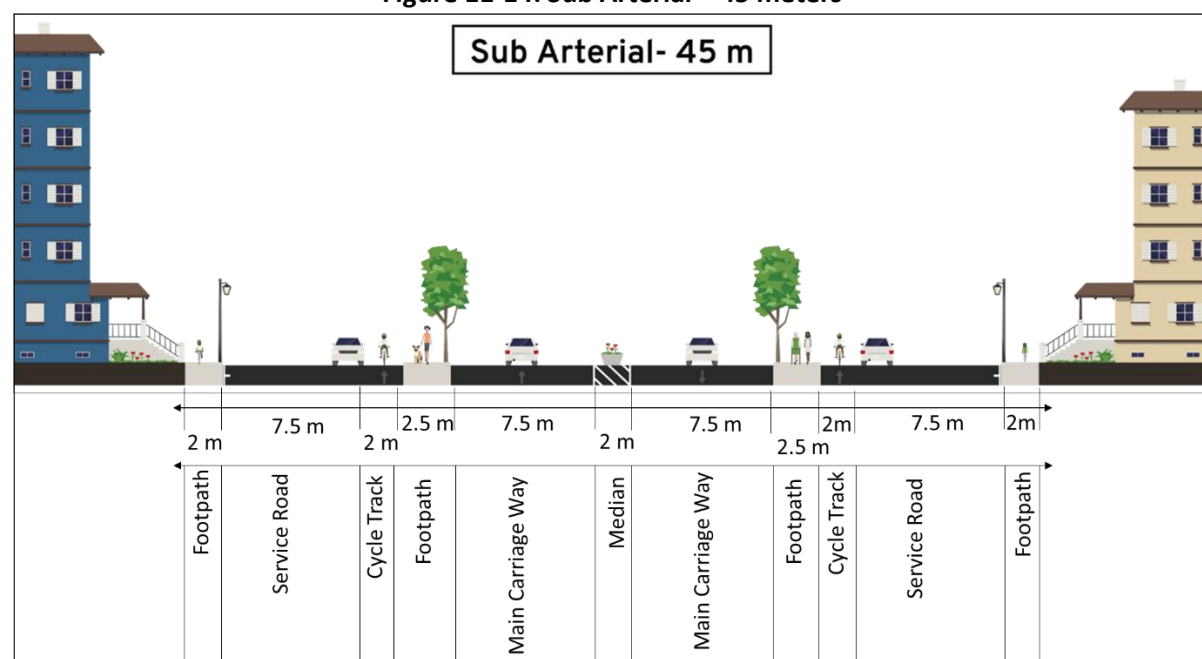
Figure 11-13: Arterial with Metro Neo – 120 m



- Sub arterial Road**

These roads are functionally similar to arterial road but with lower traffic volume. These will have local retail shops, vendor activities, and commercial frontages. Their right of way may vary from 45 meter to 60 meter.

Figure 11-14: Sub Arterial – 45 meters



- Collector road**

These roads collect the traffic from local streets and connect it to the sub arterial and arterial streets. Collector roads will have less right of way, ranging from 18 meter to 30 meter. This road will have maximum two lane carriageway.

- Local road**

The local roads directly connect to the local neighbourhood areas. These are the streets where majority of the trips either originates or terminates. The local streets maybe residential, commercial, or industrial streets depending on their adjoining land use.

The cross section of these roads is given in the Annexure- I, at the end of this chapter. This street classification system should be considered and prioritized while proposing any new project and organising, designing and improving transportation network. In the Master Plan 2031 majority of the roads are 75 to 130 m of right of way. Here the roads proposed are as per the capacity required to handle generated traffic. The key features of the road hierarchy are as follows:

- The right of way of the roads from Master Plan 2031 is reduced as per traffic generation from adjacent land use and to avoid excessive use of costly land resources.
- The proposed roads are inclusive of provision for future expansion within allocated right of way in high traffic volume corridors. In case there is a need to expand the road as per the traffic demand the carriageway can be extended.
- The Parking lane are proposed at areas with commercial and institutional adjacent land use. In the high traffic areas like CBD the parking need to be regularized otherwise it will get spill over on roads.
- Cycle track in all roads including and above sub arterial level to promote NMT through adequate provisioning.
- Footpaths at all road levels including local streets for safe pedestrian movement.
- Footpaths with provision for tree plantation and services (drainage, sewerage etc.) below ground level to minimize damage to main carriageway during repairs etc.
- Service road are proposed from sub arterial road level to avoid direct traffic to/from main carriageway. There will be more freight movement in the city because of the industrial influence in the city so there trucks can travel from these service roads while moving towards destination.
- Road parallel to Yamuna Expressway connecting Greater Nodia to Palwal Khurja Road is proposed of 130m ROW.

11.4.4 Proposed Public Transport System

To minimise the share of private transport and promote sustainable development the public transport system is promoted. Currently, as per census 2011 the population of the proposed area is 3.7 lakhs and for the year 2041 the population is proposed to be 35.51 lakhs. So, there will be a need of the public transport system which will help the population to commute. The proposals for the same are as follows:

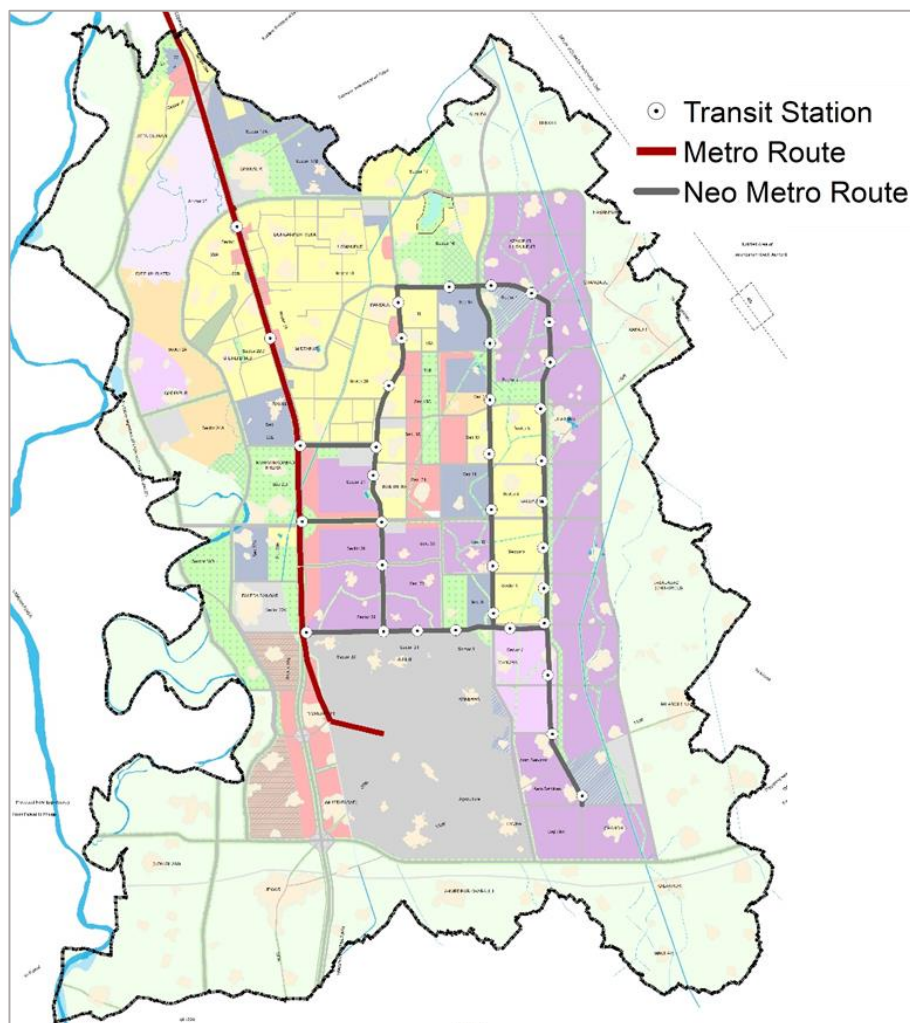
1. Metro and Neo Metro extension

The Delhi Metro Rail Corporation (DMRC) has given a proposal to extend the metro to the southern part of Greater Noida. As Greater Noida is on the north of YEIDA, these extended metro lines can be further extended to YEIDA. The extended metro will be majorly connecting Noida International Airport to Greater Noida, Noida, and Delhi. So, Metro extension is from Greater Noida to YEIDA, and Neo Metro is for the within city connectivity. The proposal to extend the Delhi Metro line and Neo Metro is given below:

Figure 11-15: Neo Metro



Figure 11-16: Metro and Metro Neo

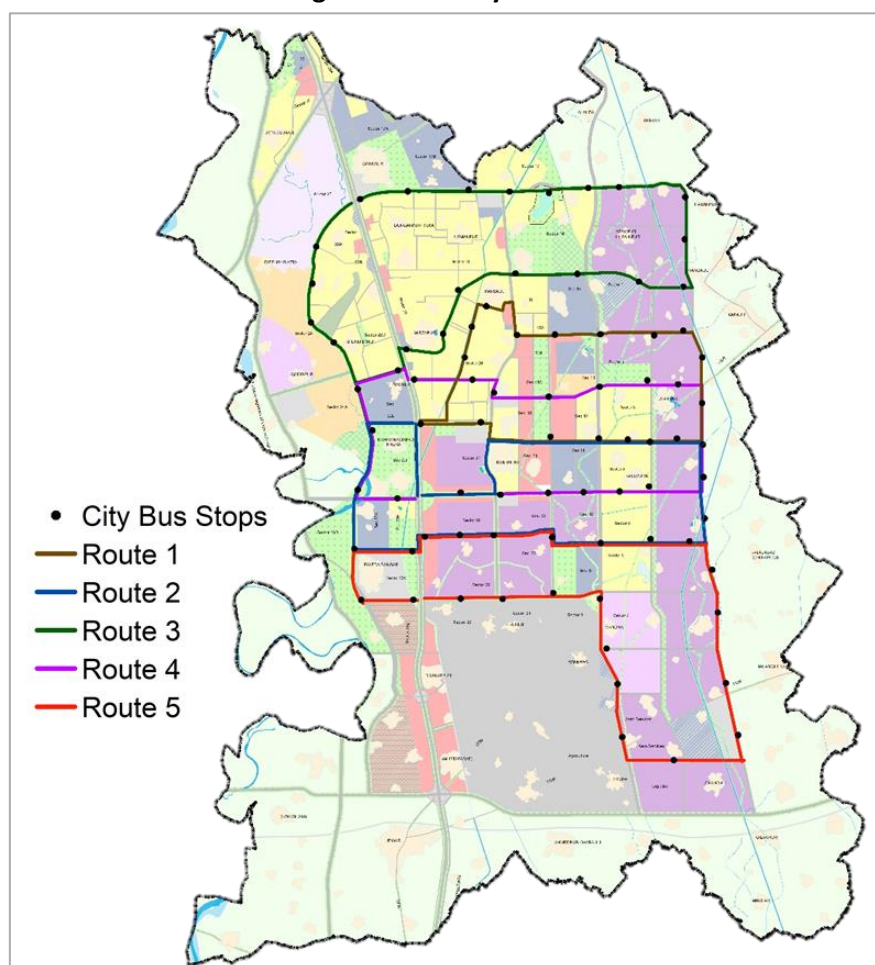


There are four metro stations proposed for the extended line on Yamuna Expressway. Neo Metro stations are placed Between 1 km to 2.5 km distance. There are 21 Neo Metro stations and 4 Metro stations proposed in the city. The network length of Metro within YEIDA Boundary is 30 Km and of Metro Neo is 45 km.

2. City bus

The metro and Neo Metro proposed has a limited extend, so the city bus is proposed such that it will cover maximum area as possible. The city bus proposed will be in smaller size to run more efficiency. It will be 20-to-30-seater bus and will run as a feeder service to the metro and Neo metro. The proposal for the city bus is given in the map 11-17

Figure 11-17: City Bus Route



3. Other Intermediate public Transport

The IPT system is proposed to run as feeder service to public transport. Along with CNG rickshaws E-rickshaws are proposed. In India most of the states have proposed an EV policy to promote the sustainable mobility. Along with Electric bus, car and bike, electric rickshaws are also getting promoted nationwide. The proposal for electric rickshaw for YEIDA is given as follows:

a) Rickshaw stands

The E-rickshaw has a maximum speed of 25 kmph, which will reduce the speed and minimizes the possibility of accidents. The normal rickshaws have an occupancy of 3 and because of that the trips of the rickshaws increases. E-rickshaw has occupancy of 4 persons plus driver and also requires less space than the normal rickshaw. The width of the vehicle is 1 meter and length is 2.8 meter. The below are the proposed rickshaw stand for the city, it will be for both CNG, and Electricity based rickshaws. It is proposed on the measure junctions of the city. It is located around the public transport stops to give last mile connectivity to the public transport.

**b) Charging stations
for E-rickshaws**

E-rickshaw comes with a charger to charge their vehicle at home or any other non-public place. As E-rickshaw is promoted, it is important to propose their charging stations as well, because it would be convenient for the drivers to ply their vehicles without worrying about the charging. The charging stations should provide wherever there are rickshaw stops for the convenience of the drivers.

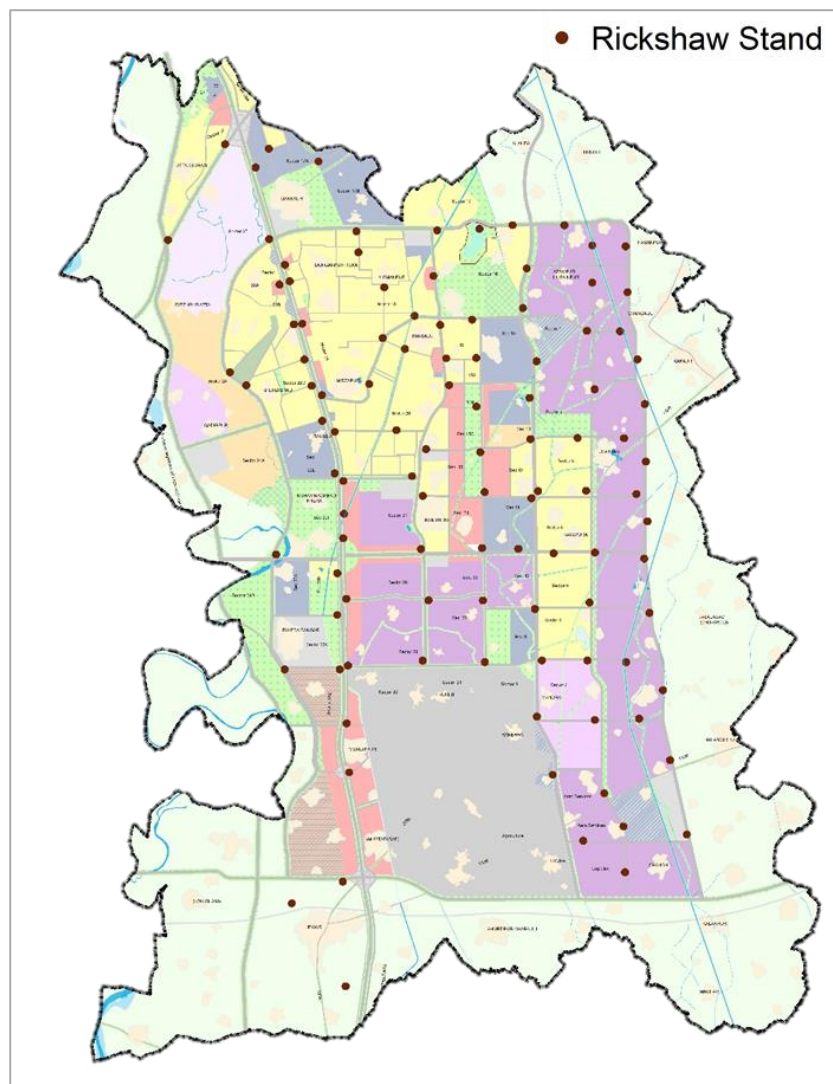
As India is promoting Electric Vehicles, the major challenge is shifting people from fossil fuel vehicles to EV. So, to do that the government is providing subsidies to attract people to buy and

Electric Vehicles. The YEIDA city falls under the UP state, in 2018 the UP government has proposed and Electric Vehicle Policy to promote EV in the state. It says that there would be 100% exemption of road tax, exempt vehicle registration fees, SGST on buying the EV manufactured within the state (Vehicles & Agreement, 2020).

In order to regulate E-rickshaws, it should have some enforcements, below are the enforcements for the E-rickshaw our city need to incorporate,

1. The traffic department will ensure that the E-rickshaws should not run overlapping to the proposed metro line and public transport,
2. The E-rickshaw has a life span of 10 years, the traffic department should ensure that the vehicle should not exceed 10 years. If any vehicle found more than 10 years of age, then the traffic department should levy penalties.
3. If any driver found driving vehicle exceeding 10 years more than 3 times, then the traffic department should cancel the driving license.
4. The E-rickshaw can run as a shared auto but not more than four passengers. If found, the traffic department should levy the penalty.

Map 11-3: Proposed Rickshaw Stops



5. These stops should not be included in the NMT infrastructure of the city. The rickshaw stands should be marked on the ground with a signage of rickshaw stand.
6. Wherever Multi Modal Hub is provided, rickshaw stands will be given space to park the rickshaws.

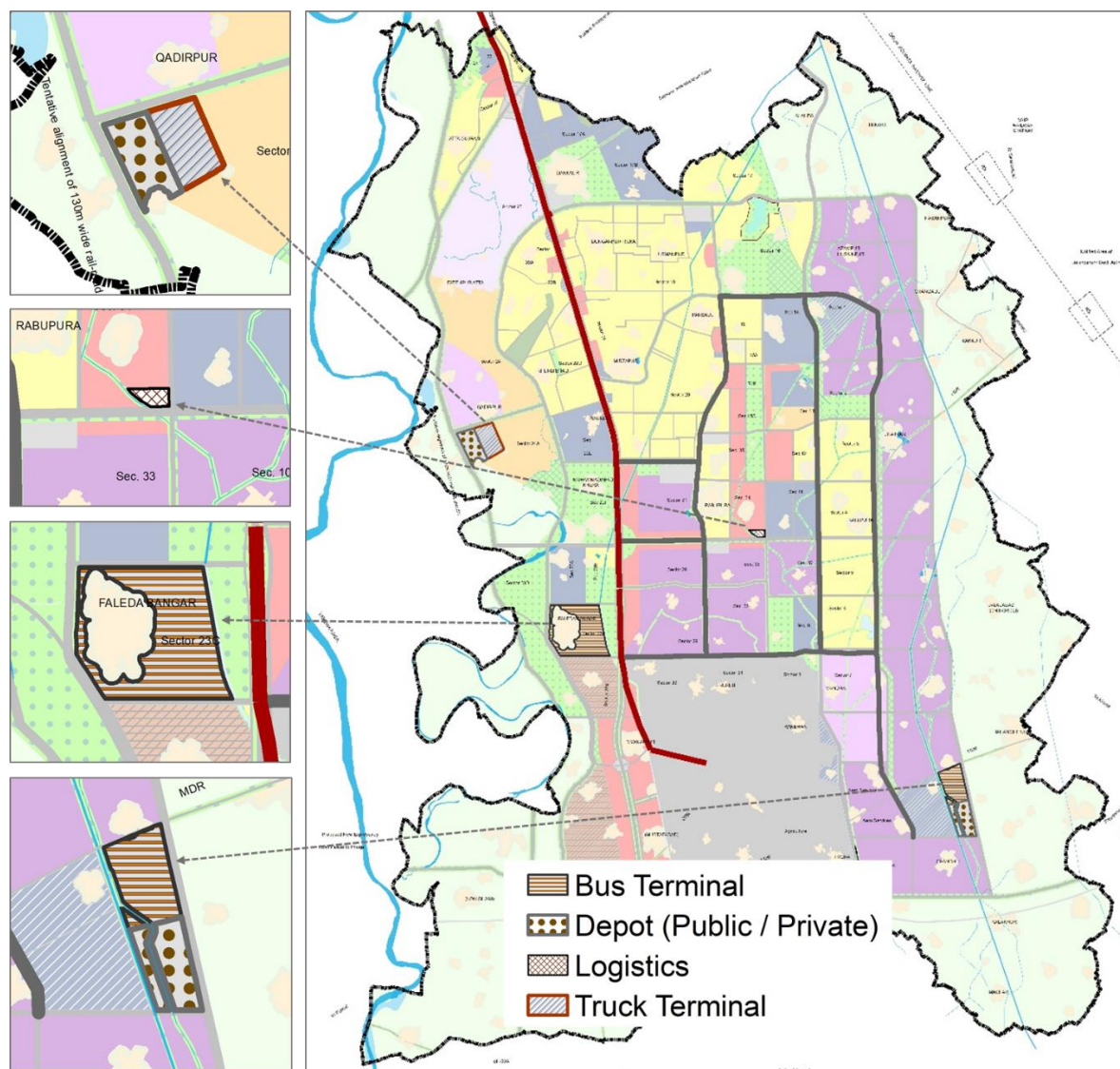
11.4.5 Proposed Transport Infrastructure

The services like Neo Metro, Interstate buses will need a space for their operation, maintenance, or parking according to the service. The proposal for the same is given as follows:

1. Inter-State Bus Terminal (ISBT)

The state buses connecting YEIDA to the major regional nodes around the city need to have a place where buses can stop, and passenger can access and egress. The Inter State Bus Terminal (ISBT) is proposed on three locations in the city, one in the north, one in the south and the third one is proposed on the west side of the city towards Yamuna River. These gives connectivity to all the areas of the city. Each of these ISBT's are proposed on 5 hectares of land.

Map 11-4: Transport Infrastructure Proposal



2. Depot

The proposed Neo Metro and city bus will need a depot, workshop and parking space for the operation, maintenance, cleaning, washing, and parking of the system. Also, to avoid congestion on road there will be provision to park private buses in this depot. This space is provided in the southern side of the city, near the proposed peripheral road adjacent to the Southern ISBT.

3. Truck terminal

The Truck terminal is proposed on a peripheral road given. The main purpose of truck terminal is to accommodate the trucks passing through the city. To deliver goods in the city through smaller vehicles, these trucks park their vehicles and load and unload the goods. This is done to divert the freight travelling from city centre.

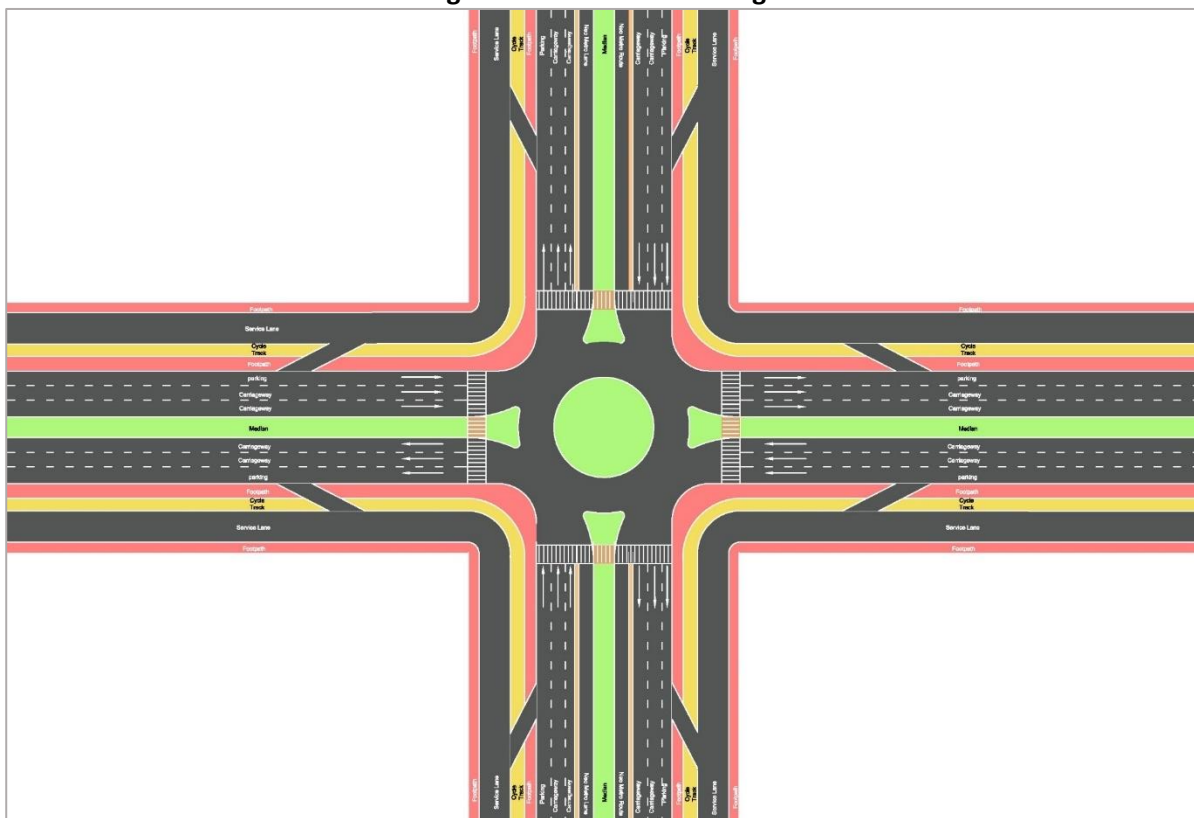
4. Fuel Stations

The distance between two Fuel stations should be 1 to 2 km. The fuel stations will include CNG, Petrol, and Diesels. These stations will also incorporate charging points for E-rickshaws.

