



Dehradun Master Plan- 2041 (Draft)

Part – II Proposal



TOWN & COUNTRY PLANNING DEPARTMENT
UTTARAKHAND

PREFACE

The Master Plan for Dehradun, prepared under the Atal Mission for Rejuvenation and Urban Transformation (AMRUT), presents a comprehensive framework for the city's planned and sustainable development up to the horizon year 2041. As the capital city of Uttarakhand and a major administrative, educational, and economic centre, Dehradun has been experiencing rapid urbanization, population growth, and increasing pressure on land and infrastructure. This Master Plan has been formulated with the primary objective of guiding orderly urban growth, addressing emerging challenges, and enhancing the overall quality of life for its residents.

The need for a long-term and integrated planning approach arises from the imperative to manage future population growth, rationalize existing land use patterns, protect environmentally sensitive areas, and ensure the timely provision of essential physical and social infrastructure. The plan seeks to balance development needs with environmental sustainability, resilience, and inclusiveness, keeping in view Dehradun's unique ecological setting in the Doon Valley.

The planning process adopted a rigorous and multi-disciplinary approach, beginning with a detailed assessment of Dehradun's existing spatial structure, historical evolution, demographic characteristics, economic base, infrastructure systems, and socio-environmental conditions. This analysis helped identify key issues such as infrastructure gaps, traffic congestion, environmental degradation, and uneven spatial development, as well as opportunities for economic diversification and improved urban livability.

Based on these assessments, sector-wise strategies and proposals have been formulated covering land use planning, transportation and mobility, housing, physical and social infrastructure, environmental management, and economic development. The Master Plan provides a structured and statutory framework that integrates physical, social, economic, and environmental dimensions of urban development, guiding Dehradun towards a more sustainable, resilient, and prosperous future by 2041.

TABLE OF CONTENT:

1	Vision 2041 & strategy formulation	1
1.1	Uttarakhand State Government Vision 2030.....	1
1.2	Vision for the Dehradun Master Plan, 2041	2
1.3	objectives	3
1.4	Development Strategy for Master plan formulation.....	3
1.4.1	Dehradun as an Educational Hub City.....	3
1.4.2	Enhancing Trade and Commerce for the City	3
1.4.3	Self Sufficient Residential Towns	3
1.4.4	Inter-Regional and Intra-Regional Connectivity to the Town.....	4
1.4.5	Developing Logistics Infrastructures for Surrounding Industrial Towns	4
1.4.6	Protecting and Integrating the Existing Blue Green Infrastructure	4
2	Stakeholder consultation.....	5
2.1	Summary of Consultation	5
2.2	Stakeholders Key Suggestions.....	6
2.2.1	Stakeholder Consultation – I.....	6
2.2.2	Stakeholder Consultation – II.....	6
2.3	vision for dehradun planning area	6
2.3.1	Future urban form & growth scenario	7
2.3.2	Density	7
2.3.3	Transportation System in Dehradun planning area	7
2.3.4	Facility Distribution	7
2.3.5	Preferred type of industries.....	7
2.3.6	Tourism	8
2.3.7	Sewerage and Sanitation.....	8
2.3.8	Solid waste management.....	8
2.3.9	Development Along Water Bodies	8
2.3.10	Fire Department	8
3	Future projection	9
3.1	POPULATION PROJECTION	9
3.2	Population Projection for Dehradun Planning Area.....	9
3.2.1	Adopted Method to Forecast Population	10
3.2.2	Floating Population	10
3.2.3	Workforce Projections.....	11
3.2.4	Projected Workforce.....	11
3.3	Future housing demand.....	12
3.4	Physical and social Infrastructure.....	13
3.4.1	Future Physical Infrastructure Demand	13

3.4.2	Future Social-Infrastructure Demand.....	15
3.5	Future Transportation Requirements	17
3.5.1	Traffic and Transport.....	17
3.5.2	Design of Junctions and Streets	17
3.5.3	Sustainable Public Transport system	17
3.5.4	Transit Oriented Development (TOD) Corridor.....	18
3.6	Housing and Urban Poor	18
3.6.1	New housing areas	18
3.6.2	Restructuring and up-gradation of the existing areas.....	19
3.6.3	New Housing for Urban Poor	20
3.7	Tourism and Heritage	20
3.7.1	Recommendation for tourism.....	20
3.7.2	Recommendation for heritage area	21
3.8	Town Planning Scheme.....	21
3.8.1	Transfer of Development Rights (TDR)	21
3.8.2	Land Pooling Scheme.....	21
3.9	Ecology and Environment.....	21
3.9.1	Recommendations to minimize human-wildlife conflict	22
3.9.2	Recommendation for environment.....	22
3.9.3	Proposed Conservation and Mitigation Strategy for Environment	22
3.10	OTHER PROPOSALS	23
3.11	Spatial Growth Strategies.....	24
3.11.1	Morphology & Direction of Growth.....	24
3.11.2	Concept Alternatives	25
3.11.3	Selection of Preferred Concept.....	25
3.11.4	Literacy Rate	26
3.11.5	Sex Ratio.....	26
3.11.6	Household Size	27
3.11.7	Religion	28
3.12	Key Issues & Potentials	28
4	PROPOSED LAND USE, 2041.....	29
4.1	DEVELOPABLE AREA.....	32
4.1.1	Residential.....	32
4.1.2	Commercial	33
4.1.3	Mixed Use	34
4.1.4	Industrial.....	34
4.1.5	Public and Semi-Public	34
4.1.6	Recreational and Green Zone.....	35
4.1.7	Transportation	35

4.2	UNDEVELOPABLE Area.....	36
4.2.1	Special Areas	36
4.2.2	Primary Activity	36
4.2.3	Protective Zone	37
5	ZONING REGULATION	39
5.1	INTRODUCTION	39
5.2	OBJECTIVES.....	39
5.3	CLASSIFICATION OF REGULATIONS	39
5.3.1	Permitted Activities:.....	39
5.3.2	Permitted by board:.....	39
5.3.3	Prohibited Activities:.....	39
5.4	IMPACT FEE	39
5.5	OTHER REQUIREMENTS	40
5.6	Board Land Use Classification	42
5.6.1	Residential (R)	43
5.6.2	Commercial (C)	46
5.6.3	Mixed Land Use (M).....	47
5.6.4	Industrial Zone (I)	48
5.6.5	Public and Semi-Public	49
5.6.6	Recreational	51
5.6.7	Green Zone	52
5.6.8	Transportation and Communication.....	53
5.6.9	Primary Activity	54
5.6.10	Protected Areas	55
5.6.11	Special Area	56
6	INVEST & IMPLEMENTATION MECHANISM	58
6.1	SECTOR WISE INVESTMENT PROPOSALS.....	58
6.2	PROJECT PROPOSALS.....	59
6.2.1	Short Term	59
6.2.2	Medium Term	61
6.2.3	Long Term	61
6.3	IMPLEMENTING AGENCIES.....	62

List of Tables:

Table 2-1 Meeting held at the highest Level.....	5
Table 3-1 Forward population projection of Dehradun Planning Area	9
Table 3-2 Sector Wise Workforce Distribution.....	11
Table 3-3 Sector wise workforce projection for Dehradun City	11
Table 3-4 Commercial Area Demand	12
Table 3-5 Housing Demand, 2041	13
Table 3-6 Residential water requirements	14
Table 3-7 Floating Population water requirements	14
Table 3-8 Details of Total Sewerage Generation	14
Table 3-9 Demand for Social Infrastructure.....	15
Table 3-10 Demand Assessment of Educational Facilities	15
Table 3-11 Demand Assessment of Healthcare Facilities.....	16
Table 3-12 Demand Assessment of Socio-cultural and other facilities	16
Table 3-13 Literacy rate in comparison to National, State and District's Average, 2011	26
Table 3-14 Sex ratio in comparison to National, State and District's average	26
Table 4-1 Breakup of Developable area, Proposed Land Use 2041 in comparison with URDPFI	29
Table 4-2 Landuse Distribution of Dehradun Planning Area	30
Table 4-3 Proposed Residential Area	33
Table 4-4 Proposed Commercial Area	33
Table 4-5 Proposed Mixed Use	34
Table 4-6 Proposed Industrial Land Use	34
Table 4-7 Proposed Public/Semi-public Area	35
Table 4-8 Proposed Recreational Space Area	35
Table 4-9 Proposed Transportation Zones	36
Table 4-10 Special Areas.....	36
Table 4-11 Primary Activity	37
Table 4-12 Protective Zone Area	37
Table 6-1 Implementation and Phasing Framework.....	58
Table 6-2 Implementing mechanism short term	62
Table 6-3 Implementing mechanism medium Term	63
Table 6-4 Implementing mechanism long term	64

List of Figures:

Figure 1-1 Framework for Uttarakhand Vision 2030	2
Figure 3-1 Forward Population Projection of Dehradun Planning Area	10
Figure 3-2 Floating Population.....	11
Figure 3-3 Rural and Urban Population.....	25
Figure 3-4 Literacy Rate in Dehradun Planning Area.....	26
Figure 3-5 Sex ratio in comparison to National, State and District's average.....	27
Figure 4-1 Land Use Distribution for Dehradun Planning Area	32

List of Maps:

Map 3-1 Road Hierarchy Map.....	23
Map 3-2 TVC Survey location	24
Map 4-1 Proposed Land 2041-Dehradun Planning Area	38

1 VISION 2041 & STRATEGY FORMULATION

A clear and well-defined vision is a critical component of the Master Plan, guiding the holistic growth and sustainable development of the city. It provides a strategic direction rooted in a thorough understanding of present conditions and future aspirations. The Vision for the Dehradun Planning Area–2041 has been developed through a detailed assessment of the existing development status and prevailing trends (Stage-I analysis), extensive stakeholder consultations, and a comprehensive SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis. Based on this groundwork, the vision outlines the desired trajectory for Dehradun's growth up to the year 2041. To achieve this vision, specific objectives have been formulated along with actionable strategies. This stage also includes a demand assessment for 2041 to identify future development requirements, prioritize key sectors based on Dehradun's environmental sensitivity and economic potential, and ensure balanced, resilient, and sustainable urban development.

1.1 UTTARAKHAND STATE GOVERNMENT VISION 2030

The Government of Uttarakhand's Vision 2030 provides a long-term framework to guide economic, environmental and social development across the State. It emphasises:

- Balanced development between hill and plain regions
- Improved quality of life through better health, education and livelihood opportunities
- Strengthening of tourism, services and knowledge-based sectors
- Sustainable and climate-responsive urban development
- Conservation of natural resources and fragile Himalayan ecosystems
- Enhanced connectivity, mobility and logistics capacity
- Achievement of Sustainable Development Goals (SDGs) through coordinated governance

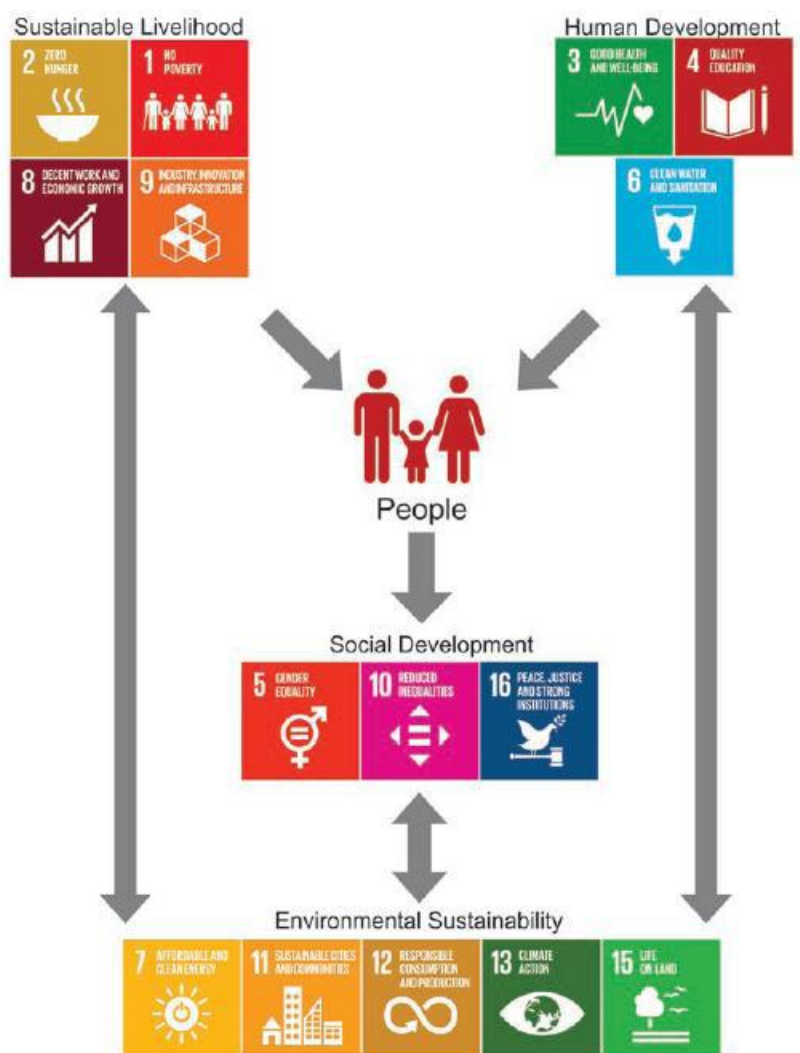
The Dehradun Master Plan 2041 is aligned with these statewide priorities to ensure that the capital city evolves as a resilient, inclusive and economically strong urban centre.

The Vision 2030 for the state, keeping in mind the implementation of the SDGs, is the following:

“Transform Dehradun into a prosperous, healthy, and resilient city where citizens are educated, gainfully employed, and live in an equitable and inclusive society; where harmony between the natural environment and urban development is strengthened; and where the growth process is environmentally sustainable, economically vibrant, and socially inclusive.”

The vision for the Dehradun Master Plan emphasizes the creation of sustainable livelihoods and the advancement of human and social development in a manner that conserves natural resources and protects the fragile environment of the Doon Valley, ensuring that no section of society is left behind. As illustrated in Figure 1-1, the four thematic pillars—Sustainable Livelihoods, Human Development, Social Development, and Environmental Sustainability—are all people-centric. Sustainable livelihoods and human development directly influence the well-being of individuals and communities and form the foundation for achieving inclusive, balanced, and environmentally responsible urban growth across the Dehradun Planning Area.

Figure 1-1 Framework for Uttarakhand Vision 2030



Source: Uttarakhand Vision Document 2030

1.2 VISION FOR THE DEHRADUN MASTER PLAN, 2041

The vision for the Dehradun Master Plan–2041 has been formulated through a multi-stage process involving extensive stakeholder consultations and in-depth discussions with representatives of key government departments, local bodies, and other concerned agencies. The vision-building process is grounded in a comprehensive assessment of existing conditions, prevailing development patterns, environmental sensitivities, and future growth prospects of the Dehradun Planning Area. In addition, a detailed SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis was undertaken to ensure that the vision is context-responsive, inclusive, and aligned with the sustainable development objectives of the region.

The Vision for the Dehradun Planning Area 2041 is as follows:

“To develop Dehradun as a resilient, green, well-connected and knowledge-driven capital city that harmonises urban growth with ecological preservation, fosters economic vibrancy, and provides an inclusive, high-quality living environment for all.”

1.3 OBJECTIVES

- Ensure balanced urban development in harmony with the natural environment through sustainable and eco-sensitive planning.
- Preserve and conserve the historic core and rich cultural heritage of Dehradun.
- Strengthen infrastructure across the planning area to enhance the experience of high-end travelers, pilgrims, and local residents alike.

1.4 DEVELOPMENT STRATEGY FOR MASTER PLAN FORMULATION

The development strategy for the Master Plan is formulated in alignment with the vision and long-term growth aspirations of the planning area. The goals are as follows:

1.4.1 Dehradun as an Educational Hub City

Dehradun has long been recognised nationally for its premier educational institutions, training academies and research centres. To harness this potential, the Master Plan envisions:

1. Strengthening Dehradun's role as an educational and knowledge capital of Uttarakhand
2. Enhancing higher education, research, skill development and professional training facilities
3. Promoting linkages between universities, research centres and emerging industries
4. Creating an "Education and Innovation Corridor" with incubators, start-up spaces and knowledge parks
5. Improving student housing, public transport connectivity and supporting urban amenities
6. Leveraging educational tourism and academic exchanges at national and international levels.

This vision positions Dehradun as a leading centre for learning, innovation and human capital generation.

1.4.2 Enhancing Trade and Commerce for the City

Dehradun serves as the administrative, commercial and service hub of the State. Strengthening trade and commerce involves:

- Developing modern commercial districts, mixed-use clusters, and organized retail zones
- Upgrading traditional markets and high-street corridors
- Promoting IT/ITeS, finance, healthcare, professional services, hospitality, and tourism-driven commerce
- Supporting MSMEs and entrepreneurship through business facilitation, incubation, and workspace provision
- Enhancing digital infrastructure and ease-of-doing-business reforms
- Improving freight and goods movement for efficient commercial operations

The goal is to make Dehradun a vibrant economic centre with a diverse and robust commercial base.

1.4.3 Self Sufficient Residential Towns

To manage urban expansion sustainably, the Master Plan encourages the development of self-sufficient residential areas that offer:

- Affordable and diverse housing choices for all income groups
- Neighbourhood-level social infrastructure—schools, healthcare, parks, community facilities
- Mixed-use developments with local employment opportunities
- Walkable and transit-oriented layouts
- Efficient access to public transport and arterial roads
- Sustainable utilities such as decentralized wastewater solutions and renewable energy
- These residential hubs help decentralise growth and build a balanced urban structure.

1.4.4 Inter-Regional and Intra-Regional Connectivity to the Town

Enhanced connectivity is central to Dehradun's regional role. The strategy includes:

- Strengthening connections with Haridwar, Rishikesh, Saharanpur, Tehri and surrounding towns
- Enhancing rail, bus, and future mass transit linkages
- Improving intra-city mobility with high-frequency bus corridors, BRT options, and improved intersections
- Establishing safe, continuous non-motorised mobility networks—footpaths, cycling lanes and green mobility corridors
- Rationalising IPT/para-transit services and improving last-mile connectivity
- Enhancing inter-state accessibility via national highways and upgraded transport terminals
- Efficient connectivity supports commerce, tourism, education and regional economic integration.

1.4.5 Developing Logistics Infrastructures for Surrounding Industrial Towns

Dehradun acts as a service and logistics node for several industrial clusters such as Selaqui, Bhagwanpur, Haridwar and SIDCUL estates. To strengthen this role, the Plan promotes:

- Development of integrated logistics parks and multimodal transport nodes
- Planned warehousing zones with access to regional corridors
- Freight consolidation centres to optimise goods movement
- Dedicated truck terminals at city peripheries to reduce congestion
- Strengthening arterial links between industrial clusters and logistics hubs
- Enhancing digital freight management systems

This positions Dehradun as an efficient logistics and distribution backbone for the region.

