DISTRICT LAND USE & ZONING PLANS FOR LOCAL GOVERNMENTS IN PUNJAB

DISTRICT GUJRANWALA (2023-2043)

Project Management Unit (PMU)

Local Government and Community Development Department

Planning Today for Resilient Tomorrow

FOREWORD

Conventionally, Local Governments play a crucial role in achieving the targets of sustainable development. The optimum allocation and utilization of land is essential to address the challenges posed by rapid urban sprawl. By focusing on land use planning, we can steer urban expansion in a way that preserves agricultural land, conserves resources, and ensures long-term food security. With clear, actionable strategies, we are confident in our ability to build vibrant, sustainable communities for the future. The Land Use Plan will serve as a comprehensive guide, ensuring that urban growth is managed effectively and align with Sustainable Development Goals (SDGs).

While the law obligates each Local Government to independently formulate plans to address present and future needs, numerous challenges have hindered their ability to fulfill this mandate. To support Local Governments, the department has established a centralized Project Management Unit (PMU) to lead the preparation of Land Use Plans across Punjab and provide technical and financial resources without compromising the independence of Local Governments by actively involving them in the planning process. The purpose is to ensure inclusivity and ownership of these 20-years Land Use Plans.

We have successfully completed the District Land Use and Zoning Plans for Punjab, introducing a comprehensive policy framework that equips Local Governments with the tools to manage land use effectively. This milestone was achieved on fast-track due to strong collaboration between the Local Government & Community Development Department and the District Administrations. These Plans have been duly approved and notified under the Punjab Local Governments Land Use Plan (Classification, Reclassification, and Redevelopment) Rules 2020.

(Shakeel Ahmad Mian)
Secretary to Government of the Punjab
LG&CD Department

EXECUTIVE SUMMARY

One of the key responsibilities of the local governments is the regulation and optimal utilization of the precious land resource. The unchecked horizontal growth of our cities has led to depleting prime agriculture land, environmental degradation, and poor land management, which further threatened food security and climate resilience, leaving cities ill-equipped to meet global benchmarks like the Sustainable Development Goals (SDGs). The disjointed framework for land use planning called for a structured and strategic approach to guide sustainable urban development.

Recognizing the capacity constraints of local governments, the Local Government & Community Development Department initiated a centralized support unit for the preparation of land use plans. Tasked with this responsibility, the Project Management Unit (PMU) has been established to lead these efforts across Punjab's districts. The primary objective is to provide financial and technical assistance to local governments while ensuring a standardized and inclusive approach to planning.

The land use and zoning plans were crafted using a balanced and data-driven approach designed to address the distinct needs of local communities. Through a context-specific and rational methodology, future land demand was meticulously projected to foster compact urban growth and maximize land efficiency. The structure plan strategically integrates a hierarchical road network to organize urban development, ensuring seamless mobility, enhanced accessibility, and greater social inclusivity. Central to the plan is a focus on economic vitality, with provisions for robust commercial, industrial, and agricultural activities supported by key infrastructure, including commercial corridors, industrial zones, and farm-to-market roads. Throughout the process, stakeholder engagement was prioritized, embedding a participatory framework to guarantee comprehensive input from all relevant parties.

These land use and zoning plans are now equipped for implementation as comprehensive frameworks for regulating land use, optimizing urban infrastructure, and driving sustainable development across the region. Developed through the collaborative efforts of Project Management Unit (PMU), Planning Officers in each Local Government, Consultants, and local stakeholders, the plans provide actionable guidelines for shaping urban growth. Their implementation will focus on creating

balanced residential, commercial, industrial, and agricultural zones while addressing environmental sustainability and socio-economic inclusivity.

Consultancy firms registered with Pakistan Council of Architects and Town Planners (PCATP) possessing competent professionals have developed these plans, under the guidance and administration of Project Management Unit (PMU) ensuring firm compliance with project's approved Terms of Reference (TORs). This includes a range of activities and deliverables, such as vision formulation, situational analysis, district profiling, projection of a city's future requirements of land, housing, connectivity and social infrastructure, to come up with the data-driven plan. These plans not only outline the urban growth limits for the next 20 years but also ensure a balanced distribution of land for various purposes, including residential, educational, health, IT neighbourhoods, commercial, economic, and industrial zones. Additionally, the plans enhance district connectivity through a network of roads, including the Ring Road, bypasses, structure plan roads, farm-to-market roads, intercity corridors, and the widening of existing revenue paths.

WAY FORWARD

True transformation of cities lies in the implementation of plans that determine their future urban form. For effective implementation, our team has developed the Planning Support System (PSS)—the first of its kind—to support local bodies and field hierarchies responsible for land use regulation through a centralized surveillance system. The PSS will assist planning officers in zoning decisions through the "Automated Zoning Report" and help control violations of approved land use plans using a Geo-AI land cover change detection system. The PMU will provide essential training to planning officers to ensure the PSS is utilized to its fullest potential. The system will be further strengthened with feedback from citizens and other stakeholders.

Another challenge in the effective implementation of plans is the missing link between revenue records and proposed land use zoning. Integrating these through the superimposition of revenue records/maps onto land use plans is the way forward—an upcoming venture we are committed to achieving.

(Ume Laila Naqvi)
Project Director

ABOUT **CONSULTANT**

The preparation of the District Land Use and Zoning Plan for Gujranwala was awarded to **M/S Sheher Saaz (Pvt.) Ltd.,** an international urban planning and engineering consulting firm established in 1998 with one goal, to provide people and organizations with high-quality and expert advisory services.