5. Junction Design

The proposal for the typical junction design is given below:

Figure 11-18: Junction Design



6. Street Design Guidelines

The industrial cities like YEIDA will have bulk of freight movement on roads along with lot of pedestrian movement. To ensure the safety of pedestrians there should be some regulations and guidelines and those are as follows.

- i. All streets should design as complete streets that are safe and prioritize NMT users and public transport.
- ii. All streets should have slow zones where pedestrians are priority.
- iii. It should be ensured that design of footpaths and cycle tracks will have usability, convenience, accessibility, and safety.
- iv. The streets should be designed for PT, non-motorized vehicles, and other vehicles at moderate speeds.
- v. Design guidelines for junctions and crossing should be provided in the Street Design manual.
- vi. The authority will implement and maintain landscaping for NMT infrastructure as per guidelines.
- vii. Footpaths, cycle tracks and NMT facilities must be continuous and parking facilities need not be continuous and can be break wherever NMT facilities are provided.
- viii. In the areas where pedestrian traffic is more, pedestrian only zones should be demarcated.
- ix. Streets and public spaces should be designed and integrated to support the public transport service. It will develop understandable and accessible multi modal interchanges at PT stations and bus stops.

7. Parking

The industrial areas of YEIDA city will cater high freight transport as well as employment traffic. To avoid congestion, it is important to setup guidelines and policies to control the parking demand of the city.

A. On street parking

The on-street parking strategies and guidelines are as follows:

1. The parking supply should consider the supply of all modes including emergency vehicles, IPT, public transport, cycles, freight etc.
2. The parking zone and no parking zone should be clearly indicated by sign and ground markings with clear and easy to read signage.
3. The on-street parking is not allowed within 100 m radius of the major junctions of the city.
4. The parking fees should be considered based on zones and importance of the area.
5. If any person declines to pay the parking fees, the concerned department may take necessary action based on the motor vehicle act 1988.
6. If any person parks the vehicle in the no parking zone, then the concerned department should take necessary action as per motor vehicle act 1988.
7. At least 10% of the area should be reserved for cycle parking in all the parking areas allocated by the authority.
8. The on-street vehicle parking should be planned and implemented such that it should not disturb the movement of pedestrian and cyclists.
9. The zone for three-wheeler parking areas should be properly demarcated. If the three-wheeler is parked outside the zone, penalties should be applied.

B. Off-Street parking

Off street parking is needed when the areas in the premises have started spilling over on roads, footpaths, or cycle tracks.

1. Off street parking area should be located near high footfall areas such as commercial places, public offices etc., only wherever needed.
2. While demarcating parking lots, if the green area is deficient then reduce the parking lot and ensure the green areas to be at least 20% of the overall area.
3. The off-street parking should be such that, it should not hinder the vehicular access to street.
4. The off-street parking should include a demarcated parking space for cycle, IPT and taxis.

C. Private parking

Private parking includes parking provided on individually owned plots whether it is for residential, commercial, institutional, or industrial. Regulating the private parking is necessary to reduce the congestion on streets so, it is important to regulate the parking within their boundary. Following are the guidelines and strategies to regulate the parking:

1. The private parking area should be given as per the Building Byelaws.
2. The parking penalty as per the land use of the property should be decided according to the amount of spill over. The parking penalties should be revised every year.
3. The goods vehicle should be parked in the respective industry otherwise the penalties should be levied.

➤ **Private Bus depot**

In most of the cities the bus depot is provided only for the government buses, in result the private buses are found parked on the street result in congestion. To avoid these the depot proposed is for both public and private buses. Out of the total bus parking area 80% will be for public buses and 20% for private buses. These percentage can be revised as per the demand by concerned department. The private buses parking will be on paid basis decided by the concerned department.

➤ **IPT**

The rickshaws should have a dedicated space for parking on road to ensure the regulation and enforcement of the rickshaw.

1. These stops should be located in the vicinity of the bus stop to make it a feeder service to the city bus.
2. The IPT Parking should be at IPT stands only.
3. The IPT stops should be marked on road by traffic department.
4. It should be ensured that the rickshaws are not parking their vehicles or passing through footpaths and cycle tracks.

8. **Non-Motorized Transport**

For the city, the public transport is promoted and in order to make it successful, last mile connectivity is very important. Unless and until the city will not implement the NMT infrastructure the people using public transport will not be comfortable while walking on the road. Also, the whole area is industrial area and there will be high freight movement in the area. When freight starts moving in any road the fear of getting hit increases specifically for the NMT users. So, it is important to implement NMT infrastructure throughout the city. In addition, the Transit Oriented Development is also proposed in the city, and to increase accessibility in the TOD zone NMT infrastructure is required.

While implementing, planning, and managing the NMT infrastructure there should be some strategies and guidelines to ensure the safety, convenience, usability, and accessibility of the users.

1. To ensure the safety of the pedestrians on the junctions, intersections should be managed with focus on NMT mobility and safety.
2. The vendors should be accommodated at potential demand locations such as major intersections, market areas, commercial centres, and other key destinations.
3. Supportive infrastructure should be provided such as waste bins and public toilets on the intersections.
4. Street vending should be regulated by giving vendor infrastructure in locations that ensure the continuity of footpaths and cycle tracks.
5. Repair and maintenance program should be conducted to keep all footpaths and cycle tracks in a good state of repair and cleanliness.
6. Remove all temporary and permanent obstructions that force pedestrian to walk on the carriageway.
7. During construction of NMT infrastructure, provide alternative means for pedestrian and cyclist to circulate.
8. Implement and maintain street furniture for NMT users as per standards.
9. Advertisement panel and utility boxes should not interrupt in NMT path to maintain an unobstructed 2m wide clear path of travel for NMT users.
10. The access points for underground utilities like storm water, sewage, electricity, telecommunications, and other services should not conflict with NMT user movements.

For the management of Footpath and cycle tracks the plan enforces following rules provided by Motor Vehicle Act, Central Motor Vehicle Rules, Gazette of India, New Delhi, 23rd June 2017 (for Motor Vehicle Act, 1988)

1. Motor vehicle cannot use footpath or cycle tracks unless Police Officer in uniform allows the person.
2. The driver of motor vehicle should slow down when approaching a junction, pedestrian crossing and he has become aware that he may do so without endangering the safety of persons thereon.
3. Motor vehicle should not be parked in such a way that it will likely cause danger, obstruction, or inconvenience to other road users.
4. Driver should not park the motor vehicle on footpath or cycle track.
5. The footpaths and cycle tracks should be consistent by network, section, and intersection to ensure the safety of the users.
6. The cycle tracks should be direct with minimum detours and delays.
7. The number of conflict points with motorized traffic should be as less as possible.
8. The footpath and cycle infrastructure should be integrated with proposed metro station and public transport.
 - a. Provide space for bicycle parking inside or very close to transit stops for long time.
 - b. Display information about pedestrian and cycle network.
 - c. Ensure the usage of common mobility card for proposed metro and BRT.
9. The provision of cycle parking should be given at buildings and private properties.

- ## 9. Multimodal Integration

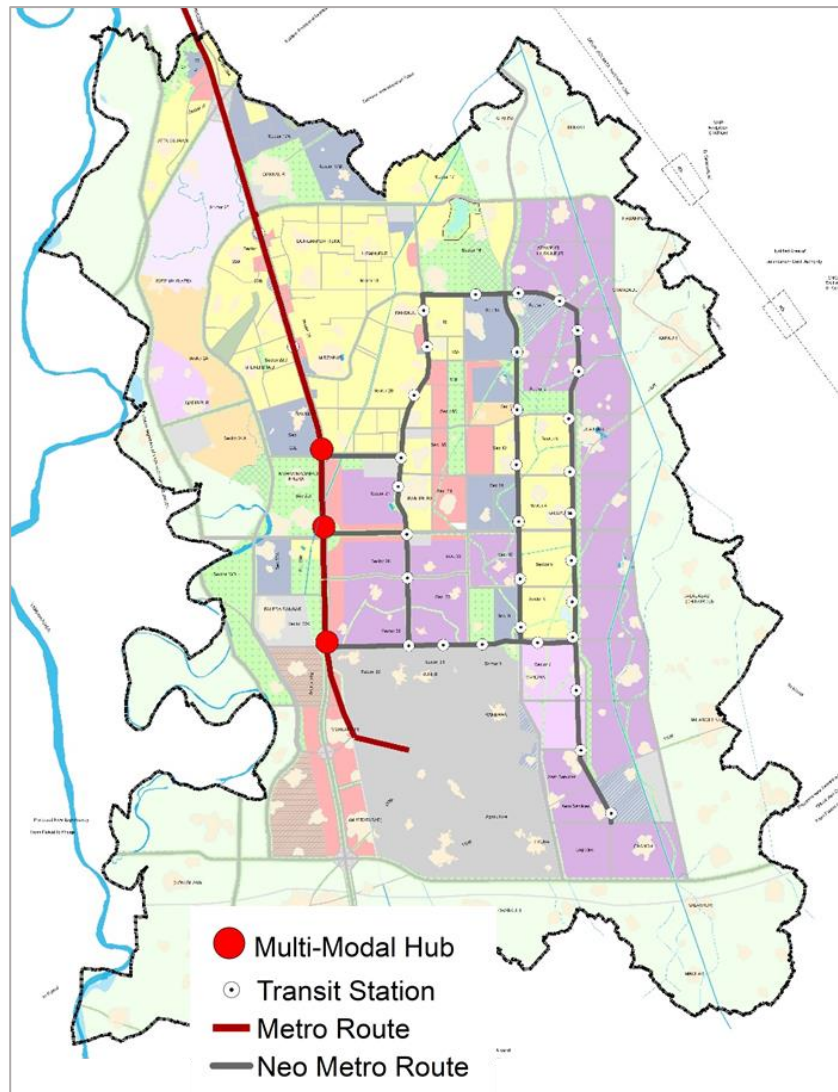
Location of Multi modal hub



The location of proposed Multi Modal Hub is given in the above map. There are three MMH are propose along the Yamuna Expressway. From these two locations, the city bus, Neo Metro, and metro is passing, E-rickshaw stand is also proposed in these locations, so these hubs will merge city bus, Neo Metro, metro and IPT in the same location.

The Multi Modal Hub (MMH) should be as per the following strategies:

1. The MMH will be a common infrastructure platform where Neo Metro, Metro, IPT and City bus are integrated at same place.
2. The multimodal hub should be such that it should reduce the time required to transfer from one mode to another mode.
3. The multimodal hub should have a space for E-rickshaw, bicycle parking, private vehicle parking and other modes either in the hub or around the hub but not more than 100 m radius from hub.
4. The MMH should be designed such that it should give priority to pedestrian, public transport, E-rickshaw, NMT modes over private modes of transport.



11.4.6 Institutional framework

The provision for industrial, commercial, and institutional areas of YEIDA will result in increase in number of migrants in future to settle in YEIDA area, which will create more trips and traffic related problems like congestion, air pollution, noise pollution, accidents, time delay etc. Moreover, as there are different modes of public transport, there should be a department with the office of YEIDA that will incorporate all the traffic and transportation related issue in an integrated manner. To incorporate the traffic and transport related issues such as NMT infrastructure, parking, public transport, road accident, encroachment, a department should be formed under General Manager of Planning and should be named as “Unified Traffic and Transport Authority” (UTTA). The roles and responsibilities of UTTA should be as following:

1. The UTTA should prepare a Street Design Guidelines, Parking Area Management Plan and Public Transport Guidelines to study the respective areas in detail.
2. While planning, designing, and implementing areas of NMT and Road, Parking, Public Transport, the UTTA should consider Street Design Guidelines, Parking Area Management Plan and Public Transport Guidelines, respectively.
3. Coordination between various authorities would be required if their projects are overlapping in any particular area.
4. The UTTA / Committee should be directed under the head of planning.
5. Proposal of traffic and transportation related projects will be prime responsibility of UTTA and final approval will be taken by YEIDA.
6. The YEIDA Authority would be responsible for promoting, prioritising, and funding of NMT, IPT and Public Transport related projects.
7. The UTTA / Committee is responsible for planning, permission, notifying rules and maintaining the coordination with the concerning department.
8. The UTTA / Committee will be responsible for annual implementation plans, financial estimates/ budgets and proposals of external funding if needed.

11.5 Other Infrastructure Plans and Strategies

11.5.1 Water Supply

a. Water Supply Action Plan

Water resources are closely linked to environmental, economic, and social considerations, as well as to health and economic development. Infrastructure provisions must be responsive to natural resources. Key principles for sustainable water management as mentioned by World Commission on Environment and Development in its report "Our Common Future" include:

- I. Fresh water should be regarded as a finite and vulnerable resource;
- II. Water is to be recognized as an economic good while being cognizant of the basic right of all humans to have access to safe, drinkable water and sanitation.
- III. Water development and management should be based on a participatory approach, involving users importantly women, planners, and policymakers at all levels;

For a variety of activities like drinking, sanitation, agriculture, inland fisheries, industry, transportation, hydroelectricity generation, urban development, recreation, and other endeavors; fresh water is essential. Alternate sources and techniques for green and sustainable infrastructure such as green roofs, rainwater harvesting, rain gardens, tree planting, and permeable pavement provide defenses against more frequent and severe heat waves, droughts, and flooding that a changing climate is bringing to many urban areas, other than their primary benefits (reduced air pollution, energy use, and urban heat island effect).

Broad goals to achieve Sustainable Water Supply Principles

- A. **Sustainability of source:** Water being a finite and vulnerable resource will remain sustainable only if action is taken for its preservation by recharging and conserving techniques. In their natural state, without adverse human intervention, all water sources are essentially sustainable.
- B. **Adequate supply of piped water:** Piped water supplies for different sectors of the area should be provided adequately for domestic needs (drinking, washing, bathing, flushing of toilets, gardening, etc.), institutional needs, public purposes (street washing, flushing of sewers, etc.), industrial and commercial uses, firefighting, etc.
- C. **Alternate and new technologies:** Innovations in technology, newer sources as well as low cost traditional measures can give solutions to meet water supply deficits.
- D. **Water literacy:** The limit and extent of finite availability of clean water must be understood by all. Encouragement to limit the use of water will help make the rate of use closer to the rate of renewal.

Overall Strategy to achieve Sustainable Water Supply Principles

1. **Restoration and Preservation:** To ensure sustainability of source, water bodies, lakes, wetlands and creeks and streams that make up the water networks need to be restored and preserved to ensure natural water supply renewal.
2. **Regional approach in planning for augmenting water infrastructure facilities:** As towns are being planned by their respective authorities for their individual needs, there has been a total

lack of regional approach for sustainable use of available water and its conveyance from areas of plenty to scarcity. Long term sustainable solutions such as construction of upstream reservoir to store excess water during monsoon for use in the lean period, inter-basin transfer of water such as Sarada -Yamuna link canal to transfer surplus water from Sarada river to areas of UP, NCT and Rajasthan should be augmented.

3. **Efficient use of available portable water:** as per NCR plan, 2041, Sub-regions should implement measures for efficient use of available potable water like SCADA based smart water metering till consumer end, water audits, along with measures for conserving more water from rains from road run-off, separation of storm water drains from sewerage drains and also setup sufficient number of recharge wells in Yamuna flood plains. The plan also focuses on ground water recharging, revival and rejuvenation of rivers and water bodies etc.
4. **Encourage exploring non-traditional sources:** There is a need to explore the potential of using non-traditional sources such as rainwater harvesting and recycling techniques to reduce the overall load on fresh water sources. Adopting tree planting measures, green roofs, permeable pavements and infiltration trenches to allow ground water recharge are needed. Channelizing storm water along natural slopes so as to feed surface water bodies such as lakes and tanks are necessary as they are able to support water needs to some extent and can also be used locally for landscaping purposes.
5. **Watering landscaping and flushing toilets through recycled water:** In order to optimize the usage of water, 'sullage' (i.e. waste from household sinks, showers, and baths, but not toilets) can be treated and reused for flushing, gardening and other non-potable end uses. The sullage (grey water) can be recycled and treated through a multi stage low maintenance system. Recycled water may also be used for purposes such as firefighting.
6. **Ensuring accountability through education and enforcement:** Citizens need to use water more responsibly. Guidelines to daily per capita water consumption limiting usage to 135 l/day have been recommended in the Water Supply Master Pan of YEIDA Phase-1. Water tariffs are often called upon to discourage "excessive" or "wasteful" uses of water, thus promoting conservation of depleting sources, or the sustainable use of renewable water sources. Industries which rely on water for operations need to be utilizing best practices to reduce water use, and to avoid contamination of water sources at all costs. There is a need to make changes to enforce this kind of accountability, and need to ensure that the measures enacted are strong enough to actually create sustainability.

b. Water Supply Proposals

Based on the projected population for 2041 was around **35.51** Lakhs, the total water demand of around 798.95 MLD will be required for the projected population. The water supply requirement for the population of **35.51** lakh population by the year 2041 is shown below:

Table 11-7: Water Supply requirement in urban area by 2041

Sr. No.	Facilities	URDPFI Standards as per section 8.3.1	Requirements 2041	Unit
	Population		35,51,158	
1	Water supply	150	532.67	MLD
2	Elevated Service Reservoir	150	88	MLD
3	Under Ground sump	150	176	MLD

The area dedicated to WTP is in the utility zone in NE and SE. The water supply for the area would be met jointly by surface and ground water. 50% of the water supply requirement would be met by surface water and the remaining 50% by groundwater. The ground water would be drawn using bore wells while the surface water would be drawn majorly from Upper Ganga Canal (Mat Branch), Jewar Distributary System, Inayatpur Distributary and Barauda Distributary. However a detailed the water supply master plan study needs to be carried out based on DPR.

11.5.2 Sewage

Effective sewerage is important for health and hygiene. Wastewater reuse is an important dimension of water resources planning.

Broad Goals

- i. **100% Sewage Treatment:** To have complete treatment of the sewage generated including those generated by industries, urban areas and villages so that deterioration of the outfall water quality is prevented; Low cost sanitation techniques to ensure 100% sanitation in village areas is one of the strategies recommended;
- ii. **Use treated sewerage and effluents in industry:** The water supply demand of the industrial areas planned should be managed from the treated effluents of waste water treatment plants.
- iii. **Wastewater usage in agriculture:** The use of urban wastewater in agriculture is a common practice for diverse reasons, some of which are water scarcity, fertilizer value, and lack of an alternative source of water.
- iv. **Wastewater aquaculture:** is carried out in natural ponds which serve the dual purpose of inundation control and as collection sinks for city wastewater.

Overall Strategy to achieve Sustainable Sewerage system

For Sustainable Sewerage system, the goal is to achieve a zero discharge city through 100% recycling of both domestic and industrial waste water. The treated water should be used for urban irrigation and ground water recharge. The sewerage Master Plan prepared on the basis of the City Level Zonal Development Plan shall be reformulated in light of the Master Plan. As per master plan 2031, STPs are proposed in sector 15B, Sector-6, sector-11 and sector – 29 with a capacity of 5-10 MLD, 20-40 MLD, 20-20 MLD and 20-40 MLD respectively, with a total capacity of 171 MLD. Based on projected population for 2041 was around **35.51** Lakhs, total sewage demand is going to be 355.12 MLD.

Table 11-8: requirement of sewage treatment by 2041

Sr. No.	Facilities	URDPFI Standards as per section 8.3.2	Requirements 2041	Unit
	Population		35,51,158	
1	Sewerage	100	355.12	MLD

In phase one, the goal is to set up waste water treatment system that uses the most appropriate technology so that maximum recovery and re-use of treated water and by-products is ensured. A decentralized sewage treatment system is planned which would keep waste water recycling energy efficient. The concept of treatment of waste water should be established at the primary level which is at the household level. The two types of wastewater produced at the household which is the black water (water from the toilet) and grey water (water from showers, kitchen, basins and taps) could be

treated and used in various ways. The grey water from bathrooms could be separated at source and given a lesser degree of treatment and recycled within the premises. Treated grey water could be re-used for toilet flushing and gardening.

11.5.3 Storm water and Drainage

In high rainfall areas, the volume of storm water runoff is enormous and is a potential source of water. Storm water drains also collect the excess water that does not get absorbed into the ground as surfaces such as concrete and asphalt allow very less absorption. This run off can also pick up pollutants and wash them into rivers and streams. Efficient management of storm water systems is essential and could be combined with sustainable and alternate systems.

Broad Goals

- i. Green storm water infrastructure: To employ natural methods of catching water where it falls and further replenishing of ground water with the same.
- ii. Ground water recharge: Ground water is often tapped as a source of potable water and requires to be replenished as this is a finite supply source.

Overall Strategy

- A. Harvesting flow of storm water along the natural slopes: Flow of storm water is to be channelized along natural slopes so as to feed surface water bodies such as lakes and tanks. Large lakes and tanks are able to support partial water needs of the population of a few planning districts, and can also be used locally for landscaping purposes.
- B. Integrated of systems for ground water recharge: To have integrated storm water drainage system with rain water harvesting systems so that impact of ground water tapping as a water supply source would be minimized. Rainwater harvesting techniques such as percolation ponds, recharge pits/trenches could be provided in large recreational areas and green buffers along Yamuna. Local recharge/pits could be proposed in the low lying areas to prevent water logging and at places where sudden excess run off can accumulate (for valley areas); the recharge troughs could be used. Roof rainwater harvesting, check dams, percolation tanks are some of the techniques that can be used for rainwater harvesting at various levels.
- C. Segregation of sewage and storm water: As pipes of both systems typically run in proximity, consideration to be given to ensure that raw sewage is not getting into storm water drains or water bodies in the vicinity.
- D. Mimicking nature: Alternate technologies such as landscaped planters, swales, infiltration trenches and rain gardens or implementing an eco-roof reduce and filter storm water runoff. Such green storm water management technologies including rainwater gardens, storm water planters, pervious concrete and green streets can be incorporated into various urban design aspects such as tree planters, container gardens, traffic calming devices (such as bulb-outs and medians), parks and schools to create multi-purpose designs that beautify, increase pedestrian safety, and provide either passive or active recreational opportunities.

Storm Water Proposals

- The Storm Water Drainage Master Plan containing DPR Volume III- has proposed trunk covered surface drainage network on the main roads and covered surface drains on the major roads which

receive the storm water from the sectors through the internal drains. The road side drains are discharging into the natural drains. The Waste Water System Master Plan prepared on the basis of the City Level Zonal Development Plan shall be reformulated in light of the Master Plan.