1.4.6 Protecting and Integrating the Existing Blue Green Infrastructure

The Doon Valley's ecological networks define its natural identity. The Master Plan prioritises:

- Conservation and restoration of rivers and streams (Rispana, Bindal, Tons)
- Strengthening natural drainage systems and watershed areas
- Protecting forest patches, biodiversity zones and sensitive hill slopes
- Integrating green spaces, parks and urban forests into a continuous green network
- Promoting nature-based solutions for groundwater recharge, stormwater management and climate resilience
- Enhancing public access to rivers and green areas through eco-sensitive riverfronts and recreational corridors

Safeguarding blue-green infrastructure ensures sustainable and climate-resilient development.

2 STAKEHOLDER CONSULTATION

The preparation of the GIS-based Master Plan was undertaken through a consultative and participatory approach, as envisaged under the AMRUT framework, making stakeholder consultation a key component of the planning process. Consultations were carried out at the ULB and district levels through meetings and focus group discussions (FGDs) involving representatives from government departments, service providers, professionals, community groups, and other stakeholders. These interactions provided a platform to assess the existing service delivery mechanisms, identify key issues, and gather suggestions related to the city's vision, urban development, infrastructure, and economic growth. The feedback received through these consultations was integrated into the planning process to refine proposals and ensure inclusive and responsive development.

2.1 SUMMARY OF CONSULTATION

As part of the Dehradun Master Plan preparation, Focus Group Discussions (FGDs) and stakeholder consultations were conducted to gather opinions and suggestions on the city's future development. These meetings provided a platform for key stakeholders to share views on the vision, economic growth, urban structure, and infrastructure needs of Dehradun.

Consultations were held with departments such as Dehradun Nagar Nigam, MDDA, Smart City Mission, PWD, NHAI, and the Town Planning Department. The discussions highlighted the need for sustainable and eco-sensitive development, improved infrastructure and transport management, conservation of natural and heritage areas, and balanced growth in tourism, education, and healthcare. These inputs have been incorporated into the Master Plan proposals.

The significant outcomes of the consultations emphasized sustainable urban development, promotion of eco-sensitive planning, strengthening of infrastructure, traffic and transport management, protection of natural resources, conservation of heritage areas, and maintaining ecological balance while promoting sectors such as tourism, education, and healthcare. These inputs have been duly considered in shaping the proposed land use and development framework of the Dehradun Master Plan.

These meetings were conducted to review the master plan preparation and also to finalize the concepts and preliminary plans. The list of meetings held is given in Table 2-1.

Table 2-1 Meeting held at the highest Level

Date	Meeting With	Venue
18-04-2022	CERC meeting with key stakeholders including Dehradun Nagar Nigam, MDDA, Smart City Department, PWD, NHAI, and Town Planning Department to discuss proposed and existing land uses and development strategies for the Master Plan	Meeting Hall, Urban Development Directorate, Dehradun
12-09-2022	Stakeholder consultation (CERC meeting) to review proposals related to sustainable tourism, ecological balance, infrastructure development, and sectoral growth in education and healthcare under the Dehradun Master Plan	Meeting Hall, MDDA Office, Dehradun

2.2 STAKEHOLDERS KEY SUGGESTIONS

The consultations aimed to formulate a roadmap for guiding Dehradun's future growth through a participatory approach by engaging all stakeholders in the preparation of the GIS-based Master Plan 2041. These interactions provided an opportunity to understand diverse perspectives, gather ideas for the city's development over the next two decades, and establish a collaborative platform to address implementation challenges. The process also encouraged the generation of innovative and sustainable strategies for effective execution of plans and projects, ensuring balanced, eco-sensitive, and sustainable development of Dehradun.

2.2.1 Stakeholder Consultation – I

A stakeholder consultation for the Dehradun Master Plan 2041 was held on 18th April 2022 at the Meeting Hall, Urban Development Directorate, Dehradun. The meeting was conducted as a CERC consultation involving key stakeholders, including representatives from Dehradun Nagar Nigam, Mussoorie Dehradun Development Authority (MDDA), Smart City Department, Public Works Department (PWD), National Highways Authority of India (NHAI), and the Town Planning Department.

The consultation focused on reviewing the proposed and existing land use pattern and discussing development strategies for the Master Plan. The session aimed to gather inputs from concerned departments to ensure coordinated and sustainable urban development of Dehradun.

To make the consultation interactive and participatory, discussions were structured around key themes, including:

- Identification of the city's major issues, strengths, and infrastructure gaps.
- Defining Dehradun's growth direction and urban structure for the horizon year 2041.
- Suggesting effective implementation mechanisms and inter-departmental coordination strategies.

The inputs received during the consultation were incorporated into the planning framework to ensure balanced, eco-sensitive, and sustainable development of Dehradun.

2.2.2 Stakeholder Consultation – II

The Stakeholder Consultation–II for the Dehradun Master Plan 2041 was held on 12th September 2022 at the Meeting Hall, MDDA Office, Dehradun. The consultation was conducted in the presence of officials from MDDA, Dehradun Nagar Nigam, Smart City Department, Public Works Department (PWD), NHAI, and the Town Planning Department.

Following the city-level analysis and assessment of existing data, the primary objective of this consultation was to refine and review the direction of the Master Plan 2041 proposals. Discussions focused on sustainable tourism, ecological balance, infrastructure development, and strengthening key sectors such as education and healthcare.

The session emphasized aligning proposed land use and development strategies with environmental considerations and long-term growth objectives. Inputs and feedback from participating departments were recorded to further improve planning proposals and ensure coordinated, sustainable, and implementable development strategies for Dehradun.

2.3 VISION FOR DEHRADUN PLANNING AREA

To develop Dehradun as a sustainable, resilient, and well-planned capital city that balances urban growth with environmental conservation, while preserving its natural landscape, cultural heritage, and ecological sensitivity.

The vision for the Dehradun Planning Area aims to promote planned and inclusive development supported by efficient infrastructure, improved mobility, quality public spaces, and enhanced civic services. It seeks to strengthen Dehradun's role as an important center for education, healthcare,

administration, and tourism, while maintaining ecological balance through the protection of forests, water bodies, river corridors, and green buffers.

The Master Plan envisions Dehradun as a livable, economically vibrant, and environmentally responsible city, ensuring a high quality of life for residents and visitors through smart growth strategies, sustainable land use planning, and integrated urban development up to the horizon year 2041.

2.3.1 Future urban form & growth scenario

Stakeholders preferred:

- A **compact yet polycentric** urban form
- High-density development along major corridors and transit nodes
- Mixed-use zoning to reduce travel demand
- Planned expansion areas with adequate utilities before permitting large-scale development
- Preservation of natural slopes, water bodies, and eco-sensitive zones

2.3.2 Density

Key inputs:

- Encourage higher densities along transit corridors and major activity centers
- Maintain moderate densities in established residential zones
- Restrict construction in environmentally sensitive areas, especially near forest edges and river buffers

2.3.3 Transportation System in Dehradun planning area

Stakeholders emphasized:

- Need for a well-integrated public transport system covering city and suburban areas
- Development of Bus Rapid Transit (BRT) and high-frequency buses
- Strengthening of regional connectivity with Rishikesh, Haridwar, and Mussoorie
- Improved junction design, traffic management systems, and public parking
- Creation of citywide pedestrian and cycling networks

2.3.4 Facility Distribution

Suggestions included:

- Rational distribution of health, education, and recreation facilities
- Development of new urban centers with complete social infrastructure
- Strengthening disaster management infrastructure given vulnerability to floods and earthquakes

2.3.5 Preferred type of industries

Stakeholders recommended:

- Promotion of knowledge-based, IT/ITeS, biotech, and clean industries
- Development of logistics hubs supporting nearby industrial towns such as Haridwar and Selaqui
- Discouragement of heavy-polluting industries within or near the urban area

2.3.6 Tourism

Key suggestions:

- Promote eco-tourism, wellness tourism, and heritage tourism
- Develop tourism circuits connecting city forests, temples, heritage sites, and riverfronts
- Improve signage, wayfinding, and tourist amenities

2.3.7 Sewerage and Sanitation

Issues raised:

- Large gaps in sewage coverage, particularly in peripheral growth areas
- Need for expansion and modernization of STPs
- Requirement for septage management systems
- Focus on reducing pollution in natural drains and rivers

2.3.8 Solid waste management

Key concerns and suggestions:

- Improve collection efficiency and segregation at source
- Develop decentralized waste processing centers
- Strengthen landfill management and introduce scientific disposal
- Promote awareness and public participation in waste reduction

2.3.9 Development Along Water Bodies

Although the main city core of Dehradun is geographically away from the river, stakeholders highlighted:

- Protection of upstream catchment areas and natural streams flowing toward the basin
- Avoiding any environmentally harmful development near river discharge paths

2.3.10 Fire Department

Issues discussed:

- Need for new fire stations in expansion areas
- Upgradation of equipment suitable for high-rise building fires
- Improved response times through strategic station placement
- Mandatory fire safety audits for public and commercial buildings

3 FUTURE PROJECTION

Future projections for the Dehradun Planning Area have been prepared to estimate population growth, workforce distribution, infrastructure demand, housing needs, transportation requirements, and spatial development directions for the horizon year 2041. These projections form the foundation for zoning, land-use allocation, and investment planning.

3.1 POPULATION PROJECTION

Population projections are essential tools for urban planning, providing estimates of future population size and structure based on trends such as birth and death rates, migration, and historical growth patterns. These projections form the foundation for setting planning targets across sectors like land use, housing, infrastructure, and public services.

Accurate population forecasting is critical for aligning development initiatives with future demand. The choice of projection method depends on the characteristics of the settlement:

Arithmetic Method is suited for large, established cities with stable growth trends.

Geometric Method tends to yield higher values and is best applied to newly developing industrial towns with rapid growth.

Incremental Method is appropriate for medium-sized towns under normal conditions, where growth rates show a consistent increasing trend.

3.2 POPULATION PROJECTION FOR DEHRADUN PLANNING AREA

The growth rate pattern of the Dehradun Planning Area shows a population increase of 26.12% during the decade 1981-1991. Therefore, the population data from 1981 to 2011 has been considered for future projections.

Table 3-1 Forward population projection of Dehradun Planning Area

Year	Arithmetic Progression	Growth Rate	Geometric Progression	Growth Rate	Incremental Progression	Growth Rate	Average	
1981	408214	-	408214	-	408214	-	408214	-
1991	514844	26.12%	514844	26.12%	514844	26.12%	514844	26.12%
2001	689680	33.96%	689680	33.96%	689680	33.96%	689680	33.96%
2011	948950	37.59%	948950	37.59%	948950	37.59%	948950	37.59%
2021	11,66,003	22.87%	12,88,274	35.76%	12,50,437	31.77%	12,34,905	30.13%
2031	13,83,056	18.62%	17,48,678	35.74%	16,36,358	30.86%	15,89,364	28.70%
2041	16,00,109	15.69%	23,73,904	35.75%	21,06,713	28.74%	20,26,909	27.53%

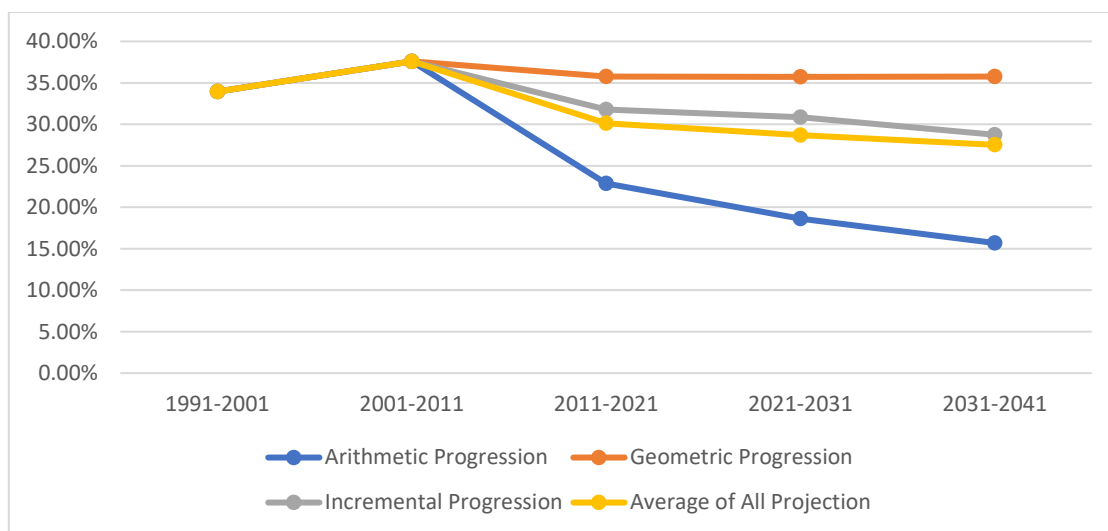
Source: Computed Values based upon Census of India, 1991, 2001 and 2011

In Table 3-1, the growth rates of the population have been calculated using Arithmetic, Geometric, and Incremental methods for each decade and are illustrated for better understanding. The highest projected growth rate of 35.76% is observed under the Geometric Progression Method for 2021, and it remains consistently high at 35.74% in 2031 and 35.75% in 2041. In comparison, the Arithmetic Progression Method shows a declining growth trend, with 22.87% in 2021, decreasing to 18.62% in 2031 and further to 15.69% by 2041. The Incremental Increase Method projects growth rates of 31.77% in 2021, 30.86% in 2031, and 28.74% in 2041, indicating a gradual

reduction over time. The average growth rate derived from all three methods is 30.13% for 2021, 28.70% for 2031, and 27.53% for 2041.

The average growth rates from 1991-2001 were 33.96%, and in 2001-2011 is 37.59%, indicating a rising growth trend during the past three decades. The projected geometric growth rate is comparatively higher than the arithmetic and incremental methods and appears on the higher side for the planning area. Considering these trends, a balanced approach has been adopted in estimating the future population for the Dehradun Planning Area.

Figure 3-1 Forward Population Projection of Dehradun Planning Area



3.2.1 Adopted Method to Forecast Population

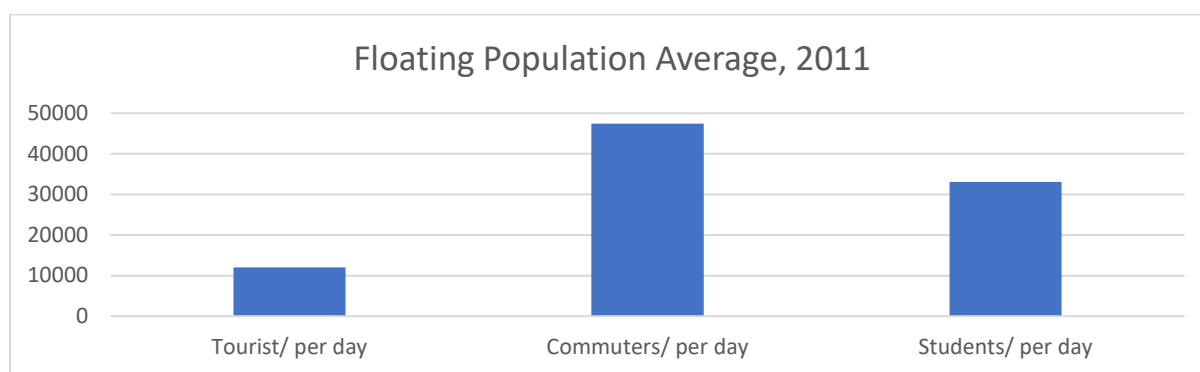
In 2011, the district's growth rate was 32.65%, while the state's growth rate stood at 18.81%. In the Dehradun Planning Area, the growth rate projected using the Geometric Method is slightly higher at 37.59%, making it a suitable choice for population projection. Based on this growth rate, as shown in Figure 3-1, the projected population is 12,88,274 for the year 2021, 17,48,678 for 2031, and 23,73,904 for 2041.

3.2.2 Floating Population

Dehradun, the state capital, attracts a large number of tourists each year, with many of them stopping in the city on their way to Mussoorie because it has a number of sites and events that draw people from all over the country and the world, such as the Jhanda Fair, Kalsi, and the Rajaji National Park.

Tourists, commuters, and students make up the city's floating population. Tourism is the most common type of floating population that regularly contributes to the administration's revenue generation. According to the comprehensive mobility plan 2019, 12,000 tourists visit Dehradun per day during peak season, while 1000 tourists visit the city during non-peak season. As shown in Figure 3-2, who defines the percentage of city visitors who come for a variety of reasons such as site viewing, education, health services, or market purposes.

Figure 3-2 Floating Population



Source: Comprehensive Mobility Plan – 2019

3.2.3 Workforce Projections

As per census 2011, WFPR of Dehradun (M. Corp+OG + OG) is 33.93%. Based on the observations of census data and review of proposals those are in pipelines, some assumptions have been made those are mentioned into the table given below:

Table 3-2 Sector Wise Workforce Distribution

Year	2021*	2031*	2041*
Total Population (No.)	11,65,712	15,44,798	20,47,162
WFPR (%)	35.00	37.00	38.00
Total Working Population (No.)	4,07,999	5,71,575	7,77,922

Note: Estimations are for the Residential Population of Dehradun Town

3.2.4 Projected Workforce

As per Census 2011, share of primary, secondary and tertiary sector workers in Dehradun city is 2.04%, 4.49% and 93.47% respectively. Based on the observation of Census data and review of proposals those are in pipelines, some assumptions have been made those are mentioned into the table given below.

Table 3-3 Sector wise workforce projection for Dehradun City

Year	2021*	2031*	2041*
Total Working Population (No.)	4,07,999	5,71,575	7,77,922
Share of Primary Sector Workers (%)	2	1.75	1.5
Population Working in Primary Sector (No.)	8,160	10,003	11,669
Share of Secondary Sector Workers	6	8	10
Population Working in Secondary Sector (No.)	24,480	45,726	77,792
Share of Tertiary Sector Workers	92	90	89
Population Working in Tertiary Sector (No.)	3,75,359	5,15,847	6,88,461

Note: Estimations are for the Residential Population of Dehradun Town

3.2.4.1 Primary Sector

The share of workers in the primary sector shows a gradual decline from 2% in 2021 to 1.75% in 2031 and further to 1.5% in 2041. Although the absolute number of workers increases slightly from 8,160 (2021) to 11,669 (2041) due to overall population growth, its proportional contribution remains very low. This indicates that agriculture and allied activities play a limited role in the urban economy of Dehradun and are expected to decline further in relative importance.

3.2.4.2 Secondary Sector

The secondary sector demonstrates steady growth, with its share rising from 6% in 2021 to 8% in 2031 and 10% in 2041. The workforce in this sector increases significantly from 24,480 to 77,792 during the same period. This reflects expanding industrial, manufacturing, and construction activities, suggesting moderate industrial development and strengthening of the economic base.

3.2.4.3 Tertiary Sector

The tertiary sector dominates the workforce structure, accounting for 92% in 2021, slightly reducing to 90% in 2031 and 89% in 2041, yet remaining overwhelmingly dominant. The number of workers increases from 3,75,359 (2021) to 6,88,461 (2041). This highlights Dehradun's strong service-oriented economy driven by education, tourism, administration, healthcare, trade, and other service activities, confirming its character as a service-based urban center.