Sheher Saaz has carved an identity for itself among global design practices as one delivering future legacies to the cities around the world. The firm have successfully completed over "50 cities master planning projects" to date, marking it as testament to our unwavering commitment to urban excellence and eco-friendly urban planning. The firm is managed by the Khurram Farid Bargatt (Managing Director/Chartered Town Planner). He has served as the team leader for the Land Use Planning of Gujranwala, has more than 20 years of work experience of working in public and private sectors nationally and internationally. He possessed multiple degrees including master's in urban planning from NYU's Robert F. Wagner Graduate School USA and Master in Public Policy form UMT Lahore. He is registered with Pakistan Council of Architects and Town Planners (Registration No. P-00461).

PLAN'S OVERVIEW

The Land Use and Zoning Plan for District Gujranwala is prepared as a comprehensive framework to guide sustainable development, urban growth, rural-urban integration, housing, and economic progression for the next two decades. Envisioned Gujranwala as an environmentally friendly Gujranwala that promotes sustainable and smart growth of agriculture and industries. This plan is grounded in the principles of equitable growth, environmental sustainability, and enhanced connectivity. The Plan consists of several core components, each addressing different aspects of land use, development, and strategic zoning at both the district and local governments levels.

At the district level, the plan fosters integration across multiple dimensions: land use, infrastructure, connectivity, housing, and economic activities. It aims to create a synergistic relationship between urban and rural areas, leveraging the unique strengths of each Local Government (LG) to achieve the overall district vision. This plan outlines the vision for District Gujranwala and specifies the approach and strategies necessary to achieve the intended outcomes.

Strategic Land Use Planning and Zoning

The land use planning and zoning strategy for each LG within District Gujranwala is customized to accommodate each area's unique characteristics and development needs, following the principles outlined in the Punjab Local Government Land Use Plan Rules of 2020. Each LG plan focuses on evaluating existing land use classifications, analyzing notified commercial roads, and identifying zones for residential, commercial, industrial, agricultural, and other uses to support the district's economic goals.

Envisioning the Future: The Site Development Zone (SDZ) Structure Plan for 2043

The SDZ Structure Plan (2023–2043) sets the stage for future development across all local governments, ensuring that each area contributes to the district's growth objectives. This plan identifies key land use zones—residential, commercial, industrial, agricultural, and notified areas—based on current trends, spatial and temporal growth patterns, existing infrastructure, and regional development plans. The structure plan ensures coherent development by aligning with the district's connectivity strategy, housing strategy, and economic development goals.

District-Level Integration: Land Use, Connectivity, Housing, and Economic Synergy At the district level, the SDZ Structure Plan integrates land use planning with connectivity and economic development strategies to ensure coherent, region-wide growth. The plan emphasizes the importance of robust connectivity, enhancing inter-district and intra-district transportation networks. This is critical for Gujranwala's role as an export hub, supporting the efficient movement of goods and services across the district and beyond. Enhanced connectivity is also pivotal for integrating new industrial zones, residential areas, and social infrastructure into the district's overall framework.

The plan further addresses housing needs through a balanced mix of urban and rural residential development, emphasizing sustainable densification, affordability, and accessibility. This is aligned with the district's broader objectives to accommodate population growth while ensuring adequate housing supply. The economic development component of the plan focuses on fostering specialized industrial zones, agro-processing facilities, and commercial centers to diversify the district's economy and build resilience against market volatility.

Future Vision: Site Development Zone (SDZ) Structure Plan 2043 The SDZ Structure Plan (2023–2043) for Gujranwala establishes a future framework, ensuring that each LG contributes to district-wide growth objectives. The plan identifies key land use zones: residential, commercial, industrial, agricultural, and notified areas—based on spatial and temporal growth patterns, infrastructure capabilities, and alignment with regional development plans such as the Punjab Spatial Strategy and Gujranwala Regional Development Plan. By integrating land use with connectivity and economic development strategies, the plan fosters a cohesive, sustainable, and future-oriented development vision for Gujranwala by 2043.

This comprehensive strategy ensures that the district remains competitive within regional and national economic networks while accommodating population growth and ensuring environmental sustainability. Integrating urban planning, infrastructure enhancement, and economic development across all LGs ensures a cohesive approach to growth, positioning Gujranwala as a dynamic center for urban-industrial synergy by 2043.

LIST OF ABBREVIATIONS

DC	District Council
DHA	Defense Housing Authority
DPDC	District Planning and Design Committee
EBA	Established Built-up Area
GIS	Geographic Information System
GT Road	Grand Trunk Road
HCM	Highway Capacity Manual
IT	Information Technology
LG&CDD	Local Government and Community Development Department
LOS	Level of Service
LUC	Land Use Classification
MC	Municipal Committee/Corporation
NH	National Highway
NRM	National Reference Manual
PBS	Pakistan Bureau of Statistics
PCU	Passenger Car Unit
PLGA	Punjab Local Government Act
PMU	Project Management Unit
PPA	Persons Per Acre
PSS	Punjab Spatial Strategy
PUSP	Peri Urban Structure Plan
ROW	Right of way
SDZ	Site Development Zone
TC	Town Committee
UMT	University of Management and Technology

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INTRODUCTION

1.1 Vision and Objectives

The vision of district Gujranwala is to build a thriving Gujranwala that prioritizes health, cleanliness, and progress. By overcoming environmental hurdles, unplanned growth and transportation, and empowering public health/education, to create a prosperous community for all the residents of the district.