- AS per NCR Plan 2041, Green Stormwater Infrastructure (GSI) is a nature-based solution to water quality issues that urban stormwater runoff causes and provides greater benefits than conventional (or “Gray”) stormwater solutions. GSI combines economic and environmental sustainability, adaptability, resiliency, and social equity. GSI is defined as soil-water-plant systems that intercept stormwater, infiltrate a portion of it into the ground, evaporate a portion of it into the air, and in some cases release a portion of it slowly back into the sewer system. In addition to better stormwater management practices and improved water quality, GSI provides benefits such as beautified communities, improved public health, creation of ecological habitat, and enhanced local economic vitality.
- Storm water trenches along with permeable spaces along roads to capture surface runoff, be ensured.
- Digital storm water management should be promoted to help practitioners to scale up rainwater harvesting and improved storm water management for sustainable water management including urban flooding in the NCR.
- Localization of storm water runoff be made integral part of urban & rural development plans for recharging aquifers. States to start a drive-in mission mode to separate storm water drains from sewage drains so that storm water is used for groundwater recharge.
- Efforts should also be made for groundwater recharge from storm water run-off on roads and footpaths through installation of prefabricated structures between road carriageways and footpaths.

11.5.4 Solid waste generation.

Broad Goals

- I. Protect the health of all citizens & ensure environmental sustainability
- II. 100% waste minimization through recycling /recovery of resources to be achieved.
- III. 100% safe and sustainable solid waste management by 2031.

Overall Strategy

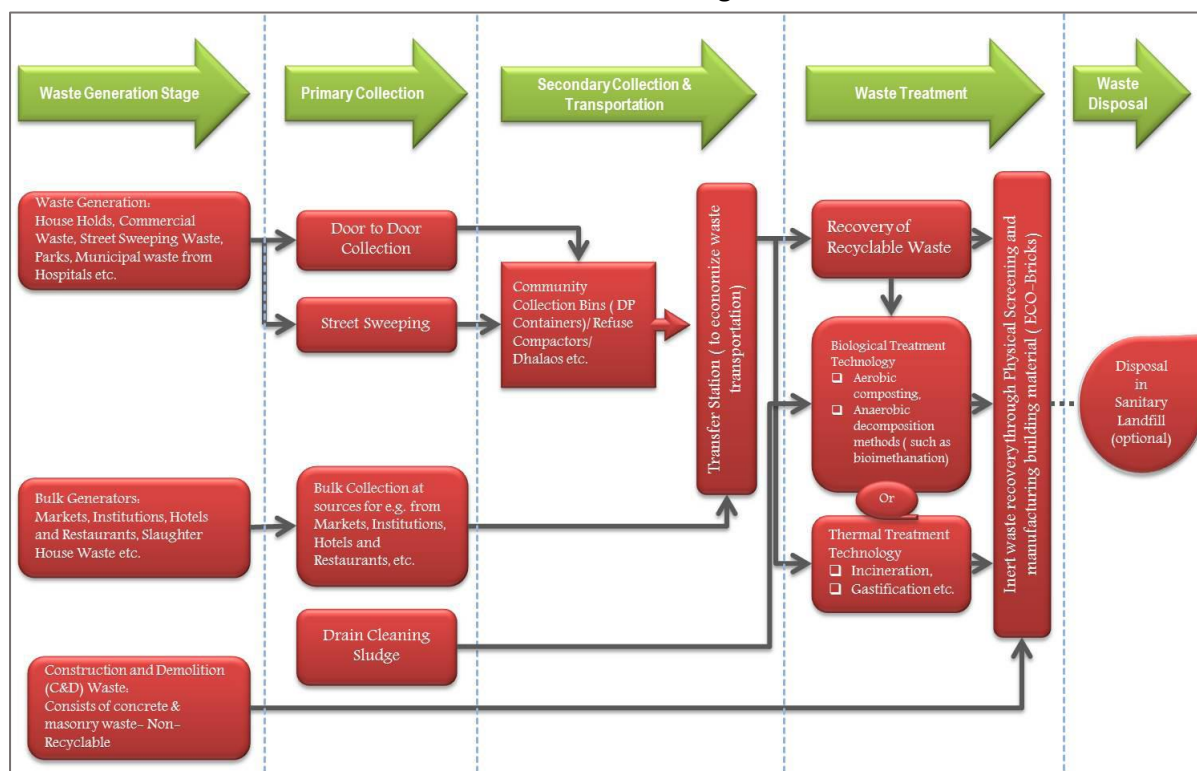
1. Minimize waste generation.
2. Maximize waste recycling and reuse.
3. Ensure the safe and environmentally sound disposal of waste.
4. Institutional capacity building measures to be taken up including involvement of NGO's/Private Sector to improve the efficiency and effectiveness of Solid waste management at all stages especially at collection stages is critical.
5. Land for treatment/disposal of solid waste to be identified and earmarked after Environmental Impact Assessment of possible options.

For hazardous and industrial waste:

Concerted efforts are required to institute and improve environmental monitoring and controls to keep hazardous wastes out of the municipal system, especially landfills, sewers, and drains. The following are some major functions for management of hazardous and industrial waste.

- A. The laws controlling industrial and hazardous waste are normally enacted at the National, State or YEIDA level and have the key role in monitoring the generation of industrial and hazardous waste.
- B. Identify suitable sites for environmentally safe disposal and monitoring the collection and disposal operations.
- C. Special provision to be made for management of infectious waste originating from hospitals and other health care institutions. The hazardous and hospital waste need to be handled at regional level to minimize the number of such facilities as it is difficult to earmark sites away from habitations for such uses. Hence the combined effort of NOIDA, Greater NOIDA and YEIDA Authorities in this regard is proposed.

D. Table 11-9: Solid Waste Management Process



(Source: URDPFI Guidelines section 8.3.6.5)

E. Steps proposed for the treatment of solid waste management are as follows.

- F. Step 1- Household door to door collection and segregation of Solid waste.
- G. Step 2- Transportation of solid waste to the waste treatment site.
- H. Step 3- Segregation of solid waste at waste treatment site for the processing.
- I. Step 4- Shredding of the compostable waste to desired particle size.
- J. Step 5- Treatment of biodegradable waste through composting.
- K. Step 6- Disposal of non-bio-degradable sold waste into secured landfill facility.

The expected solid waste generation by the year 2041 due to population of 35.51 lakh from various sectors is shown below. However, a proper solid waste management plan shall be made that will not only cater the solid waste generated around 4783 tons/day but also will have the concept of three R's i.e., recycle, reuse, refuse. A holistic and sustainable approach is needed for the solid waste management in YEIDA.

Table 11-10: Solid waste generation by 2041

Sr. No.	Facilities	URDPFI Standards as per section 8.3.6	Requirements	Unit
			2041	
	Population		35,51,158	
1	Solid waste			
	Residential	0.6 (kg per person)	2349.17	Tonne/day
	Commercial	0.2 (kg per person)	783.06	Tonne/day
	Street Sweepings	0.2 (kg per person)	783.06	Tonne/day
	Institutional	0.2 (kg per person)	783.06	Tonne/day
	Total		4275.30	4698.33

New STP's and other infrastructure provisions for additional population and area may be designed and established on the new proposed utility sites in NE and SE . A complete area of land in the southeast has been proposed for utility purposes where solid waste management, water treatment plants and other major utility may be located. The area for the plants will be decided in view of the technology to be applied at the time of actual commissioning. This area can be used to develop different plants for municipal solid waste, medical wastes, e-wastes, demolition waste, water treatment and other major utilities.

Solid waste treatment and disposal site

A complete area of land for Utilities purpose has been proposed in south east where solid waste management plants may be located. Area for plant will be decided in view of technology to be applied at the time of actual commissioning of solid waste management plant. This area can be used for the development in construction of different plants for municipal solid waste, medical wastes, e-wastes, demolition waste etc. The proposed site for these facilities should be in such a way that it should cause minimum affect to the surrounding environment for ground and surface water contamination, soil contamination, ambient air pollution etc.

The guidelines for the Solid Waste Management system are as follows,

- In door-to-door collection there should be provision for adequate machinery, equipment, and staff.
- The door-to-door collection vehicles should be high capacity, covered and should have alarm system.
- There should be waste bins on streets at every 500 m for the community collection of waste. (Source: CPHEEO)
- Public awareness campaigns should be done for better waste management.

11.5.5 Power supply: Application of new and renewable technologies

Adequate power supply is a significant input necessary for the economic growth and development. The effective performance of other critical areas of physical infrastructure particularly water supply and environmental sanitation depends on power sector.

As per the Plan prepared for power sector by UPPCL based on the City Level Zonal Development Plan prepared earlier, the estimated power demand is 5000 MVA (Source: Report on YEA – Transmission and Distribution by Feedback Ventures Pvt Ltd). Capacity additions in the form of commissioning of new 765/400/33 KV, 33/11KV substations and 11 KV feeders are proposed in the Power Master Plan to meet the load demand. The Power Master Plan prepared on the basis of the City Level Zonal Development Plan shall be reformulated in light of the Master Plan.

Renewable energy sources: Use of renewable energy sources such as solar energy at settlement level as well as at local industries level with the support of the government is recommended as a strategy. Other renewable energy sources such as biomass energy using industrial and municipal waste has been recommended as a strategy.

There is a huge potential for utilizing energy from the renewable sources for the YEIDA Phase-1. The sections below would give a brief description of the possibilities of exploration of each type of source for the YEIDA Phase-1. Although detailed analysis is required to determine the exact potential of a particular source:

1. Solar Energy
2. Wind Energy
3. Hydro Energy
4. Bio Energy
5. Waste to Energy

1. Solar Energy: Solar energy is the most readily available and free source of energy. India receives solar energy in the region of 5 to 7 kWh/m² for 300 to 330 days in a year. This energy is sufficient to set up 20 MW solar power plants per square kilometre land area¹⁴. Solar energy can be utilised through two different routes, as solar thermal route and solar electric (solar photovoltaic) routes. Solar energy could be a potential source of energy for the YEIDA Phase-1, depending on the quantum of radiation available in the area.

2. Hydro Energy: Hydro power is generated by using electricity generators to extract energy from moving water. Hydro energy can be obtained by using many methods of capture. The most common method of using energy from water is a hydroelectric dam, where water coming down through an area causes turbines to rotate and the energy is captured to run a generator. Since there is presence of canals in the YEIDA Phase-1, Small Hydro Power (SHP) projects could be a potential source of capturing power. The electricity generated from Small Hydro Power (SHP) projects is cost-effective. Such projects are simple to operate, have a relatively short gestation period, and are environment friendly. In addition, SHP projects can be located in remote areas for generating power.

3. Bio Energy: Biomass is a renewable energy resource derived from the carbonaceous waste of various human and natural activities. It is derived from numerous sources, including the by-products from the wood industry, agricultural crops, raw material from the forest, household wastes etc.

4. Waste to Energy: Waste-to-energy is the process of creating energy in the form of electricity or heat from the incineration of waste source. For the YEIDA Phase-1, waste to energy hold a lot of potential due to the municipal waste and industrial wastes that would be generated by the projected population and the proposed industries that would come up in the area.

5. Wind Energy: Wind is a form of solar energy. Winds are caused by the uneven heating of the atmosphere by the sun, the irregularities of the earth's surface, and rotation of the earth. Although for a wind energy system to be feasible there must be adequate wind supply. A wind energy system usually requires an average annual wind speed of at least 15 km/h¹⁶. Detailed study has to be conducted for determining the potential for YEIDA Phase-1 for utilizing the wind energy.

Sectoral Goals

- As a long term option, the setting up of a dedicated captive power plant should be explored. YEIDA Phase- 1 substation capacity would be enhanced to 4500 MVA to meet the demand of 5000 MVA, if UPPCL provides 500 MVA power. The Power Master Plan prepared on the basis of the City Level Zonal Development Plan shall be reformulated in light of the Master Plan.
- As per NCR Plan 2041, we must adopt, **promote, and set annual targets for getting 'Green Rating' for all large non-domestic structures and accordingly work towards Zero-Energy Building (ZEB)** i.e., buildings with zero net energy consumption through energy efficiency and use of renewable energy and should also aspire and explore options for utilization of 'Hydrogen Energy' wherever possible.

11.5.6 Telecommunication

Overall Sectoral Strategy

Segregated duct system for cables: Underground duct system for telecommunication and dedicated exchange to meet the communication needs of the existing and the proposed population are the strategies recommended for telecommunication sector.

Sectoral Goals

The highest level hierarchy of Exchange (TAX) for the entire district of Gautambudh Nagar is located in sector 62 of Noida, which could feed parts of YEIDA Phase-1 in the initial phase. For the remaining areas in YEIDA, a new Trunk Exchange should be established which would be sufficient to cater to the future demand of the entire telecom facilities in the area. The proposed Trunk Exchange will have sufficient capacity to serve the entire YEIDA Phase-1 in the later phase of development.

The goal of power and telecommunication sector will be to make YEIDA Phase-1, a wireless city. All high tension and other electricity cables, telecommunication wires, cables for TV system could be put under ground in service ducts. It is also desirable that Wi-Fi system could be planned for internet and telecommunication connectivity in YEIDA Phase-1. Ducts within the right of way of road shall be reserved for telecom facilities such as optical fibre cable lines which would carry the entire traffic of data, telephony and television to and fro from the consumers. Land shall be reserved for mobile telecom in order to accommodate signal transmission towers and associated operation/maintenance facilities. The telecommunication towers which will be erected for providing mobile services in the area could explore the latest technologies where the erection of towers will not affect the aesthetics.

11.5.7 Education

As per the existing analysis, the settlements in YEIDA area at present lack the provision of quality education services and depend on the bigger urban centres for it. Moreover, the numbers of facilities existing in the villages are more than the required facilities in present condition, the location of facilities in accessible distances for students is of concern. It is noted that the existing basic education is not a major problem in the area, however there is a major need for augmentation of skills focusing on the types of industrialization. Therefore, we need to plan for educational facilities that will be required for the population of 35.51 lakh. The table below shows education facilities required by the year 2041.

Table 11-11: Education facilities required by the year 2041

	Category	Population served per unit (URDPFI Norms)	Units required	Area Required Per Unit (URDPFI Norms)	Area Requirement (Ha.)
1	Pre – Primary School	2,500	1420	0.08	113.6
2	Primary School	5,000	710	0.4	284.1
3	Senior Secondary School	7,500	473	1.8	852.3
4	Other Colleges	125,000	28	4	113.6
5	Engineering College	1,000,000	4	6	21.3
6	Medical College	1,000,000	4	15	53.3
7	Polytechnic, Vocational Training School, Non-Formal Training Centre	1,000,000	4	4	14.2
8	Special School for Disabled	100,000	36	1	35.5
	Total		2679		1488

Education services should be developed at various hierarchies such as sub region level, city level, and sector and neighborhood level. As per the URDPFI guidelines, there would be a requirement of 473 Senior Secondary schools and engineering & medical colleges. There is a need to establish a National Level Affiliating University in NCR recognized not only nationally but also internationally for its academic standards, to which the NCR institutions can be affiliated. It's a great opportunity to develop this university in YEIDA Phase-1 to spearhead the reform of education scenario in the UP Sub-region. Moreover, there is a major need to upgrade the availability of skills, encouragement of R&D centres and development of technical education and management institutions, as the industrial scenario is further expected to expand in YEIDA area on a large scale with the advent of major infrastructural projects such as DMIC, freight corridors and expressways.

11.5.8 Health

Health facilities are the basic need of every citizen residing in a particular area. At present, there is a lack of quality health services in areas outside NCT. This causes movement of people towards Delhi for health services, increasing congestion there and inconvenience for people in rest of the region. Poor accessibility & maintenance of the existing facilities is another concern. Thus, with increasing population health facilities need to be increased. Hence the table below shows the required number of health infrastructure as per population demand by 2041.

Table 11-12: Health Facilities Required as per Master Plan 2041

	Category	Population served per unit (URDPFI Norms)	Units required	Area Required Per Unit (URDPFI Norms)	Area Requirement (Ha.)
1	Dispensary	15,000	237	1	236.7
2	Nursing home, child welfare & maternity center	75000	47	0.25	11.8
3	Family Welfare Centre	50,000	71	0.08	5.7
4	General Hospital	250000	14	6	85.2
5	Veterinary Hospitals	500000	7	0	0.0
6	Polyclinic	100000	36	0.25	8.9
7	Intermediate Hospital (Category A)	100,000	36	3.7	131.4
8	Multispecialty Hospital	100000	36	9	319.6
9	Specialty Hospital (NBC)	100,000	36	3.7	131.4
10	General Hospital (NBC)	250000	14	6	85.2
11	Diagnostic Centre	50,000	71	0.08	5.7
12	Dispensary for pet animals and birds	100000	36	0.03	1.1
	Total		639		1023

To cater to the sufficient and accessible health services, these should be developed at various hierarchies such as sub region level, city level, and sector and neighbourhood level. As per the URDPFI guidelines, there would be a requirement of 1023 ha of land for various health facilities which would include, Dispensary, Nursing home etc. Special importance for development of super specialty medical treatment and training services should be given. Private participation in providing health services should also be encouraged. Centres of excellence in indigenous medical systems should be developed by providing incentives.

SECTION- IV: DRAFT MASTER PLAN ZONING REGULATION 2041

12 ZONING REGULATIONS

Urbanisable area for YEIDA Phase-1 extends to an area of about 321 sq km expecting to provide a home to about 35.51 lakhs people. It would be crucial to organize this growth in a manner that maintains the quality of life and livability standards within the area while keeping it economically vibrant and environmentally sustainable. This development plan aims to satisfy these needs through various tools and mechanisms available under the existing legal frameworks and in a manner that is consistent with the overarching vision and principles of this plan.

Zoning is one of the important planning tools to manage growth, regulate density and organize land uses within the urban area. By regulating land uses it helps to segregate incompatible uses, increase liveability, and create desirable character for different areas for the city. Zoning combined with development regulations determines the supply of developable land and built space in various zones. However, before arriving at various proposals to accommodate growth and organize land uses, it is important to first understand the demand for development and various considerations to organize land use and densities.

12.1 Zones- Master Plan 2041

The zoning regulations are regulations which try to achieve the vision and objectives of the development. These objectives are placed along with the projections for population. The major consideration for these zoning regulations were

- Existing Growth pattern and trend
- Population projections for 2041
- Comprehensive assessment of existing conditions, land uses, development typologies, socio-economic parameters etc
- Existing supply of buildable land in approved layouts
- Availability of land suitable for urbanization
- The overarching vision for YEIDA 2041, the planning and growth management principles including compact growth, land use -transportation co-ordination, green network, sustainable environment, and affordable development
- Incorporation of comments and suggestions from Working group and stakeholder meetings

12.1.1 Aerotropolis

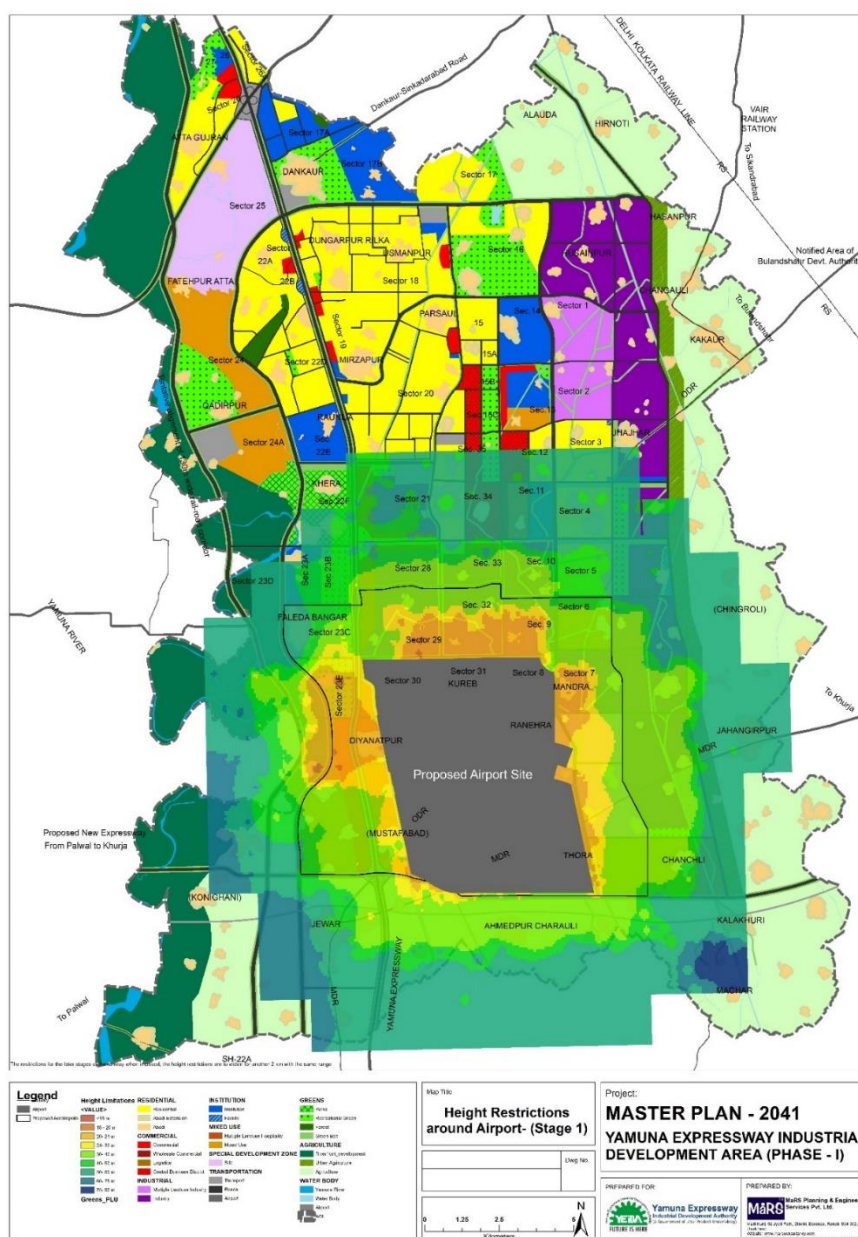
Aerotropolis includes an area around the airport with a height limitation of 20 m as per Airport Authority of India. These are broad tentative activities proposed for aerotropolis however the Authority may decide to add similar kind of other activities in view of the demand which may arise in future.

Table 12-1: Aerotropolis Major Activities

Proposed themes	Major Activities
Innovation and tech-hub	• Biotechnology/ Biotech Park, • R&D Centre, Office/ Corporate Offices, • Data Centra • Information/ Software Technology • Industrial activity -aero service centre & manufacturing

Commercial Centers	- Retail stores, Showrooms, - Shopping center/ commercial Centre/ shopping mall, - Exhibition Hall, Exhibition Centre
Logistics Hub	- Warehouses, Transit Facilities, - Freight Complex, Logistic Parks,
Hospitality	- Hotels, Connection Centres, Resorts, Banquet halls, guesthouse - Wellness/ Health services - Service Apartments, - Professional Office
Recreational and Entertainment Hub	- Sports facilities - Recreational hub, Socio-cultural activities
Smart Residential Zone	Low Rise residential with horizontal mixing of land uses

Map 12-1: Height Restriction around airport (Stage-1) and Delineated Aerotropolis



- Relaxation of 10% in Ground Coverage is allowed if permissible FAR is not achieved due to height restrictions surrounding the Airport.

- In cases where the permissible FAR is not attained, the unachieved FAR may be transferred to the Central Business District through Transfer of Development Rights (TDR). The guidelines for purchasable FAR may be followed for TDR regulations.
- Land Use change policies may be explored for this zone during plan evaluation periods.
- Proposal for Night life may be explored in this area.
 - Authority may permit extended timing for hotels, restaurants, socio- cultural activities, entertainmet, sports facilities, retail stores etc., to function in the night as per stipulations
 - Concerned agencies shall work jointly to facilitate adequate illumination, security, and easy access by public transport.