3.2.4.4 Commercial Demand

A five tiers system of commercial areas is envisaged to accommodate required shopping, commercial office and other service activities like cinema, hotel and restaurant and various community services and facilities in an integrated manner.

Table 3-4 Commercial Area Demand

Category	Population Served per unit	Existing Facilities (No.)	Additional requirement (No.)	Future Land requirement (Ha)
City Centre/ Sub City Centre	25,00,000	1	-	-
District Centre	5,00,000	2	2	93
Community Centre	1,00,000	9	12	7558
Local shopping including service Centre	15,000	59	78	35
Convenience Shopping	5,000	176	234	35
Total		246	352	222

3.3 FUTURE HOUSING DEMAND

For the housing demand in 2041, Table 3-5 presents the calculation of the total number of dwelling units required for the Dehradun Planning Area. A household size of 4.5 has been considered for estimating the future housing demand. The projected population for 2041, excluding the floating population, is 23,73,904. Based on the assumed household size, the total housing stock required is estimated to be 5,27,534 units.

Additionally, the number of slum households is 30,648, which has been included in the overall housing demand assessment. Accordingly, the total housing demand for 2041 is calculated as 5,58,182 dwelling units. The existing housing stock is 2,05,140 units. After accounting for the available housing, the net housing shortage for the Dehradun Planning Area by 2041 is estimated to be 3,53,042 dwelling units.

Table 3-5 Housing Demand, 2041

Housing Demand	2041
Projected Population (Excluding Floating Population)	23,73,904
Assumed Household Size	4.5
Total Housing Stock Required (1)	5,27,534
Slum Households (2)	30648
Total Housing Demand (3) = (1) + (2)	5,58,182
Existing Houses (4)	205140
Net Housing Shortage (3) – (4)	3,53,042

3.4 PHYSICAL AND SOCIAL INFRASTRUCTURE

The existing situation analysis for the Dehradun Planning Area indicates only a marginal gap between the present water demand and available supply. However, future projections must comprehensively account for the requirements of both the resident and floating populations, considering the anticipated population growth and expanding urban activities. For the Dehradun Planning Area, the gross water demand has been estimated by incorporating residential consumption, commercial and institutional demand (based on employment projections), horticultural and green area requirements, and firefighting provisions under two scenarios: (i) without the use of treated/recycled water, and (ii) with the integration of treated/recycled water into the supply system.

To ensure sustainable water resource management, the reuse of treated wastewater is recommended for non-potable purposes such as irrigation of urban greens, firefighting, construction activities, industrial uses, and flushing. In estimating the net fresh water requirement, the quantity of tertiary-treated wastewater available—after accounting for transmission and distribution losses—has been deducted from the total gross demand at source. Effective implementation of wastewater reuse will necessitate the development of a dual-pipeline distribution system for separate conveyance of treated water, with mandatory provision in all new developments to facilitate its utilization for non-potable applications and reduce dependence on freshwater sources.

3.4.1 Future Physical Infrastructure Demand

3.4.1.1 Water Demand for Horizon Period

The projected water demand for the Dehradun Planning Area (2041) has been estimated considering both resident and floating populations along with operational losses and firefighting requirements. Residential demand constitutes the major share, with a projected requirement of 296.75 MLD based on a resident population of 21,98,155 at 135 LPCD. The floating population of 1,59,125 at 150 LPCD contributes an additional 23.87 MLD.

To account for system inefficiencies, a provision of 15% operation and maintenance (O&M) losses, amounting to 48.09 MLD, has been included in the calculations. Further, 2% of the total demand, equivalent to 7.37 MLD, has been allocated for firefighting purposes. Accordingly, the grand total water demand for 2041 is estimated at 376.09 MLD.

Against this requirement, the available water supply is projected at 118.55 MLD, resulting in a net water demand of 257.54 MLD. These projections underscore the need for comprehensive water resource planning in Dehradun, including augmentation of supply sources, reduction of transmission losses, and adoption of recycled/treated water for non-potable applications such as horticulture, flushing, firefighting, and industrial use to ensure long-term sustainability.

Table 3-6 Residential water requirements

Year	Population	LPCD	Total Requirement (MLD)	Existing Supply (MLD)	Actual Requirement (MLD)
2041	21,98,155	135	296.75	118.55	178.2

Table 3-7 Floating Population water requirements

Year	Population	LPCD	Total Requirement (MLD)
2041	1,59,125	150	23.87

3.4.1.2 Sewerage Generation for the Horizon Period

The total water requirement for the year 2041 is estimated to be 320.62 MLD. Accordingly, the total sewage generated, assuming that 80% of the water reaches the sewers, will be approximately 256.50 MLD. For treatment using the conventional Activated Sludge Process, the land requirement is 1,000 m² per MLD. For projected population, estimated sewerage generation will be around 255 MLD. Details are described into the table given below:

Table 3-8 Details of Total Sewerage Generation

Sr. No.	Project Area	Resident Population	Floating Population	Total
1	Projected Population	21,98,155.00	1,59,125.00	23,57,280.00
2	Projected Water Demand	296.75	23.87	320.62
3	Estimated Sewerage Generation (MLD) @80%	237.40	19.10	256.50

Source: Consultant Analysis

3.4.1.3 Solid Waste Generation for the Horizon Period

As per the URDPFI Guidelines, residential areas generate approximately 0.6 kg of solid waste per person per day. Considering the projected population of 23,73,904 for the Dehradun Planning Area in the horizon year 2041, the total solid waste generation is estimated at 1,424 tonnes per day (TPD) (i.e., 23,73,904 × 0.6 kg/day). This substantial increase in waste generation reflects the rapid urban growth and expanding economic activities in the planning area.

In accordance with URDPFI standards, an integrated solid waste management facility comprising composting, refuse-derived fuel (RDF), bio-methanation, gasification/pyrolysis, and incineration systems is required to handle the projected waste load. For a city of this scale, a treatment facility with an approximate capacity of 1,500 TPD would be necessary. Based on standard land norms, such a facility would require approximately 80–85 hectares of land, including processing units, buffer zones, internal circulation, and support infrastructure. Additionally, provision must be made for a scientifically engineered sanitary landfill to manage inert and residual waste, ensuring environmentally sustainable waste disposal. The development of an integrated waste management system with segregation at source, material recovery facilities, and decentralized

processing units will be essential to achieve long-term sustainability for the Dehradun Master Plan 2041.

Land Required	Area (ha)
Composting	25
Refuse Derived Fuel (RDF)	15
Bio-Methanation	12
Gasification / Pyrolysis	10
Incineration	18
Total	80

3.4.2 Future Social-Infrastructure Demand

As per the proposed planning standards, the total land requirement under social infrastructure for the Dehradun Planning Area is estimated at 504.36 hectares (refer Table 3-9 to Table 3-12).

Table 3-9 Demand for Social Infrastructure

Facility	Area (Ha)
Education	458.6
Health Care	42.47
Socio-Cultural	0.2
Police, Civil Defence & Home Guards	1.5
Fire and Disaster	1
Telephone, Postal & Banking Facilities	0.59
Total	504.36

3.4.2.1 Education Facilities

Table 3-10 Demand Assessment of Educational Facilities

Category	Population served per unit (URDPFI)	Existing	2041 Population	Required Number	Area per Facility (Ha)	Total Area (Ha)
			23,73,904			
Primary School	5,000	376	475	104	0.4	41.6
Senior Secondary School	7,500	107	317	213	1.8	383.4
Integrated School (with/without hostel facility)	1,00,000	111	24	0	3.5	0
School for Physically Challenged	45,000	5	53	48	0.7	33.6
College	1,25,000	41	19	0	5	0
Total						458.6

3.4.2.2 Healthcare Facilities

Table 3-11 Demand Assessment of Healthcare Facilities

Category	Population served per unit (URDPFI)	Existing	2041 Population	Variation	Area per Facility (Ha)	Total Area (Ha)
			23,73,904			
Dispensary	15,000	10	158	150	0.12	18
Primary Health Centre	20,000	11	119	109	0.15	16.35
Nursing home, child welfare and maternity centre	1,00,000	23	24	1	0.3	0.3
Polyclinic	1,00,000	7	24	17	0.3	5.1
Family Welfare Centre	50,000	14	47	34	0.08	2.72
Other Non –Government Hospitals	1,00,000	126	24	0	2	0
Veterinary Hospitals	5,00,000	6	5	0	0.2	0
Total						42.47

3.4.2.3 Socio-cultural Facilities and Other Facilities

Table 3-12 Demand Assessment of Socio-cultural and other facilities

Category	Population served per unit (URDPFI)	Existing	2041 Population	Variation	Area per Facility (Ha)	Total Area (Ha)
			23,73,904			
Community Hall	15,000	3	158	145	0.2	29
Police Station	90,000	29	26	0	1.5	0
Fire Station	2,00,000	2	12	9	1	9
Post office	15,000	39	158	109	0.0085	1
Head post office with delivery office	2,50,000	5	9	4	0.075	0.3
Head post office and administrative office	5,00,000	-	5	4	0.25	1
Bank	15,000	193	158	0	0.0081	0
Bank with locker, ATM and other facilities	1,00,000	3	24	19	0.25	5
Total						44.9765

3.5 FUTURE TRANSPORTATION REQUIREMENTS

3.5.1 Traffic and Transport

Dehradun enjoys strong regional connectivity owing to its strategic location between the plains of North India and the Himalayan region. The city is well connected through National Highway 7, linking it to Delhi and other major cities, and through the Delhi–Dehradun Expressway, which is expected to significantly reduce travel time and enhance economic linkages. Rail connectivity via Dehradun Railway Station and air connectivity through Jolly Grant Airport further strengthen the city's regional accessibility, supporting tourism, education, defense establishments, and service-sector growth.

The present urban development pattern of Dehradun is largely linear and corridor-based, concentrated along Rajpur Road, Haridwar Road, Saharanpur Road, and Chakrata Road. This has resulted in traffic congestion, especially within the central business district and major intersections. To address increasing traffic pressure and future growth up to 2041, the Master Plan emphasizes road network strengthening, junction improvements, development of bypasses, and augmentation of radial and circumferential connectivity. Proposals include capacity enhancement of major corridors, improvement of missing links, and development of alternative routes to divert through-traffic away from the core city.

A sustainable and integrated transport system is essential for Dehradun's long-term growth. Strengthening public transport, promoting intermediate public transport systems, and encouraging non-motorized transport such as pedestrian pathways and cycling tracks are key strategies to reduce congestion and vehicular emissions. Transit-oriented development (TOD) is proposed along major transport corridors to promote compact, mixed-use development, reduce travel distances, and optimize existing infrastructure. By integrating land use and transport planning, the Dehradun Planning Area aims to enhance connectivity, improve mobility efficiency, support tourism and institutional activities, and foster balanced and environmentally sustainable urban growth.

3.5.2 Design of Junctions and Streets

The design of junctions and streets within the Dehradun Planning Area aims to ensure safe, efficient, and context-sensitive mobility while accommodating projected traffic growth up to 2041. Major intersections along key corridors such as Rajpur Road, Haridwar Road, and Saharanpur Road require geometric improvements, channelization, signal optimization, and provision of dedicated turning lanes to reduce congestion and conflict points. The introduction of roundabouts, grade separators at high-volume intersections, and intelligent traffic management systems is proposed where traffic intensity demands capacity enhancement.

Street design follows the principles of complete streets, ensuring equitable space allocation for pedestrians, cyclists, public transport, and private vehicles. Footpaths of adequate width, barrier-free access, cycle tracks, shaded walkways, street lighting, landscaping, and proper stormwater drainage are integral components of the proposed street sections. Special emphasis is placed on traffic calming measures in residential and institutional areas to enhance safety. By integrating functional efficiency with urban design quality, the junction and street improvement strategy seeks to create safer corridors, reduce travel delays, and enhance the overall urban experience in Dehradun.

3.5.3 Sustainable Public Transport system

Public transport is one of the most environmentally sustainable forms of transport. Public Transport in Dehradun is provided by minibuses of 220-seat capacity by private operators. The routes and licenses for operating the buses is given by the Regional Transport Office (RTO) Department, Government of Uttarakhand. Large Auto Rickshaws (locally referred to as Vikram) with a seating capacity of 7 persons operate on fixed routes within Dehradun. 2460 Vikrams and auto rickshaws operate in Dehradun. Additionally, regular auto rickshaws also ply in the city carrying passengers from main junctions and roadside to their desired destination.

3.5.4 Transit Oriented Development (TOD) Corridor

TOD is an effective development concept that helps to guide and manage growth while addressing climate change issues, promoting quality of life environmental improvements and potentially encouraging infill development and therefore densification. Moreover, TOD can increase mobility and public safety; increase households' disposable income and contribute to affordable housing by creating the opportunity for low-cost and accessible housing, and reducing transportation expenditures.

Transit-oriented Development Zones are identified and delineated by the concerned development authority for high density – compact development. It is one of the necessary tool for cities like Dehradun where availability of the developable land is less for city expansion. Projects identification and implementation shall be as per the provision of the 'Uttarakhand Transit Oriented Policy' for which the draft has been prepared in the year of 2021.

2 Corridors are proposed within the Dehradun City for Neo Metro Project that will change the entire characteristics of the city. High speed public transportation corridor not only improve the accessibility with reduce travel timing but it will also increase the land price of the surrounding areas. Influence Zone of 1000m on either side of the metro corridor shall be proposed where Vertical Development with higher FSI will be permissible. The prominent use of that zone will be commercial/ mixed use. This model is really helpful into the cities like Dehradun where availability of the developable land is very less.

3.6 HOUSING AND URBAN POOR

The proposed housing strategy outlines targeted approaches for developing new residential areas, upgrading slums and squatter settlements, restructuring older neighbourhoods, and intensifying housing within villages. Based on the current housing typology across the Planning Area, future demand will primarily consist of one- and two-room dwelling units. To meet this need, the strategy encourages active participation from private developers, public agencies, and religious trusts in the provision of housing stock and serviced land. The Mussoorie-Dehradun Development Authority, in coordination with relevant stakeholders, will hold the primary responsibility for land provision and ensuring adequate housing supply. Planning norms related to land use zoning, density, FAR, and building regulations will be applied to both new developments and the redevelopment of existing areas. A key objective of the housing strategy is to optimize land and space usage to enhance net residential density.

3.6.1 New housing areas

To meet the projected housing demand up to 2041, a substantial number of new dwelling units will need to be developed across various residential categories within the Dehradun Planning Area. In view of rapid population growth, institutional expansion, and in-migration, new housing areas are proposed in identified growth corridors and peripheral zones to ensure planned and orderly development. Private developers will be encouraged to undertake integrated area development schemes in designated residential sectors to facilitate the provision of serviced land, adequate infrastructure, and community facilities.

Special emphasis will be placed on inclusive housing, particularly for Economically Weaker Sections (EWS) and Low-Income Groups (LIG), through mandatory reservation and policy mechanisms under applicable housing schemes. Units developed for EWS and LIG categories shall be allocated through designated nodal agencies to eligible beneficiaries. The new housing areas will promote mixed-income communities, affordable housing options, and environmentally sustainable layouts incorporating green spaces, pedestrian networks, and essential social infrastructure. Additionally, housing design will consider the needs of senior citizens, persons with disabilities, students, and single occupants, ensuring safe, accessible, and resilient neighbourhood development in line with the Master Plan 2041 vision.

3.6.2 Restructuring and up-gradation of the existing areas

The core city area of Dehradun is characterized by aging building structures, congested neighborhoods, inefficient land utilization, and pressure on existing infrastructure due to rapid urbanization. Many parts of the old city also face issues such as narrow streets, inadequate public amenities, and unplanned development. To address these challenges and improve the overall urban environment, a comprehensive approach focusing on restructuring and up-gradation of both planned and unplanned areas is proposed under the Dehradun Master Plan 2041. This approach aims to enhance infrastructure, improve housing conditions, optimize land use, and create a more organized and sustainable urban form.

A. Planned Areas

Housing colonies in Dehradun are generally well-planned and organized residential areas that have developed to accommodate the city's growing population. A large number of residential colonies have been developed by the Mussoorie Dehradun Development Authority, which has played a key role in guiding planned urban growth in the city. In addition, several dwelling units have been constructed under central government housing schemes such as Basic Services to the Urban Poor and Pradhan Mantri Awas Yojana to meet the housing needs of economically weaker sections and low-income groups, thereby improving access to affordable housing in the city.

B. Old City Areas (Special Area)

The old city areas of Dehradun, particularly the traditional core around Paltan Bazaar, Ghantaghar, and Chakrata Road, have been identified as Special Areas for focused urban renewal. The main objective of these Special Area Redevelopment Schemes is to undertake in-situ improvements that enhance the architectural character, street design, and spatial layout of the historic core, while also revitalizing traditional trade, markets, and commercial activities in these areas.

C. Slums and Squatter settlements

The vision of the plan is to provide Housing for All by 2022 when the Nation completes 75 years of its Independence. In order to achieve this objective, Central Government has launched a comprehensive mission "Housing for All by 2022". The mission seeks to address the housing requirement of urban poor including slum dwellers through following programme verticals:

- Slum rehabilitation of Slum Dwellers with participation of private developers using land as a resource
- Promotion of Affordable Housing for weaker section through credit linked subsidy
- Affordable Housing in Partnership with Public & Private sectors
- Subsidy for beneficiary-led individual house construction

MDDA has been taking up annual targets of providing affordable houses to citizens of Dehradun. Other than this, Dehradun Municipal Corporation is preparing "housing for all plan of action" (HFAPoA) for providing houses to Urban Poor & slum dwellers which form 26% of Dehradun's population. As of now, 18954 Dwelling units covered under PMAY scheme.

1. Slum upgradation

Informal settlements in Dehradun need to be improved and eventually incorporated into the city itself, through the provision of secured land tenure, social services (such as water, sanitation, and electricity), and citizenship to slum dwellers under the Uttarakhand Slum Regularization and Rehabilitation Act (Slum Act, 2016), Housing, streets, footpaths, drainage, clean water, sanitation, and sewage disposal are common components of the process. In addition to basic services, one of the key elements of slum upgrading is legalising or regularising properties and bringing secure land tenure to residents.

2. Slum Relocation

Relocation/resettlement of slum dwellers from existing slums to an alternative site, including the provision of living space as well as basic civic and infrastructural services. There are a few slum areas in Dehradun, which are located in low-lying areas along the banks of the Bindal and Rispana rivers. These slums are extremely vulnerable to heavy precipitation, cloud bursts, and water

logging, resulting in urban flooding, due to their topography and hydrological sensitivity. As a result, these slums must be relocated to another area of the city with adequate infrastructure.