"ENVIRONMENTAL-FRIENDLY GUJRANWALA; PROMOTING SUSTAINABLE AND SMART GROWTH OF AGRICULTURE AND INDUSTRIES"

The plan for the project includes detailed Land Use zoning for the whole district covers both urban and rural areas. Land use classification maps are prepared at sub district level, Local Government (LG) wise, while Site Development Zones (SDZs) Structure Plans are prepared for MCs and identified potential urban settlement by incorporating the inputs from the relevant stakeholders. Inclusion of the Town Committees and other major urban settlements are based on the criteria of population, growth rate, specialized development potential, its distance from the major cities such as Gujranwala, Kamoke, Nowshera Virkan and Qila Dedar Singh and stakeholder consultation.

1.2 District Land Use & Zoning Plan

The District Land Use & Zoning Plan involves detailed and systematic planning for the land use at each LG level. There are mainly three components of land use plan: the Land Use Classification Map, Site Development Zone Structure Plan, and Review of List A & B Roads.

The land use classification maps were prepared by marking the established built-up area of the urban settlements in district Gujranwala. The high-resolution satellite imagery was acquired and prepared the detailed digitized base maps. The process extended to mark the administrative boundaries, delineate the built-up areas, and divide urban blocks based on specific criteria as per the land use rules 2020. The classification maps have mainly identified and digitized the various land uses, conducted extensive field surveys for data collection, and verified information with local authorities. The base map is categorized into the different land use classes and their sub-classes by taking the references from the land use rules 2020.

The assessment of notified commercial roads has been done by obtaining the list from the relevant focal person with the consultation of the Project Management Unit (PMU), LG & CDD. A comprehensive survey was conducted to identify properties along these roads. The review of roads includes various aspects such as, assessing the feasibility of List-A enlistment, potential segmentation of roads based on dominant land uses, and considering transfers between List-A and List-B based on these assessments. Moreover, it identifies any necessary restrictions and issues recommendations to the local government for road enlistment and notification. Throughout this evaluation, factors such as infrastructure potential, traffic impact, land use trends, market demands, compatibility with surrounding uses, and stakeholder consultations were considered, ensuring a comprehensive and well-informed decision-making process regarding the categorization and future utilization of these roads.

The Site Development Zone Structure Plan for district Gujranwala has been prepared for the next 20 years, aligning with the Land Use Rules 2020 and prevailing Standing Instructions. The zones have been proposed based on the analysis of existing lands use classification, projecting population growth based on 2017 census data, spatiotemporal analysis, density analysis, accessibility analysis and planning guidelines. The detail land use plan of district Gujranwala including the existing land use classification, notified list A roads as well as proposed Site Developments Zones.

1.3 Administrative Structure District Gujranwala

There are six existing local governments in district Gujranwala including the district council Gujranwala and municipal corporation Gujranwala, municipal committees of Kamoke, Nowshera Virkan, Qila Didar Singh, and Ladhewala Warraich.

Table 1-1: Administrative Structure of District Gujranwala

Sr. No.	Names of Local Governments	Administrative Level
1	Gujranwala	Municipal Corporation
2	Ladhewala Warraich	Municipal Committee
3	Kamoke	Municipal Committee
4	Nowshere Virkan	Municipal Committee
5	Qila Dedar Singh	Municipal Committee
6	Gujranwala	District Council

Source: LG & CDD[1]

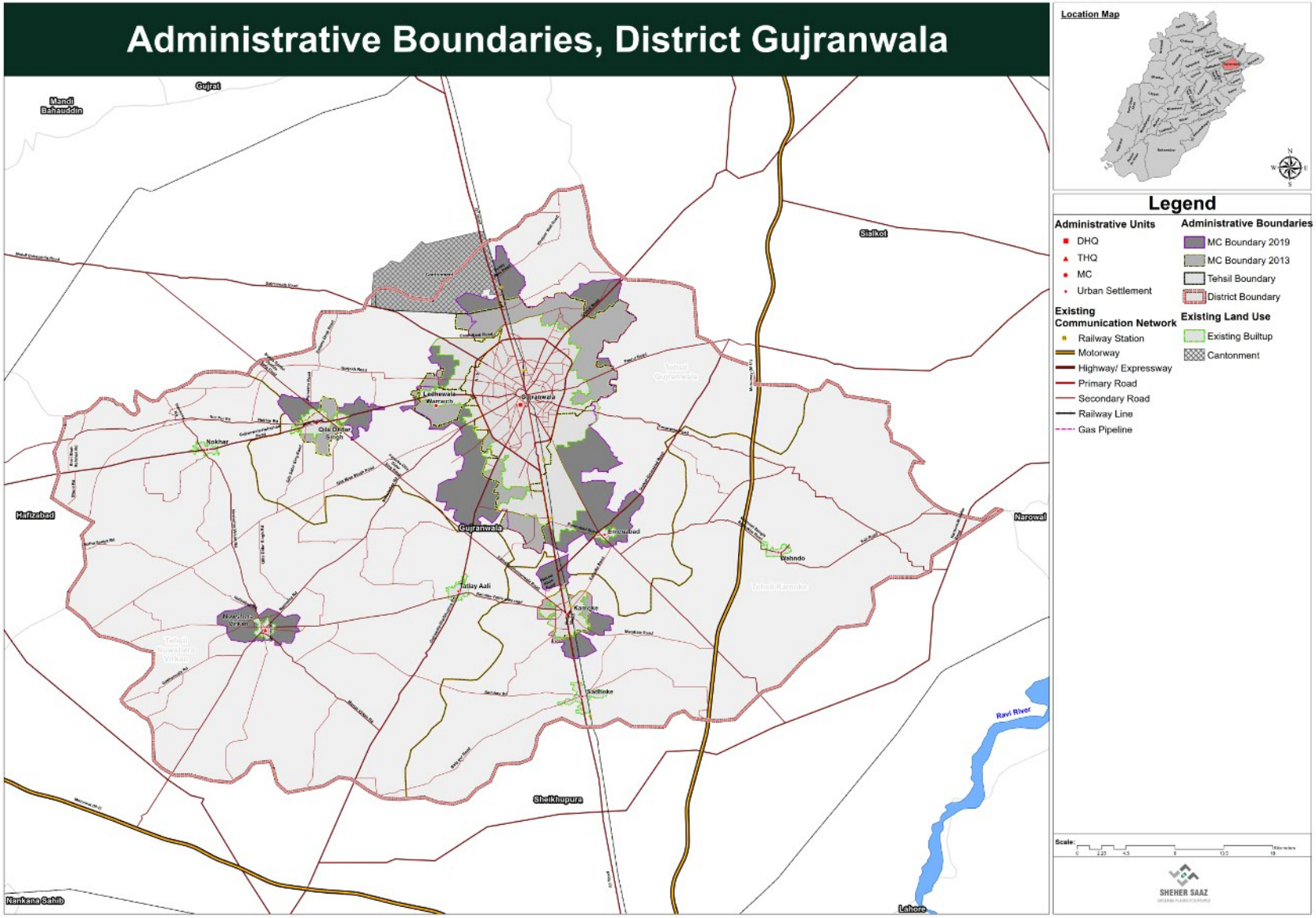
Based on the established built-up area, urban character and population, the consultant with consultation of district focal person has identified the major urban settlements in district Gujranwala. Following are urban settlements in district Gujranwala:

Table 1-2: Urban Settlements of District Gujranwala

Sr. No.	Names of Established Built-up Areas (EBAs)	Status
1	Emenabad	Urban Settlement
2	Nokhar	Urban Settlement
3	Wahndo	Urban Settlement
4	Sadhoke	Urban Settlement
5	Tatlay Aali	Urban Settlement

[1] Accessed from: https://lgcd.punjab.gov.pk/district-gujranwala, Accessed on 20-04-2024.

Map 1: Administrative Boundaries Map of District Gujranwala



1.4 Review of Previous Plan

1.4.1 Critical Analysis of Peri Urban Structure Plan (PUSP)

The Peri-Urban Structure Plan of five settlements in district Gujranwala were prepared for the future population proposing various land uses such as residential, commercial, and industrial under the Punjab Land Use Rules 2009. The plan has been analyzed considering the proposals and methodology adopted for the preparation of structure plan linking with sustainability parameters.

1.4.1.1 Methodology Required for the Preparation of Peri Urban Structure Plan (PUSP) under Land Use Rules 2009 & 2020

- **Rule 4: Land Use classes:** The classification of residential, commercial, and industrial areas was incomplete, with only the built-up area marked.
- **Rule 5,7 & 9:** Commercial, Industrial & Residential area for Approved Schemes and Establish Built-up Area Classification: The commercial, industrial & residential area was required to be classified into RAx (approved schemes), and REx (Establish Built-up Areas) on the basis of right of way and plot size which is not followed.
- **Rule 11, Peri-Urban Area:** The plan did not specify a planning period, and the proposed boundaries exceeded the expected growth trend.
- **Rule 16, Land Use in Notified Areas:** Sensitive areas were not marked in the plan.
- **Rule 19, Map Preparation:** No base map or field survey was conducted, resulting in a lack of compliance with land use classification standards.
- **Rule 26, Peri-Urban Structure Plan:** Proposed boundaries and development ignored trends and area requirements.
- **Rule 33, Planning Map:** The plan lacked integration with a classification map and followed no sustainable growth trends.
- **Rule 38, Review and Amendment:** A periodic review of the plan is required but was not addressed.

1.4.1.2 Salient Features of Peri-Urban Structure Plan & Sustainability Parameters:

- **Growth Trend:** The plan focused on expansion rather than infill, wasting prime agricultural land and not aligning with sustainable development goals.
- **Sectoral Approach:** No implementation framework was proposed, raising concerns about the feasibility of the plan.
- **Road Network:** Proposed road networks were not implemented with consistent right-of-way, affecting accessibility and sustainability.
- **Land Use Breakup:** The land use distribution did not align with actual ground needs, with excessive land allocated to commercial and industrial areas.
- **Environmental Considerations:** The plan lacked consideration for environmental impacts.
- **Spatial Analysis:** Proposed commercial and industrial areas were poorly placed, requiring revision for sustainability.

The land use breakup of Gujranwala PUSPs is as follow:

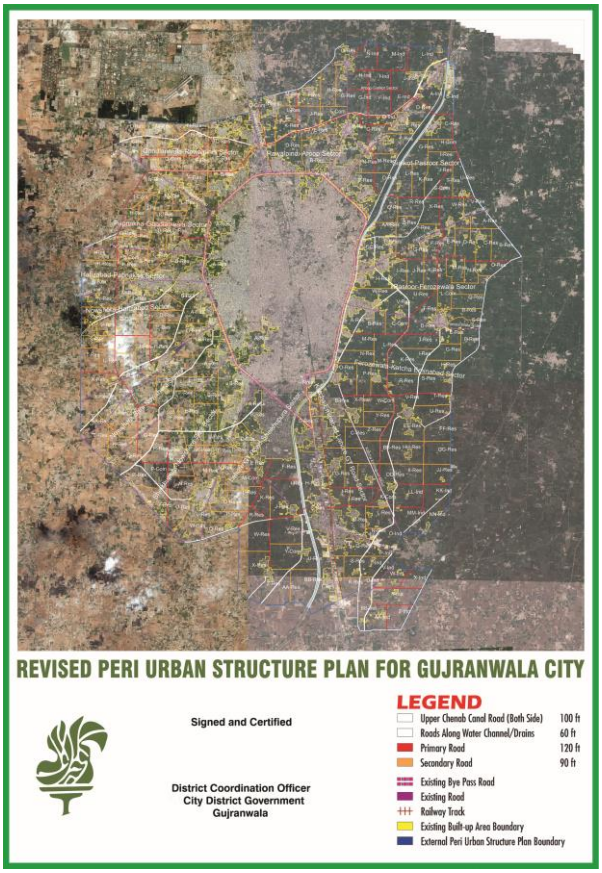
Table 1-3: Gujranwala District Peri Urban Structure Plan (PUSP) Area Analysis