12.1.2 Central Business District

- The land uses in this central commercial core would include a mix of offices, retail and other business uses.
- CBD should be strengthened by a transit shuttle route to serve the CBD and to connect with metro Neo stations at the northern and southern ends.
- **Provision for one extra FAR is allowed over the building byelaws in this zone. This extra FAR includes the TDR FAR allowed from aerotropolis**
- In cases were the allowable FAR is not achieved due to height restrictions of the airport, an additional 10 percent of ground coverage is allowed while ensuring the other norms of building byelaws are complied with.
- Proposal for night life may also be explored in this area.
 - Authority may permit extended timing for hotels, restaurants, socio- cultural activities, entertainment, sports facilities, retail stores etc., to function in the night as per stipulations
 - Concerned agencies shall work jointly to facilitate adequate illumination, security, and easy access by public transport
- The Central Park envisaged in the CBD zone needs a detailed layout plan to be prepared. Permitted activities in the recreational green is to be followed while preparation of detailed layout of the Central Park

12.1.3 Recreational/ Olympic Hub

Following activities should be allowed in Recreational/ Olympic Hub.

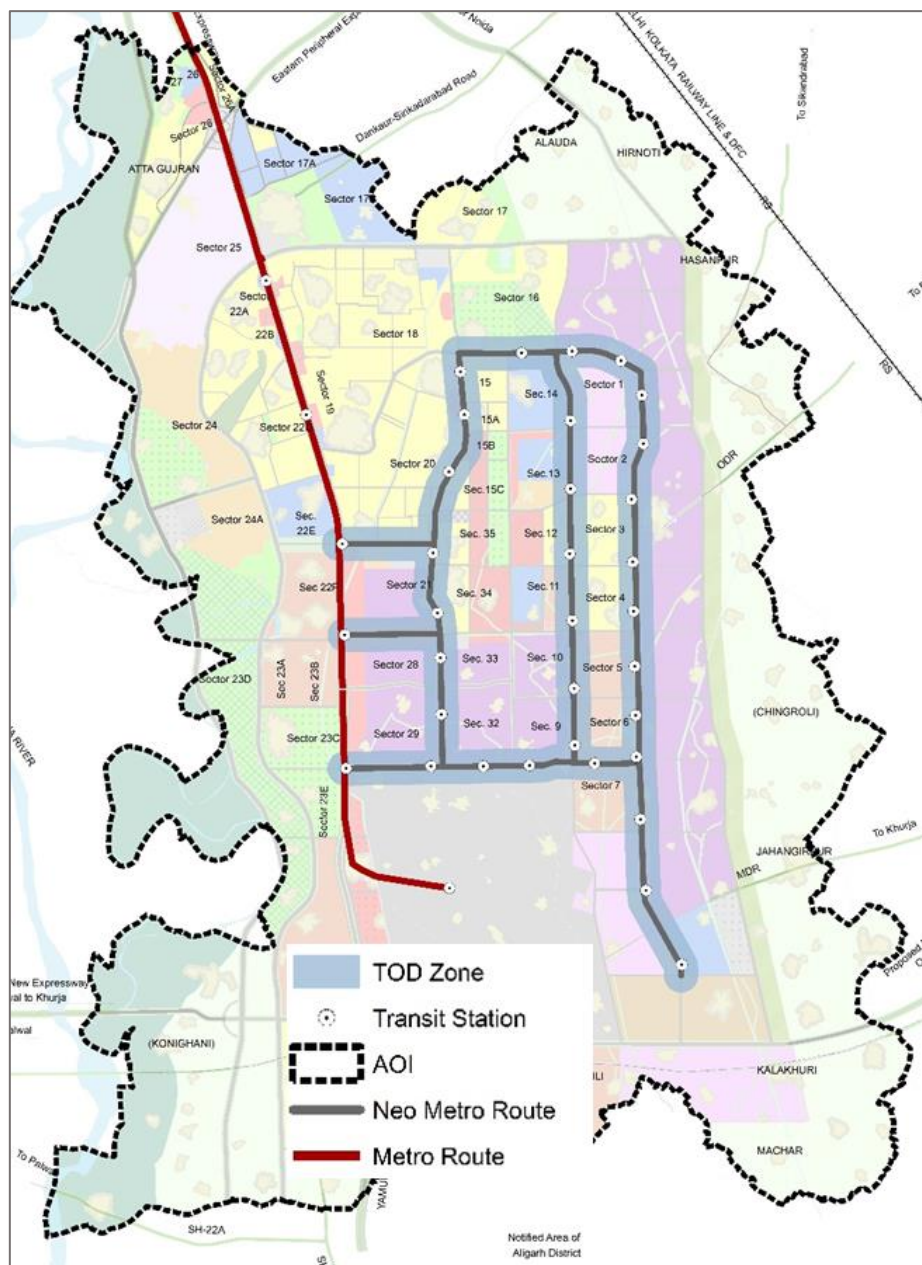
1. Sports infrastructure which includes sports stadium, sports academies, and sports stadium for different disciplines.
2. Accommodation facilities for trainers, sports person etc.
3. Storage display and commercial areas for sports related equipment's, dresses, and other related materials.
4. Sports medical.
5. Entertainment areas.

However, detailed Layout, list of permissible activities and Development controls should be revised at the time of DPR implementation by the authority.

12.1.4 Transit Oriented Development

To implement TOD concept efficiently, it needs to have some policies and guidelines. These policies and guidelines include FAR along the transit, parking, and NMT infrastructure to improve the accessibility.

Figure 12-1: TOD Buffer



The above is the proposed TOD influence zone with buffer of 500 meter. The zone is proposed along the proposed Metro line. Area of the 500 m buffered zone is 50 sq. km. It is passing through all types of land use along with the proposed CBD, industrial zone, residential zone, and others.

1. The FAR along the TOD will be as per the following table

Table 12-2: FAR along TOD

Land use	FAR for other parts of City	Proposed TOD FAR
Residential plotted	1.5 to 2.0	2.0

Commercial	1.5 to 4.0	4.0
Institutional	1.0 to 2.75	3.0
Industrial	1.0 to 1.5	2.5
Group Housing	Up to 3.0	3.0

(Source: YEIDA)

The FAR along the TOD zones will be more than the FAR of rest of the city. These FAR are given as per the city's building bye laws. For buying the additional FAR, NOC should be taken from the airport authority of Noida International Airport for height restrictions. The development along the TOD zone will be dense.

2. The FAR is allowed according to the infrastructure available, land use zoning, transit capacity and others.
3. Along with FAR, the job density of the influence zone should also increase.
4. The buildings along TOD should follow green building norms, it should adopt renewal sources of energy such as solar and waste to energy option, rainwater harvesting and others.
5. The streets along the TOD should be safe, convenient, and comfortable to all the users which includes but not limited to NMT users, users of all age, abilities regardless their mode of transport.
6. The streets along the TOD should give last mile connectivity to the proposed public transport systems by the means of IPT, walk, cycle, or other public transport.
7. The streets along the TOD should give sufficient parking to the cycles and IPT.
8. Wherever possible the authority should integrate the sustainable ways of transport such as PT, IPT, cycles and should give priority to these modes of transport.
9. To discourage the use of private motor vehicles the supply of private parking should be reduce and more parking charges should be levied.
10. The NMT networks along the TOD zone should be seamless, comfortable, convenient, and safe to all the road users.
11. The parking within 100 m radius of junctions will be restricted.
12. To develop more safe and comfortable streets for all the users, traffic calming measures should be implemented along but not limited to TOD.

12.2 Use zones

1. Residential:
 - R1-Residential
 - R2-rural settlement/ Abadi
2. Commercial:
 - C1-commercial,
 - C2- Logistics
3. Mixed use
4. Industrial:
5. Institutional:
 - PS1-institutional,
 - PS2-facilities and utilities
6. Multiple Use
 - Multiple Use- Industrial
 - Multiple Use- Hospitality
7. Sports city (Special development zone (SDZ))
8. Transportation
9. Recreational:
 - P1-Recreational Green,
 - P2-Public parks and Playgrounds including water bodies falling within
 - P3- Green Belt including water bodies
10. Agriculture/water bodies:
 - A1-agricultural land,
11. Riverfront development area

12.3 Defining Land Use/ Activities

Table 12-3: Activities in a Use Premise

S. no	Activities /Uses	Definition
1.	Residential	
1.1	Single House/ Plot/ Flat	Residential House/Plot – Plotted Housing: A premise for one or more than one dwelling unit and may have on it one main building block and one accessory block for garage / garages and servant quarters. Residential Flat: Residential accommodation for one family (one household) which may occur as part of group housing or independently
1.2	Group Housing	A premise of size not less than 2000 sq.m. comprising of residential flats with basic amenities like parking, park, convenient shops, public utilities etc.
1.3	Staff Housing	A premise comprising of residential units which may occur as a part of group housing or independent that are dedicated to the staff of the principal land use
1.4	Guard chaukidar residence	Residential accommodation for watch and ward staff responsible for security and/ or maintenance of principal use.
2.	Commercial	
2.1	Retail shops/Platform	A premise for sale of commodities directly to consumers with necessary storage
2.2	Repair shops	A premise equivalent of a retail shop for carrying out repair of household goods, electronic gadgets, automobiles, cycles etc.
2.3	Personal Service shops	A premise equivalent of a retail shop providing personal service like tailor, barber etc.
2.4	Vending booth	A premise in the form of booth for sale of commodities of daily needs either through a mechanical installation or otherwise.
2.5	Showroom	A premise with facilities for display, sale, and storage of commodities.
2.6	Weekly market	An area used in a week by a group of informal shop establishments in The form of a market. These markets shift from one area to another on different days of the week.
2.7	Convenience shopping centre	A group of shops not exceeding 50 in number in residential areas serving a population of about 5,000 persons
2.8	Local/sector level shopping centre	A group of shops not exceeding 75 in number in residential areas serving a population of about 15,000 persons.
2.9	Shopping centre/ commercial centre/ shopping mall	Shopping Centre/Commercial Centre: A premise having group of shops/commercial establishments Constructed on designated plots. Shopping Mall: A Shopping Mall is one or more buildings forming a complex of shops representing merchandisers, with interconnecting walkways enabling

		2. visitors to easily walk from unit to unit, along with a parking area – a modern, indoor version of the traditional marketplace with controlled Environment.
2.10	Informal unit/platform commercial	A premise meant for commercial activities for informal sector.
2.11	Wholesale market/Mandi	A premise from where goods and commodities are sold/delivered to retailers. The premise includes storage, godown, loading and unloading
2.12	Bakery/Confectionary/Atta Chakki	Bakery: A Bakery (also called baker's shop or bakehouse) is an establishment which produces or/and sells baked goods from an oven such as bread, pies, bagels etc. Confectionary: A premise for retail sale of confectionary items directly to consumers with necessary storage. Atta Chakki: A premise where grinding of grain, spices and dried eatables are carried out.
2.13	Coal/wood/Building material market	Coal Market: A premise for retail sale of coal directly to consumers with necessary storage. Wood Market: A premise for retail sale of fuel wood directly to consumers with necessary storage Building Material Market: A premise for retail sale of building materials like timber, stone, bricks, cement, hardware, paints etc. directly to consumers with necessary storage.
2.14	Vegetable/Fruit market	A premise for retail sale of fruits and vegetables in shops (area not more than 10 sq.m.) or platforms.
2.15	Cold storage	A premise where perishable commodities are stored in covered space using mechanical and electrical devices to maintain the required temperature etc.
2.16	Storage godown	A premise where commodities are stored in covered space
2.17	Hotels	A premise used for lodging of 15 persons or more on payment with or without meals.
2.18	Service Apartment	A serviced Apartment is a type of furnished apartment available for short term or long-term stays, which provides amenities for daily use.

2.19	Restaurant/ Canteen/ Food Court	Restaurant: A premise used for serving food items on commercial basis including cooking facilities. It may have covered or open space or both for sitting arrangement. Canteen: A premise used for serving food items to workers in an institution including cooking facilities. It may have covered or open space or both for sitting arrangement. Food Court: A Food Court is a (usually) indoor plaza or common area within a facility that is contiguous with the counters of multiple food vendors and provides a common area for self-serve dining. Food Courts may be part of shopping malls etc. or may be stand-alone development.
2.20	Cinema/Multiplex	A premise with facilities for projection of movies and stills with a covered space to seat audience
2.21	Drive-in cinema	A cinema with facilities for projection of movies and stills for car audience including an audience for other audience.
2.22	Exhibition hall/ Exhibition centre	Exhibition Hall: A hall or part of a premise with facilities for exhibition and display of paintings, photographs, sculptures, murals, ceramics, handicrafts or products of specific category/ class. Exhibition Centre: A premise with facilities for exhibition, display and storage of paintings, photographs, sculptures, murals, ceramics, handicrafts, or products of specific category/ class
2.23	Banquet hall/ Barat Ghar	A premise used for marriage and other social functions and run by an individual, or institution or a public agency.
2.24	Petrol pump/Diesel station	Petrol/Diesel / Gas filling station Public Electric Charging Station: A premise for sale of petroleum products to consumers. It is also an infrastructure that supplies electric energy for the recharging of plugin electric vehicles-including electric cars, neighbourhood electric vehicles and plugin-hybrid to consumers. It may include servicing of automobiles.
2.25	Oil depot and LPG refilling plant	Oil Depot: A premise for storage of petroleum products with all related facilities LPG Refilling Plant: A premise for refilling facilities of LPG on bulk basis
2.26	Gas godown	Gas Godown: A premise where cylinders of cooking gas or other gas are stored.
2.27	Warehouses for non-hazardous items	Warehouse/ Godown for Non-Hazardous items: A premise for exclusive use of storage of non-hazardous goods and commodities in a manner as per requirement of respective goods/

		commodities. The premises include loading and unloading facilities
2.28	Warehouses for hazardous items	Warehouse/ Godown for Hazardous items: A premise for exclusive use of storage of hazardous goods and commodities in a manner as per requirement of respective goods/ commodities. The premises include loading and unloading facilities
2.29	Automobiles showroom/ Automobile Showroom cum Service Station	Automobiles Showroom: A premise for display, sale, and repair of automobiles. Automobile Showroom cum Service Station: A premise for display, sale, repair and servicing of automobiles.
2.30	Freight complex/ Logistic Park	Freight Complex: A complex having premises for booking and storage of goods that a train, truck, ship, or aircraft carries Logistic Park: A premise within which all activities related to transport, logistics and the distribution of goods- both of national and international Transmit, are carried out by various operators on commercial basis and includes facilities like warehouses, distribution centres, storage areas, offices, truck services etc. and relates public facilities.
2.31	Hardware and building material yard	A premise having storage and sale facilities for bulk building materials like cement, steel etc
2.32	Weigh bridge	A premise with weighing facilities for empty or loaded trucks.
2.33	Motor garage and -workshops	Premise having facility for repair and servicing of automobiles/ other electronics/ electrical etc.
2.34	Resort	A place that is frequented for holidays or recreation or for a particular purpose
2.35	Informal Vending	Individual food retailers who generally operate outside the formal food provisioning system
3.	Industrial	
3.1	Service industries	Any industry which is engaged in producing, servicing or repairing goods, or articles for consumption in the neighbourhood/local area.
3.2	Cottage industries	An industry where the creation of products and services is home based, rather than factory based
3.3	Flatted factories	A premise having a group of small industrial units having up to 50 workers with non-hazardous performance. These units may be located in multi-storeyed buildings
3.4	Shedded factories	A premise having a group of small industrial units having up to 50 workers with non-hazardous performance
3.5	Information/ software technology industry	A premise where computer software etc. is prepared for information technology and I.T. enabled services
3.6	Small/light industry	Small/light industries as per classification of the State Government
3.7	Industrial plot (specific industry type)	A premise for a unit within a group of such units for manufacturing of specific products like electric goods etc.
3.8	Industrial Plot (integrated use)	A premise where industrial use is allowed along with staff housing commercial and facilities as an integrated use.

3.9	Medium & Large-scale industry	Medium and large-scale industries as per classification of the State Government.
3.10	Film centre/ TV radio programme production centre	A premise with facilities for shooting, recording, broadcasting and transmission of news and other programs through the respective medium. It may include some hostel accommodation for guest artists, and transmission facilities like tower.
3.11	Biotechnology/ Biotech Park	A Premise which is dedicated to scientific research or production, or business related to biotechnology.
3.12	Manufacturing units	A premise having a group of industrial units with non-hazardous performance
3.13	Obnoxious and Hazardous Industry	Any industry being listed as hazardous or obnoxious by MoEF or state pollution control boards
3.14	Agro based & food processing units	A premise having a group of industrial units with non-hazardous performance primarily working on agro based products
3.15	Household industries	A premise having industrial unit/s with non-hazardous performance working from a residence with a maximum of 9 workers and 11KW power
4.	Office	
4.1	Govt./Semi Govt./Public undertaking/local body office	A premise used for offices of the Union and State Governments, semi Government organizations, Public Sector Undertakings and Local Body Offices.
4.2	Office/corporate office	A premise used for office of commercial establishment, profit making organization
4.3	Professional/personal office	A premise where professional consultancy services are provided by an individual or a small group of professionals like Chartered Accountant, Lawyer, Doctor, Architect, Designer, Computer Programmer, Tour & Travel Agent etc.
4.4	Banks	A premise for office to perform banking functions and operations.
4.5	ATM	A premise that allows customers to complete basic transactions without the aid of a branch representative or teller.
4.6	Project development/management/maintenance office	A premise used by a Real Estate Developer for project development, management office within the project site for a specified period with previous approval of the Authority.
4.7	Satellite/wireless/Telecommunication centre	A premise used for installation of a tower for communication purpose.
5.	Public/ Institutional facilities	
5.1	Guest house/lodging/boarding house	Guest House is a premise for housing the staff of Government, Semi- Government, Public Undertaking and Private Limited Company for short duration. Boarding house is a premise in which rooms are let out on a long-term basis as compared to hotels. Lodging House is a premise used for lodging of less than 50 persons.
5.2	Hostel	A premise in which rooms attached to "Institutions" or otherwise, are let out on a long-term basis.

5.3	Reformatory & Orphanage	Orphanage would mean a premise with facilities for boarding of children who are bereaved of parents. It may or may not have educational facilities. Reformatory would mean a premise with facilities for confinement and reform of offenders.
5.4	Old age home	A premise with commercial or non-commercial arrangement for long or short term stay of old people. It may include arrangement for recreation, general health, catering etc. which may be managed by an individual or an institution.
5.5	School for mentally challenged persons	A premise with facilities for education, treatment, reformation, and empowerment of mentally and/or physically challenged persons. It may be managed by an individual or institution on commercial or non-commercial basis.
5.6	Crèche & day care centre/ play & nursery school	A premise having nursery facilities for infants during daytime. The centre may be managed by an individual or institution on commercial or non-commercial basis.
5.7	Primary school	A premise having educational and playing facilities for students up to 5 th standard.
5.8	Secondary school/ integrated residential school	A premise having educational and playing facilities for students from VI to X standard. It shall include existing middle schools, which are up to VIII standard for the purpose of this code.
5.9	Vocational Institute / training Institute / ITI	A premise with training facilities for short term courses for discipline, predatory to the employment in certain profession and trade. It shall be run by public or charitable institution on non-commercial basis. It includes training-cum-work centre.
5.10	Degree / PG college	A premise with educational and playing facilities for undergraduate and post-graduate courses under a university. It includes all professional disciplines
5.11	University	An institution for higher learning with teaching and research facilities. A university may exist without having any college connected with it but have assemblage of colleges affiliated to it.
5.12	Post office	A premise with facilities for postal communication for use by the public
5.13	Telephone exchange	A premise having facilities for central operation of telephone system for a designated area.
5.14	Police station	A premise having facilities for the offices of local police station.
5.15	Fire station	A premise with facilities for firefighting for a catchment area assigned to it. It may include residence of essential staff.
5.16	Police post	A premise having facilities for a local police post of a temporary nature or on small scale as compared to a police station
5.17	Library	A premise having large selection of books for reading and reference for general public or specific class
5.18	R & D centre	A premise having facilities for research and development for any specialized field.

5.19	Health centre/ family welfare centre	A premise having facilities for treatment of indoor and outdoor patients having up to 30 beds. The health centre may be managed by a public or a charitable institution on non-commercial basis. It includes family welfare centre
5.20	Trauma centre	A premise having medical facilities of specialized nature for providing instant treatment to patients under trauma.
5.21	Medical college/ hospital	Medical College: A premise where teaching, treatment, operation, and research & development related to human bodies is carried out. Hospital: A premise providing medical facilities of general or specialized nature for treatment of indoor and outdoor patients.
5.22	Clinic	A premise with facilities for treatment of outdoor patients by a doctor. In case of a polyclinic, it shall be managed by a group of doctors
5.23	Nursing home	A premise having medical facilities for indoor and outdoor patients having up to 30 beds. It shall be managed by a doctor on commercial basis.
5.24	Clinical laboratory / Diagnostic centre	A premise with facilities for carrying out various tests for confirmation of symptoms of a disease.
5.25	Veterinary hospital/ Dispensary	A premise offering medical and similar facilities for domestic pet care.
5.26	Health club/ Gym	A room or building equipped for indoor sports.
5.27	Dance/ Music/Art centre	A premise having facilities for imparting training and coaching for dance, music, and art.
5.28	Yoga/ Meditation centre	A premise having facilities for self-attainment, achieving higher quality of mind and body etc.
5.29	Religious building/centre	A premise dedicated to accommodations and service of God and other objects of religious nature. It may have different nomenclature in different religions like temple for all faiths, mosque, church, gurudwara, synagogue, ashram, bathing ghats, gaushala etc.
5.30	Community centre	A premise having an enclosed space for various social and cultural activities of a neighbourhood of 15000 population.
5.31	Convention centre/ conference centre/ Auditorium	A premise having all facilities for meeting, symposium, seminar etc. where a number of people from different organizations will be participating.
5.32	Socio-Cultural centre	A premise with facilities for activities of socio-cultural nature runs by a public, voluntary or individual on primarily non-commercial basis.
5.33	PCO Public call office	A premise with facilities to make phone calls from telephone to local, STD and international subscribers on payment basis.
5.34	Internet/Information centre	A premise used for internet system for communication purposes

5.35	Social welfare centre	A premise with facilities for welfare and promotion of community development. It shall be run by a public or charitable institution.
5.36	Crematorium/ Burial ground/ cremation	Cremation ground would mean a premise with facilities for performing last rites of dead bodies by burning. Burial ground would mean a premise with facilities for burying of dead bodies. Crematorium would mean a premise with facilities for disposing off dead bodies in an electrical/ electronic furnace
5.37	Night shelter (rain basera)	Premise with facilities for accommodation usually given without fees or a minimal fee for resting during night
5.38	Disaster management centre	Premise having facilities for carrying out studies and identify the potential risks related to any disasters
5.39	Metrological station	Premise having facility for meteorological observations, weather forecasting facility, seismology etc.
5.40	Milk Booth	A premise for retail sale of milk directly to consumers by manual or other means.
6.	Recreational facilities	
6.1	Park/Playground	Park: A premise used for recreational leisure activities. It may have on it related landscaping, parking facilities, public toilet, fencing etc. It will include synonyms like lawn, open space, green etc. Playground: A premise used for outdoor games. It may have on it landscaping, parking facilities, public toilet etc.
6.2	Multipurpose open spaces	Space / Area which is essentially open and can be used for multiple temporal functions.
6.3	Golf course/ Racecourse	Golf course: Area earmarked for playing golf sport which is essentially open along with minimal built space which supports the sports. Racecourse: Area earmarked for racing with minimal built space for supporting the race.
6.4	Stadium/ Sports training centre/Sports complex	Stadium: A premise for outdoor games with pavilion building and stadium structure to seat spectators including related facilities for players Sports training centre: A premise having facilities for training and coaching for different indoor and outdoor games including swimming. It shall also include centre for physical education Sports Complex: A premise for outdoor and indoor games with pavilion building, stadium, and related facilities.
6.5	Picnic spot	A premise within the tourist/ recreational centre which is used for short duration stay for recreational or holiday purpose.
6.6	Indoor stadium/ games hall	A premise for indoor stadium with play area and spectator seating including related facilities for players.