3.6.3 New Housing for Urban Poor

In Dehradun, new housing for the Economically Weaker Sections (EWS) is proposed to primarily consist of one- or two-room dwelling units developed through the participation of public agencies, private developers, and cooperative societies. Considering the growing demand for affordable housing in the city, cross-subsidization models will be adopted to support the development of EWS housing. Adequate land will be reserved for this purpose, particularly under Area Development Schemes in newly developing urban sectors. A certain percentage of land may be deducted from individual plot owners to create space for infrastructure and community amenities. These reserved lands will be managed by the development authority and subsequently allocated to appropriate agencies for the promotion of housing for low-income groups.

Due to lack of availability of the affordable housing especially to the urban poor of the city, around 20% of the total population is living in the slum areas of Dehradun. Being a state capital and education hub, the HH's who are living into the rented properties are more than 20%. The vision of 'Slum Free City' can only be achieved through an implementation framework of Government policies towards 'Affordable Housing for Urban Poor'.

3.7 TOURISM AND HERITAGE

Tourism development is a major priority for the Government of Uttarakhand. Despite the significant tourism potential of Dehradun, the sector remains partly underutilized due to the absence of a comprehensive and coordinated development strategy. To preserve the distinct character of different areas and maintain a balance between tourism activities and urban development, a structured tourism development framework is necessary. For future growth, Dehradun should be viewed as a set of distinct zones. Accordingly, the existing urban area is proposed to be classified into two primary tourism development zones to support organized tourism growth while protecting the city's natural and cultural assets.

3.7.1 Recommendation for tourism

- Development of Wellness Tourism Hubs

The development of wellness tourism hubs focuses on promoting health-oriented tourism by establishing facilities such as yoga centers, meditation retreats, naturopathy clinics, and holistic wellness resorts. These hubs aim to attract domestic and international visitors seeking relaxation, rejuvenation, and preventive healthcare, while also supporting local economic growth and enhancing the overall tourism potential of the region.

- Cultural Events and Tourism Branding

Cultural events and tourism branding play an important role in promoting the city's unique heritage and identity. Organizing festivals, cultural fairs, art exhibitions, and traditional events helps attract tourists while strengthening the local economy. Effective tourism branding through promotion of local culture, heritage sites, and traditions can enhance the city's visibility as a prominent cultural and tourism destination.

- Agro and Rural Tourism Integration

Agro and rural tourism integration aims to promote tourism activities in rural areas by showcasing traditional agriculture, local culture, and village lifestyles. It encourages farm visits, local food experiences, handicrafts, and eco-friendly activities, providing additional income opportunities for rural communities. This approach also helps preserve traditional practices while strengthening the local economy and promoting sustainable tourism development.

3.7.2 Recommendation for heritage area

Dehradun has a number of historical attractions, such as time-honoured buildings, monuments, palaces, and parks. The Archaeological Survey of India (ASI) lists 42 historical monuments protected by the Dehradun Circle. Six of the 42 monuments are in Dehradun District, including the Inscribed Rock Edict of Asoka (Kalsi), Lakhamandal, Famous Sacred Mahasu Temple, Ancient Site (Jagatgram), Excavated Remains of Ancient Temple Veerbhadra, and Khalanga War Memorial. Besides the Centrally protected monuments, there are 47 monuments protected by the Government of Uttarakhand, but none are in Dehradun.

3.8 TOWN PLANNING SCHEME

Various Town Planning Schemes have been adopted as strategic tools to guide and facilitate planned urban development. These schemes aim to ensure organized growth, equitable land distribution, efficient infrastructure provision, and sustainable land use management. The key schemes include:

3.8.1 Transfer of Development Rights (TDR)

Transferable Development Rights (TDR) serve as an effective planning instrument to facilitate the creation of public infrastructure, including affordable housing, industrial relocation, slum redevelopment, public amenities, sector roads, parks, and open spaces.

Transferable Development Rights (TDR) allow landowners to receive development rights in the form of certificates issued by the Mussoorie Dehradun Development Authority (MDDA), in accordance with the applicable building byelaws and TDR guidelines framed by the Government of Uttarakhand. These rights can be utilized or transferred as per the provisions specified under the development regulations of the Dehradun Master Plan.

3.8.2 Land Pooling Scheme

Under this scheme, the Planning Authority is empowered to assemble or pool land for the implementation of town planning schemes. Lands are reconstituted and redistributed among the original owners as per their proportionate share, following the development of basic infrastructure.

Land pooling enables landowners within a contiguous area to voluntarily consolidate their plots to facilitate planned development. Approximately one-third of the land is reserved for roads, open spaces, and public infrastructure, while the remaining two-thirds is returned to landowners as residential plots. The increased value of the developed plots offsets the reduced landholding and supports the levying of betterment charges.

This scheme is governed by the Uttarakhand Land Pooling Scheme (Implementation) Rules, 2015 and applies to all 'development areas' notified under Section 3 of the Uttarakhand Urban and Country Planning and Development Act, 1973. The scheme enables municipalities or development authorities to implement structured growth with adequate infrastructure as per approved layout plans.

3.9 ECOLOGY AND ENVIRONMENT

Dehradun Planning Area is of high environmental importance due to its natural features, morphology and wide variety of flora & fauna present in the area. The identity of the region is a derivative of its natural features and therefore a brief analysis is required to give the perspective for its suitable & inclusive development. Lying in the lower Shivalik ranges, the area has a unique form and supports a diverse range of Wildlife into the Region.

In Dehradun, the topography, sun direction, and soil characteristics collectively impart the region's rich vegetation. Surface water conveniently sinks into the depths of loose boulders and seeps at the bottom of the valley which makes an impermeable band of clay come up to the surface. The

abundant rainfall and presence of numerous water bodies provide the basis of rich biomass productivity. This rich vegetation cover in turn helps in the effective management of heavy rainfall and contributes to groundwater recharge. Great genetic diversity in flora has been the collective result of such natural agents for the Dehradun region.

3.9.1 Recommendations to minimize human-wildlife conflict

To ensure ecological sustainability and minimize human-wildlife conflict, the following recommendations are made regarding wildlife movement corridors and infrastructure development in and around Haridwar:

- **Culvert and Underpass Creation through Flyovers:** It is strongly recommended to introduce culverts and underpasses via flyovers at ecologically sensitive locations to facilitate safe movement of elephants and other wildlife. Such infrastructure is crucial to maintaining the continuity of green corridors and preventing roads, canals, or railways from becoming barriers to animal movement. Successful implementations include wildlife corridors near Chidarwala on the Haridwar–Dehradun Road, identified as Barkot Corridor and Teen Pani Corridor.
- **Benefits of Wildlife Passages:** These measures are vital not only for preserving ecological connectivity between forest patches and forage areas but also for reducing the likelihood of human-wildlife conflict. Without such provisions, fragmentation of habitat can lead to forest degradation, isolation of wildlife populations, and increased pressure for human settlement expansion into forested areas.
- **Preservation of Green Patches near Jolly Grant Airport:** A small yet critical patch of greenery near the Jolly Grant Airport acts as a key wildlife corridor enabling animal movement between the Barkot and Thano ranges, and further to Lacchiwala. This green stretch must be strictly preserved, and no additional development should be allowed. The placement of the toll plaza amid forest areas is inappropriate; it should have been located nearer to human settlements to reduce interference in wildlife zones.

3.9.2 Recommendation for environment

To ensure the sustainable protection of Dehradun's environment, particularly the Rivers and its surrounding ecosystem, a multi-pronged action plan is proposed:

- **Strict Compliance and Monitoring:** There shall be rigorous enforcement of the National Green Tribunal (NGT) guidelines. A dedicated and technologically enabled monitoring system should be strengthened and institutionalized to regularly check for violations related to waste disposal, construction near riverbanks, and pollution norms.
- **Designated Sub-Canal for Rituals:** A designated sub-canal should be identified and developed for the performance of religious and ritualistic activities. This sub-canal must be mapped and clearly marked to direct religious offerings and ritual waste away from the main stream of the river, thereby reducing direct pollution.

3.9.3 Proposed Conservation and Mitigation Strategy for Environment

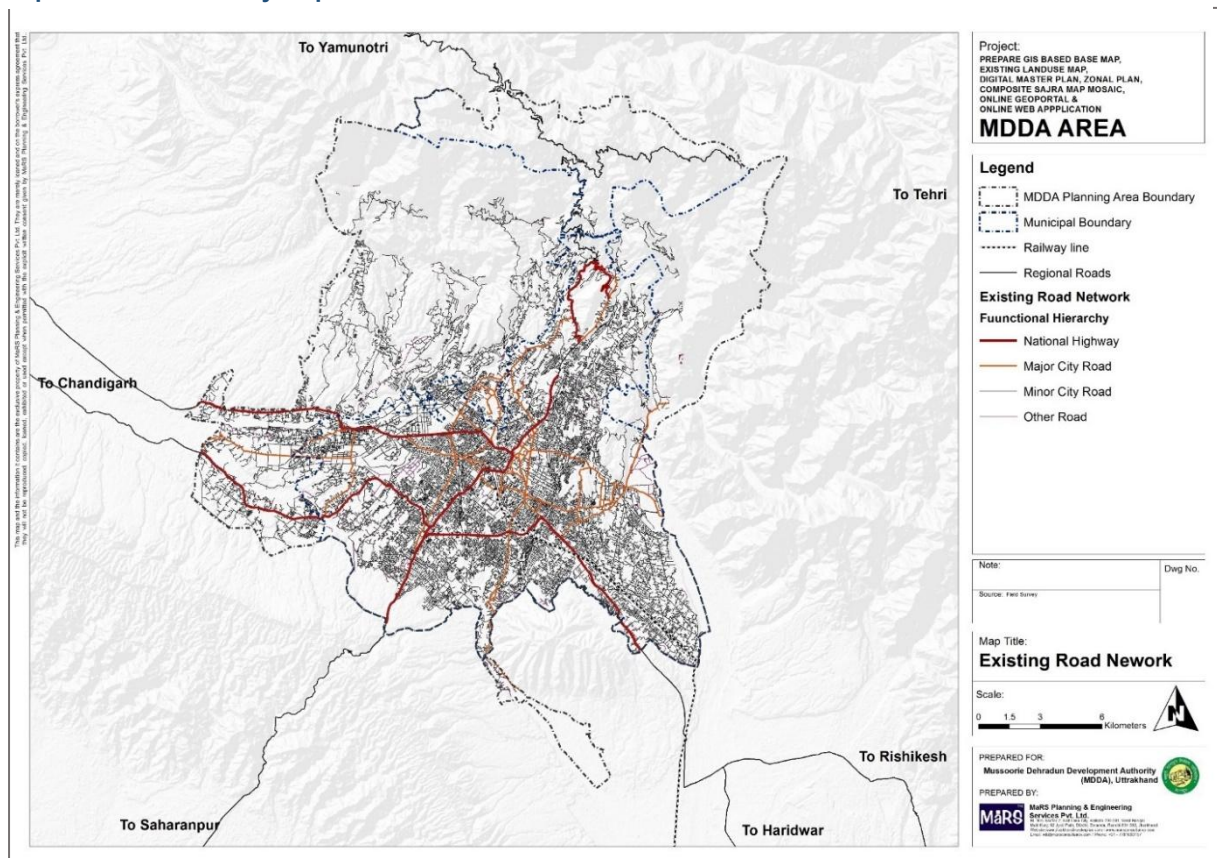
The proposed conservation and mitigation strategy for the environment in Dehradun focuses on protecting its fragile ecological setting while accommodating sustainable urban growth. The strategy emphasizes the conservation of forest areas, river corridors, wetlands, and green belts to maintain the city's natural balance. Measures such as strengthening storm water management, promoting rainwater harvesting, controlling pollution, and protecting natural drainage channels are proposed to reduce environmental degradation. In addition, the plan encourages the development of urban green spaces, eco-sensitive land use planning, and strict regulation of construction activities in environmentally sensitive zones to ensure long-term environmental sustainability and resilience of the Dehradun planning area.

3.10 OTHER PROPOSALS

Dehradun is well connected by rail and road. NH-72 passes through the city connecting Rishikesh and Haridwar in the east to Himachal Pradesh in the western side. NH-72A connect the city with Saharanpur in the S-W and Roorkee in the south. A large number of attractions of traffic in the CBD area due to the presence of offices, commercial establishments. The autorickshaws stop wherever passengers board/alight, thereby causing congestion and delay to other vehicles. It has been observed that areas like clock tower, railway station, Patlan bazaar; Connaught place are having heavy pedestrian flows.

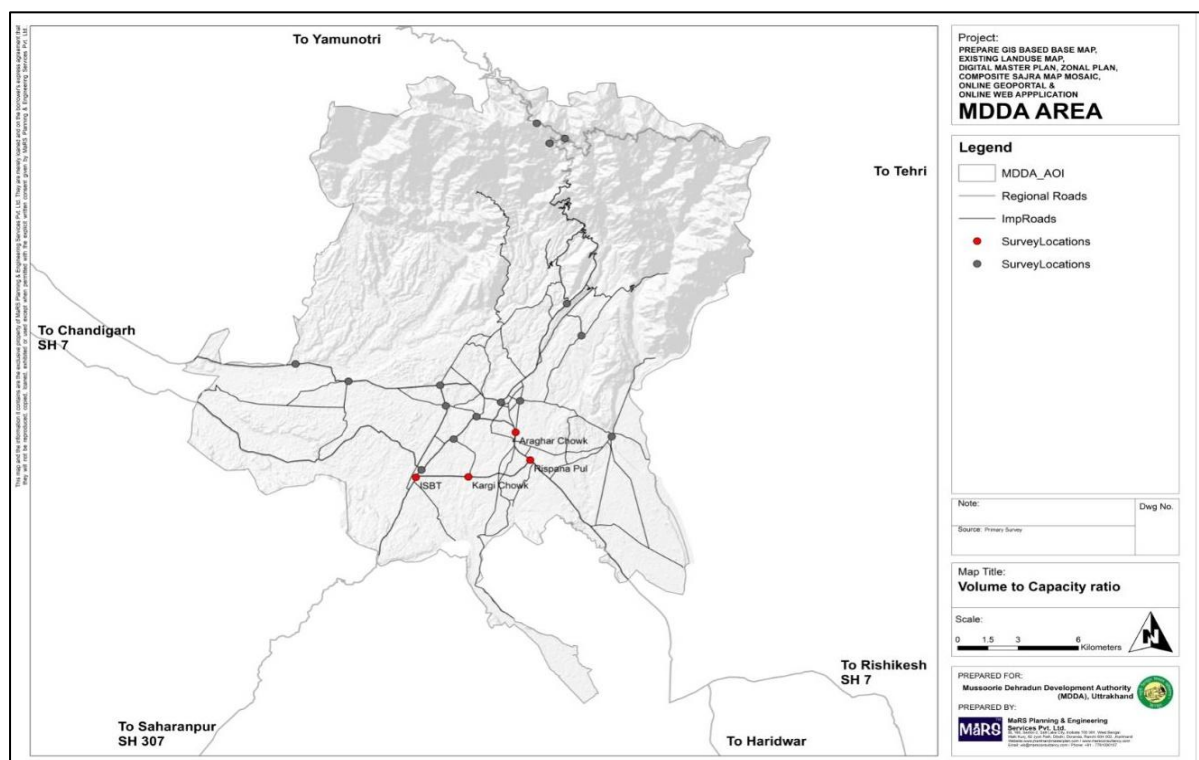
The road system is radial originating from the City Core area of Paltan Bazaar with Rajpur Road, Haridwar Road, Saharanpur Road and Chakrata Road forming the major travel corridors. The traffic carrying capacities are low due to limited widths, intense land use, and encroachments. A new bypass has been constructed connecting Saharanpur Road near Transport Nagar with Haridwar Road. Other important roads in the city are Kaulagarh Road, Rajpur Road, Shahastradhara Road, Kaonli Road, New Cantonment Road, Subash Road and East Canal Road. The nearest Airport is at Jolly Grant, which is about 24 km from the city.

Map 3-1 Road Hierarchy Map



Traffic volume count were conducted at all major intersections mentioned into the table and figure given below. As a part of our analysis, PCU for the selected intersection has been calculated which is the product of peak hour traffic flow. At last, Volume/ Capacity Ratio is calculated at each selected junction and compared with the design standards. As per V/C Analysis, Kargi Chowk, Aragarh Chowk, and ISBT are the critical junction.

Map 3-2 TVC Survey location



Source: Primary Survey

3.11 SPATIAL GROWTH STRATEGIES

The spatial growth strategy for Dehradun focuses on guiding future urban expansion in a planned and sustainable manner while protecting its environmentally sensitive areas. The strategy emphasizes compact and balanced development by promoting growth along major transportation corridors and designated urban nodes to reduce congestion in the core city. It also encourages the development of satellite townships, mixed-use zones, and improved infrastructure in peripheral areas to distribute population and economic activities more evenly. Special attention is given to conserving forest areas, river corridors, and green belts while strengthening connectivity, public transport, and urban services to support the projected population growth in the Dehradun planning area.

3.11.1 Morphology & Direction of Growth

The urban morphology of Dehradun has evolved from a small valley settlement into a rapidly expanding urban center influenced by its geographical setting and transportation corridors. The city exhibits a linear and corridor-based growth pattern, largely shaped by major roads such as Rajpur Road, Saharanpur Road, Haridwar Road, and Chakrata Road. Historically, development was concentrated in the central city area, but rapid population growth and increasing urban activities have pushed expansion toward the southern and western parts of the city. The presence of the Shivalik Hills in the north and forest areas restricts growth in that direction, guiding urban expansion mainly toward the plains in the south and southwest. As a result, the future direction of growth is expected to follow major transport corridors and peripheral areas where land availability and infrastructure development support planned urban expansion.

3.11.2 Concept Alternatives

This section examines various urban structure models, including the Burgess Concentric Zone Model, the Sector Model, the Multiple Nuclei Model, and the Compact City Model, in the context of the Dehradun Planning Area. These models offer theoretical frameworks to understand the spatial distribution of land uses, settlement patterns, and functional relationships within the city. A comparative assessment of these models helps in identifying the most suitable development approach to guide Dehradun's future urban growth in a planned, efficient, and sustainable manner while responding to its unique geographic setting, environmental sensitivities, and expanding urban activities.