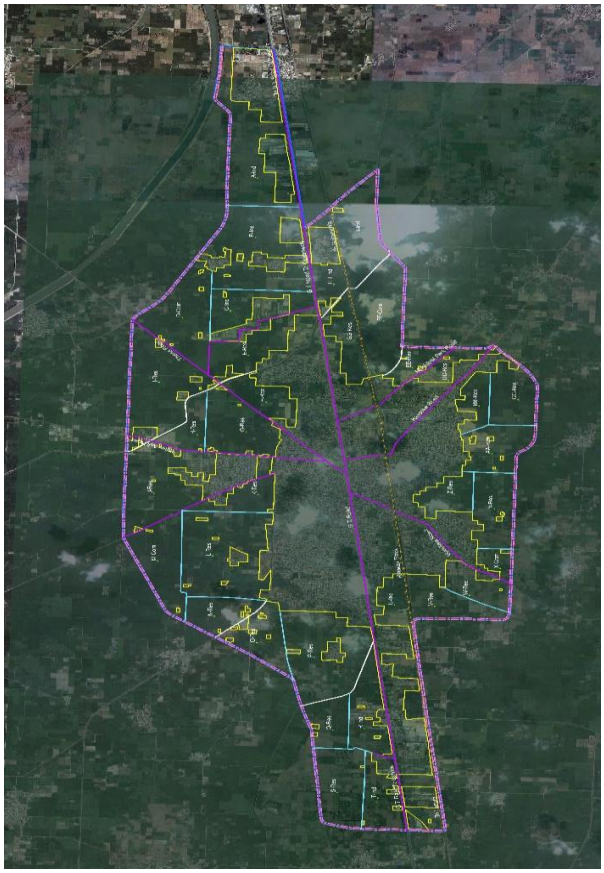
Land Use	Gujranwala	Qila Didar Singh	Emenabad	Kamoke	Nowshera
	Area (Acres)	Area (Acres)	Area (Acres)	Area (Acres)	Area (Acres)
Existing Built-up	27,367.15	741.86	257.73	2,614	573.53
Residential	59,573.05	1,469.17	601.98	3,230	1494
Commercial	3,517.12	143.15	39.03	571	244.25
Industry	7,366.56	58.87	0	814	62.4
Total Area of PUSP	**97,823.88**	**2,413.05**	**898.73**	**7,229**	**2,374.18**

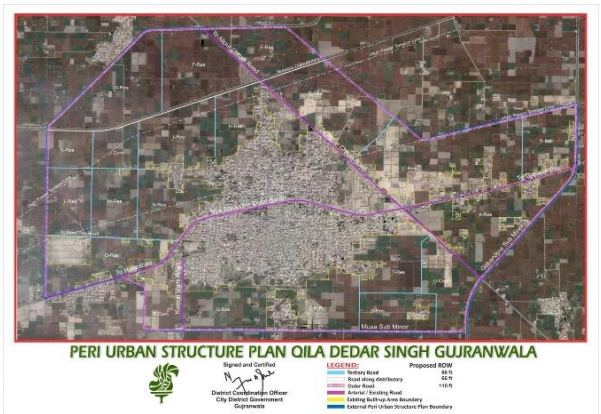
The ground position and land use breakup are not in conformity with proposals of PUSP. The excess area (in addition to list-A roads) for commercial and industrial zones is provided without any analysis and calculations to cater the area requirements.

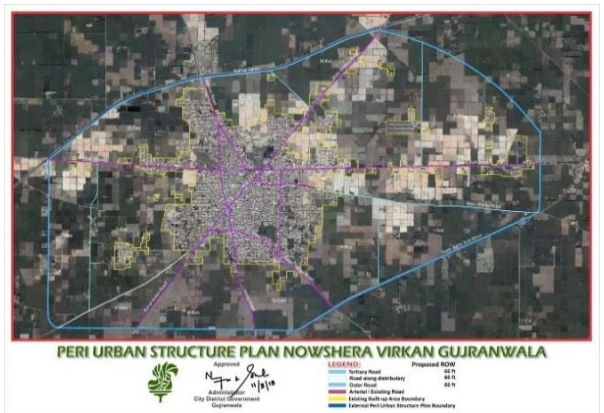
In light of above, it is concluded that the PUSP approved by competent authority was not in-line with the parameters of Land Use Rules and sustainability parameters of urban planning and hence the plan is required to be update on priority basis.

Figure 1-1: Peri Urban Structure Plan (PUSP) of Gujranwala District









PERI URBAN STRUCTURE PLAN EMINABAD GUJRANWALA

Approved
Administrator
City District Government
Gujranwala

LEGEND:	Proposed ROW
Tertiary Road	66 ft
Outer Road	66 ft
Arterial / Existing Road	
Existing Built-up Area Boundary	
External Peri Urban Structure Plan Boundary	

CHAPTER 2

LAND USE CLASSIFICATION

District Land Use & Zoning Plans
for Local Governments in Punjab

CHAPTER 2
LAND USE CLASSIFICATION MAP

Land Use Classification (LUC) is a key component of the Land Use Plan. The consultant initially prepared maps for the entire district using block-level digitization. Base maps were prepared through digitization of open-source satellite imagery. The LUC maps cover the entire Established Built-up Area (EBA) and depict the major land use classes, including residential, commercial (which also includes institutional), industrial, and notified classes. Agricultural areas, as a major class, are shown on the map as being located outside each Established Built-up Area (EBA).