6.7	Planetarium	A premise with necessary facilities and equipment for studying planets
6.8	Aquarium	A premise with necessary facilities and equipment in which aquatic plants or animals are kept or displayed
6.9	Recreational club/ Swimming pool	A premise for outdoor and indoor games with pavilion building
6.10	Museum cum Auditorium	Museum means a premise with facilities for storage and exhibition of objects illustrating antiques, natural history, art etc... Auditorium means a premise having an enclosed space to seat audience and stage for various performance like concerts, play, recitals, functions etc.
6.11	Open air theatre	A premise having facilities for audience seating and a stage for performance open to sky.
6.12	National Memorials	A protected area that memorializes a historic person or event of national importance. The memorial need not be located on a site directly related to the subject.
6.13	Biodiversity Park	Premise having facility for conservation of flora and fauna.
6.14	Amusement/ Theme Park Specialized/	Amusement Park and Theme Park are terms for a group of rides and other entertainment attractions assembled for the purpose of entertaining a large group of people. An Amusement Park is more elaborate than a simple park or playground, usually providing attractions meant to cater to children, teenagers, and adults.
6.15	Tourist Facility Centre	Premise having facility for receiving tourists, guiding, and providing necessary information and support during their visit.
7.	Public Utilities	
7.1	Sewerage treatment plant	A premise with treatment facilities used for treatment of sewage.
7.2	Pumping station	A premise with a pumping station used for pumping sewage/ water on to a higher gradient.
7.3	Sanitary landfill site/ solid waste treatment plant	Sanitary Landfill Site: A Premise where solid waste is disposed of for short or specific period. Solid Waste Treatment Plant: A premise where solid waste is collected, treated mechanically / Electrically and processed for reuse.
7.4	Recycling plant	A premise with treatment facilities used for recycling of solid waste
7.5	Tube well/ Overhead tanks/ Underground tanks/ Renny wall	Tube well: A system to extract water from underground sources using mechanical means. It may consist of a room for operation and maintenance. Overhead tank: A premise having overhead tank for storage and supply of water to its neighbouring areas. It may or may not include a pump house. Underground tank: A premise having underground tank for storage and supply of water to its neighbouring areas. It may or may not include a pump house.

		Rainy well: A system to extract water from underground sources on the banks of a water body.
7.6	Water treatment plants	A premise with treatment facilities used for treatment of water
7.7	Electric sub station	A premise having electrical installation and transformation for distribution of power
7.8	Public toilets	A premise having latrines and urinals for use of public.
7.9	Transmission tower/ mobile tower as per YEIDA policy	A transmission tower or Cellular mobile tower which may be erected on ground or roof top of a building as per policy of YEIDA
7.10	Drinking water booths	Premise having water distribution kiosk for use of public
7.11	Electric Post	An electric tower which is erected on the ground for distribution of power
8.	Transportation	
8.1	open Parking	A premise open to sky used for parking of vehicles. The public parking lots may be run on commercial or non-commercial basis
8.2	Covered/ multi-level parking	A covered premise of one or more levels for parking of vehicles. It may be run on commercial or non-commercial basis
8.3	Taxi/Auto stand	A premise used for parking of intermediate public transport vehicles run on commercial basis. The parking lots may be run on commercial or non-commercial basis
8.4	Truck terminal/ transport Nagar	A premise for parking of trucks on short term or long-term basis. It may include agency offices, workshops, Dhaba's, spare part shops, god owns, petrol/ diesel filling stations and such other operational facilities
8.5	Bus depot/Bus terminal	Bus Depot: A premise used by a public transport agency or any other such agency for parking, maintenance, and repair of buses. This may or may not include a workshop Bus Terminal: A premise used by a public transport agency to park the buses for short
8.6	Bus stand	A Bus Stand or Bus Shelter is a designated location on a road away from carriageway to park buses for short time periods for embarkation and disembarkation of passengers
8.7	Motor garage/ service workshop	A premise for servicing and repair of automobiles
8.8	Traffic Park/ children traffic park/ training centre	A premise in the form of park with facilities for introducing and

		Educating public/ children about traffic and signals. The training centre shall have facilities for training of driving automobiles.
8.9	Loading/ Unloading facilities	The provision and management of loading and unloading facilities / spaces for pickup-delivery vehicles
8.10	transport/ cargo booking centre	Place where (advance) arrangements made for a specific shipment of goods.
8.11	Container depot	Open storage area for shipping containers
8.12	Toll plaza	A premise/facility for collection of tolls for use of toll road. It may include office building for management of toll collection process.
8.13	Heli pad	Helipad (helicopter landing pad) is a landing area for helicopters. Usually a helipad does not have fuel and service facilities, and does not maintain a full-time air traffic controller
8.14	Freight complex	Includes all large-scale logistics (freight handling) and trading Activities (wholesale or retail) with ancillary activities such as office complexes,
8.15	Roads	Premise for travel in roads which are primarily paved
9.	Agriculture	
9.1	Orchard/ Plant nursery/ Social forestry	Orchard would mean a premise with a thick growth of fruit trees. It may also include garden with fruit trees. Plant nursery would mean a premise with facilities for rearing and sale of young plants. Forestry would mean a premise with thick natural flora including social forestry, which may have part natural flora and part man made flora.
9.2	Farmhouse	A dwelling house on a farm.
9.3	Dairy/ Poultry Farm	A premise with facilities for rearing and processing of dairy/ poultry products. It may have temporary structures for sheds of cows/ birds
9.4	Agriculture Equipment workshop/ Service Centre	A premise with facilities for servicing and repair of agricultural equipment's like tractor, trolley, harvesters etc.
9.5	Apiary/ Pisci Culture	A premise with facilities for rearing and processing of bee/ fisheries products. It may have temporary structures for sheds of birds/ fish

12.4 Permissible Uses in a Land Use Zone

Table 12-4: Permissible and Supporting Activities of a Use Premise

	Activities /Uses	Permissible Uses
1	Residential	
1.1	Single House/ Plot/ Flat	Residence Support Facilities- Professional practice by the residents
1.2	Group Housing	As per Building Regulations Support Facilities- As per Building Regulations
1.3	Township	As per Building Regulations Support Facilities- As per Building Regulations
1.4	Guard residence chaukidar	Guard/Chaukidar residence Permissible uses- Residence for Guard/ Chowkidar
1.5	Staff Housing	As per Building Regulations Support Facilities As per building regulations
2	Commercial	
2.1	Retail shops/Platform	Retail Shop/Plat Form Permissible uses- Retail Shop, Hawkers' Platform
2.2	Repair shops	Permissible uses- Repair shop, spare parts shop
2.3	Personal Service shops	Permissible uses- Personal service shop
2.4	Vending booth	Permissible uses- Vending booth/kiosk
2.5	Showroom	Permissible uses- Showroom
2.6	Weekly market	Permissible uses- Weekly market, informal retail trade, kiosks, (all structures will be temporary and mobile, only for one day in a week, public conveniences temporary or permanent as per decision of the Authority)
2.7	Convenience shopping centre	Permissible uses- Retail, Repair and Personal Service shop, Showroom, Restaurant, Canteen, Food Court, Clinic and Polyclinic, Clinical Laboratory, Kiosk/ Vending booth, Bakery, Confectionary, Atta Chakki , Office, Bank, Coaching Centres/ Training Institutes, Informal Commercial units / platform, Multilevel Parking. Support Facilities- Guest House, Service Apartment, Health centre/ Dispensary, Nursing home, Health club/Gym, Yoga/ Meditation centre, Dance/Music/Art centre, religious centre, Barat Ghar, Exhibition Hall
2.8	Local/sector level shopping centre	Permissible uses- Retail, Repair and Personal Service shops, Showroom, Restaurant, Canteen, Food Court, Clinic and Polyclinic, Clinical Laboratory, Kiosks, Vending booth, Bakery, Confectionary, Atta Chakki , Office, Bank,

		Coaching Centres/ Training Institutes, Informal commercial units / platform, Cinema/Multiplex, Multilevel Parking, Support Facilities- Guest House, Service Apartment, Banquet Hall, Exhibition Hall, Health Centre/Dispensary, Nursing home, Health club/Gym, Yoga/ Meditation centre, Dance/Music/Art centre, Religious centre, Convention/ Conference centre, Auditorium, Barat Ghar.
2.9	Shopping centre/ commercial centre/ shopping mall	Permissible uses- Retail shop, Showroom, Personal Service shop, Bakery, Confectionary, Food Court/ Canteen/ Restaurant, Office, Cinema/Multiplex, Drive in Cinema, Bank, Hotel, Guest House, Service Apartment, Banquet Hall/ Barat Ghar, Convention/ Conference centre, Auditorium, Art Gallery, Health Club/ Gym/ Spa, Guest House/ Lodging/ Boarding House, Vending Booth/ kiosk, Milk Booth, Clinic and Polyclinic, Clinical Lab, Internet/ Information Centre, Petrol / Diesel/ Gas filling Station, Coaching Centres/ Training Institutes, Fruit and Vegetable market, Informal Commercial unit/Platform, Multilevel Parking, Taxi/Auto/Rickshaw Stand, Bus Shelter, Transport /Cargo Booking Centre, Residential (as per Building Regulations) Support Facilities- Repair Shop, Motor garage and Workshop, Automobile showroom/ Showroom cum service centre, Warehousing, Exhibition Hall /Exhibition Centre, Recreational Club/Swimming pool, Socio Cultural centre, Dance/ Music/ Art Centre, Yoga/ Meditation Centre, Museum, Indoor Stadium/ Games Hall, Amusement/ Specialised /Theme Park, Open Air Theatre, Library, R&D Centre, Religious Centre, Community Centre, Social Welfare Centre, Health Centre/Family Welfare Centre/ Dispensary, Nursing Home
2.10	Informal commercial unit/platform	Permissible uses- Informal commercial unit / Platform
2.11	Wholesale market/Mandi	Permissible uses- Wholesale shop, Repair Shop, Bank, Automobile showroom/ Showroom cum service centre, Restaurant/Canteen/Food court, Coal/Wood/Building Material Market, Vegetable/ Fruit Market, Cold Storage, Warehouse/ Godown for Non-Hazardous items, Loading/unloading facility, Vending Booth/kiosk, Multilevel Parking, Taxi/Auto Rickshaw/Rickshaw stand, Office, Weighbridge/ Dharamkanta, Petrol / Diesel/ Gas filling Station, Cinema/Multiplex, Informal Commercial unit/Platform Support Facilities- Guest House/Lodging/Boarding House, Hotel, Showroom, Retail Shop, Personal Service Shop, Truck Parking and other logistics, Health Centre/Family Welfare Centre/ Dispensary, Nursing Home, Service apartment
2.12	Bakery/Confectionary/ Atta Chakki	Permissible uses- Bakery/Confectionary/Atta Chakki
2.13	Coal/wood/Building material market	Permissible uses- Wholesale shop, Repair Shop, Showroom, Bank, Automobile showroom/ Showroom cum service centre, Restaurant/Canteen/Food court, Warehouse/ Godown for Non-Hazardous items,

		Loading/unloading facility, Truck Parking and other logistics, Vending Booth/ Kiosk, Multilevel Parking, Taxi/Auto Rickshaw/Rickshaw stand, Office, Weighbridge/Dharamkanta, Petrol / Diesel/ Gas filling Station, Informal Commercial unit/Platform, Support Facilities- Guest House/Lodging/Boarding House, Retail Shop, Personal Service Shop, Health Centre/Family Welfare Centre/ Dispensary, Nursing Home, Service apartment
2.14	Vegetable/Fruit market	Permissible uses- Wholesale shop, Retail Shop, Repair Shop, Personal Service Shop, Bank, Restaurant/Canteen/Food court, Warehouse/ Godown for Non-Hazardous items, Cold Storage, Gas Godown, Loading/unloading facility, Truck Parking and other logistics, Vending Booth/ Kiosk, Multilevel Parking, Taxi/ Auto Rickshaw/ Rickshaw stand, Weighbridge/ Dharamkanta, Petrol / Diesel/ Gas filling Station, Informal Commercial unit/Platform Support Facilities- Guest House/Lodging/Boarding House, Showroom, Office, Health Centre/Family Welfare Centre/ Dispensary, Nursing Home
2.15	Cold storage	Permissible uses- Cold storage, Loading/unloading facility, Truck Parking and other logistics, Support Facilities- Office, Canteen, Vending Booth/Kiosk,
2.16	Storage godown	Permissible uses- storage, Loading/unloading facility, Truck Parking and other logistics, Support Facilities- Office, Canteen, Vending Booth/Kiosk,
2.17	Resort	Permissible uses- Lodging facility, Restaurant /Canteen/ Food court, Dining hall, Cafeteria, Tourist Information centre, Convention Centre/Conference centre/ Auditorium, Seminar Hall, Exhibition Hall, Banquet Hall Laundry, Recreational Club/Swimming pool, Internet/Information Centre, Health Club/Gym/Spa, Discotheque, Yoga/ Meditation Centre, Multilevel Parking, Office, Support Facilities- Bank, Creche, Automobile showroom/ Showroom cum service centre, Retail Shop, Personal service shops, Showroom, Service Apartment, Health centre/Dispensary.
2.18	Hotels	Permissible uses- Lodging facility, Restaurant /Canteen/ Food court, Dining hall, Cafeteria, Tourist Information centre, Convention Centre/Conference centre/ Auditorium, Seminar Hall, Exhibition Hall, Banquet Hall Laundry, Recreational Club/Swimming pool, Internet/Information Centre, Health Club/Gym/Spa, Discotheque, Yoga/ Meditation Centre, Multilevel Parking, Office, Support Facilities- Bank, Creche, Automobile showroom/ Showroom cum service centre, Retail Shop, Personal service shops, Showroom, Service Apartment, Health centre/Dispensary.
2.19	Service Apartment	Permissible uses- Guest Suite, Conference Facilities, Office, Support Facilities-

		Bank, Creche, Health Centre/Dispensary, Retail Shop, Personal Service Shop, Restaurant/Canteen/Food Court.
2.20	Restaurant/ Canteen/ Food Court	Permissible uses- Restaurant, Canteen, Food court, Banquet Hall, Vending Booth, Support Facilities- Office, Bank extension counter
2.21	Cinema/Multiplex	Permissible uses- Cinema/ Multiplex, Retail Shop, Personal Service Shop, Showroom, Office, Restaurant, Food Court, Vending booth/ kiosk, Multilevel Parking Support Facilities- Bank, Gym/ Health club/ Spa, Taxi/Auto/Auto rickshaw stand,
2.22	Drive-in cinema	Permissible uses- Open air theatre, Drive in cinema, Open Air Restaurant, Support Facilities- Office related to cinema activity.
2.23	Exhibition hall/ Exhibition centre	Permissible uses- Exhibition Hall, Exhibition centre and art gallery, Library, Store/Godown facility, Auditorium, Multilevel Parking, Support Facilities- Office, Showroom, Dance/ Music/ Art Centre, Yoga/ Meditation Centre, Museum, Restaurant/Canteen/Food court, Vending Booth/Kiosk,
2.24	Banquet hall/ Barat Ghar	Permissible uses- Banquet Hall, Barat Ghar, Guest suite/room, Restaurant, Food court, Vending Booth/kiosk, Multilevel Parking Support Facilities- Retail shop, Personal service shop, Bank, Auto-rickshaw stand, Office
2.25	Petrol/ Diesel/ Gas Filling Station/ public Electric Charging Station	Permissible uses- Petrol/Diesel Pump/Fuel Station, Gas filling station, public electric charging station, Automobile Repair Shop, Automobile Service station, Support Facilities- Office, Retail shop/Departmental Store, Showroom.
2.26	Oil depot and LPG refilling plant	Permissible uses- Oil and Gas Depot, LPG refilling plant, Truck Parking Support Facilities- Booking Office
2.27	Gas godown	Permissible uses- Gas Godown, Truck Parking, Support Facilities- Booking Office,
2.28	Warehouses for non-hazardous items	Permissible uses- Store/Godown, Loading unloading facility, Truck Parking, Support Facilities- Booking Office,
2.29	Warehouses for hazardous items	Permissible uses- Store/Godown, Loading unloading facility, Control/Inspection room, Truck Parking, Support Facilities- Booking Office,
2.30	Automobiles showroom/ Automobile Showroom cum Service Station	Permissible uses- Automobile showroom, Licensed service centre, Parking, Retail shop (Spare Parts), Truck Parking, Support Facilities- Office, Retail shop, Kiosk/Vending Booth,
2.31	Freight complex/ Logistic Park	Permissible uses-

		Booking Office, Warehouse, Store/ Godown, Cold Storage, Space for Container Stocking, Truck Parking, Loading /Unloading facilities, Repair shop, Weighbridge, Vending Booth/Kiosk Support Facilities- Office, Petrol/Diesel/Gas filling station, Bank, Service Station, Restaurant/Canteen/ Food court,
2.32	Hardware and building material yard	Permissible uses- Store/Godown, Loading unloading facility, Control/Inspection room, Truck Parking, Support Facilities- Booking Office,
2.33	Weigh bridge	Permissible Use Weigh Bridge Support Facilities- Booking Office,
2.34	Motar garage and workshops	Permissible Use Weigh Bridge Support Facilities- Booking Office,
2.35	Informal Vending	Permissible uses- Informal commercial unit / Platform
3	Industrial	
3.1	Service industries	Permissible uses- Service/Cottage Industry (Non-Hazardous, Non-polluting) as per stipulation of Industries department, residential unit Support Facilities- Crèche/ Day-care centre, Retail shop for the product manufactured, Storage
3.2	Cottage industries	Permissible uses- Service/Cottage Industry (Non-Hazardous, Non-polluting) as per stipulation of Industries department, residential unit Support Facilities- Crèche/ Day-care centre, Retail shop for the product manufactured, Storage
3.3	Flatted factories	Permissible uses- Industrial units (Non-Hazardous, Non-polluting) as per stipulation of Industries department, Canteen, Loading Unloading Facility, Truck parking, Multilevel Parking Support Facilities- Office, Bank, Gym, Storage, Taxi/Auto/Auto rickshaw stand, vending booth/kiosk, internet Centre, Creche and Day care centre.
3.4	Shaded factories	Permissible uses- Industrial units (Non-Hazardous, Non-polluting) as per stipulation of Industries department, Canteen, Loading Unloading Facility, Truck parking, Multilevel Parking Support Facilities- Office, Bank, Gym, Storage, Taxi/Auto/Auto rickshaw stand, vending booth/kiosk, internet Centre, Creche and Day care centre.
3.5	Information/ software technology industry	Permissible uses- IT plots/buildings Support facilities a) Commercial Shops, Ares for storage, display and sale of merchandise, Cinema halls, Hotels, Restaurants,

		open eating kiosks b) Residential Residential uses, Hostel, Guest house, Staff quarters c) Institutional Facilities- Waiting and transit areas, Areas designated for public utilities, Travel services, Telephone Exchange, Electric substation, water works, Export related facilities, Canteen/Restaurant, Creche and day care centre, operation and maintenance by specialized agencies, Training centre and library, Health Club and Gym for users/residents of IT and ITES, Games/entertainment room for users/residents of IT and ITES, Banking and Financial services, Business and Financial services, Business Centre/Conference facilities, Shops, Open eating kiosks. Note: The extent of support facilities under Commercial, Residential, and Institutional uses for different size if plots shall be decided by the Authority in the scheme from time to time.
3.6	Small/light industry	Permissible uses- Industrial units (Non-Hazardous, Non-polluting) as per stipulation of industry department, Canteen, Loading Unloading Facility, Truck parking, Vending booth/kiosk, Storage, Multilevel Parking Support Facilities- Office, Bank, Showroom for display/sale of industrial products manufactured in the unit, Gym/ Health club, Crèche and day care centre, Internet centre, Dispensary, Taxi/Auto/Auto rickshaw stand,
3.7	Industrial plot (specific industry type)	Industrial units (Non-Hazardous, Non-polluting) as per stipulation of industry department, Canteen, Loading Unloading Facility, Truck parking, Vending booth, kiosk, Storage, Internet centre, Multilevel Parking Support Facilities- Office, Bank, Showroom for display/sale of industrial products manufactured in the unit, Gym/ Health club, Crèche and day care centre, Internet centre, Dispensary, Taxi/Auto/Auto rickshaw stand,
3.8	Industrial Plot(Integrated use)	In Industrial plot having area more than 25 Acre, integrated use of Industrial, Commercial and Staff Housing shall be allowed, where industrial activity shall remain as a core activity with minimum 75% of permissible FAR. Staff Housing:- Dormitory, field hostel etc. other than Banglow shall be allowed with maximum 12% of permissible FAR. Commercial:- Commercial activity shall be allowed with maximum 8% of permissible FAR. Support Facilities:- Support facilities shall be allowed as- waiting transit area, area designated for public utilities, travel services, telephone exchange, Electric sub-station, water works, Export related facilities, canteen, creche and day care center, operations and maintenance by specialized agencies, training center and library, health center and Gym for end users if institutions. ATM services with 5% of permissible FAR.
3.9	Medium & Large-scale industry	Industrial units (Non-Hazardous, Non-polluting) as per stipulation of industry department, Showroom for display/sale of industrial products Canteen, Creche and day-cares centre, Loading Unloading Facility, Truck parking, Vending booth/kiosk, Storage, Internet centre, Multilevel Parking Support Facilities-

		Office, Bank, Showroom for display/sale of industrial products manufactured in the unit, Gym/Health club, Crèche and day-care centre, Internet centre, Dispensary, Taxi/Auto/Auto rickshaw stand,
3.10	Film centre/ TV radio programme production centre	Permissible uses- Film Centre/TV Centre, Radio Programme Production Centre, Auditorium, Media Centre, Canteen, Library, Vending booth/ Kiosk Support Facilities- Office, Bank, counter Gym/ Health club, Creche and day-care centre, Taxi/Auto/Auto rickshaw stand.
3.11	Biotechnology/ Biotech Park	Permissible uses- BT plots/buildings/Incubators/labs/ Virtual information Centre/Patent Facilitating Centre/Central Analytical Instrumentation Facility/Bioprospecting facility/Micropropagation Facility/Medicinal Plant Extraction Facility/Fermentation Facility/Food processing/Testing facility/Bioinformatics Support facilities a) Commercial- Shops, Ares for storage, display and sale of merchandise, Cinema halls, Hotels, Restaurants, open eating kiosks b) Residential- Residential uses, Hostel, Guest house, Staff quarters c) Institutional Facilities- Waiting and transit areas, Areas designated for public utilities, Travel services, Telephone Exchange, Electric substation, Neutralization tank and guard pond for process effluents, water works, Compressed Air generators, Vacuum generators, Chemical Store building, central treatment facilities, Cold room, Export related facilities, Canteen/Restaurant, Creche and day care centre, operation and maintenance by specialized agencies, Training centre and library, Health Club and Gym for users/residents of BT park, Games/entertainment room for users/residents of BT park, Banking and Financial services, Business and Financial services, Business Centre/Conference facilities, Shops, Open eating kiosks, Note: The extent of support facilities under Commercial, Residential and Institutional uses for different size if plots shall be decided by the Authority in the scheme from time to time.
3.12	Manufacturing units	Permissible uses- Industrial units (Non-Hazardous, Non-polluting) as per stipulation of industry department, Canteen, Loading Unloading Facility, Truck parking, Vending booth/kiosk, Storage, Multilevel Parking Support Facilities- Office, Bank, Showroom for display/sale of industrial products manufactured in the unit, Gym/ Health club, Crèche and day care centre, Internet centre, Dispensary, Taxi/Auto/Auto rickshaw stand,
3.13	Obnoxious and Hazardous Industry	As stated by MoEF and concerned State Departments
3.14	Agrobased & food processing units	Permissible uses- Industrial units (Non-Hazardous, Non-polluting) as per stipulation of industry department, Canteen, Loading Unloading Facility, Truck parking, Vending booth/kiosk, Storage, Multilevel Parking Support Facilities- Office, Bank, Showroom for display/sale of industrial products manufactured in the unit, Gym/ Health club, Crèche and day care centre, Internet centre, Dispensary, Taxi/Auto/Auto rickshaw stand,
3.15	Household industries	Permissible Use Household Industries