3.11.3 Selection of Preferred Concept

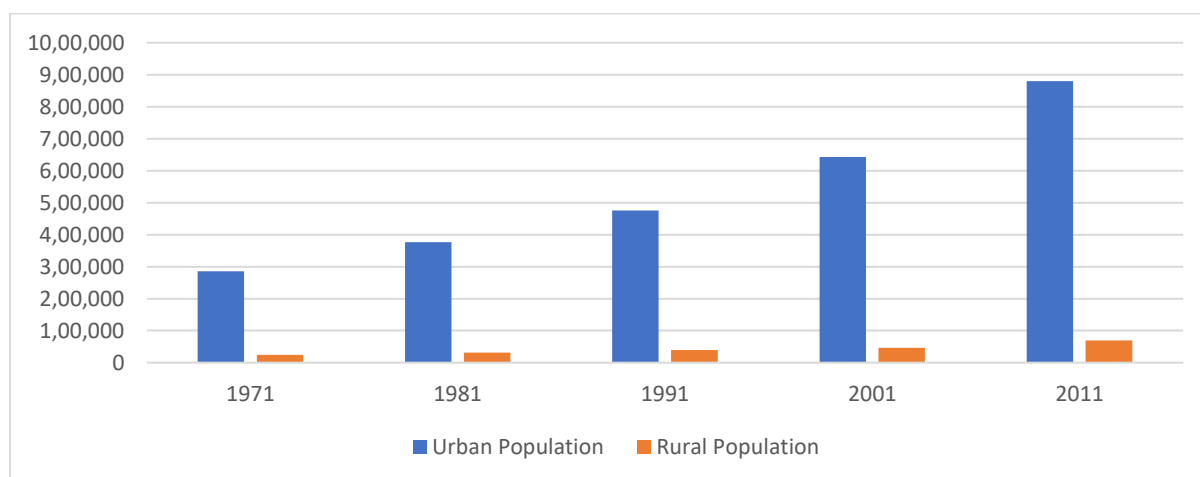
As outlined in the previous section, three conceptual development alternatives were formulated and analysed in detail for the Dehradun Planning Area. Each model was evaluated for its feasibility and suitability in relation to the city's geographical setting, environmental sensitivity, and existing urban structure. This section summarizes the key principles of each model and identifies the preferred alternative that is considered most appropriate for guiding the future spatial development of Dehradun.

The selected model provides the framework for determining growth directions and strategic interventions for the Dehradun Master Plan–2041. In addition, the formulation of the preferred development model takes into account the provisions of the existing master plan to ensure continuity in planning while incorporating necessary improvements to address emerging urban challenges and opportunities.

On 9th November 2000, Uttarakhand State was formed and Dehradun city was declared as the capital city of the state. The population growth over the years has been displayed below

In Dehradun City, population growth rate considerably increased after 1991. At the same time, population growth rate in the rural areas were considerably low which indicates higher in migration into the urban centre especially in the Dehradun City. The population growth rate of the adjoining areas of the municipality observed in the decade 2001 – 2011 is higher. The rural population after 2001 has increased dramatically with 32% increase in DGR.

Figure 3-3 Rural and Urban Population



Source: Census of India 2011

Population growth has accelerated in recent years as a result of increased industrial and information technology investment. A planned infrastructure and institutional improvement with additional funding from the Asian Development Bank, as well as town development under various development plans and an increase in secondary and tertiary sector possibilities. As shown in the table number 3-5, the population has grown at a faster rate due to migration and natural population growth.

3.11.4 Literacy Rate

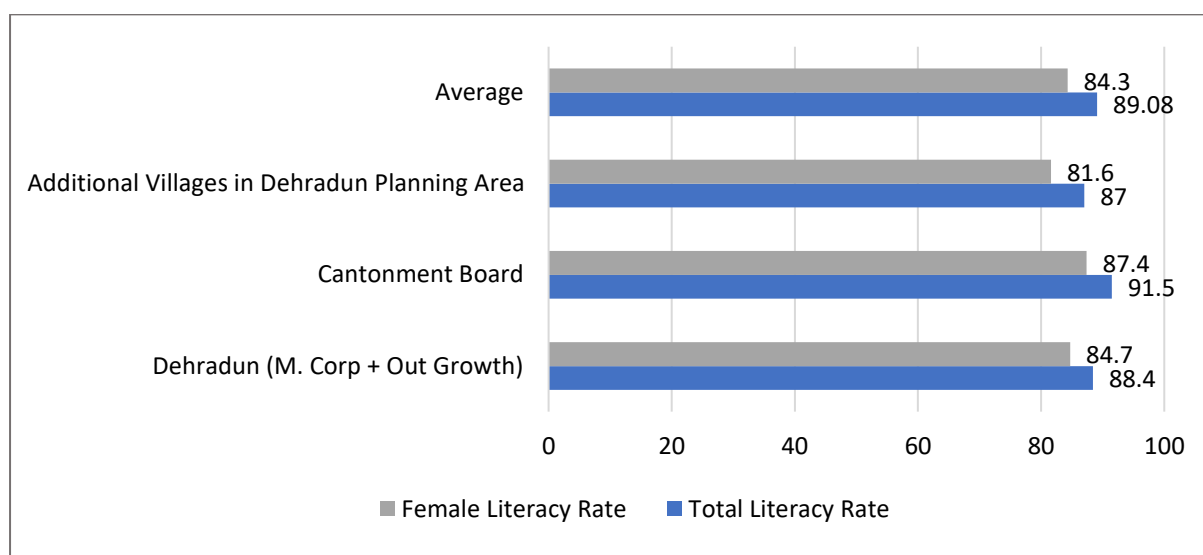
Average Literacy Rate of India, Uttarakhand State and Dehradun District is around 74.04%, 79.63% and 85.24% respectively while in Dehradun city, it is around 88%. In Dehradun Planning Area, more than 80% population is literate. Higher Literacy Rate (more than 90%) is observed in to the Cantonment Board Areas while lower literacy rate is observed in villages. As far as the Female Literacy Rate is concerned, the same trend is observed. In comparison to total literacy rate, higher female literacy is observed in the Cantonment Board while least is observed in the villages. The availability of educational institutes and successful government scheme and policies for improving education impacts the literacy rate of the city.

Table 3-13 Literacy rate in comparison to National, State and District's Average, 2011

Level	Literacy Rate
Nation (India)	74.05 %
State (Uttarakhand)	79.63 %
District (Dehradun)	85.24 %
Dehradun City	88.36 %

Source: Census of India 2011

Figure 3-4 Literacy Rate in Dehradun Planning Area



Source: Census of India 2011

3.11.5 Sex Ratio

The Dehradun City sex ratio is 907, which is higher than district average and lower than state and national level. Migration rate is high among men for work or education. At the city level the job opportunities in the secondary and tertiary sectors attracts the workers, resulting the higher in migration of male working population from rural to urban.

Table 3-14 Sex ratio in comparison to National, State and District's average

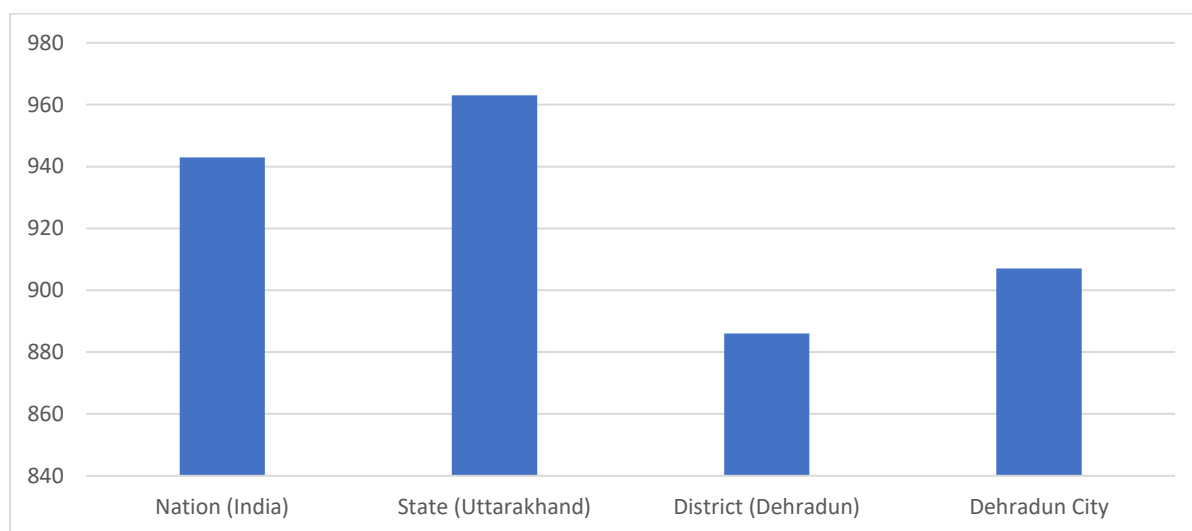
Level	Sex Ratio
Nation (India)	943

State (Uttarakhand)	963
District (Dehradun)	886
Dehradun City	907

Source: Census of India 2011

Due to population growth, census data show an increase in the sex ratio in all settlements in the Dehradun planning area in 2011 compared to 2001. The Cantonment Board Areas have a lower sex ratio due to the higher migration rate.

Figure 3-5 Sex ratio in comparison to National, State and District's average



Description	Sex Ratio (2011)
Dehradun MC	908
Rural areas - Dehradun	925
Average Population Density	917
Cantonment Board	775

As per census 2011 data, the sex ratio of Dehradun within the municipal corporation is 908 females after every 1000 males. The rural area and Cantonment Board sex ratio are 925 and 775 females per 1000 males. The average sex ratio of Dehradun is 917.

3.11.6 Household Size

According to Census 2011, the average household size in Dehradun district reflects distinct differences between its rural and urban areas. The district as a whole records an **average household size of about 4.3 persons per household**, which is consistent with demographic patterns in the rest of Uttarakhand.

In **rural Dehradun**, the average household size is **higher, at around 4.6 persons per household**, reflecting traditional joint/extended family structures and larger family compositions that are characteristic of agrarian communities. In contrast, **urban Dehradun**—which includes Dehradun Municipal Corporation, Mussoorie, and other urban settlements—records a **smaller average household size of about 4.0 persons per household**, driven by nuclear family patterns, higher migration of working individuals, and a more compact housing typology.

3.11.7 Religion

Hinduism is the predominant religion in Dehradun, with a majority of the population following it. Islam, Sikhism, and Jainism are the other religions present in the city (Census 2011).

3.12 KEY ISSUES & POTENTIALS

1. Demographically, Dehradun Planning Area has been experiencing increased population pressure especially after the formulation of Dehradun City as a State Capital of Uttarakhand.
2. People are migrating to the capital city in search of better job opportunities and more efficient infrastructure, including educational and medical services, which puts enormous pressure on city infrastructure.
3. The core city area's population density exceeds the URDPFI norms, resulting in a negative growth rate in some wards due to a lack of better environment and infrastructure facilities for its residents, which becomes the reason for slum development in core area.
4. Average Literacy Rate of the city is 88.34% which is more than the average literacy rate of the Nation and Uttarakhand State both i.e., 74.04% and 79.63% respectively which depicts that people are literate enough to understand the technology advancement.
5. Management of resources for floating population is also an challenge for administration to cater the visitors and provide them services and infrastructure during the stay period.

4 PROPOSED LAND USE, 2041

After the detail study of Dehradun Existing Landuse and calculating future requirements, the proposed Land Use map is prepared. The proposed Land Use is prepared based upon various detailed land suitability analysis and various surveys. Apart from detailed studies and analysis, Stakeholder discussions were also a major part of Dehradun Proposed Land Use. The Proposed Land Use map is prepared as per the guidelines of AMRUT and the major Land Use categories are adopted from URDPFI Guidelines, 2014.

The total Dehradun Masterplan Area is 378 Sq.km. Out of the total planning area, there are two broad categories- Developable area with the area of 178.56 Sq.km and Undevelopable area with the area of 199.44 Sq.km. Developable Area accounts for 47%, containing the proposals for the future requirements of the total Dehradun Planning Area 2041. The Undeveloped area comprises Agriculture land, Special Area Zone, and Protected Zone. The impact of development in the developable area on the environment can be balanced by undeveloped areas.

Table 4-1 Breakup of Developable area, Proposed Land Use 2041 in comparison with URDPFI

S. No.	Land Use	Proposed In 2041	Percentage	URDPFI Standard
1	Residential	9591.13	57.18%	36-39
2	Mixed	1587.62	9.46%	
3	Commercial	697.56	4.16%	5-6
4	Industrial	188.48	1.12%	7-8
5	Public and Semi Public	1580.56	9.42%	10-12
6	Recreation	1071.25	6.39%	14-16
7	Transportation	1997.3	11.91%	12-14
8	Tourism	60.85	0.36%	
	Total Developable Area	16774.75	100.00%	100

The future land use plan for the Dehradun Planning Area has been prepared in accordance with the Urban and Regional Development Plans Formulation and Implementation Guidelines and prevailing ground realities. The proposed distribution aims to create a balanced, sustainable, and functionally efficient urban structure capable of supporting the projected population and economic growth up to the horizon year 2041. Emphasis has been placed on rational land allocation, environmental sensitivity, and infrastructure optimization to guide orderly urban expansion.

- The share of Residential Land Use in the planning area is around 53.53%, which is above the URDPFI guidelines. The allocation accommodates existing built-up areas, newly included urban villages, and proposed residential sectors to ensure adequate housing supply and planned neighbourhood development.
- Commercial share is 3.89% in the planning area, which has been strategically proposed along major transport corridors and activity nodes to strengthen economic activity and reduce pressure on the central business district.

- When combined, Residential, Commercial, and Mixed-Use account for approximately 66.28% of the developable land, helping maintain a pragmatic balance between living and working environments.
- Public and Semi-Public Use has been allocated 9.42 % (1580.56 Ha), covering both existing facilities and additional land required to meet the needs of the future population. This category includes land for education, healthcare, government offices, and other community services.
- For Transportation, 11.91 % (1997.3 Ha) of the total planning area has been designated. This includes existing transport infrastructure, proposed road networks, transport hubs, and land for road widening, ensuring efficient intra-city connectivity.
- To support environmental sustainability and enhance the quality of urban life, 1.32 % (237.24 Ha) of land has been earmarked for Recreational and Green Use. This includes parks & gardens, green belts, urban forests, theme parks, and multi-purpose open spaces, many of which are strategically located along natural drains and ecological corridors.

The detailed spatial distribution is illustrated in Table 4-2, and Figure 4-1 presents a visual representation of the proposed land use plan.

Table 4-2 Landuse Distribution of Dehradun Planning Area

DEVELOPABLE AREA					
Level I			Level II		
Code	Use Category	Area (Ha)	Code	Use Zone	Area (Ha)
R	Residential	9591.13	R1	Built up Residential	496.28
			R2	Residential Zone	9052.26
			R3	Affordable Housing Zone	42.59
C	Commercial	697.56	C1	Commercial Zone	647.6
			C3	Wholesale Markets/ Mandis / Warehouse/ Godowns	49.56
M	Mixed Use	1587.62	M1	Residential & Commercial	1554.71
			M2	High Rise Building Zone	32.91
I	Industry	188.48	I	Industrial	188.48
PS	Public/ Semi-Public	1473.35	PS1	Govt/ Semi Govt/ Public Office Use Zone	686.61
			PS2	Educational and Health Zone	669.52
			PS3	Health Zone	40.9
			PS4	Socio- Cultural and Religious Zone	76.32
U	Utilities and Services	107.21	US	Utilities Other	67.49

			FS	Fire Station	0.7
			CR	Cremation and Burial Ground/ Graveyard	19.41
			ESS	Electric Sub- Station	7.28
			STP	Sewage Treatment Plant	0.66
			SWM	Solid Waste Management	7.63
			WTP	Water Treatment Plant	4.03
G	Green Zone	834.01	G1	Parks	448.88
			G2	Green Belt Along Natural Drain	385.13
P	Recreational	237.24	P1	Playgrounds	88.65
			P2	Multi-Purpose Open Space	148.59
T	Transportation	1997.3	T1	Roads	1906.3
			T2	Railway Area	35.63
			T3	Bus Stand/ Railway Station/Truck Terminal	5.38
			T4	Transportation & Communication	49.98
S	Special Area	60.85	SAT	Tourism	60.85
	Transit Oriented Development			Transit Oriented Development Zone*	931.66*
				Local Area Plan Zone*	415.08*
DLU	Deviated Land Use	1142.09	DM	Deviated Mixed	1035.3
			DPS	Deviated Public and Semi-Public	106.79
Total Developable Area		17916.84			

*Note- The Transit Oriented Development (TOD) zone and Local Area Plan (LAP) zone is a controlled areas and not counted towards computation of total developed area to avoid any replication. The area of the landuses below these controlled areas have already been accounted in respective landuse category.

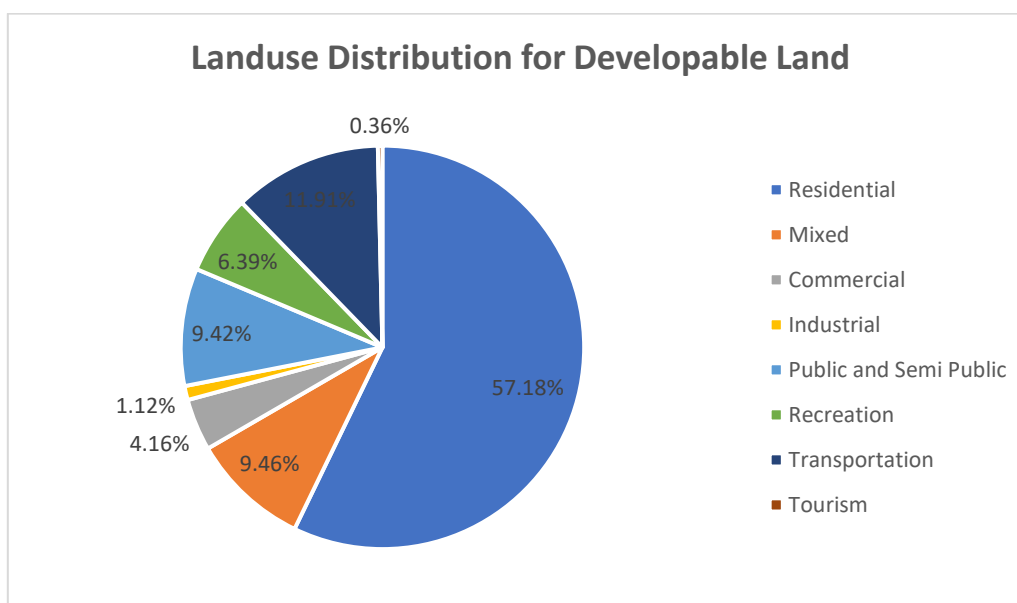
UNDEVELOPABLE AREA					
Level I			Level II		
Code	Use Category	Area (Ha)	Code	Use Zone	Area (Ha)
P	Primary Activity	3801.38	PA	Agriculture	3801.38
S	Special Area	4816.62	SATG	Tea Garden	928.01

			SACA	Cantonment Area	3059.13
			SAT	Tourism	60.85
			SACI	Central Govt Institute / Office Areas	741.59
			SAIT	IT Park	27.04
E	Protective Zone	11326.59	E1	Water Bodies	1454.19
			E2	Forest	9872.4*
Total Undevelopable Area		19944.59			

*Note- The Eco sensitive zone area is a controlled area and not counted towards computation of total undeveloped area to avoid any replication. The area of the landuse below this controlled area have already been accounted in respective landuse category.

The land use allocation under each category is composed of proposed land use.

Figure 4-1 Land Use Distribution for Dehradun Planning Area



4.1 DEVELOPABLE AREA

4.1.1 Residential

A total of 9591.3 hectares, which constitutes approximately 53.53% of the total developable area, has been proposed for residential use in the Dehradun Planning Area. The residential land use is further classified into four distinct categories to cater to diverse housing needs and existing settlement patterns. These categories include R1: Built-Up, representing already developed residential areas with proper infrastructure, R2: Residential areas are newly designated zones intended for planned development under standard urban norms, R3: Affordable Housing has been designated for economically weaker sections.