2.1 Process of Land Use Classification

The land use classification map(s) are prepared by following the procedure illuminated in the figure below:

Figure 2-1: Process and components of Land Use Classification

2.2 Land Use Classification of Local Government

Local government is organized under a framework provided by the Punjab Local Government Act (2022) (PLGA). The PLGA is administered by the provincial Local Government and Community Development Department (LG&CD) Department, which is responsible for implementing the local government system in Punjab as well as the financing and staffing of administrative set-ups at the district and municipal levels.

Gujranwala district's administrative authority is held by the deputy commissioner, who is responsible for coordinating and working with the respective local governments. Six local governments are in place in the district: District Council, Municipal Corporation Gujranwala, Municipal Committee Kamoke, Municipal Committee Ladhewala Warraich, Municipal Committee Nowshera Virkan and Municipal Committee Qila Dedar Singh.

2.2.1 Municipal Corporation Gujranwala

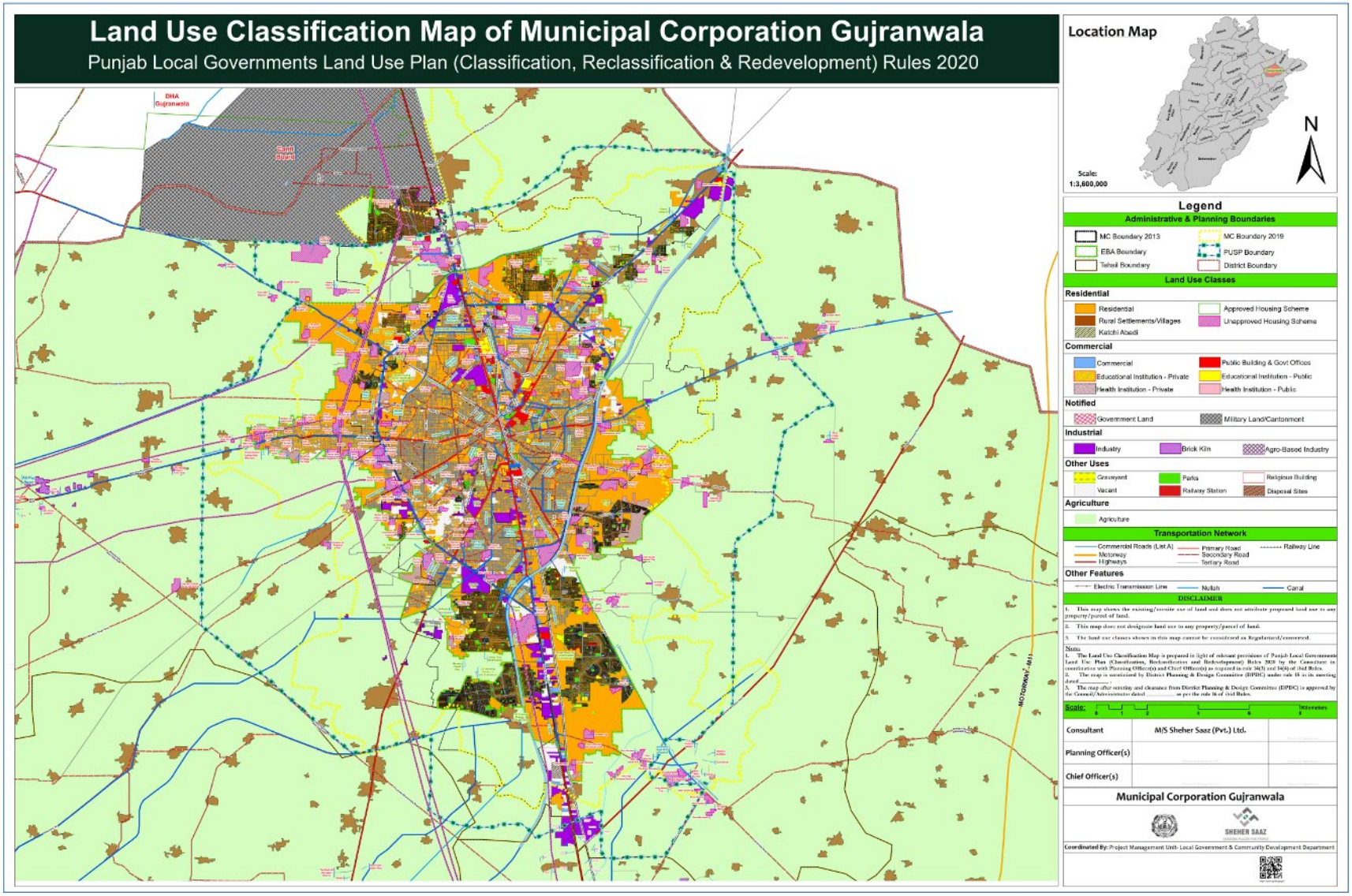
Table 2-1: Land Use Classification Analysis of Municipal Corporation Gujranwala