4	Office	
4.1	Govt./Semi Govt./Public undertaking/local body office	Govt./Semi Govt. /Public Undertaking/Local Body Office Permissible uses- Govt./Semi Govt./Public Undertaking/Local Body Office, Multilevel parking, Conference facilities, Seminar Hall, Support Facilities- Auditorium, International conference centre, Cultural and information centre, Stationary shop, Book store, Chemist store, Vending booth/Kiosk, Health Club / Gym, Bank extension counter, General store, Crèche, Indoor games halls, Dispensary, Internet centre, Library, Museum, Planetarium, R&D centres, Radio and television station, Canteen, Staff Housing, Guest house, Hostel, Transit Hostel.
4.2	Office/corporate office	Permissible uses- Office/Corporate office, Conference room, Seminal Hall, Multilevel Parking Support Facilities- Auditorium, International conference centre, Cultural and information centre, Stationary shop, Book store, Chemist store, Vending booth/Kiosk, Health Club / Gym, Bank extension counter, General store, Crèche, Indoor games halls, Dispensary, Internet centre, Library, Museum, Planetarium, R&D centres, Radio and television station, Canteen, Staff Housing, Guest house, Hostel, Transit Hostel.
4.3	Professional/personal office	Permissible uses- Professional/Personal/Agent Office, Conference room, Support Facilities- Canteen, Bank extension counter
4.4	Banks	Permissible uses- Bank, Canteen
4.5	Project development/management/maintenance office	Permissible uses- Project development/ Management/ Maintenance office, Support Facilities- Bank extension counter, Canteen,
4.6	Satellite/wireless/Telecommunication centre	Permissible uses- Satellite/Wireless/Telecommunication Centre, residential flat (for maintenance staff), Support Facilities- Research laboratory, Canteen
5	Public/ Institutional facilities	
5.1	Guest house/lodging/boarding house	Guest house/lodging/boarding house Guest room/Suite, Conference Facilities, Banquet Hall, , Support Facilities- Office, Canteen, Retail Shop, Personal Service Shop, Bank, Crèche, Health Centre/Dispensary
5.2	Hostel	Permissible uses- Rooms/suites, dining facilities, Support Facilities- Office, Canteen, Personal service shops, retail store for daily needs, Indoor/ outdoor games facilities, Bank extension counter, Creche, Health Centre/Dispensary, Caretaker/ warden

		residence.
5.3	Reformatory & Orphanage	Permissible uses- Reformatory and orphanage, Hostel. Support Facilities- Health centre/ Dispensary, Residence of Caretaker and maintenance staff, Personal service shop
5.4	Old age home	
5.5	School for mentally challenged persons	Permissible uses- School for mentally, physically challenged, Hostel. Support Facilities- Health centre / Dispensary, Medicine shop, Residence of Caretaker, and maintenance staff, Personal service shop
5.6	Creche & day care centre/ play & nursery school	Permissible uses- Crèche & Day Care Centre/Play & Nursery School, Support Facilities- Residence of caretaker and maintenance staff,
5.7	Primary school	Permissible uses- Primary school, Canteen, Swimming pool, Auditorium, Library, Indoor games Hall, Hostel. Support Facilities- Retail shop for books and stationery, uniform, Bank extension counter, Staff housing, Vending booth/Kiosk
5.8	Secondary school/ integrated residential school	Permissible uses- Senior secondary school, Canteen, Swimming pool, Auditorium, Library, Indoor games Hall, Hostel Support Facilities- Retail shop for Books and Stationery, Uniform, Chemist; Bank extension counter, Vending booth/Kiosk, Staff housing
5.9	Vocational Institute	Permissible uses- Vocational training centre, Canteen, Swimming pool, Auditorium, Library, Indoor games Hall, Hostel Support Facilities- Guest house, Transit hostel, Retail shops for Books and Stationery, Chemist, Fruits and vegetables, general store; Personal service shop, Repair shop, Vending booth/Kiosk, Bank extension counter, Staff housing
5.10	Degree / PG college	Permissible uses- Degree/P G/professional (MBA /Engg etc.) college, Canteen, Swimming pool, Library, Auditorium, Indoor games Hall, Hostel Support Facilities- Guest house, Transit hostel, Retail shop for Books and Stationery, Chemist, Fruits and vegetables, general store; Personal service shop, Repair shop, vending booth/Kiosk; Bank extension counter, Staff housing
5.11	University	Permissible uses- University, Educational Colleges, Canteen, Swimming pool, Indoor games Hall, Convention Centre, Exhibition Hall, Support Facilities- Auditorium, Indoor games Hall, Hostel, Guest house, Canteen, Retail shop for Books and Stationery, Chemist, Flowers, Fruits and vegetables,

		general store; Personal service shop, Repair shop, Vending booth/Kiosk, Bank extension counter, Staff housing, Cultural and information centre, International conference centre, internet café, Library, Museum, Planetarium, R&D Centre, Radio and Television station, Gym/ Health club, Guest House, Transit Hostel
5.12	Post office	Permissible uses- Post and Telegraph Office, Canteen,
5.13	Telephone exchange	Permissible uses- Telephone exchange/RLU/RSU, Support Facilities- Canteen, Bank Extension Counter, Staff Housing,
5.14	Police station	Permissible uses- Police Station, Support Facilities- Canteen, Bank Extension Counter, Staff Housing,
5.15	Fire station	Permissible uses- Fire Station, Service workshop, Hostel/dormitory, , Support Facilities- Canteen, Bank extension counter, Staff Housing
5.16	Police post	Permissible uses- Police post Support Facilities- Canteen, Bank extension counter, Staff Housing
5.17	Library	Permissible uses- Library, Internet/information centre, Exhibition Hall, and art gallery, Support Facilities- Auditorium, Canteen, Staff housing, Bank extension counter,
5.18	R & D centre	Permissible uses- Research and Development Centre, internet/Information Centre, Hostel, Library, Support Facilities- Auditorium, Canteen, Staff housing, Guest House, Transit hostel, Bank Extension counter, Health/Gym
5.19	Health centre/ family welfare centre	Permissible uses- Health centre, Dispensary, Family welfare centre, Support Facilities- Canteen, Chemist shop, Vending Booth/kiosk, Office,
5.20	Trauma centre	Permissible uses Trauma centre, hostel, Support Facilities- Canteen, Vending Booth/ Kiosk, Bank extension counter, Chemist shop, Books/Stationery Shop, General Departmental store, Personal service Shop, Office, Staff Housing, Patient attendant accommodation, Gym,
5.21	Medical college/ hospital	Permissible uses- Hospital Support Facilities- Auditorium, Bank extension counter, Cultural and Information Centre, Chemist shop, Canteen, Books/Stationery /Flower Shop, Indoor Games Hall, International conference centre, Internet Centre, Library, Museum, Planetarium, R&D centre, Radio and Television Centre, General

		Departmental store, Personal service Shop, Office, Staff Housing, Patient attendant accommodation, Health club/Gym, Guest House, Hostel, Transit Hostel, Vending booth/kiosk
5.22	Clinic	Permissible uses- Clinic Support Facilities- Chemist shop
5.23	Nursing home	Permissible uses- Nursing Home, Clinical lab, Support Facilities- Chemist shop, Vending booth/kiosk,
5.24	Clinical laboratory / Diagnostic centre	Permissible uses- Clinic laboratory, Support Facilities- Clinic, Chemist shop, Vending Booth/kiosk,
5.25	Veterinary hospital/ Dispensary	Permissible uses- Veterinary Hospital/Dispensary, Diagnostic Centre, Support Facilities- Canteen, Chemist shop, Staff Housing
5.26	Health club/ Gym	Permissible uses- Health club/Gym, Vending booth/Kiosk
5.27	Dance/ Music/Art centre	Permissible uses- Dance/Music/Art centre, Support Facilities- Auditorium, Guest House, Canteen, Vending booth/Kiosk, hostel
5.28	Yoga/ Meditation centre	Permissible uses- Yoga/Meditation centre, Library, Conference Facilities, , Hostel Support Facilities- Guest House, Auditorium, Canteen, Vending booth/Kiosk
5.29	Religious building/centre	Permissible uses- Religious Building/Centre, Yoga and Meditation Hall, Library, Ashram, Bathing Ghat, Gaushala, Dargah, Support Facilities- Residence for essential staff/ priest, Retail shop for flowers/ offerings, Charitable Dispensary, Dining Hall with kitchen,
5.30	Community centre	Permissible uses- Community centre/ Barat Ghar, Support Facilities- Indoor games, Library, Restaurant, Vending booth/kiosk, Guest rooms
5.31	Convention centre/ conference centre/ Auditorium	Permissible uses- Convention centre/Conference Centre/Auditorium, Exhibition Hall, Art Gallery, Internet/ information centre, Multilevel parking, Support Facilities- Restaurant, Hostel, Canteen, Library, Guest room, Bank extension counter, Caretaker and Maintenance Staff Housing,
5.32	Socio-Cultural centre	Permissible uses- Socio-cultural Centre, Exhibition Centre, Art Gallery, Dance/ Drama/Music Training centre,

		Swimming Pool, Multilevel parking, Support Facilities- Auditorium, Library, Museum, Canteen, Vending Booth/kiosk, Bank extension counter,
5.33	PCO Public call office	Permissible uses- PCO
5.34	Internet/Information centre	Permissible uses- Internet/Information Centre Support Facilities- Bank Extension counter, Canteen, Library
5.35	Social welfare centre	Permissible uses- Social Welfare centre, Support Facilities- Canteen, Library, Vending Booth/kiosk, Bank extension counter
5.36	Crematorium/ Burial ground/ cremation	Permissible uses- Cremation/Burial ground/Crematorium, Support Facilities- Retail shop of wood, flowers and related material, Maintenance staff residence
5.37	Night shelter	Permissible uses- Night shelter Support facilities
5.38	Disaster management centre	Permissible uses- Disaster Management Centre Support Facilities Office, Canteen, Training Centre,
5.39	Metrological station	Permissible uses- Metrological station Support Facilities Office, Canteen, Training Centre,
6	Recreational facilities	
6.1	Park/Playground	Permissible uses- Park, playground Support Facilities- Vending Booth/ Kiosk
6.2	Multipurpose open spaces	Permissible uses- Multipurpose open space Support Facilities- Vending Booth/ Kiosk
6.3	Golf course/ Racecourse	Permissible uses- Golf Course, Racecourse, Swimming Pool, Indoor/ Outdoor games facilities, Multilevel Parking Support Facilities- Pro shop/ Sports goods shop, Bar/ Restaurants, Vending booth/ Kiosk, Conference facilities, Bank extension counter, Caretaker Residence, Guest house, Golfers' temporary accommodation
6.4	Stadium/ Sports training centre/Sports complex	Permissible uses- Stadium/ Sports Training Centre/ Sports Complex, Indoor/ Outdoor games facilities, Hostel, Swimming pool, Multilevel parking Support Facilities-

		Staff housing, Grocery shop, Sports goods shop, Personal service shop, Canteen, Vending booth/ Kiosk, Conference facilities, Bank extension counter, Caretaker Residence, Guest house, Players' temporary accommodation
6.5	Picnic spot	Permissible uses- Picnic huts, Camping site, Park, playground, landscaped garden Support Facilities- Restaurant/Food court/ Canteen, Vending booth/ Kiosk, Caretaker Residence
6.6	Indoor stadium/ games hall	Permissible uses- Multipurpose Indoor Stadium, Indoor Games Hall, Indoor Games facilities, Swimming pool, Outdoor sports facilities, Park, Playground Support Facilities- Hostel, Canteen, Office related to sports facilities, Vending booth/ Kiosk, Conference facilities, Bank extension counter, Caretaker Residence, Guest house, Players' temporary accommodation
6.7	Amusement/ theme park	Permissible uses- Amusement/ Specialised/ Theme Park, Playground Support Facilities- Restaurant/ Food court/Canteen, Vending booth/ Kiosk, Bank extension counter, Indoor games, Retail shop, Caretaker Residence
6.8	Recreational club/ Swimming pool	Permissible uses- Recreational Club, Swimming Pool, Indoor/Outdoor games facilities, Park, playground Support Facilities- Restaurant/ Food court/ Canteen, Vending booth/ Kiosk, Caretaker residence, Library, Bank extension counter,
6.9	Museum cum Auditorium	Permissible uses- Museum cum Auditorium/Conference Hall/ Art Exhibition Gallery, Open air theatre, Multilevel Parking Support Facilities- Canteen, office, Vending booth/ Kiosk, Caretaker residence, Library, Bank extension counter,
6.10	Open air theatre	Permissible uses- Open Air Theatre, Support Facilities- Canteen, Office, Vending booth/ Kiosk, Caretaker residence,
6.11	National Memorials	Permissible uses- National Memorial, Support Facilities Canteen, Office, Card/gift shop, Vending booth/ Kiosk, Caretaker residence,
6.12	Biodiversity Park	
6.13	Amusement/ Specialized/ Theme Park	Permissible uses- Amusement/ Specialised/ Theme Park, Playground Support Facilities- Restaurant/ Food court/Canteen, Vending booth/ Kiosk, Bank extension counter, Indoor games, Retail shop, Caretaker Residence
6.14	Tourist Facility centre	Permissible uses Tourist facility Centre Support Facilities-

		Restaurant/ Food court/Canteen, Vending booth/ Kiosk, Bank extension counter, Indoor games, Retail shop, Caretaker Residence
6.15	Sports city	
7	Public Utilities	
7.1	Sewerage treatment plant	Permissible uses- Sewerage treatment plant/Pumping station, Support Facilities- Office, Maintenance staff residence
7.2	Pumping station	Permissible uses- Pumping Station Support Facilities- Office, Maintenance staff residence
7.3	Sanitary landfill site/ solid waste treatment plant	Permissible uses- Sanitary landfill site/Solid waste treatment plant Support Facilities- Office, Maintenance staff residence
7.4	Recycling plant	Permissible uses- Recycling Plant Support Facilities- Office, Maintenance staff residence
7.5	Tube well/ Overhead tanks/ Underground tanks/ Renny wall	Permissible uses- Tube well/Overhead tanks/Underground tanks/Rainy well Support Facilities- Office, Maintenance staff residence
7.6	Water treatment plants	Permissible uses- Water Treatment Plant Support Facilities- Office, Maintenance staff residence
7.7	Electric sub station	Permissible uses- Electric sub-station Support Facilities- Office, Maintenance staff residence
7.8	Public toilets	Permissible uses- Public toilet
7.9	Transmission tower/ mobile tower as per YEIDA policy	Permissible uses- Transmission tower/Mobile tower as per Noida Policy
7.10	Drinking water booths	Permissible Use, Drinking Water Booth
8	Transportation	
8.1	open Parking	Permissible uses- Open Parking, Vending booth/Kiosk
8.2	Covered/ multi-level parking	Permissible uses- Multi-level parking, Support Facilities- Office, Maintenance staff residence
8.3	Taxi/Auto stand	Permissible uses- Taxi/Auto/Rickshaw Stand Support Facilities- Vending Booth/kiosk,

8.4	Truck terminal/ transport Nagar	Permissible uses- Truck parking, Service Garage, Spare parts shops, Repair shop, Transport Agencies offices and other related offices, Showroom, Weighbridge/Dharamkanta, Storage Godowns, Multi-level parking, Support Facilities- Retail shop, showroom, Office, Restaurant, Hotel, Bank, Vending booth/kiosk
8.5	Bus depot/Bus terminal	Permissible uses- Bus Terminal, Support Facilities- Office, Canteen
8.6	Bus stand	Permissible uses- Bus stand/ Shelter
8.7	Motor garage/ service workshop	Permissible uses- Motor Garage/Service Garage/Workshop, Service Station Support Facilities- Automobile showroom, Spare parts shop, office, Vending Booth/kiosk
8.8	Traffic Park/ children traffic park/ training centre	Permissible uses- Traffic Park/Children Traffic Park/Training Centre, Support Facilities- Restaurant, Vending Booth/kiosk
8.9	Loading/ Unloading facilities	Permissible uses- Loading/Unloading Facilities/Space, Weighbridge, Support Facilities- Vending booth/kiosk
8.10	transport/ cargo booking centre	Permissible uses- Transport/Cargo booking office, Warehousing/Godown, Truck Parking Support Facilities- Office, Vending booth/kiosk, Canteen,
8.11	Container depot	Permissible uses- Storage of Containers, Weighbridge, Truck parking, Warehousing/Storage Godown, Office Support Facilities- Vending booth/kiosk, Canteen,
8.12	Toll plaza	Permissible uses- Toll plaza, Maintenance office Support Facilities- Office
8.13	Helipad	Permissible uses- Helipad, Office, Waiting Area,
8.14	Freight complex	Includes all large-scale logistics (freight handling) and trading activities (wholesale or retail) with ancillary activities such as office complexes
8.15	Roads	Permissible Uses Roads, Green belt, footpath
9	Agriculture	
9.1	Orchard/ Plant nursery/ Social forestry	Permissible uses- Orchard/ Plant nursery/ Social forestry Support Facilities- Shop selling seeds, Plants, gardening equipment, Vending booth/ Kiosk, Caretaker residence (all structures shall be temporary in nature)

9.2	Farmhouse	Permissible uses- Farmhouse Support Facilities- Caretaker residence
9.3	Dairy/ Poultry Farm	Permissible uses- Dairy Farm, Poultry Farm Support Facilities- Caretaker residence
9.4	Agriculture Equipment workshop/ Service Centre	Permissible uses- Agriculture Equipment workshop/ service centre Support Facilities- Spare parts shop, Repair shop
9.5	Apiary/ Pisci Culture	Permissible uses- Fish Farm, Bee Farm Support Facilities- Caretaker residence

Note:

1. For support facilities maximum 25% of Permissible FAR may be allowed.
2. Support facilities mentioned below are permissible in all use premises mentioned except for residential (unless otherwise specifically prohibited by the Authority in any premise)
 - Guard/ Chowkidar residence
 - ATM
 - PCO
 - Open Parking, Covered parking
 - Public conveniences
 - Helipad
 - Public facilities and utilities (Post office counter, Post office, Post and Telegraph office, Police Post, Police Station, Fire Post, Fire Station, Telephone exchange, RLU/RSU, Electric Sub Station, Sewage Treatment plant, Sewage pumping station, Water works, Underground Reservoir, Water treatment plant)
 - Satellite wireless telecommunication centre or tower,
3. In addition to the permissible activities mentioned above, if any other uses have been permitted in earlier schemes, allotment or lease conditions prior to these regulations, the same uses shall continue to be permissible unless otherwise specially prohibited under special circumstances, if any by the Authority in any scheme.

12.5 Subdivision of Use Zones and Subdivision Regulation

The Subdivision of land with a view to prepare a layout plan is done for a sector or area, which is designated primarily for a specific use zone already specified earlier as per the Master Plan. The objective of regulations detailed herein is to guide the preparation of layout plans for use areas. These regulations include norms for provisions of circulation system, open spaces, and facilities. The service plans corresponding to these layout plans for provisions of physical infrastructure like water supply, sewerage, drainage, power, telecom, gas and solid waste management etc. shall conform to the norms framed by the Authority from time to time.

12.5.1 Residential Use Zones

The sub-division of this use zone shall be governed by the provisions stated below:

- This use zone will have plotted development or flatted development or group housing or mix of both or all as per the scheme.
- Green and Open Spaces
- The minimum area required under open space for tot-lots, parks and playground shall be 15%.
- Area under green and open spaces of the scheme or sector shall be in addition to the area under Master Plan green areas.
- The minimum average width of the green and open space shall be 7.5m. The green and open spaces can be of varied shapes provided they fulfil the recreational need of the community.
- The landscape plan shall be prepared and submitted in accordance with the provisions of building regulations.
- Certain open spaces shall be designated as playgrounds while preparing the layout plan.

Roads

- I. The minimum Right of Way of a vehicular road shall be 12 m. However, in situations where the road adjoins a park or any open space with building only one side, it may have a minimum width of 9 m.
 - II. In case of group housing development, the minimum width of road shall be 18 meters.
 - III. The roads shall have minimum width depending on the length of the road as follows
 - IV. Up to 400.0m. - 12.0 m.
 - V. 401-600.0m. - 18.0 m.
 - VI. 601-1000.0 m. - 24.0 m.
 - VII. Above 1000.0 m.- 30.0 m.
 - VIII. The minimum width of Loop Street shall be 12.0 m. and maximum length 400.0 m.
 - IX. Maximum length of a 12.0 m wide dead-end road shall be 100.0m. The road shall be provided with a cul-de-sac of 7.5 m radius at the dead end. Roads of less than 25 m length, cul-de-sac will not be required
- The provisions for rainwater harvesting shall be in accordance with the provisions of Building Regulations or as per policies of the State Government issued from time to time.
 - The maximum area under commercial use shall be 5%.
 - The minimum area under facilities shall be 5%.
 - Provision of Social and Physical Infrastructure

12.5.2 Non-Residential Use Areas

The sub-division of these use zones shall be governed by the provisions stated below:

- These use zones will have plotted development or flatted development or both as per the scheme
- Green and Open Spaces
 - I. 10% of the total area of non-residential sector/area shall be green
 - II. Area under green and open spaces of the scheme or sector shall be in addition to the area under Master Plan green areas.
 - III. The landscape plan shall be prepared and submitted in accordance with the provisions of building regulations.

Roads

- I. The minimum area under roads shall be 10%
 - II. The roads shall have minimum width depending on the length of the road as follows
 - a. Up to 400.0 m. - 18.0 m
 - b. 401-1000.0 m. - 24.0 m
 - c. Above 1000.0 m. - 30.0 m.
 - III. The width of other roads shall be in accordance with the width specified in Master Plan.
- The provisions for rainwater harvesting shall be in accordance with the provisions of Building Regulations or as per policies of state Government issued from time to time.
 - The maximum area under commercial use shall be 2% (For areas other than commercial use zones) except for Multiple Use for which the decision is to be taken by the authority
- Note: Above mentioned 2% shall not be binding if area/sector is identified for Warehousing/Logistics in Industrial Use . The Additional area (in excess of 2%) shall be used only for warehousing/Logistics.
- The minimum area under facilities shall be 5%.