Table 4-3 Proposed Residential Area

CODE	USE ZONE	AREA (Ha)
R1	Built up Residential	496.28
R2	Residential Zone	9052.26
R3	Affordable Housing Zone	42.59

- R1: Built-up Residential Category (Dehradun)** The built-up residential category (R1) in Dehradun comprises areas that are already developed with established infrastructure, housing stock, and traditional neighborhoods forming the historic core of the city. A prominent example within this zone is the Paltan Bazaar–Dhamawala area, located in the central part of Dehradun. This area is characterized by a dense settlement pattern and historical significance, with a mix of old residential buildings, traditional markets, temples, and institutional structures. The presence of long-established neighborhoods, narrow streets, and mixed-use development reflects the city's traditional urban form. The R1 zone plays a vital role in preserving the historic character and cultural identity of Dehradun while continuing to support residential use within its older urban core.
- R2: Proposed Residential Area (Dehradun)** proposed in the previous master plan 2025 has been shown as residential area, comprising an area of 9052.26 Hectares.
- R3: Affordable Housing (Dehradun)** The Affordable Housing category is designated to accommodate the housing needs of economically weaker sections (EWS) and low-income groups within the Dehradun planning area. The area allocated under this category has been identified based on existing development patterns and the need for inclusive housing, covering a total of approximately 42.59 hectares. This classification aims to promote equitable urban development by ensuring the provision of affordable and accessible housing within the formal planning framework, thereby supporting socially inclusive growth of the city.

4.1.2 Commercial

To cater to the needs of both the existing and projected population of the Dehradun Planning Area, a total of 697.16 hectares of land has been proposed for commercial use, constituting approximately 3.89% of the total developable area. The commercial land use is further categorized into the following sub-types to ensure a functional and accessible distribution of commercial services:

- C1: Commercial Area** – Planned commercial zones for offices, showrooms, retail outlets and business centres.
- C2: Wholesale Market/Mandi** – Areas designated for bulk trade, distribution centres and agricultural produce markets.

The spatial distribution of these commercial categories has been detailed in Table 4-4, ensuring balanced commercial accessibility across the planning area while supporting economic activity and employment generation.

Table 4-4 Proposed Commercial Area

CODE	USE ZONE	AREA (Ha)
C1	Commercial Zone	647.60
C2	Wholesale Markets/ Mandis / Warehouse/ Godowns	49.56

- C1: Commercial Area (Dehradun)** Dehradun hosts several prominent commercial hubs that provide a wide range of goods and services, catering to both residents and visitors. These areas are strategically located and well-connected by major road networks, ensuring easy access to shopping, dining, and other commercial activities. One of the key commercial areas is the Paltan Bazaar–Clock Tower area, a densely developed locality known for its vibrant markets and retail activity. The area comprises a mix of traditional shops, showrooms, restaurants, and hotels, making it a major centre for daily commerce and social interaction. Its central location and strong connectivity enhance its significance as a primary commercial node within the city. The total commercial land area in this zone forms a substantial component of the overall commercial land use proposed in the Dehradun Planning Area.
- C2: Wholesale Market/Mandi (Dehradun)** The Niranjanpur Mandi is one of the prominent wholesale markets in Dehradun, primarily known for the trade of grains, vegetables, and fruits. Located along the Saharanpur Road corridor, it serves as a major supply centre for the city as well as surrounding rural areas. The mandi plays a crucial role in supporting the regional agricultural economy by facilitating the distribution of fresh produce and essential commodities.

4.1.3 Mixed Use

Dehradun Masterplan Mixed Landuse accounts for 1587.62 Ha i.e. 8.86% of the total area. The use is divided into three zones- M1: Mixed Use (Residential and Commercial), M1: High Rise Building Zone and DLU Deviated Mixed Landuse.

Table 4-5 Proposed Mixed Use

CODE	USE ZONE	AREA (Ha)
M1	Mixed Zone	1554.71
M2	High Rise Building Zones	32.91

4.1.4 Industrial

The total proposed area under industrial Landuse is 188.48 Ha i.e. 1.12% of total proposed planning area. The assigned landuse is comparatively less than the URDPFI guidelines due to the existance of SIDCUL industrial area available in vicinity (Selaqui Industrial Area) of the planning boundary. The use is divided into two zones- I- Industrial, DLU- Deviated Industrial Landuse.

Table 4-6 Proposed Industrial Land Use

CODE	USE ZONE	AREA (Ha)
I	Industrial	188.48

4.1.5 Public and Semi-Public

Public and Semi Public Landuse accounts for 1539.65 Ha i.e., 8.59% of the total Dehradun Planning Area. The landuse includes infrastructure facilities including Education, health care, open spaces, multipurpose grounds, sports facilities, Socio cultural and Religious, fire and disaster, telephone, postal and banking services to cater the social and physical infrastructure needs of the public. The Public/ Semi Public area governed by Central Government has been marked separately and not added to the computation of total area of Public/ Semi Public Landuse.

Table 4-7 Proposed Public/Semi-public Area

CODE	USE ZONE	AREA (Ha)
PS1	Govt/ Semi Govt/ Public Office Use Zone	686.61
PS2	Educational and Health Zone	669.52
PS3	Socio- Cultural and Religious Zone	76.32
US	Utilities Other	67.49
FS	Fire Station	0.70
CR	Cremation and Burial Ground/ Graveyard	19.41
ESS	Electric Sub- Station	7.28
STP	Sewage Treatment Plant	0.66
SWM	Solid Waste Management	7.63
WTP	Water Treatment Plant	4.03
Total		1539.65

4.1.6 Recreational and Green Zone

Dehradun Planning Area comprises 1071.25 Ha of Recreational landuse which accounts for 5.98% of the total area percentage. The recreational zone has been divided into further five zones – P1: Playgrounds, P2: Multipurpose Open Space, G1: Parks and G2: Green Buffer along Natural Drains.

Table 4-8 Proposed Recreational Space Area

CODE	USE ZONE	AREA (Ha)
P1	Playgrounds	88.65
P2	Multi-Purpose Open Space	148.59
G1	Parks	448.88
G2	Green Belt Along Natural Drain	385.13
Total		1071.25

4.1.7 Transportation

Transportation and communication form the backbone of the Master Plan for Dehradun, playing a vital role in supporting the city's growth and overall functioning. As a rapidly expanding urban centre and gateway to the hill regions, efficient movement of both passengers and goods is essential. Recognizing this, the Master Plan places equal emphasis on developing infrastructure for passenger transport as well as freight movement. A significant portion of the developable area has been allocated for transportation-related uses to strengthen connectivity, reduce congestion, and improve accessibility across the planning area. The transportation infrastructure has been broadly categorized into multiple zones, covering various components of the urban transport network, including roads, terminals, and related facilities.

Dehradun being the capital city, has a very good connectivity with other states and cities. Therefore, transportation sector is one of the major landuse to connect the inter as well as intra city population efficiently. Dehradun Planning Area accounts for 1997.30 Ha i.e., 11.15% of the

total. The landuse comprises four zones- T1: Roads, T2: Railway Area, T3: Bus Stand/ Railway Station, T4: Transportation and Communication.

Table 4-9 Proposed Transportation Zones

CODE	USE ZONE	AREA (Ha)
T1	Roads	1906.30
T2	Railway Area	35.63
T3	Bus Stand/ Railway Station/Truck Terminal	5.38
T4	Transportation & Communication	49.98
Total		1997.29

4.2 UNDEVELOPABLE AREA

The undevelopable area within the Dehradun Planning Area comprises land designated for Primary Activity, Special Areas, Green Zones, and Protective Use Zones. These areas have been preserved to ensure environmental sustainability, ecological balance, and the protection of culturally or environmentally sensitive sites. The total area classified as undevelopable amounts to 19,944.59 hectares, which constitutes approximately 52.68% of the total Planning Area.

4.2.1 Special Areas

Dehradun Special area comprises of 1696.64 Ha which is classified into three zones- Tea Garden, Central govt Institute/ Office Areas and IT Park.

Table 4-10 Special Areas

CODE	USE ZONE	AREA (Ha)
SATG	Tea Garden	928.01
SACI	Central Govt Institute / Office Areas	741.59
SAIT	IT Park	27.04
Total		1696.64

4.2.2 Primary Activity

Dehradun Planning Area comprises of 3801.38 Ha. Agriculture Landuse includes all the primary activities which are related to natural materials and man-made environment. (refer to Table 4-11).

Agriculture (PA-1) remains a significant economic activity and a key source of livelihood for the local population. Given its importance, a substantial portion of the planning area has been reserved to protect and sustain agricultural practices. Approximately 10.04% of the total planning area has been earmarked for agricultural use, primarily located in the northeastern, northwestern, and northern outskirts of the planning boundary. This strategic preservation aims to ensure long-term food security, ecological balance, and rural employment within the region.

Table 4-11 Primary Activity

CODE	PRIMARY ACTIVITY	AREA (Ha)
PA1	Agriculture	3801.38
Total		3801.38

4.2.3 Protective Zone

A total of 2239.41 hectares has been designated under the Protective Zone, coded as 'E'. It is proposed that all revenue water bodies, along with the Forest in the Proposed Land Use Map, regardless of their current physical presence, be brought under this protective classification. Furthermore, A 50 meters green buffer shall be maintained around all water bodies including but not limited to rivers, lakes, ponds, streams, and canals, to ensure additional environmental protection.

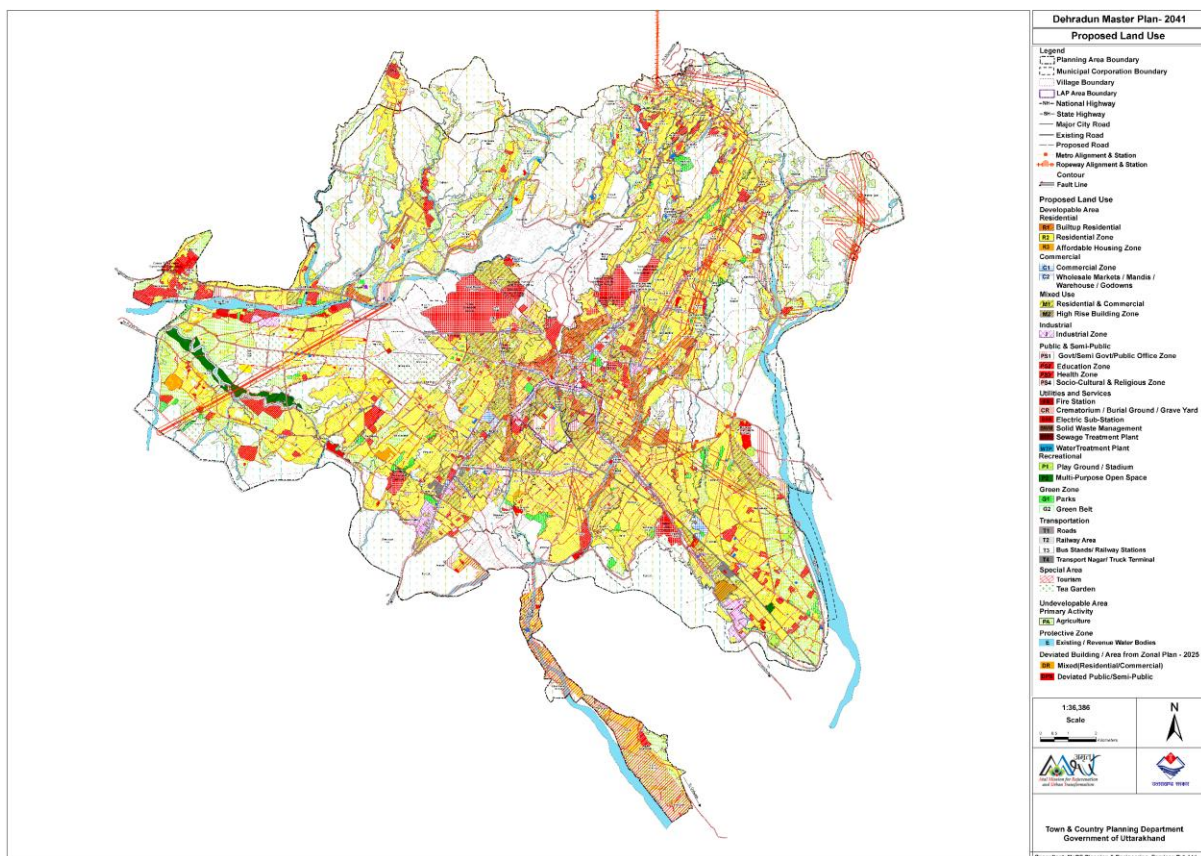
A 30-meter buffer zone shall be maintained around all forested areas. Residential use with G+1 height may be permitted after due consideration by authorities. Any other land use permitted in the previous Master Plan may be allowed within the buffer zone after verification of relevant approval documents and permissions from the competent authority.

Dehradun falls in the valley of Himalayas therefore has many protective zones like water bodies, forest areas, The planning area lies around Rajaji National Park. Hence, it is important to protect these areas by keeping these areas in undevelopable Landuse. The protective zone comprises of two zones- E1: Water Bodies, E2- Eco sensitive zone (Rajaji National Park- No development Zone).

Table 4-12 Protective Zone Area

CODE	PROTECTIVE ZONE	AREA (Ha)
E1	Water Bodies	1454.19
E2	Forest	785.22
Total		2239.41

Map 4-1 Proposed Land 2041-Dehradun Planning Area



5 ZONING REGULATION

5.1 INTRODUCTION

Zoning regulations are laws of development authorities that dictate the use of land and the construction of buildings/ Premises. In zoning, the land is divided into different zones where different land use patterns are enforced. For developing the zoning regulations for Dehradun Planning Area the existing situation analysis, URDPFI guidelines and previous master plan 2025 zoning has been considered. The activities listed in “Permitted”, in the following section of different Land Use and its sub-zones are allowed in the particular land use and subzones. The activities listed in “Permitted by board” under each land use and its sub-zones will be permissible under the permission of the Competent Authority after analysing the merits and demerits of activity in any Landuse Zones and its immediate surrounding.

5.2 OBJECTIVES

The objective of the development/control regulations of Dehradun Master plan 2041 is to promote and regulate development controls for buildings/activities within use premises following the development policies and land use proposals contained in the Dehradun Master Plan 2041. This regulation will be effective throughout the Dehradun Planning Area. To achieve compatibility between the different land uses that are proposed in the plan, a set of broad Zoning Regulations are proposed defining the proximity of such uses with each other, so that adverse externalities do not arise. The various activities/Landuses have been grouped into classes (use zones) and subclasses (premises use) where they can or cannot be put together in a geographical domain.

5.3 CLASSIFICATION OF REGULATIONS

The various land use zones mentioned in the Master Plan will be regulated through the zoning regulation by two classes mentioned below.

5.3.1 Permitted Activities:

These activities are permitted within the particular land use zone. There may be further conditions imposed, like approach road width, minimum plot or maximum plot area for some particular activity (mentioned along with the activity).

5.3.2 Permitted by board:

Approval of these activities is subject to prior application to the concerned authority. The approval may be provided by the competent authority after satisfactory conclusion of its location and impact to surrounding areas, carrying capacity of the area as well as cost-benefit of that particular project/activities/building/premises.

5.3.3 Prohibited Activities:

The activities which can have adverse impact or are of non confirming activity to the defined land use zone are mentioned under this class and activities /landuses which are not listed under permitted and permitted by board category will be treated as prohibited activity and permission for those activities shall not be allowed.

5.4 IMPACT FEE

If a land use category is allowed which is relatively more active urban use under the "permitted and permitted by board" category of the zoning regulation, these activities will likely result in

attracting more traffic, stress on infrastructure and comparatively have more environmental impact in the immediate surrounding area. Therefore, in such cases "Impact Fee" will be applicable. It is clarified that, only Impact Fee will be payable for permitted activities /uses based on the zoning regulation. Impact fee will be decided by the board of development authority but, it should not be less than the land use conversion fees (as applicable zone wise)

1. Impact fee will not be payable under the following circumstances –
 - Permitted activities/ uses in the built up area.
 - Public facilities developed by government and semi-government agencies
 - Public / semi-public recreational activities.
2. Impact Fee will be applicable on the regularization/approval of Land Uses for Deviated Land Uses from Zonal Plan- 2025, i.e., Deviated Residential (DR), Deviated Commercial (DC), Deviate Industries (DI), Deviated Public/Semi-public(DSP) under the category of unauthorised development which is defined in „The Uttarakhand (The Uttar Pradesh Special Area Development Authority Act, 1986) Adaptation and Modification Order, 2006 (Amendment) Act, 2008" and Uttarakhand (Uttar Pradesh) Revenue Code, 2006.

5.5 OTHER REQUIREMENTS

1. Permission for any activity or use by the applicant under the zoning regulations may not be obtained as a right.
2. Construction of all Activities listed in the zoning regulation will be permitted as per prevailing building by Laws.
3. According to the recommendation of the committee, maps will be approved by the authority from time to time, following the orders issued by Hon'ble. Supreme Court/High Court and National Green Tribunal.
4. Rajaji National Park- No Development Zone: Any Building Permission in the protected Rajaji National Park- No Development Zone shall seek the prior approval of Director, Rajaji National Park and avail NOC (No Objection Certificate) letter for the development authority to provide building permission in the said zone.
5. Development/Construction of public utility infrastructure will be allowed in the forest land use area specified in the Master Plan, after the permission of the Forest Department.
6. In case of any private development/ building/ structure/ activities/ land found in forest area with the claiming certificate/letter of not being forest land from forest department, such cases for the land use should be determined by the authority board with the opinion of the Chief Town and Country Planner.
7. In the case of not specified road width in the Masterplan, additional 3.0 m width should be added from the existing road width.
8. Such activity/use whose change of land use has been done already by Government of Uttarakhand or layout has been approved by District Development Authority/Competent Authority, is deviation from land use allocated in the present Master plan, the changed Land use/approved layout will be considered valid.

9. If any activity /use has been remarked in all the categories of regulation or a situation of contradiction arises, such cases can be settled on the basis of merit to the authority board with the opinion of the Chief Town and Country Planner.

10. Dehradun is covered with Environment sensitive zone and to minimize Green House gas emissions, heat Island effect and carbon footprint from human activities, it is necessary to promote green buildings and green/eco fuels. For this, it is necessary to obtain green buildings rating in cases of area larger than 1000 SqM.

11. To preserve natural drains/waterbody/stream/river/lakes/pond, provision of Green Belt/Buffer should be considered from the edge of such natural feature. This green belt may be use, as per requirement, for tree plantation/open space/development of parks etc.

S.NO	PRESERVED AREA	BUFFER(MTR.)
1	Main River (Distance from river bank/highest water level, whichever is higher)	50
2	Primary Drains (As Defined in Map – stream Order)	35
3	Secondary Drains (As Defined in Map – stream Order)	25
4	Tertiary Drains (As Defined in Map – stream Order)	15
5	Ponds/Lake (As Defined in Map)	10
6	Any other Drains found on ground or in revenue records shall be considered and defined under above four listed category by the authority.	As per definition

12. To maintain the building line along main road, a setback as per mention below/as per building by-laws (whichever is higher) will be applicable.