Land Use Classes & Sub-classes		Total EBA Area		MC (Inside EBA)		MC (Outside EBA)		Total MC	
		Area (Acres)	%Age	Area (Acres)	%Age	Area (Acres)	Area (Acres)	%Age	Area (Acres)
Sub-classes	Residential	15,780	43.91%	9,986.71	40.47%	-	-	9,986.7	25.31%
	Rural Settlements	-	0.00%	0	0.00%	1,273.6	8.61%	1,273.6	3.23%
	Katchi Abadis	43	0.12%	42.57	0.17%	-	-	42.6	0.11%
	Approved Schemes	5,480	15.25%	2,699.61	10.94%	114.24	0.77%	2,813.9	7.13%
	Unapproved Schemes	2,340	6.51%	1,436.78	5.82%	241.29	1.63%	1,678.1	4.25%
Residential Class		**23,643**	**65.79%**	**1,4165.68**	**57.41%**	**1629.13**	**11.02%**	**15,794.8**	**40.03%**
Sub-classes	Commercial	1,438	4.00%	1,302.59	5.28%	47.52	0.32%	1,350.1	3.42%
	Educational Institutions (Public)	147	0.41%	143.31	0.58%	5.6	0.04%	148.9	0.38%
	Educational Institutions (Private)	288	0.80%	284.15	1.15%	15.88	0.11%	300.0	0.76%
	Health Institutions (Public)	26	0.07%	25.78	0.10%	2.03	0.01%	27.8	0.07%
	Health Institutions (Private)	45	0.13%	41.18	0.17%	7.25	0.05%	48.4	0.12%
	Religious Building	48	0.13%	43.03	0.17%	2.77	0.02%	45.8	0.12%
	Public Buildings & Govt. Offices	418	1.16%	384.38	1.56%	33.79	0.23%	418.2	1.06%
Commercial (including institutional) Class		**2,410**	**6.71%**	**2,224.42**	**9.02%**	**114.84**	**0.78%**	**2,339.3**	**5.93%**
Sub-classes	Industrial	1,407	3.91%	1,175.35	4.76%	95.39	0.65%	1,270.7	3.22%
	Brick Kilns	21	0.06%	15.06	0.06%	0.95	0.01%	16.0	0.04%
	Agro-based Industry	11	0.03%	11.13	0.05%	6.27	0.04%	17.4	0.04%
Industrial Class		**1,438**	**4.00%**	**1,201.54**	**4.87%**	**102.61**	**0.69%**	**1,304.2**	**3.31%**
Sub-classes	Cultivable (Seasonal & Permanent)	-	-	-	-	11,427.6	77.29%	11427.6	28.96%
Agriculture Class		-	-	-	-	**11,427.64**	**77.29%**	**11,427.6**	**28.96%**
Sub-classes	Government Land	62	0.17%	50.79	0.21%	-	-	50.8	0.13%
Notified Land uses Class		**62**	**0.17%**	**50.79**	**0.21%**	-	-	**50.8**	**0.13%**
Others Sub-classes	Graveyard	129	0.36%	114.46	0.46%	31.23	0.21%	145.7	0.37%
	Parks	212	0.59%	203.96	0.83%	10.26	0.07%	214.2	0.54%
	Vacant Area	4,402	12.25%	1,778.41	7.21%	66.53	0.45%	1,844.9	4.68%
	Transportation Network	3,640	10.13%	4,934.81	20.00%	1,403.2	9.49%	6,338.0	16.06%
Others Land Use Classes		**8,382**	**23.33%**	**7,031.64**	**28.50%**	**1,511.2**	**10.22%**	**8,542.8**	**21.65%**
Total Area		**35,934**	**100%**	**24674.07**	**100%**	**14,785.4**	**100%**	**39,460**	**100%**

Source: Consultant, 2023

Note: The boundary of MC Gujranwala, as notified in 2013, has been used for calculations. The total Established Built-up Area (EBA) includes both the EBA within the limits of MC and the EBA extending beyond those limits.

Map 2: Land Use Classification Map of Municipal Corporation Gujranwala



Source: The Consultant, 2023

2.2.2 Municipal Committee Kamoke

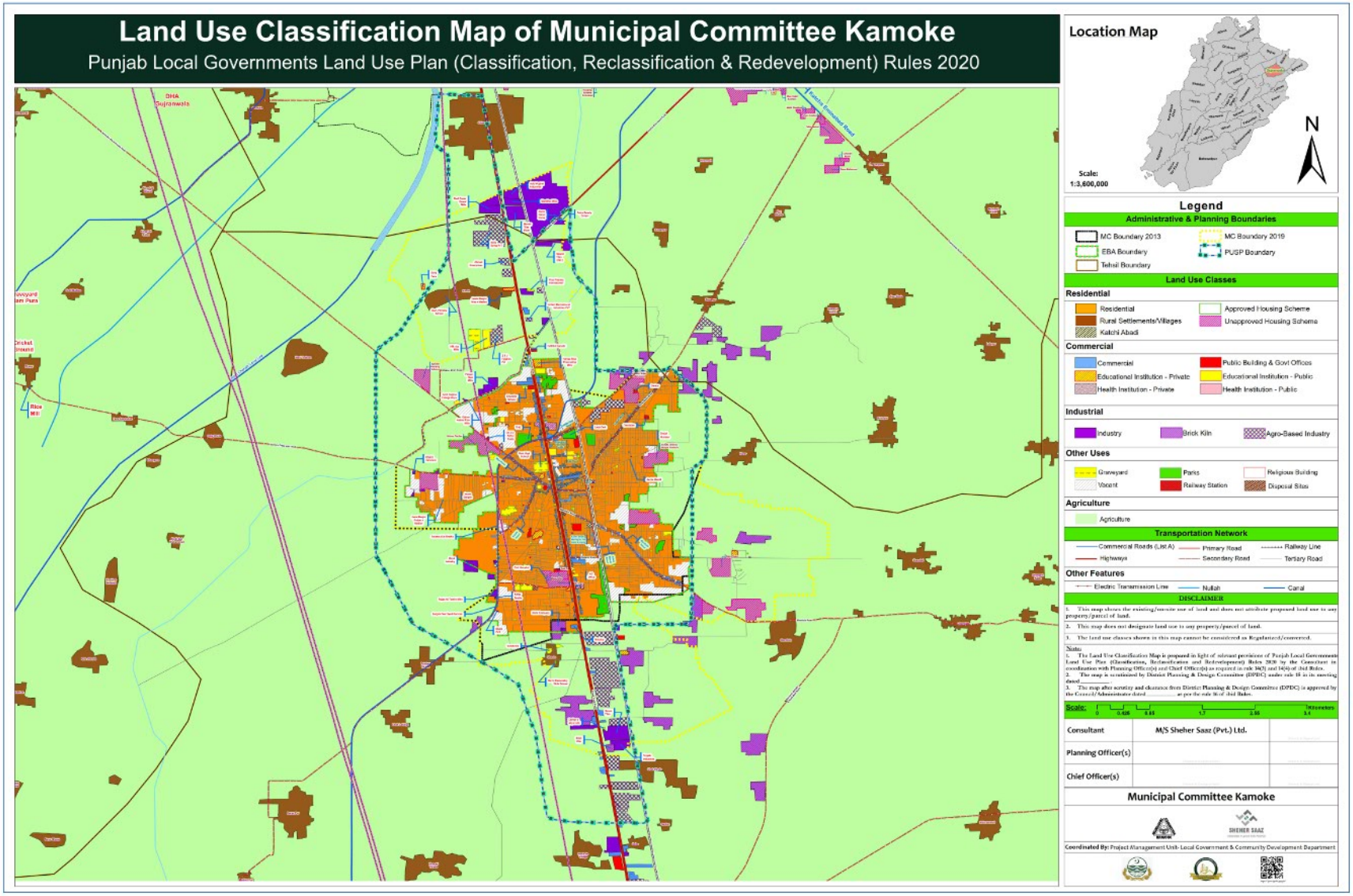
Table 2-2: Land Use Classification Analysis of Municipal Committee Kamoke