Table 12-5: Permissibility of Activities in Land Uses

Permissibility of Various Activities/ Uses in Major Land Use Areas																		
	Abbreviations														Symbols			
	Resd: Residential		Logi: Logistics		Insti: Institutional (Offices & PSP)		SDZ: Special Development Zone		Rvr ft: Riverfront Development		Permissible Use							
	Abadi: Village Abadi/ Village Extension		CBD: Central Business District		Faci: Facility/ Utility		Transp: Transportation				Not Permissible							
	Comm: Commercial		Ind: Industrial		Mxd Use: Mixed Use		Rec Grn: Recreational Green				Conditional Permissible Use							
	Whole: Wholesale/ Mandi/ Warehousing		MLU-I : Multiple Land Use- Industry		MLU-H: Multiple Land Use Hospitality		Agri: Agriculture				With Special Permission							
			Resd		Commercial		Industrial		Institutional		Mixed-use		SDZ	Transp	Recreational green		Agriculture	Rvr frnt
Activities /Uses		Abadi	Resd	Comm.	Logi	Ind.	MLU-I	Insti	Faci	Mixed Use	MLU-H			Rec.Grn	Park	Green Belt		
Residential																		
1	Single House/ Plot/ Flat			6													11	
2	Group Housing			6				7										
3	Staff Housing						7	7										
4	Guard chaukidar residence																	
Commercial																		
1	Retail shops/Platform		1			1		1	1				1					
2	Repair shops		1			1	1											
3	Personal Service shops		1						1									
4	Vending booth		1			1												
5	Showroom		1			2							1					
6	Weekly market	3	3	3	3	3	3						3					
7	Convenice shopping centre		1			1		1					1					
8	Local/sector level shopping centre		1					1										
9	Shopping centre/ commercial centre/ shopping mall		1			1												
10	Informal commercial unit/platform		1															
11	Wholesale market/Mandi																	
12	Bakery/Confectionary/Atta Chakki		1															
13	Coal/wood/ Building material market																	
14	Vegetable/ Fruit market		1															
15	Cold storage				4													
16	Hotels		1			1	1	1	1									
17	Service Apartment							1	1									
18	Restaurant/ Canteen/ Food Court		1															
19	Cinema/Multiplex		1			1		1						1				
20	Drive-in cinema													1				
21	Exhibition hall/ Exhibition centre		1															
22	Banquet hall/ Barat Ghar		1					1	1									
23	Petrol pump/Diesel station		1					1	1									
24	Oil depot and LPG refilling plant																	
25	Gas godown																	
26	Warehouses for non-hazardous items																	
27	Warehouses for hazardous items																	
28	Automobiles showroom/Automobile Showroom cum Service Station																	
29	Freight complex/ Logistic Park																	

Permissibility of Various Activities/ Uses in Major Land Use Areas																		
Abbreviations														Symbols				
Resd: Residential		Logi: Logistics		Insti: Institutional (Offices & PSP)		SDZ: Special Development Zone		Rvr ft: Riverfront Development		Permissible Use								
Abadi: Village Abadi/ Village Extension		CBD: Central Business District		Faci: Facility/ Utility		Transp: Transportation				Not Permissible								
Comm: Commercial		Ind: Industrial		Mxd Use: Mixed Use		Rec Grn: Recreational Green				Conditional Permissible Use								
Whole: Wholesale/ Mandi/ Warehousing		MLU-I : Multiple Land Use- Industry		MLU-H: Multiple Land Use Hospitality		Agri: Agriculture				With Special Permission								
		Resd		Commercial		Industrial		Institutional		Mixed-use		SDZ	Transp	Recreational green			Agriculture	Rvr frnt
Activities /Uses		Abadi	Resd	Comm.	Logi	Ind.	MLU-I	Insti	Faci	Mixed Use	MLU-H			Rec.Grn	Park	Green Belt		
30	Weigh bridge/ DharmKanta																	
31	Motar garage and workshops					4												
32	Storage Godown for Inflammable Items (LPG, Petrol, Diesel, Kerosene, Lubricants, Aviation Fuel etc)																	
33	Wayside Amenities					3											9	
34	Agriculture Produce Selling Market/ Grain Market																9	
35	Junkyard/ Kabadkhana																	
36	Steel/ Cement/ Building Material Yard																	
Industrial																		
1	Service industries																	
2	Cottage industries																	
3	Flatted factories																	
4	Information/ software technology industry																	
5	Small/light industry																	
6	Industrial plot (specific industry type)																	
7	Medium & large-scale industry																	
8	Film centre/ TV radio programme production centre																	
9	Biotechnology/ Biotech Park																	
10	Manufacturing units																	
11	Obnoxious and Hazardous Industry																	
12	Agrobased & food processing units																	
13	Non-Polluting Agro based Industries																9,10	
14	Quarrying/ Brick Kilns/ Crusher																	
15	Pasturing Plant/ Milk Collection Centre																	
16	Power Production Plant/ Centre																	
17	Household industries																	
Office																		
1	Govt./Semi Govt./Public undertaking/local body office		5			5												
2	Office/corporate office		5			5												
3	Professional/personal office																	
4	Project evelopment/ management/maintenance office		5			5												
5	PAC/ Police Line																	

Permissibility of Various Activities/ Uses in Major Land Use Areas																		
	Abbreviations													Symbols				
	Resd: Residential	Logi: Logistics			Insti: Institutional (Offices & PSP)			SDZ: Special Development Zone			Rvr ft: Riverfront Development			Permissible Use				
	Abadi: Village Abadi/ Village Extension	CBD: Central Business District			Faci: Facility/ Utility			Transp: Transportation						Not Permissible				
	Comm: Commercial	Ind: Industrial			Mxd Use: Mixed Use			Rec Grn: Recreational Green						Conditional Permissible Use				
	Whole: Wholesale/ Mandi/ Warehousing	MLU-I : Multiple Land Use- Industry			MLU-H: Multiple Land Use Hospitality			Agri: Agriculture						With Special Permission				
		Resd		Commercial		Industrial		Institutional		Mixed-use		SDZ	Transp	Recreational green			Agriculture	Rvr frnt
	Activities /Uses	Abadi	Resd	Comm.	Logi	Ind.	MLU-I	Insti	Faci	Mixed Use	MLU-H			Rec.Grn	Park	Green Belt		
6	Satellite/wireless/Telecommunication centre		5															
Public/ Institutional facilities (PSP)																		
1	Guest house/lodging/boarding house		4															
2	Hostel		4															
3	Reformatory & Orphanage		4															
4	Old age home																	
5	School for mentally challenged persons		4															
6	Creche & day care centre/ play & nursery school																	
7	Primary school		4					4										
8	Secondary school/ integrated residential school		4					4										
9	Vocational Institute / training Institute / ITI		4					4										
10	Degree / PG college/ Professional College		4					4										
11	University							4										
12	Post office		4															
13	Telephone exchange		4			4												
14	Police station		4			4												
15	Fire station		4			4												
16	Police post																	
17	Library																	
18	R & D centre		4															
19	Health centre/ family welfare centre		4			4												
20	Trauma centre		4															
21	Medical college/ hospital							4										
22	Clinic																	
23	Nursing home		4			4												
24	Clinical laboratory / Diagnostic centre		1			1												
25	Veterinary hospital/ Dispensary																	
26	Health club/ Gym		4															
27	Dance/ Music/Art centre		4			1												
28	Yoga/ Meditation centre																	
29	Religious building/centre		4			4												
30	Community centre / Barat Ghar		4			4												

Permissibility of Various Activities/ Uses in Major Land Use Areas																		
Abbreviations														Symbols				
Resd: Residential		Logi: Logistics		Insti: Institutional (Offices & PSP)		SDZ: Special Development Zone		Rvr ft: Riverfront Development						Permissible Use				
Abadi: Village Abadi/ Village Extension		CBD: Central Business District		Faci: Facility/ Utility		Transp: Transportation								Not Permissible				
Comm: Commercial		Ind: Industrial		Mxd Use: Mixed Use		Rec Grn: Recreational Green								Conditional Permissible Use				
Whole: Wholesale/ Mandi/ Warehousing		MLU-I : Multiple Land Use- Industry		MLU-H: Multiple Land Use Hospitality		Agri: Agriculture								With Special Permission				
		Resd		Commercial		Industrial		Institutional		Mixed-use		SDZ	Transp	Recreational green			Agriculture	Rvr frnt
Activities /Uses		Abadi	Resd	Comm.	Logi	Ind.	MLU-I	Insti	Faci	Mixed Use	MLU-H			Rec.Grn	Park	Green Belt		
31	Convention centre/ conference centre/ Auditorium		4			4		4										
32	Socio-Cultural centre		4															
33	PCO Public call office																	
34	Internet/Information centre		1			1												
35	Social welfare centre		1															
36	Crematorium/ Burial ground/ cremation								4									
37	Night shelter (rein basera)						4											
38	Disaster management centre																	
39	Metrological station																	
40	Banks		5															
41	ATM																	
42	Jail																	
43	Milk Booth																	
Recreational facilities																		
1	Park/Play ground																	
2	Multipurpose open spaces		4															
3	Golf course/ Race course		4															
4	Stadium/ Sports training centre/Sports complex		4															
5	Picnic spot																	
6	Indoor stadium/ games hall		4															
7	Planetarium																	
8	Aquarium																	
9	Amusement/ theme park																	
10	Recreational club/ Swimming pool		4			4												
11	Museum cum Auditorium/ Conference Hall/ Art/ Exhibition Gallery					4												
12	Open air theater		4			4												
13	National Memorials																	
14	Bio diversity park																	
15	Shooting Range																	
16	Zoo, Aquarium, Wildlife/ Bird Sanctuary																	
17	Tourist Facility centre																	
Public Utilities																		
1	Sewerage treatment plant		4															
2	Pumping station		4											4				

Permissibility of Various Activities/ Uses in Major Land Use Areas																		
	Abbreviations													Symbols				
	Resd: Residential		Logi: Logistics		Insti: Institutional (Offices & PSP)		SDZ: Special Development Zone		Rvr ft: Riverfront Development			Permissible Use						
	Abadi: Village Abadi/ Village Extension		CBD: Central Business District		Faci: Facility/ Utility		Transp: Transportation					Not Permissible						
	Comm: Commercial		Ind: Industrial		Mxd Use: Mixed Use		Rec Grn: Recreational Green					Conditional Permissible Use						
	Whole: Wholesale/ Mandi/ Warehousing		MLU-I : Multiple Land Use- Industry		MLU-H: Multiple Land Use Hospitality		Agri: Agriculture					With Special Permission						
		Resd		Commercial		Industrial		Institutional		Mixed-use		SDZ	Transp	Recreational green			Agriculture	Rvr frnt
	Activities /Uses	Abadi	Resd	Comm.	Logi	Ind.	MLU-I	Insti	Faci	Mixed Use	MLU-H			Rec.Grn	Park	Green Belt		
3	Solid Waste Treatment Plant																	
4	Sanitary landfill site						4											
5	Recycling plant		4			4	4	4										
6	Tube well/ Over head tanks/ Under ground tanks/ Renny well																	
7	Water treatment plants		4			4	4							4				
8	Electri sub station		4															
9	Public toilets																	
10	Transmission tower/ mobile tower as per YEIDA policy																	
11	Drinking water booths																	
12	Water Works																	
13	Electric Post																	
Transportation																		
1	Open Parking																	
2	Covered/ multi level parking																	
3	Taxi/Auto stand		1															
4	Truck terminal/ tranport nagar					4	4											
5	Bus depot/ Bus terminal																	
6	Bus stand/ Shelter		4															
7	Traffic park/ children traffic park/ training centre		4			4	4											
8	Loading/ Unloading facilities																	
9	transport/ cargo booking centre		1															
10	Container depot																	
11	Toll plaza																	
12	Heli pad																	
13	Railway/ Godown/ Railway Yard/ Siding Terminal/																	
14	Airport Strip																	
15	Roads																	
Agriculture																		
1	Orchard/ Plant nursery/ Social forestry																	
2	Farm house																	
3	Dairy/ Poultry Farm																	
4	Agriculture Equipment workshop/ Service Centre																	
5	Agriculture/ Horticulture/ Cash Crops																	
6	Apiary/ Pisci Culture																	

Permissibility of Various Activities/ Uses in Major Land Use Areas																		
	Abbreviations														Symbols			
	Resd: Residential		Logi: Logistics		Insti: Institutional (Offices & PSP)		SDZ: Special Development Zone		Rvr ft: Riverfront Development		Permissible Use							
	Abadi: Village Abadi/ Village Extension		CBD: Central Business District		Faci: Facility/ Utility		Transp: Transportation				Not Permissible							
	Comm: Commercial		Ind: Industrial		Mxd Use: Mixed Use		Rec Grn: Recreational Green				Conditional Permissible Use							
	Whole: Wholesale/ Mandi/ Warehousing		MLU-I : Multiple Land Use- Industry		MLU-H: Multiple Land Use Hospitality		Agri: Agriculture				With Special Permission							
			Resd		Commercial		Industrial		Institutional		Mixed-use		SDZ	Transp	Recreational green		Agriculture	Rvr frnt
Activities /Uses		Abadi	Resd	Comm.	Logi	Ind.	MLU-I	Insti	Faci	Mixed Use	MLU-H			Rec.Grn	Park	Green Belt		
Floating Activities																		
1	Residential																	
2	Commercial		1			1		1										
3	Public and Semi Public																	
4	Transportation																	
5	Industry																	
6	Recreational																	
7	Abadi Extension, Resettlement & Rehabilitation	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Conditions																		
	1. In planned designated commercial plot area																	
	2. Only for the products of industry factory																	
	3. Only for 30m or more wide roads earmarked by YEIDA																	
	4. Planned and designated plot																	
	5. Planned facility or institutional plot																	
	6. The Authority may allow maximum 30% of permissible FAR for residential activities in the commercial plots of 4 hectare and above size, but the rate applicable in the total plot shall be that of the commercial land																	
	7. Authority may allow a maximum of 20% permissible FAR in industrial plots of 4 hectares and above size. Rates applicable in the plot would be that of primary Land Use																	
	8. Allowed only in dedicated Vending Zones decided by the authority																	
	9. Within 500 m of existing Abadi																	
	10. State Highways/National Highways/MDR/Major Roads (excluding green belt)																	
	11. Within 200 m of existing Abadi																	
Notes:																		
	1. These zoning regulations shall be applicable for planning of land uses at Master Planning/ Sector level																	
	2. The Authority may decide the activities to be permitted in Special Projects																	
	3. The authority may decide the activities to be permitted within Abadi Settlements.																	
	4. Activities already permitted in the various schemes shall continue as per the terms & conditions specified in the scheme																	
	5. Commercial activities in other land uses shall be permitted on the basis of impact fee or additional reserve price as decided from time to time by the authority																	
	6. Non-residential activities in the Village Abadi/ Abadi extension shall be permitted only on 12.0 m or wider roads																	
	7. In SDZ core and non-core activities shall be permitted as per SDZ policy																	
	8. No activity other than incidental to riverfront development land use (to be decided by the authority) shall be permissible in river front development land use																	

13 MASTER PLAN IMPLEMENTATION & PHASING

Development of YEIDA is likely to take many years to achieve its vision. Sequential, logical phasing of development and infrastructure is necessary to minimize uncertainty and improve the economic feasibility of development. The pace, location, and type of development in the plan area will be driven and phased by market demand, vision (regulatory framework), infrastructure development, and fiscal impact. The tentative broad phasing of development in YEIDA will be done in 4 phases. The plan envisages a time period of 5 years as a phase which starts off with the existing scenario.

Figure 13-1: Tentative Phase-wise Development of Master Plan 2041

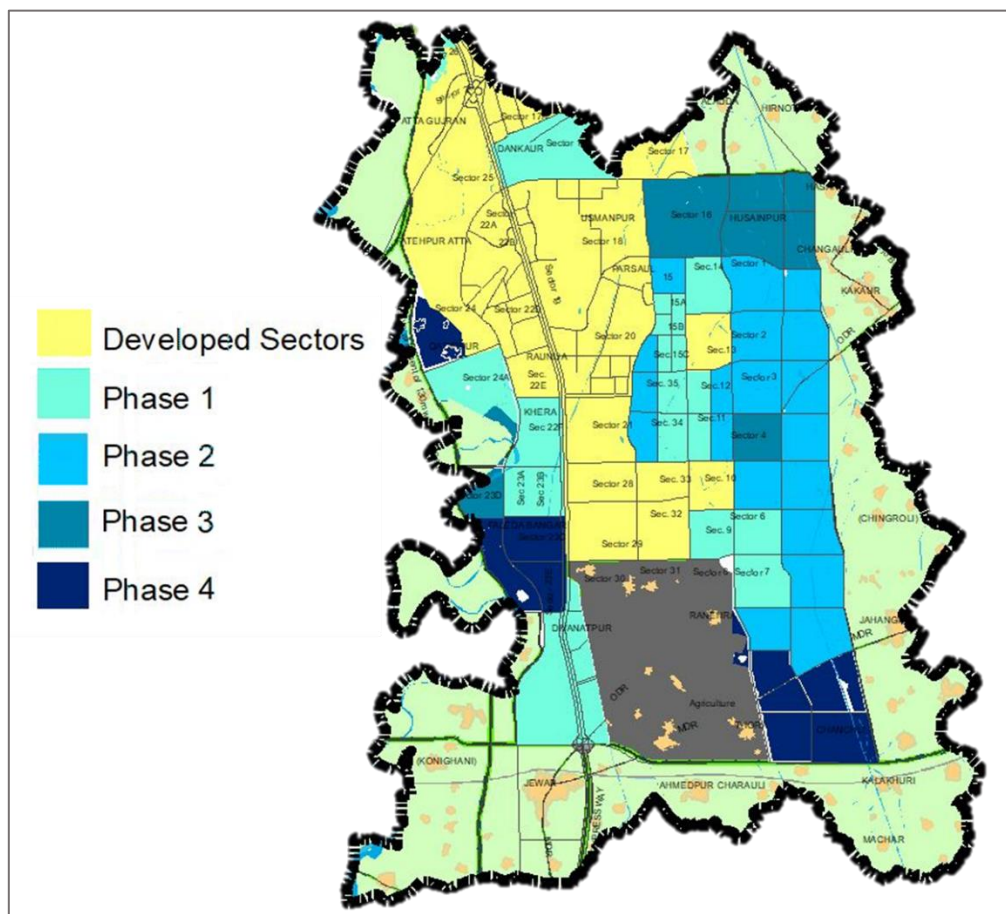


Table 13-1: Details of Phase Wise Development

Category	Area (ha)
Existing Developed Sector	13943
Area to be developed in Phase - 1	5000
Area to be developed in Phase - 2	6072
Area to be developed in Phase - 3	4169
Area to be developed in Phase - 4	2983
Total Area	32167

Existing Situation

The existing scenario denotes the sectors who has approved layouts and where the allotment of plots is in progress. It does not imply that the structures are functioning in the ground. Currently, YEIDA has

a developed area* of 139.41 sq. km. (13943 ha) concentrated towards the central and northern part of the planning boundary. Trunk roads have been laid but is incomplete in certain areas. Many industries are on the verge of completion of construction activities. The residential plots allotted and a few completed residential projects in the area are expected to pick up business as soon as the employment generation activities pick up.

Phase 1: Year 2021- 2026

Area envisaged to be developed in this phase is 50.00 sq.km. (5000 ha) The first runway of the prestigious Noida International Airport is expected to be completed in the earlier parts of this phase. The plan intends to open up the areas adjoining the airport to maximise the potential business and industrial opportunities surrounding it. The existing scenario had a majority of residential uses allotted while the current phase intends to attract more of employment generation activities to employ the residential uses to its market potential. Along with the opening up of new industrial areas along the airport, a city level Central Business District (CBD) is also envisaged which would complement the industries and the residential allotments as well as be a new employment generator in the area.

Phase 2: Year 2026 – 2031

Area envisaged to be developed in this phase is 60.73 sq.km. (6072 ha). The focus in the current phase of development is opening up more land for development towards the eastern side of the proposed Airport area. The plan expects a growth in air traffic due to the industrial lands allotted in the earlier phase which would necessitate the construction of the second runway. This would stimulate further growth in the region and attract businesses, hence the plan opens eastern side of the airport for development. Along with it the tentative locations of infrastructure & roads are also shown in the map.

Phase 3: Year 2031 – 2036

Area envisaged to be developed in this phase of Master Plan 2041 is 41.64 sq.km. (4169 ha). The plan expects increased pressure in existing residential units by 2036 due to the focus given in employment generation land uses in the earlier phases. More of Industrial land towards the dedicated freight corridor is to be opened up in this phase of development. Premium residential zone is also to be developed in this period to cater to the air traffic.

Phase 4: Year 2036 – 2041

Area envisaged to be developed in the last phase of Master Plan 2041 is 29.83 sq.km. (2983 ha). This phase focuses on the southern side of the Airport area focusing on industrial and logistic activities. The flagship Olympic centre and the Expo Centre is also envisaged to be developed in the current phase. YEIDA envision itself to be an area capable of hosting an Olympic level event by the end of plan period. The employment generating land uses identified towards the southern side of the planning area focuses on tapping the potential of the next stages of runways to be proposed after 2041.

These are the tentative broad phasing of development for the Master Plan 2041. However, authority in future may decide to add/ reduce the areas at these stages, keeping in view of the demand & situation which may arise in future.

14 ANNEXURE

Impact Fee

Impact Fee - for Land Use Zones									
No Impact Fees									
Non Commercial & Charitable Uses	1				Impact fess not applicable				
Service & Cottage Industry	2				No impact fees				
Group Housing	3				Impact fees required				
Activities (Proposed)	LAND USE ZONES								
			Developeing or under developed Zones (Existing)						
	Built up		Agriculture, urban	Public& Semi Public	Transportation	Commercial	Residential	Offices	Industrial
	Agriculture, urban Agriculture, Green Areas, park, landfills								
	Public & Semi Public Activities		0.25 (1)				0.25 (1)		
	Traffic and Transportation		0.3	0.1			0.25		
	Industrial		0.4 (2)	0.25 (2)	0.25 (2)		0.5		
	Residential		0.5	0.4	0.4	0.25 (3)			
	Offices		1	0.75	0.75	0.75	0.5		
Commercial	1.5	1.5	1.25	1.25	1	1	0.5		
Permissible / Conditionally permissible	Land Area x Circle Rate x Coefficient x 0.25								
Special Permission	Land Area x Circle Rate x Coefficient x 0.5								
Example									
For petrol pump to be built in Agriculture Zone									
Area	500	sqm							
Circle rates for agriculture land	200	per sqm							
Impact Fee	500 x 200 x1.5 x 0.25		75000						

Activities are arranged in ascending order of their impacts with agriculture having the least while commercial having the highest

Multiple Land Use - Industry

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
1	Auditorium/Open Air Theatre					P	P	P		P		P
2	Bank	P	P	P	P	P	P	P	P	P	P	
3	Bio-Tech parks				P							P
4	Bird Sanctuary				P							P
5	Botanical Garden				P			P				P
6	Bus Depot And Workshop	P					P	P		P	P	
7	Bus Terminal	P	P		P	P	P	P		P	P	
8	Cargo & Booking Office	P	P		P	P	P	P		P	P	
9	Children Traffic Park					P						
10	Cinema/Multiplex					P	P		P	P		
11	Clinic	P	P		P	P	P	P	P	P		
12	Clinic Laboratory	P	P	P	P	P	P	P	P	P		
13	Cold Storage & Ice Factory	P						P			P	
14	College/Institutes		P		P	P			P	P		
15	Commercial & Secretarial Training Centre	P	P		P	P	P	P		P		
16	Commercial Office	P	P	P	P	P	P		P	P	P	
17	Community Hall	P						P	P	P		
18	Conference Hall	P	P	P	P	P	P	P		P		
19	Convenient Shopping Centre	P	P	P	P	P	P	P	P		P	
20	Creche And Day Care Centre	P	P	P	P	P	P	P	P	P	P	
21	Cultural And Information Centre				P	P	P				P	
22	Data Centre	P	P	P	P	P	P	P			P	
23	Dharamshala	P				P	P	P	P	P	P	
24	Dairy Farm						P				P	P
25	Dispensary	P	P	P	P	P	P	P	P	P	P	P
26	District Park	P	P	P	P	P	P	P				P
27	Drive In Cinema					P	P			P		

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
28	Exhibition Centre & Art Gallery/Pavilions	P	P	P	P	P	P	P				
29	Fair Ground/Public Meeting Ground	P						P			P	P
30	Farmhouse						P					P
31	Fire Post	P	P	P	P	P	P	P	P	P	P	
32	Fire Station	P	P	P	P	P	P	P	P	P	P	
33	Flatted Group Industry	P						P				
34	Flying Club					P	P					
35	Forensic Science Laboratory			P								
36	Forest			P			P					P
37	Gas Godown	P	P	P	P	P	P	P		P		
38	Guest House	P	P	P	P	P	P	P	P	P	P	
39	Gym/spa				P	P	P		P			
40	Health Care & Social Assistance Services	p*	P	P	P	P	P	P	P	P	p	P
41	Health centre for players and staff,					P	P					
42	Health Club	P			P	P	P	P	P	P		P
43	Holiday Resorts					P	P					P
44	Hospital	P	P	P	P	P	P	P	P		P	
45	Hostel		P	P	P	P	P	P	P	P	P	
46	Hotel	P	P	P	P	P	P	P	P	P	P	
47	Indoor Games Hall					P	P					
48	Indoor Games Stadium					P	P					
49	Industrial Plot- Industry Specific Type	P						P				
50	Informal Sector Unit	P						P				
51	Information Services	P	P	P	P	P	P	P		P	P	
52	Integrated Residential School				P				P			
53	International Conference Centre		P	P	P	P						
54	Internet Centre	P	P	P	P	P	P	P	P	P	P	
55	IT & ITES Building		P	P						P		
56	Junk Yard	P						P				
57	Library		P	P	P	P			P		P	