Sl. No.	ROW of Road	Building Line (Mtr.)
1	60	8
2	45	7
3	30	6
4	24	5
5	18	4
6	12	3

13. If existing ROW of any road under the category of NH, SH or comes under PWD, is more than proposed ROW in the Master Plan, the existing ROW will be considered.

14. If any activity has been rewritten in all categories of zoning regulation or having a conflicting situation arises, in such cases matter shall be settled on merit basis through the Authority

15. Exclusive Parking use shall be permitted in all zones.

16. No change of Land Use will be allowed in the following land uses –

17. Affordable housing

18. All categories under public utilities like fire station, cremation and burial ground, water treatment plant, sewage treatment plant etc.
19. All categories under Green zone /Orchards
20. Waterbodies
21. All Categories under protective zone
22. Individual Houses will be permitted as per zoning regulations (listed in permitted by board Category) subject to the condition that applicant must have land registry before the date of notification of this master plan.
23. Such activities in Master Plan which is not defined than the consent report of chief town and country planner will be treated as final decision.
24. Cantonment area precincts it is necessary to obtain specific clearance from cantonment board, after consultation be cantonment committee before undertaking certain kinds of development and re development as specified in zoning regulation, or issued as specific guidelines. The Regulations allow special exemption from land use controls in the interest of cantonment.

5.6 BOARD LAND USE CLASSIFICATION

The proposed land use plan incorporated in the Dehradun Master Plan, 2041 notified area depicts the following land use class and sub-class.

Sr. No.	Land Use (Class)	Code	Use Zone (Sub-Class)
1	Residential (R)	R-1	Built up Residential
		R-2	Residential Zone
		R-3	Affordable Housing Zone
2	Commercial (C)	C-1	Commercial Zone
		C-2	Wholesale Market & Mandi
3	Mixed (M)	M-1	Mixed Zone
		M-2	TOD Zone
4	Industrial (I)	I	Industrial Zone
5	Public / Semi-public (PS)	PS-1	Govt/ Semi Govt/ Public Office Use Zone
		PS-2	Educational
		PS-3	Health Zone
		PS-4	Socio- Cultural and Religious Zones
6	Public Utilities	CR	Cremation and Burial Ground/ Graveyard
		ESS	Electric Sub- Station
		WTP	Water Treatment Plant

		STP	Sewage Treatment Plant
		SWM	Solid Waste Management
7	Recreational (P)	P-1	Playground
		P-2	Stadium / Sports Complex
		P-3	Multi-Purpose Open Space
		P-4	Leisure Corridor
8	Green Zone (G)	G-1	Parks
		G-2	Green Belt
9	Transportation and Communication (T)	T-1	Roads
		T-2	Railway Property
		T-3	Bus Terminals
		T-4	Transport Nagar
		T-5	Integrated Freight Complex (IFC)
		T-6	Ropeway Property
		T-7	Parking
10	Primary Activity (PA)	PA-1	Agriculture
11	Protective Use Zone (E)	E-1	Water Bodies
		E-2	Forest
12	Special Area (S)	S-1	Tea Garden
		S-2	Central Govt Institute / Office Areas
		S-3	IT Park

Source: Derived from AMRUT Design Standards, URDPFI Guidelines, and Uttarakhand Building Bylaws 2011

5.6.1 Residential (R)

5.6.1.1 R-1: Built up Zone

- **Permitted Activities:**

In this Landuse Maximum Building Height permitted will be G+2 based on the aligned road width mentioned in the building Bye Laws Uttarakhand clause (ii).

1. Individual House
2. Government Housing Scheme (Only for slum redevelopment/improvement schemes)
3. Government Quarter
4. Renovation and Modification of Existing/ Sanctioned Hostel
5. Retail Shop
6. Daily Need shops
7. Private Office (The plot area must not be larger than 45 sq.m.)
8. Service Industry
9. Cottage and Household Industry (Maximum Plot area 200 sq m only)
10. Existing/ Sanctioned School
11. Anganwari Centre
12. Clinic / Dispensary (Maximum Plot area 45 sq m only)
13. Veterinary Dispensary / Hospital for pets only

14. Government Offices (It must be on minimum 18m wide approach road only)
15. Bank/ATM
16. Police Station / Police Post
17. Public Library
18. Creche / Day Care / Kindergarden
19. Public Toilet
20. Religious Building
21. Milk Collection Centre (Minimum 18m wide approach road)

- **Permitted by Board:**

1. Hospitals/Nursing Home/ Diagnostic Centre/Other Medical Units (Maximum Plot area (750 sq M) (Impact fee applicable)
2. Community Hall (on 18 M wide approach/ Master Plan Road)
3. Multi-Storey Parking (Minimum 18m wide approach road)
4. Orphanage / Old Age Home/Home for Handicapped Children (It must be on minimum 18m wide road)
5. Sports Centre/Complex
6. Gymnasium
7. Club House with Swimming Pool (Impact fee applicable)
8. Government Night Shelter
9. Bus Stop
10. Taxi / Auto Stand (Applicable on a minimum 18m wide approach road)
11. Parking Space / Area
12. Electric Vehicle Charging Dairy Booth
13. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the concent report of Competent officer.
14. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.1.2 R-2: Residential

- **Permitted Activities:**

1. Individual House
2. Sub Division Residential Layouts
3. Group Housing (Apartment / Flatted Housing)
4. Residential Township
5. Government Housing Scheme
6. Retail Shop
7. Private Office (The plot area must not be larger than 45 sq.m.)
8. Hostel (Maximum area 1000 sqm)
9. Service Industry (As per Zoning annexure III)
10. Cottage and household Industry (Maxumum area 200 sq m)
11. Anganwari Centre
12. School (Minimum 12m wide approach roads only)
13. Clinic/ Dispensary (maximum plot area 45 sq.m. only)
14. Veternary Dispensary / Hospital for Pets only
15. Government Offices (It must be on minimum 18m wide approach road only)
16. Government Quarter
17. Bank / ATM
18. Police Station / Police Post
19. Guesthouse (It must be on a minimum of 18m wide approach road only)
20. Art Gallery
21. Public Library
22. Creche / Day Care / Kindergarden
23. Public Toilet

24. Orphanage / Old Age Home/Home for Handicapped Children
25. Fire Station (Minimum 24m wide approach roads)
26. Religious Building
27. Playground
28. Recreational Club (Minimum 18m wide approach road)
29. Sports Centre/Complex (ROW – Minimum 24 m wide road)
30. Gymnasium Impact fee applicable
31. Swimming Pool
32. Milk Collection Centre (Minimum 18m wide road)

• **Permitted by Board:**

1. Shopping mall (On minimum 24 m wide road and outside municipal limit only. The maximum ground coverage area of 35%) Impact fee applicable
2. Multiplex / Cinema (On minimum 24 m wide road and outside municipal limit. The maximum ground coverage area of 35%) Impact fee applicable
3. Petrol Pump / LPG filling station (It must be on a minimum of 24m wide approach road only. Applicant must obtain NOC for fire safety from the fire department) Impact fee applicable
4. College (Minimum 24m wide approach roads and Minimum area 1 acre)
5. Indoor / Outdoor Stadium (Must be within 12m and 18m wide approach roads only)
6. Multi-Storey Parking (Minimum 18m wide approach road)
7. Hotel /Lodge / Restaurant (On minimum 18m wide approach road and area greater than 1000 sq m only) Impact fee applicable
8. Hostel (area greater than 1000 sq m only)
9. Hospital and Nursing Home (It must be on a minimum of 18m wide approach road only) (Impact fee applicable for Private Facility)
10. Dharmashala (Minimum 18 M wide Road)
11. Diagnostic Centre/Other Medical Units
12. Community Hal. (It must be on minimum 18m wide road)
13. Bus Stop
14. Taxi / Auto Stand (Applicable on a minimum 18m wide approach road)
15. Parking Space / Area
16. Electric Vehicle Charging Station Dairy Booth
17. Golf Course / Race Course
18. Hotel /Lodge / Restaurant/Tourist unit as defined in building bylaws (On minimum 18m wide approach road and Maximum area 1000 sq m only) Impact fee applicable
19. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer
20. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.1.3 R-3: Affordable Housing

In this Landuse Maximum Building Height permitted will be G+3 based on the aligned road width mentioned in the building Bye Laws Uttarakhand clause 7.1. (ii).

• **Permitted Activities:**

1. Affordable Housing Projects under Housing policy
2. Government Housing Scheme
3. Retail Shop
4. Primary School (Minimum 12m wide approach roads only)
5. Anganwari Centre
6. Clinic / Dispensary
7. Bank / ATM
8. Police Station / Police Post

9. Public Library
10. Creche / Day Care / Kindergarden
11. Public Toilet / Community Toilet
12. Religious Building
13. Playground
14. Dairy Booth

- **Permitted by Board:**

1. Individual House
2. Multi-Storey Parking (Minimum 18m wide approach road)
3. Bus Stop
4. Taxi / Auto Stand (Applicable on a minimum 18m wide approach road)
5. Parking Space / Area
6. Electric Vehicle Charging Station
7. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer
8. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable)

5.6.2 Commercial (C)

5.6.2.1 C-1: Commercial

In this Landuse Maximum Building Height permitted will be G+2 based on the aligned road width mentioned in the building Bye Laws Uttarakhand clause 7.1. (ii).

- **Permitted Activities:**

1. Retail Shop
2. Private Office
3. Service Industry
4. Cottage and Household Industry (Maximum Plot area 200 sq m only)
5. Veterinary Dispensary / Hospital for pets only
6. Bank / ATM
7. Police Station / Police Post
8. Public Library
9. Public Toilet / Community Toilet
10. Religious Building
11. Gymnasium
12. Indoor Stadium
13. Bus Stop (Applicable on a minimum 18m wide approach road.)
14. Taxi / Auto Stand (Applicable on a minimum 18m wide approach road.)
15. Parking Space / Area
16. Electric Vehicle Charging Station
17. Dairy Booth

- **Permitted by Board:**

1. Hospital and Nursing Home (It must be on a minimum of 18m wide approach road only)
2. Diagnostic Centre/Other Medical Units
3. Swimming Pool
4. Hotel/ Lodge/ Restaurant/ Tourist unit as defined in building bylaws
5. Recreational Club (Minimum 18m wide approach road)
6. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer

7. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.2.2 C-2: Wholesale Markets/Mandis

- **Permitted Activities:**

1. Wholesale
2. Private Office (Maximum Area 45 sq m)
3. Clinic / Dispensary (maximum plot area 45 sq.m. only)
4. Bank / ATM
5. Police Station / Police Post
6. Public Toilet
7. Religious Building
8. Bus Stop (Applicable on a minimum 18m wide Master Plan/ Existing Road)
9. Taxi / Auto Stand (Applicable on a minimum 18m wide approach road)
10. Parking Space / Area
11. Dairy Booth

- **Permitted by Board:**

1. Warehouse (It must be on a minimum of 30m wide approach road only. Applicant must obtain NOC for fire safety from the fire department)
2. Storage Godown (It must be on a minimum of 30m wide approach road only. Applicant must obtain NOC for fire safety from the fire department)
3. Cold Storage (It must be on a minimum of 30m wide approach road only. Applicant must obtain NOC for fire safety from the fire department)
4. LPG Godown (Applicant must obtain NOC for fire safety from the fire department)
5. Petrol Pump / LPG filling station (It must be on a minimum of 30m wide approach road only. Applicant must obtain NOC for fire safety from the fire department.)
6. Retail Shop
7. Fire Station (Minimum 24m wide approach roads)
8. Multi-Storey Parking
9. Electric Vehicle Charging Station
10. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer.
11. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.3 Mixed Land Use (M)

5.6.3.1 M-1: Mixed Zone

- **Permitted Activities:**

All activities listed in permitted category of Residential Zone (R3) and commercial Zone (C2).

- **Permitted by Board:**

All activities listed in permitted by board category of Residential Zone (R3) and Commercial Zone (C2) Conditions for Other Permitted activities for Mixed Land use

If more than 50% of the plot area is falling under mixed use, will be treated as mixed land use with the satisfactory consent report given by the Town and Country Planning Department.

5.6.3.2 M-2: High Rise Building Zone

- **Permitted Activities:**

All activities listed in permitted category of Residential Zone (R3) and commercial Zone (C2) but in vertical Mix Only

- **Permitted by Board:**

All activities listed in permitted by board category of Residential Zone (R3) and Commercial Zone (C2) but in vertical Mix Only. In addition to that Board can decide the vertical mixing following activities with the consent of Chief Town and Country Planner.

- Residential / Commercial – Multi-story buildings with residential units above and commercial units on the ground floor facing the street
- Urban Residential / Commercial – multi-story residential buildings with commercial and civic uses on the ground floor
- Office Convenience – office buildings with small retail and service uses oriented to the office workers.
- Office / Residential – multi-family residential units within office building(s).
- Shopping mall conversion – residential and/or office units added (adjacent) to an existing standalone shopping mall.
- Retail District Retrofit – retrofitting of a suburban retail area to a more village-like appearance and mix of uses
- Live / Work – residents can operate small businesses on the ground floor of the building where they live
- Studio / Light industrial – residents may operate studios or small workshops in the building where they live
- Hotel/ Residence – mix hotel space and high-end multi-family residential
- Parking structure with ground-floor retail
- Single-family detached home district with standalone shopping center

5.6.4 Industrial Zone (I)

- **Permitted Activities:**

1. Manufacturing (It must be on minimum 18m wide approach road. Applicant must obtain NOC from SPCB for pollution)
2. Service Industry
3. Chemical (It must be on minimum 18m wide approach road. Applicant must obtain NOC from SPCB for pollution)
4. Pharmaceutical (It must be on minimum 18m wide approach road. Applicant must obtain NOC from SPCB for pollution)
5. Textile (It must be on minimum 18m wide approach road. Applicant must obtain NOC from SPCB for pollution)
6. Agro based & Food Processing
7. Obnoxious (It must be on minimum 18m wide approach road. Applicant must obtain NOC from SPCB for pollution)
8. Cottage and Household
9. Individual House (Only applicable to plot ≤ 90 m²)
10. Retail Shop
11. Clinic /Dispensary (maximum plot area 45 sq.m. only)
12. Bank / ATM
13. Police Station / Police Post
14. Public Toilet /
15. Religious Building
16. Fire Station (Minimum 24m wide approach roads)

- **Permitted by Board:**

1. Warehouse (It must be a minimum of 30 m wide road)
2. Storage Godown (It must be a minimum of 30 m wide road)
3. Cold Storage ((It must be a minimum of 30 m wide road)
4. Petrol Pump / LPG filling station (It must be on a minimum of 30m wide approach road only. Applicant must obtain NOC for fire safety from the fire department)
5. Bus Stop
6. Taxi / Auto Stand
7. Parking Space / Area
8. Multi-Storey Parking
9. Electric Vehicle Charging Station
10. Weight Bridge
11. Dairy Booth
12. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the concent report of Competent officer.
13. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.5 Public and Semi-Public

5.6.5.1 PS-1: Govt./ Semi Govt. & Public Office Use

- **Permitted Activities:**

1. Government Offices
2. Government Quarter
3. Bank / ATM
4. Police Station / Police Post
5. Auditorium / Convention Centre
6. Art Gallery
7. Public Library
8. Public Toilet /
9. Fire Station (Minimum 24m wide approach roads)
10. Religious Building
11. Retail Shop
12. Private Office (The plot area must not be larger than 45 sq.m.)
13. Playground
14. Swimming Pool
15. Indoor / Outdoor Stadium
16. Dairy Booth
17. Police lines

- **Permitted by Board:**

1. Bus Stop
2. Taxi / Auto Stand
3. Parking Space / Area
4. Multi-Storey Parking
5. Electric Vehicle Charging Station
6. Government Housing Scheme
7. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the concent report of Competent officer
8. All the terms and conditions will be applicable along with the activities/land uses during the renewal/ freehold lease of State Nazul Land (if applicable).

5.6.5.2 PS-2: Educational Zone

- **Permitted Activities:**

1. Creche / Day Care / Kindergarden
2. School
3. College
4. University
5. Research and Development Centre
6. Vocational Institute / Training Institute / Research Centre
7. Anganwari Centre
8. Bank / ATM
9. Police Station / Police Post
10. Auditorium / Convention Centre
11. Art Gallery
12. Public Library
13. Public Toilet
14. Playground
15. Sports Centre/Complex
16. Indoor / Outdoor Stadium
17. Dairy Booth

- **Permitted by Board:**

1. Fire Station (Minimum 24m wide approach roads)
2. Religious Building
3. Electric Vehicle Charging Station
4. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer.

5.6.5.3 PS-3: Health Zone

- **Permitted Activities:**

1. Hospital and Nursing Home
2. Clinic / Dispensary
3. Primary / Community Health Centre (Govt. only)
4. Diagnostic Centre/Other Medical Units
5. Medical Colleges, Nursing Schools
6. Paramedical & Allied-Health Training Institutes
7. Research and Development Centre
8. Chemist Shop (As per Health facilities)
9. Bank / ATM (Part of Layout only)
10. Police Station
11. Public Library
12. Public Toilet

- **Permitted by Board:**

1. Government Offices
2. Multi-Storey Parking
3. Electric Vehicle Charging Station
4. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer.

5.6.5.4 PS-3: Socio-Cultural and Religious Zone Permitted Activities

- **Permitted Activities:**

1. Religious Building
2. Community Hall (It must be on minimum 18m wide road)
3. Art Gallery
4. Public Library
5. Public Toilet
6. Orphanage / Old Age Home/Home for Handicapped Children
7. Dharmashala / Night Shelter
8. Bank / ATM
9. Police Station / Police Post
10. Fire Station (Minimum 24m wide approach roads)
11. Retail Shop
12. Playground
13. Dairy Booth

- **Permitted by Board:**

1. Crematorium Burial Ground / Grave Yard / Incinerator
2. Sports Centre/Complex
3. Indoor / Outdoor Stadium
4. Bus Stop
5. Taxi / Auto Stand
6. Parking Space / Area
7. Multi-Storey Parking
8. Electric Vehicle Charging Station
9. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer.
10. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.6 Recreational

5.6.6.1 P-1: Play Grounds

- **Permitted Activities:**

1. Playground
2. Public Toilet
3. Park
4. Outdoor gym

- **Permitted by Board:**

1. Mela ground
2. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer.
3. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.6.2 P-2: Multipurpose Open Spaces

- **Permitted Activities:**

1. Playground
2. Shooting range

3. Open air theatre
4. Multipurpose recreational park/special recreational and educational park
5. Temporary use (trade fair/circus/exhibition place)
6. Rescue Pockets during any Hazard or disaster occurrence

- **Permitted by Board:**

1. Police post/fire post/structure related to utility services
2. Public Toilet
3. Bus Stop
4. Taxi / Auto Stand
5. Parking Space / Area
6. Electric Vehicle Charging Station
7. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer.
8. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.6.3 P-3: Horticulture/Botanical Garden

- **Permitted Activities:**

1. Horticulture Gardens
2. Botanical Garden
3. Playground
4. Shooting Range

- **Permitted by Board:**

1. Sports Centre/Complex
2. Swimming Pool
3. Golf Course / Race Course
4. Zoo
5. Associated Research and Development Centre
6. Public Toilet / Community Toilet
7. Bus Stop
8. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the consent report of Competent officer.
9. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.7 Green Zone

5.6.7.1 G-1: Parks

- **Permitted Activities:**

1. Park
2. Outdoor Gymnasium
3. Botanical Garden
4. Picnic spot
5. Open air theatre

- **Permitted by Board:**

1. Water park
2. Amusement Park

3. Theme Park
4. Golf course
5. Public Toilet
6. Parking
7. Structure associated to utility services

5.6.7.2 G-2: Green Belt

- **Permitted Activities:**
 1. Park
 2. Garden
 3. Plantation
 4. Afforestation
 5. Nursery
 6. Picnic spot
- **Permitted by Board:**
 1. Public Toilet
 2. Structure associated to utilities

5.6.8 Transportation and Communication

5.6.8.1 T-1: Roads

- **Permitted Activities:**
 1. Bus Stop
- **Permitted by Board:**
 1. Street vending Zone
 2. Parking Space / Area
 3. Electric Vehicle Charging Station
 4. Public Toilet

5.6.8.2 T-2: Railway Property

All the activities are permitted which are applicable as per the railway Norms.