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
58	Light Industry	P						P			P	
59	Loading & unloading space	P						P			P	
60	Meditation Centre				P	P	P		P	P		P
61	Milk Chilling Centre	P					P	P				P
62	Motor Driving Centre	P*				P		P			P	
63	Motor Garage & Workshop	P*				P		P		P	P	
64	Museum / Art Galleries						P		P	P		
65	Music, Dance and Drama Training Centre				P	P	P		P			
66	Night shelter	P						P	P	P		P
67	Nursery And Kinder Garden	P			P			P	P			
68	Nursing Home/Health Centre	P	P	P	P	P	P	P	P	P		
69	Observatory And Weather Office			P		P	P					P
70	Open Air Theatre				P	P	P		P	P		
71	Orchard					P	P		P			P
72	Outdoor Games Stadium					P	P					
73	Park	P	P	P	P	P	P	P	P	P	P	P
74	Parking	P	P	P	P	P	P	P	P	P	P	
75	Playground				P	P	P		P	P		
76	Pet Care Services			P			P	P	P	P		P
77	Petrol Pump with garage & service stations	P	P	P	P	P	P	P	P	P	P	
78	Picnic Hut/Camping Site			P			P					P
79	Planetarium	P	P	P	P	P	P	P	P	P	P	
80	Plant Nursery	P	P	P	P	P	P	P	P	P	P	
81	Police Post	P	P	P	P	P	P	P	P	P	P	
82	Police Station	P			P*			P	P			
83	Post Office	P	P	P	P	P		P			P	
84	Primary School	P	P	P	P	P	P	P	P	P	P	P
85	Professional, Scientific & Tech Services	P	P	P	P	P	P	P			P	

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
86	Public Utility Premises	P						P			P	
87	Railway Booking Office		P	P	P	P	P	P	P	P		P
88	Railway Freight Godowns					P	P					P
89	Recreational Club	P	P	P	P	P	P	P	P		P	P
90	Regional Park	P						P			P	
91	Religious Premises	P	P	P	P	P		P			P	
92	Rental and Leasing Services	P	P	P	P	P		P			P	P
93	Repair Shop	P	P	P	P			P				
94	Research & Development Centre		P	P	P	P	P	P	P	P	P	
95	Research Laboratories		P	P	P	P	P	P	P		P	P
96	Residential Building for Essential Staff					P	P					
97	Residential Flat / Service Apartment	P	P	P	P	P	P	P	P	P	P	
98	Resort	P	P	P	P	P	P	P		P	P	
99	Restaurant	P						P			P	
100	Retail Shop	P	P	P	P	P	P	P			P	P
101	Road Transport Booking Office				P				P			
102	Satellite And Tele Communication Centre				P				P			
103	Secondary School	P						P			P	
104	Senior Secondary School					P						P
105	Service Centre and Service Industry		P	P	P	P	P	P	P	P		
106	Shooting Range	P				P	P	P	P	P		
107	Shopping Mall	P	P	P				P			P	P
108	Showrooms					P	P	P				P
109	Social Welfare Centre					P	P					P
110	Special Recreation Area					P						
111	Specialised Park					P						
112	Sports Persons Apartments / Villas					P	P					
113	Sports Workshop	P						P		P	P	P
114	Stadium with visitor gallery											

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
115	Storage Godown and Warehousing											
116	Swimming Pool		P	P	P	P	P		P			
117	Taxi Stand	P	P	P	P	P	P	P	P	P	P	
118	Telephone Exchange	P	P	P	P	P	P	P	P	P	P	
119	Traffic And Police Control Room	P	P	P	P	P	P	P	P	P	P	
120	Training Institute	P	P	P	P	P		P			P	
121	Transportation and Warehousing Services							P		P	P	
122	University and Specialised Institutes				P							
123	Vending Booth	P	P	P	P	P	P	P	P	P	P	P
124	Vocational Institute		P	P	P		P					
125	Voluntary Health Services	P						P			P	
126	Warehousing	P						P			P	P
127	Weekly Market	P						P	P	P		P
128	Wholesale Business establishments	P						P		P		
129	Yoga And Meditation Centre	P	P	P	P	P	P	P	P	P		P
130	Zoological Garden & Aquarium					P	P					P
131	Buildings specifically required for Core Activity	P	P	P	P	P	P	P				

Multiple Land Use – Hospitality

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
1	Auditorium/Open Air Theatre					P	P	P		P		P
2	Bank	P	P	P	P	P	P	P	P	P	P	
3	Bio-Tech parks				P							P
4	Bird Sanctuary				P							P
5	Botanical Garden				P			P				P
6	Bus Depot And Workshop	P					P	P		P	P	
7	Bus Terminal	P	P		P	P	P	P		P	P	

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
8	Cargo & Booking Office	P	P		P	P	P	P		P	P	
9	Children Traffic Park					P						
10	Cinema/Multiplex					P	P		P	P		
11	Clinic	P	P		P	P	P	P	P	P		
12	Clinic Laboratory	P	P	P	P	P	P	P	P	P		
13	Cold Storage & Ice Factory	P						P			P	
14	College/Institutes		P		P	P			P	P		
15	Commercial & Secretarial Training Centre	P	P		P	P	P	P		P		
16	Commercial Office	P	P	P	P	P	P		P	P	P	
17	Community Hall	P						P	P	P		
18	Conference Hall	P	P	P	P	P	P	P		P		
19	Convenient Shopping Centre	P	P	P	P	P	P	P	P		P	
20	Creche And Day Care Centre	P	P	P	P	P	P	P	P	P	P	
21	Cultural And Information Centre				P	P	P				P	
22	Data Centre	P	P	P	P	P	P	P			P	
23	Dharamshala	P				P	P	P	P	P	P	
24	Dairy Farm						P				P	P
25	Dispensary	P	P	P	P	P	P	P	P	P	P	P
26	District Park	P	P	P	P	P	P	P				P
27	Drive In Cinema					P	P			P		
28	Exhibition Centre & Art Gallery/Pavilions	P	P	P	P	P	P	P				
29	Fair Ground/Public Meeting Ground	P						P			P	P
30	Farmhouse						P					P
31	Fire Post	P	P	P	P	P	P	P	P	P	P	
32	Fire Station	P	P	P	P	P	P	P	P	P	P	
33	Flatted Group Industry	P						P				
34	Flying Club					P	P					
35	Forensic Science Laboratory			P								
36	Forest			P			P					P
37	Gas Godown	P	P	P	P	P	P	P		P		
38	Guest House	P	P	P	P	P	P	P	P	P	P	

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
39	Gym/spa				P	P	P		P			
40	Health Care & Social Assistance Services	P*	P	P	P	P	P	P	P	P	P	P
41	Health centre for players and staff,					P	P					
42	Health Club	P			P	P	P	P	P	P		P
43	Holiday Resorts					P	P					P
44	Hospital	P	P	P	P	P	P	P	P		P	
45	Hostel		P	P	P	P	P	P	P	P	P	
46	Hotel	P	P	P	P	P	P	P	P	P	P	
47	Indoor Games Hall					P	P					
48	Indoor Games Stadium					P	P					
49	Industrial Plot- Industry Specific Type	P						P				
50	Informal Sector Unit	P						P				
51	Information Services	P	P	P	P	P	P	P		P	P	
52	Integrated Residential School				P				P			
53	International Conference Centre		P	P	P	P						
54	Internet Centre	P	P	P	P	P	P	P	P	P	P	
55	IT & ITES Building		P	P						P		
56	Junk Yard	P						P				
57	Library		P	P	P	P			P		P	
58	Light Industry	P						P			P	
59	Loading & unloading space	P						P			P	
60	Meditation Centre				P	P	P		P	P		P
61	Milk Chilling Centre	P					P	P				P
62	Motor Driving Centre	P*				P		P			P	
63	Motor Garage & Workshop	P*				P		P		P	P	
64	Museum / Art Galleries						P		P	P		
65	Music, Dance and Drama Training Centre				P	P	P		P			
66	Night shelter	P						P	P	P		P
67	Nursery And Kinder Garden	P			P			P	P			

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
68	Nursing Home/Health Centre	P	P	P	P	P	P	P	P	P		
69	Observatory And Weather Office			P		P	P					P
70	Open Air Theatre				P	P	P		P	P		
71	Orchard					P	P		P			P
72	Outdoor Games Stadium					P	P					
73	Park	P	P	P	P	P	P	P	P	P	P	P
74	Parking	P	P	P	P	P	P	P	P	P	P	
75	Playground				P	P	P		P	P		
76	Pet Care Services			P			P	P	P	P		P
77	Petrol Pump with garage & service stations	P	P	P	P	P	P	P	P	P	P	
78	Picnic Hut/Camping Site			P			P					P
79	Planetarium	P	P	P	P	P	P	P	P	P	P	
80	Plant Nursery	P	P	P	P	P	P	P	P	P	P	
81	Police Post	P	P	P	P	P	P	P	P	P	P	
82	Police Station	P			P*			P	P			
83	Post Office	P	P	P	P	P		P			P	
84	Primary School	P	P	P	P	P	P	P	P	P	P	P
85	Professional, Scientific & Tech Services	P	P	P	P	P	P	P			P	
86	Public Utility Premises	P						P			P	
87	Railway Booking Office		P	P	P	P	P	P	P	P		P
88	Railway Freight Godowns					P	P					P
89	Recreational Club	P	P	P	P	P	P	P	P		P	P
90	Regional Park	P						P			P	
91	Religious Premises	P	P	P	P	P		P			P	
92	Rental and Leasing Services	P	P	P	P	P		P			P	P
93	Repair Shop	P	P	P	P			P				
94	Research & Development Centre		P	P	P	P	P	P	P	P	P	
95	Research Laboratories		P	P	P	P	P	P	P		P	P
96	Residential Building for Essential Staff					P	P					
97	Residential Flat / Service Apartment	P	P	P	P	P	P	P	P	P	P	

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
98	Resort	P	P	P	P	P	P	P		P	P	
99	Restaurant	P						P			P	
100	Retail Shop	P	P	P	P	P	P	P			P	P
101	Road Transport Booking Office				P				P			
102	Satellite And Tele Communication Centre				P				P			
103	Secondary School	P						P			P	
104	Senior Secondary School					P						P
105	Service Centre and Service Industry		P	P	P	P	P	P	P	P		
106	Shooting Range	P				P	P	P	P	P		
107	Shopping Mall	P	P	P				P			P	P
108	Showrooms					P	P	P				P
109	Social Welfare Centre					P	P					P
110	Special Recreation Area					P						
111	Specialised Park					P						
112	Sports Persons Apartments / Villas					P	P					
113	Sports Workshop	P						P		P	P	P
114	Stadium with visitor gallery											
115	Storage Godown and Warehousing											
116	Swimming Pool		P	P	P	P	P		P			
117	Taxi Stand	P	P	P	P	P	P	P	P	P	P	
118	Telephone Exchange	P	P	P	P	P	P	P	P	P	P	
119	Traffic And Police Control Room	P	P	P	P	P	P	P	P	P	P	
120	Training Institute	P	P	P	P	P		P			P	
121	Transportation and Warehousing Services							P		P	P	
122	University and Specialised Institutes				P							
123	Vending Booth	P	P	P	P	P	P	P	P	P	P	P
124	Vocational Institute		P	P	P		P					
125	Voluntary Health Services	P						P			P	
126	Warehousing	P						P			P	P
127	Weekly Market	P						P	P	P		P

YEIDA Draft Master Plan, 2041

Table: PERMITTED USE / ACTIVITIES		VARIOUS CORE ACTIVITIES							Residential Zone	Commercial Zone	Transportation Zone	Agriculture
S. No.	Use/Activities	Industrial	IT	Bio- Tech	Institutional	Sports	Recreational	Service Industry-				
128	Wholesale Business establishments	P						P		P		
129	Yoga And Meditation Centre	P	P	P	P	P	P	P	P	P		P
130	Zoological Garden & Aquarium					P	P					P
131	Buildings specifically required for Core Activity	P	P	P	P	P	P	P				

Multiple Land Use Matrix

		MLU Industry				MLU Hospitality			
	Activities	Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
Residential									
1	Single House/ Plot/ Flat								
2	Group Housing				P				P
3	Staff Housing				P				P
4	Guard chaukidar residence								
Commercial									
5	Retail shops/Platform		P						
6	Repair shops								
7	Personal Service shops								
8	Vending booth		P						
9	Showroom		P						
10	Weekly market								

		MLU Industry				MLU Hospitality			
	Activities	Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
11	Convenience shopping centre		P			P			
12	Local/sector level shopping centre		P			P			
13	Shopping centre/ commercial centre/ Shopping mall		P			P			
14	Informal commercial unit/platform								
15	Wholesale market/Mandi								
16	Bakery/Confection ary/Atta Chakki		P						
17	Coal/wood/ Building material market								
18	Vegetable/ Fruit market								
19	Cold storage								
20	Hotels		P			P			
21	Service Apartment		P						
22	Restaurant/ Canteen/ Food Court		P						
23	Cinema/Multiplex		P			P			
24	Drive-in cinema		P						
25	Exhibition hall/ Exhibition centre		P			P			
26	Banquet hall/ Barat Ghar								

YEIDA Draft Master Plan, 2041

		MLU Industry				MLU Hospitality			
	Activities	Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
27	Petrol pump/Diesel station								
28	Oil depot and LPG refilling plant								
29	Gas godown								
30	Warehouses for non-hazardous items								
31	Warehouses for hazardous items								
32	Automobiles showroom/Automobile Showroom cum Service Station		P						
33	Freight complex/ Logistic Park								
34	Weigh bridge/ DharmKanta								
35	Motar garage and workshops								
36	Steel/ Cement/ Building Material Yard								
Industry									
37	Service industries	P							
38	Cottage industries								
39	Flatted factories	P					P		
40	Information/ software technology industry	P				P	P		
41	Small/light industry	P							

		MLU Industry				MLU Hospitality			
	Activities	Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
42	Industrial plot (specific industry type)	P					P		
43	Medium & large-scale industry	P							
44	Film centre/ TV radio programme production centre	P							
45	Biotechnology/ Biotech Park	P					P		
46	Manufacturing units	P							
47	Obnoxious and Hazardous Industry								
48	Agrobased & food processing units	P							
49	Household industries								
Institutional									
50	Govt./Semi Govt./Public undertaking/local body office			P				P	
51	Office/corporate office			P		P		P	
52	Professional/personal office			P					
53	Project development/management/maintenance office			P		P		P	

YEIDA Draft Master Plan, 2041

		MLU Industry				MLU Hospitality			
	Activities	Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
54	Satellite/wireless/T elecommunication centre			P					
55	Guest house/lodging/boa rding house								
56	Hostel								
57	Reformatory & Orphanage								
58	Old age home			P					
59	School for mentally challenged persons			P					
60	Creche & day care centre/ play & nursery school			P					
61	Primary school			P					
62	Secondary school/ integrated residential school			P					
63	Vocational Institute / training Institute / ITI			P				P	
64	Degree / PG college/ Professional College			P				P	
65	University			P				P	
66	Post office								
67	Telephone exchange								
68	Police station								
69	Fire station								

	Activities	MLU Industry				MLU Hospitality			
		Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
70	Police post								
71	Library								
72	R & D centre			P					
73	Health centre/ family welfare centre								
74	Trauma centre			P					
75	Medical college/ hospital			P					
76	Clinic								
77	Nursing home								
78	Clinical laboratory / Diagnostic centre								
79	Veterinary hospital/ Dispensary								
80	Health club/ Gym								
81	Dance/ Music/Art centre								
82	Yoga/ Meditation centre								
83	Religious building/centre								
84	Community centre / Barat Ghar								
85	Convention centre/ conference centre/ Auditorium			P					
86	Socio-Cultural centre								
87	PCO Public call office								

		MLU Industry				MLU Hospitality			
	Activities	Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
88	Internet/Information centre								
89	Social welfare centre								
90	Crematorium/ Burial ground/ cremation								
91	Night shelter (rein basera)								
92	Disaster management centre			P					
93	Metrological station								
94	Banks			P					
95	ATM			P					
96	Milk Booth			P					
Recreational									
97	Park/Playground								
98	Multipurpose open spaces								
99	Golf course/ Racecourse								
100	Stadium/ Sports training centre/Sports complex								
101	Picnic spot								
102	Indoor stadium/ games hall								
103	Planetarium								
104	Aquarium								
105	Amusement/ theme park								

YEIDA Draft Master Plan, 2041

		MLU Industry				MLU Hospitality			
	Activities	Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
106	Recreational club/ Swimming pool								
107	Museum cum Auditorium/ Conference Hall/ Art/ Exhibition Gallery								
108	Open air theatre								
109	National Memorials								
110	Biodiversity park								
111	Tourist Facility centre								
Utilities									
112	Sewerage treatment plant								
113	Pumping station								
114	Solid Waste Treatment Plant								
115	Sanitary landfill site								
116	Recycling plant								
117	Tube well/ Overhead tanks/ Underground tanks/ Renny well								
118	Water treatment plants								
119	Electricity sub station								
120	Public toilets								
121	Transmission tower/ mobile								

	Activities	MLU Industry				MLU Hospitality			
		Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
	tower as per YEIDA policy								
122	Drinking water booths								
123	Electric Post								
Transportation									
124	Open Parking								
125	Covered/ multi-level parking								
126	Taxi/Auto stand								
127	Truck terminal/ transport Nagar								
128	Bus depot/ Bus terminal								
129	Bus stand/ Shelter								
130	Traffic Park/ children traffic park/ training centre								
131	Loading/ Unloading facilities								
132	transport/ cargo booking centre								
133	Container depot								
134	Toll plaza								
135	Heli pad								
136	Roads								
Agriculture									
137	Orchard/ Plant nursery/ Social forestry								
138	Farmhouse								

YEIDA Draft Master Plan, 2041

	Activities	MLU Industry				MLU Hospitality			
		Core Activities	Supporting Activities			Core Activities	Supporting Activities		
		Industrial	Commercial	Institutional	Residential	Commercial	Industrial	Institutional	Residential
139	Dairy/ Poultry Farm								
140	Agriculture Equipment workshop/ Service Centre								
141	Apiary/ Pisci Culture								

		CBD		
	Activities	Core Activities		
		Commercial	Institutional	Residential
Residential				
1	Single House/ Plot/ Flat			
2	Group Housing			
3	Staff Housing			
4	Guard chaukidar residence			
Commercial				
5	Retail shops/Platform			
6	Repair shops			
7	Personal Service shops			
8	Vending booth			
9	Showroom	P		
10	Weekly market			
11	Convince shopping centre	P		
12	Local/sector level shopping centre	P		
13	Shopping centre/ commercial centre/ shopping mall	P		
14	Informal commercial unit/platform			
15	Wholesale market/Mandi			
16	Bakery/Confectionary/Atta Chakki			
17	Coal/wood/ Building material market			
18	Vegetable/ Fruit market			

	Activities	CBD		
		Core Activities	Institutional	Residential
		Commercial		
19	Cold storage			
20	Hotels	P		
21	Service Apartment	P		
22	Restaurant/ Canteen/ Food Court	P		
23	Cinema/Multiplex	P		
24	Drive-in cinema	P		
25	Exhibition hall/ Exhibition centre	P		
26	Banquet hall/ Barat Ghar			
27	Petrol pump/Diesel station			
28	Oil depot and LPG refilling plant			
29	Gas godown			
30	Warehouses for non-hazardous items			
31	Warehouses for hazardous items			
32	Automobiles showroom/Automobile Showroom cum Service Station	P		
33	Freight complex/ Logistic Park			
34	Weigh bridge/ DharmKanta			
35	Motar garage and workshops			
36	Steel/ Cement/ Building Material Yard			
Industry				
37	Service industries			
38	Cottage industries			
39	Flatted factories			
40	Information/ software technology industry	P		
41	Small/light industry			
42	Industrial plot (specific industry type)			
43	Medium & large-scale industry			
44	Film centre/ TV radio programme production centre			
45	Biotechnology/ Biotech Park			
46	Manufacturing units			
47	Obnoxious and Hazardous Industry			
48	Agro based & food processing units			
49	Household industries			
Institutional				
50	Govt./Semi Govt./Public undertaking/local body office		P	
51	Office/corporate office	P	P	
52	Professional/personal office			

	Activities	CBD		
		Core Activities	Institutional	Residential
		Commercial		
53	Project development/management/maintenance office	P	P	
54	Satellite/wireless/Telecommunication centre			
55	Guest house/lodging/boarding house			
56	Hostel			
57	Reformatory & Orphanage			
58	Old age home			
59	School for mentally challenged persons			
60	Creche & day care centre/ play & nursery school			
61	Primary school			
62	Secondary school/ integrated residential school			
63	Vocational Institute / training Institute / ITI		P	
64	Degree / PG college/ Professional College		P	
65	University		P	
66	Post office			
67	Telephone exchange			
68	Police station			
69	Fire station			
70	Police post			
71	Library			
72	R & D centre			
73	Health centre/ family welfare centre			
74	Trauma centre			
75	Medical college/ hospital			
76	Clinic			
77	Nursing home			
78	Clinical laboratory / Diagnostic centre			
79	Veterinary hospital/ Dispensary			
80	Health club/ Gym			
81	Dance/ Music/Art centre			
82	Yoga/ Meditation centre			
83	Religious building/centre			
84	Community centre / Barat Ghar			
85	Convention centre/ conference centre/ Auditorium			
86	Socio-Cultural centre			
87	PCO Public call office			
88	Internet/Information centre			

	Activities	CBD		
		Core Activities	Institutional	Residential
		Commercial		
89	Social welfare centre			
90	Crematorium/ Burial ground/ cremation			
91	Night shelter (rein basera)			
92	Disaster management centre			
93	Metrological station			
94	Banks			
95	ATM			
96	Milk Booth			
Recreational				
97	Park/Playground			
98	Multipurpose open spaces			
99	Golf course/ Racecourse			
100	Stadium/ Sports training centre/Sports complex			
101	Picnic spot			
102	Indoor stadium/ games hall			
103	Planetarium			
104	Aquarium			
105	Amusement/ theme park			
106	Recreational club/ Swimming pool			
107	Museum cum Auditorium/ Conference Hall/ Art/ Exhibition Gallery			
108	Open air theatre			
109	National Memorials			
110	Biodiversity Park			
111	Tourist Facility centre			
Utilities				
112	Sewerage treatment plant			
113	Pumping station			
114	Solid Waste Treatment Plant			
115	Sanitary landfill site			
116	Recycling plant			
117	Tube well/ Overhead tanks/ Underground tanks/ Renny well			
118	Water treatment plants			
119	Electricity sub station			
120	Public toilets			
121	Transmission tower/ mobile tower as per YEIDA policy			
122	Drinking water booths			

	Activities	CBD		
		Core Activities		
		Commercial	Institutional	Residential
123	Electric Post			
Transportation				
124	Open Parking			
125	Covered/ multi-level parking			
126	Taxi/Auto stand			
127	Truck terminal/ transport Nagar			
128	Bus depot/ Bus terminal			
129	Bus stand/ Shelter			
130	Traffic Park/ children traffic park/ training centre			
131	Loading/ Unloading facilities			
132	transport/ cargo booking centre			
133	Container depot			
134	Toll plaza			
135	Heli pad			
136	Roads			
Agriculture				
137	Orchard/ Plant nursery/ Social forestry			
138	Farmhouse			
139	Dairy/ Poultry Farm			
140	Agriculture Equipment workshop/ Service Centre			
141	Apiary/ Pisci Culture			