5.6.8.3 T-3: Bus Stand

- **Permitted Activities:**
 1. Bus Parking / Bus Bays
 2. Bus Stop
 3. Parking Space
 4. Electric Vehicle Charging Station
 5. Public Toilet
- **Permitted by Board:**
 1. Bus Depot/ Workshop
 2. Auto/ Taxi Stand
 3. Retail Shop
 4. ATM
 5. Dairy Booth
 6. PPP Mode Bus Terminal with Mix of Commercial and Terminal facilities

5.6.8.4 T-4: Transport Nagar

- **Permitted Activities:**

1. Booking offices
2. Loading/ Unloading Spaces
3. Weight Bridge
4. Parking Space / Area
5. Electric Vehicle Charging Station

- **Permitted by Board:**

1. Warehouse (It must be a minimum of 30 m wide road)
2. Storage Godown (It must be a minimum of 30 m wide road)
3. Cold Storage ((It must be a minimum of 30 m wide road)
4. Petrol Pump / LPG filling station (It must be on a minimum of 30m wide approach road only. Applicant must obtain NOC for fire safety from the fire department)
5. Retail Shop
6. Bus Stop
7. Taxi / Auto Stand
8. Dairy Booth
9. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the concent report of Competent officer
10. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable)

5.6.9 Primary Activity

5.6.9.1 PA-1: Agriculture

- **Permitted Activities:**

1. Nursery
2. Dairy Booth
3. Milk Collection Centre
4. Biogas Plant
5. Scrap yard
6. Public Toilet
7. Parking Space / Area
8. Dairy farm / Gaushala
9. Poultry farm
10. Private Garage
11. Weight Bright (Minimum 30m wide road)
12. Cottage and Household industry
13. Animal Husbandary

- **Permitted by Board:**

1. shopping mall (Minimum 45m wide road and outside of municipal limit only) (Imapct Fee Applicable)
2. Multiplex / Cinema (Minimum 45m wide road and outside of municipal limit only) (Imapct Fee Applicable)
3. Function Hall / Marriage Garden / Banquet Halls (Minimum 30m wide road and outside of municipal limit only) (Imapct Fee Applicable)
4. Storage Godown fpr Agriculture Products only
5. Petrol Pump / LPG filling station (45 M Wide Road)
6. LPG Godown

7. School (Minimum 12m wide approach roads)
8. College (on 30 M wide Road)
9. Research and Development Centre (on 30 M wide Road)
10. Vocational Institute / Training Institute / Research Centre (on 30 M wide Road)
11. Anganwari Centre
12. Clinic / Dispensary (maximum plot area 45 sq.m. only)
13. Primary / Community Health Centre (Govt. only)
14. Veterinary Dispensary / Hospital for Catttles Only
15. Police Station / Police Post
16. Crematorium Burial Ground / Grave Yard / Incinerator
17. Orphanage / Old Age Home/Home for Handicapped Children
18. Fire Station (24 M wide Road)
19. Religious Building
20. Sports Centre/Complex (24 M wide Road)
21. Swimming Pool
22. Golf Course / Race Course
23. Brick kiln as per NGT Norms
24. Individual House/Farm House (maximum 250 sq.m./35%ground coverage whichever is larger)
25. Slaughter House (The competent authority must verify that it is not affecting the existing surrounding areas/ proposed areas)
26. Amusement Park (Minimum 30m wide road) (Imapct Fee Applicable)
27. Shooting Range (Minimum 30m wide road)
28. Bus Stop
29. Taxi / Auto Stand
30. Hospital (Hospitals for mentally restarted patients and infectious diseases)
31. Diagnostic Centre/Other Medical Units (Hospitals for mentally restarted patients and infectious diseases)
32. Electric Vehicle Charging Station
33. Mining (RBM), stone crusher (Imapct Fee Applicable)
34. Zoo/zoological park/botanical garden
35. Jail
36. Reformatory house
37. All Government/semi government Institutions/ Activities which contribute to public welfare, and does not have any adverse effect on its immediate surrounding, will be allowed through the concent report of Competent officer.
38. All the terms and conditions will be applicable along with the activities/land uses during the renewal/freehold lease of State Nazul Land (if applicable).

5.6.10 Protected Areas

5.6.10.1 E-1: Water Bodies

All the water Bodies, On Ground Existing on ground/ as per revenue records will be treated as water bodies, Green belt will be applicable as per the clause 4.4 (iii) mentioned in building bye laws.

5.6.10.2 E-2: Vegetation

- **Permitted Activities:**
 1. High density Plantation
 2. Nursery
 3. Playground
 4. Sports Centre/Complex
 5. Swimming Pool
 6. Indoor / Outdoor Stadium
 7. Golf Course / Race Course

8. Shooting Range
9. Zoo

- **Permitted by Board:**

1. Public Toilet
2. Structure associated to utilities

5.6.10.3 E-3: Eco-Sensitive Zone

No new Construction (other than Existing) is allowed from the 100 meters from the boundary of Eco- sensitive Zone

5.6.11 Special Area

5.6.11.1 S-1: Tea Garden

Any activity other than Tea plant cultivation and related activities is not allowed in the Tea Garden Zone

- **Permitted Activities:**

1. Tea Garden
2. Gardens
3. Nursery
4. Horticulture
5. Tea Plantation

- **Permitted by Board:**

1. Tea processing Building, Maximum Ground Coverage of 250 sq.m and Building height including pitch route 12.5 m
2. Other corresponding uses which is essential for the development of the area and is equivalent to any of the above-described use.

5.6.11.2 S-2: Tourism Zone

All other use under tourism use which is not equivalent to the above-described permissible use.

- **Permitted Activities:**

1. Tourist residence
2. Cottages, lodges
3. Rest house
4. Camping
5. Hamlet huts
6. Youth hostel
7. Motel
8. Hotel
9. Mall
10. Multiplexes
11. Shopping area
12. Spa
13. Urban art
14. Craft art centre
15. Tourist village
16. Sell and exhibition site
17. Planetarium
18. Aquarium

19. Community building
20. Cultural building
21. Park,
22. Playground
23. Science and adventure park
24. Amusement Park
25. Museum
26. Golf club
27. Club house
28. Gymnasium
29. Skating ring
30. Boating club
31. Theatre
32. Tracking institute
33. Art gallery
34. Yoga and health centre
35. Bank
36. Primary health centre
37. Taxi stand
38. Bus depot
39. Rope way
40. Parking
41. Music centre
42. Tourist office
43. Transport booking centre
44. Travelling agency"s office
45. Artificial water body.
46. Impact fees on hotel

- **Permitted by Board:**

1. Radio broadcasting centre
2. Television studio and sound recording and dubbing studio
3. Filling studio, water and electricity distributing office
4. Information technology related building
5. Telephone centre
6. Post and wireless house
7. Police check post.
8. The uses according to the tourism which is essential for the development of the area and is equivalent to any of the above-described use.

6 INVEST & IMPLEMENTATION MECHANISM

6.1 SECTOR WISE INVESTMENT PROPOSALS

To implement the proposals provided in the Dehradun Master Plan 2041, a series of projects according to sector, their nature and implementation agency have been identified. The Implementation roadmap for developing the Housing, Commercial, Physical Infrastructure, Transportation, Environment and Recreational has been detailed out in the following tables.

Table 6-1 Implementation and Phasing Framework

SECTOR	PROJECTS	TIME	IMPLEMENTATION AGENCY
General Implementation	Development of Web- GIS Portal and linking proposed Land Use along with the registry of land	Short Term	Mussoorie Dehradun Development Authority
Housing	Provision for Affordable Housing	Short Term	Mussoorie Dehradun Development Authority
Physical Infrastructure	Development of Water Supply Network	Medium Term	Jan Sansthan
	Development of Sewerage Network	Medium Term	Jal Sansthan
	Development of Solid Waste Treatment Plant	Short Term	Nagar Nigam
	Development of Faecal and Sludge Treatment Plant	Medium Term	Nagar Nigam
Transportation	Transit Oriented Development	Medium Term	Mussoorie Dehradun Development Authority
	Road Widening and Flyovers	Short Term	NHAI
	Development of Bypass Ring Road	Medium Term	NHAI
	Improvement of NMT Infrastructure and Junction Design	Short Term	PWD/ Smart City
	Integration of Public Transport System	Long Term	Mussoorie Dehradun Development Authority

Environment	River Centric Master Plan	Long Term	Mussoorie Dehradun Development Authority
	Inclusion of Dedicated Green Space	Short Term	Mussoorie Dehradun Development Authority
	Conservation of Eco-Sensitive Areas	Short Term	Mussoorie Dehradun Development Authority
	Reviving the Existing Built-up Area	Medium Term	Mussoorie Dehradun Development Authority
Recreational	Provision of Eco Tourism and Better tourism Infrastructure	Medium Term	Uttarakhand Tourism Department
	Development of Parks and Open Spaces	Short Term	Mussoorie Dehradun Development Authority

6.2 PROJECT PROPOSALS

6.2.1 Short Term

Short-term projects are important to solve the immediate issues in the planning area. The projects under short-term projects are discussed below:

1. Development of Web-GIS Portal and linking proposed land use along with the registry of land

A Web-GIS Portal is a web-based platform that provides a framework for sharing and using maps, apps, and data. It is an essential component of a modern GIS and an inherent part of the Web GIS pattern. It helps organize, secure, and facilitate access to geographic information products. In the context of land use, a Web-GIS Portal can be used to link proposed land use along with the registry of land.

The implementation of an IT-based system for better land management is proposed. The land use of the land parcel will be linked to the ownership and location of the parcel. To implement the project consultant needs to be appointed to develop and maintain the Web-GIS Portal with the help of MDDA and State line Department.

2. Urban Regeneration and Urban Renewal

Urban regeneration brings back underutilized assets and redistributes opportunities, increasing urban prosperity and quality of life. Urban regeneration initiatives are complex, lengthy and run the risk of gentrifying private space or privatize public one. It requires a diversity of approaches, such as redevelopment of brownfields, densification and intensification strategies, the diversification of economic activities, heritage preservation and reuse, public space reactivation and strengthening of service delivery. All these projects/ activities should be according to the building byelaws and various sector specific policies those are prevailing in to that area to protect the environment and the existing structure/ Façade/ Landscape. There is a plenty of scope of Urban Regeneration Projects especially in the core city area of Dehradun where the various economic activities has been concentrated.

Each city approaches urban renewal according to its means and its political and administrative systems. One of the chief activities of urban renewal is redevelopment, which is achieved through the clearance and rebuilding of structures that are deteriorated or obsolete in themselves or are laid out in an unsatisfactory way. Other aspects of urban renewal involve the reuse of the land for

new purposes, rehabilitation of structurally sound buildings that have deteriorated or lost their original functions, and conservation—a protective process designed to maintain the function and quality of an area. In Dehradun City, more than 25% of the current census population has been living into the slum areas where there is no proper provision for the physical and social infrastructure. Current Housing Policy (Pradhan Mantri Awas Yojna - Urban) has provision for the slum redevelopment component with detailed methodology to implement it. Concerned authorities should identify the areas where it shall be implemented.

3. Development of Street Vending Zones

Around 27 locations have been identified where modern vendor's zones in the city will be developed under National Urban Livelihood Mission. These vendor zones will be constructed in locations like Indra Nagar, Race Course, Vasant Vihar, Rajpur Road, Parade Ground, Patel Nagar, Raipur Road, Dharmapuri and Deep Nagar Areas. As per the latest article published by Times of India, around 3000 street vendors are in the city. Among them, a survey of 1758 vendors have already conducted.

- Identification of natural markets and allowing vending on the roads on which it is abutting with restrictions as would be warranted for the sake of traffic movement, both pedestrian and vehicular.
- Identification of the carrying capacity of the ward taking into account the road width and the restriction and regulation in the no vending zone.
- Identification of the minimum space for pedestrian movement after allowing the gathering of the buyers in front of the vending area.

4. Inter-City Public Transport

Inter-city traffic is served by a new Inter State Bus Terminal (ISBT) - commissioned in June 2004. The route and fare structure is fixed by Road Transport Authority. Inter State Bus Terminal of Dehradun is located at the Delhi Dehradun highway and Haridwar By Pass Road. There is a regular bus service from Dehradun to Haridwar, New Delhi, Roorkee, Rishikesh, Jaipur etc.

5. Junction Improvement and Flyover

The road network of Dehradun experiences increasing traffic pressure due to the movement of vehicles from surrounding towns and regional corridors passing through the city. Major routes connecting areas such as Haridwar, Rishikesh, Saharanpur, and Paonta Sahib converge towards Dehradun, resulting in congestion at key junctions and along major corridors. To address these issues and improve traffic circulation, junction improvement measures and the development of flyovers are proposed at critical intersections within the planning area. These interventions aim to streamline vehicular movement, reduce travel time, and enhance overall traffic management. Additionally, proposed grade separators and improved road infrastructure will help accommodate the growing traffic demand and support the future urban expansion of the city.

6. Street Cleaning

Street cleaning is done in all wards of Dehradun city in the morning between 5 and 8 a.m., mostly by Nagar Nigam employees. The majority of the city's streets have been cleaned by the Dehradun Nagar Nigam. Its regularity varies, though, with sweeping occurring every day, alternating days, twice a week, once a week, and in certain places only sporadically. Regardless matter how wet and contaminated the waste coming out of the drains is, it is disposed of straight in the community bins. According to the City Sanitation plan, most slums and other areas with narrow streets have less service compared to other areas of the city. During the field visit, it was observed that most of the containers were in bad condition and were overflowing with waste, creating a nuisance to the nearby areas.

6.2.2 Medium Term

1. Promotion of EcoTourism and better tourist infrastructure

Yearly tourist flow into the Dehradun and its surrounding areas are more than 30 lakhs. Peak has been observed during the Junda Mela, Summer Holidays and in winter during the snow fall in Mussoorie. Currently, maximum working population is dependent upon the tourism and related industries. Promotion of Eco – Tourism such as forest safari, camping sites including some adventure sports, homestay facilities etc. will be conserving the environment and improving the well-being of locals through economic support.

Transportation, Recreational, Sanitation, and Accommodation Facilities are the key factors for attracting the tourists to any city. The road, rail and air connectivity of Dehradun Planning area with its surrounding is quite strong in comparison to other tourist destinations. But, Sanitation, Accommodation and Recreational Activities are not as per the requirement. Special focus needs to be given to improve and develop these facilities to attract maximum tourists from national and international level.

2. Revive the existing Built-up Areas

For revive/ regenerating the existing built-up areas those are poorly developed/ underdeveloped through Building and Zoning Regulation of Master Plans or through the implementation framework of it (such as: Local Area Plans) which ultimately improves the neighborhood, attract or retain the commercial activities as well as conserve the existing character/ built form of the city.

6.2.3 Long Term

1. River Centric Master Plan

Rivers passing through the urban areas are their lifelines. 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 and daily household activities. 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.

Rispana, Suswa and Song are the major rivers that is passing within the Dehradun Planning Area. For Conservation of River Water and Restoration of areas around it, a River Centric approach needs to be adapted for addressing the objectives of: Eco- Friendly Development, Land Utilisation & Management and Pollution Control.

2. Conservation of Eco Sensitive Areas

For Conservation of Eco Sensitive Areas and Wildlife such as Rajaji National Park, Development and Tourism activities will be restricted through suitable provisions under the building and zoning regulations. New Development will be proposed by considering the notification of Eco Sensitive Areas issued by MoEFCC and through the consultation with the local bodies who are engaged into those areas. For effective conservation, 1km buffer shall be proposed from the ESA Boundary where construction activities shall be restricted through development control regulations and implementation frameworks.

Conservation Techniques, awareness among the local community will be generated through gram sabhas under the assistance of the authority.

3. Integration of public transport system

Being an educational hub, tourist hub and state capital of Uttarakhand, it offers vast employment opportunities into the public and private sector. Main purpose of trip for maximum HH's is either education or work. Due to that reason all the public transportation facilities shall be properly

integrated with each other for better accessibility, reduce travel time and for reducing the dependency upon the private vehicles.

6.3 IMPLEMENTING AGENCIES

It is proposed that the Nodal agency for coordination and approval is the Mussoorie Dehradun Development Authority (MDDA) technically supported by the Town and Country Planning Department (TCPD) Uttarakhand.

Table 6-2 Implementing mechanism short term

S · N o.	Import ant Plan / Develo pment Work	Phase-I (2023–2030)								Phase-II (2031–2035)					Phase-III (2036–2041)						Implem enting Agency
		23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
Short Term																					
1	Develo pment of Web- GIS Portal and linking propos ed Land Use along with the registry of land																				Mussoo rie Dehrad un Develop ment Authorit y
2	Provisio n for Afforda ble Housin g																				Mussoo rie Dehrad un Develop ment Authorit y
3	Develo pment of Solid Waste Treatm ent Plant																				Nagar Nigam
4	Road Wideni ng and Flyover s																				NHAI

Table 6-3 Implementing mechanism medium Term

63

[illegible]

Table 6-4 Implementing mechanism long term

S · N o.	Import ant Plan / Develo pment Work	Phase-I (2023–2030)								Phase-II (2031–2035)					Phase-III (2036–2041)						Imple ment ing Agency
		23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
Long Term																					

1	Integrat ion of Public Transp ort System																Musso rie Dehrad un Develop ment Authorit y
2	River Centric Master Plan																Musso rie Dehrad un Develop ment Authorit y

Note- Priorities of the projects can be altered according to the project feasibility and sanctioned allotted funds from various aids/ grants/ budgets/ funds from respective departments.