Land Use Classes & Sub-classes		Total EBA Area		MC (Inside EBA)		MC (Outside EBA)		Total MC	
		Area (Acres)	%Age	Area (Acres)	%Age	Area (Acres)	Area (Acres)	%Age	Area (Acres)
Sub-classes	Residential	1,657.51	63.44%	1,568.97	63.14%	-	-	1568.97	47.30%
	Unapproved Schemes	111.59	4.27%	111.59	4.49%	-	-	111.59	3.36%
Total Area of Residential Class		**1,769.1**	**67.71%**	**1,680.56**	**67.63%**	**-**	**-**	**1,680.56**	**50.66%**
Sub-classes	Commercial	117.75	4.51%	115.82	4.66%	2.93	0.35%	118.75	3.58%
	Educational Institutions (Public)	10.19	0.39%	10.19	0.41%	-	-	10.19	0.31%
	Educational Institutions (Private)	11.91	0.46%	11.91	0.48%	0.24	0.03%	12.15	0.37%
	Health Institutions (Public)	5.07	0.19%	5.07	0.20%	-	-	5.07	0.15%
	Health Institutions (Private)	2.37	0.09%	2.37	0.10%	-	-	2.37	0.07%
	Religious Building	15.64	0.60%	15.57	0.63%	-	-	15.57	0.47%
	Public Buildings & Govt. Offices	16.86	0.65%	16.86	0.68%	0.9	0.11%	17.76	0.54%
Total Area of Commercial (including institutional) Class		**179.79**	**6.88%**	**177.79**	**7.15%**	**4.07**	**0.49%**	**181.86**	**5.48%**
Sub-classes	Industrial	9.39	0.36%	4.5	0.18%	-	-	4.5	0.14%
	Brick Kilns	7.19	0.28%	-	-	8.62	1.04%	8.62	0.26%
	Agro-based Industry	23.24	0.89%	22.56	0.91%	-	-	22.56	0.68%
Total Area of Industrial Class		**39.82**	**1.52%**	**27.06**	**1.09%**	**8.62**	**1.04%**	**35.68**	**1.08%**
Sub-classes	Cultivable (Seasonal & Permanent)	-	-	-	-	810.06	97.32%	810.06	24.42%
Total Area of Agriculture Class		-	-	**-**	-	**810.06**	**97.32%**	-	**24.42%**
Others	Government Land	5.76	0.22%	5.76	0.23%	0.86	0.10%	6.62	0.20%
Total Area of Notified Land uses Class		**5.76**	**0.22%**	**5.76**	**0.23%**	**0.86**	**0.10%**	-	**0.20%**
Others	Graveyard	19.57	0.75%	19.52	0.79%	-	-	19.52	0.59%
	Parks	58.91	2.25%	58.91	2.37%	-	-	58.91	1.78%
	Vacant Area	262.59	10.05%	241.84	9.73%	-	-	241.84	7.29%
	Transportation Network	277.09	10.61%	273.55	11.01%	8.72	1.05%	282.27	8.51%
Total Area of Others Land Use Classes		**618.16**	**23.66%**	**593.82**	**23.90%**	**8.72**	**1.05%**	**602.54**	**18.16%**
Total Area		**2,612.63**	**100.00%**	**2,485.03**	**100%**	**832.33**	**100%**	**3,317.36**	**100%**

Source: Consultant, 2023

Note: The boundary of MC Kamoke, as notified in 2013, has been used for calculations. The total Established Built-up Area (EBA) includes both the EBA within the limits of MC and the EBA extending beyond those limits.

Map 3: Land Use Classification Map of Municipal Committee Kamoke



Source: The Consultant, 2023

2.2.3 Municipal Committee Nowshera Virkan

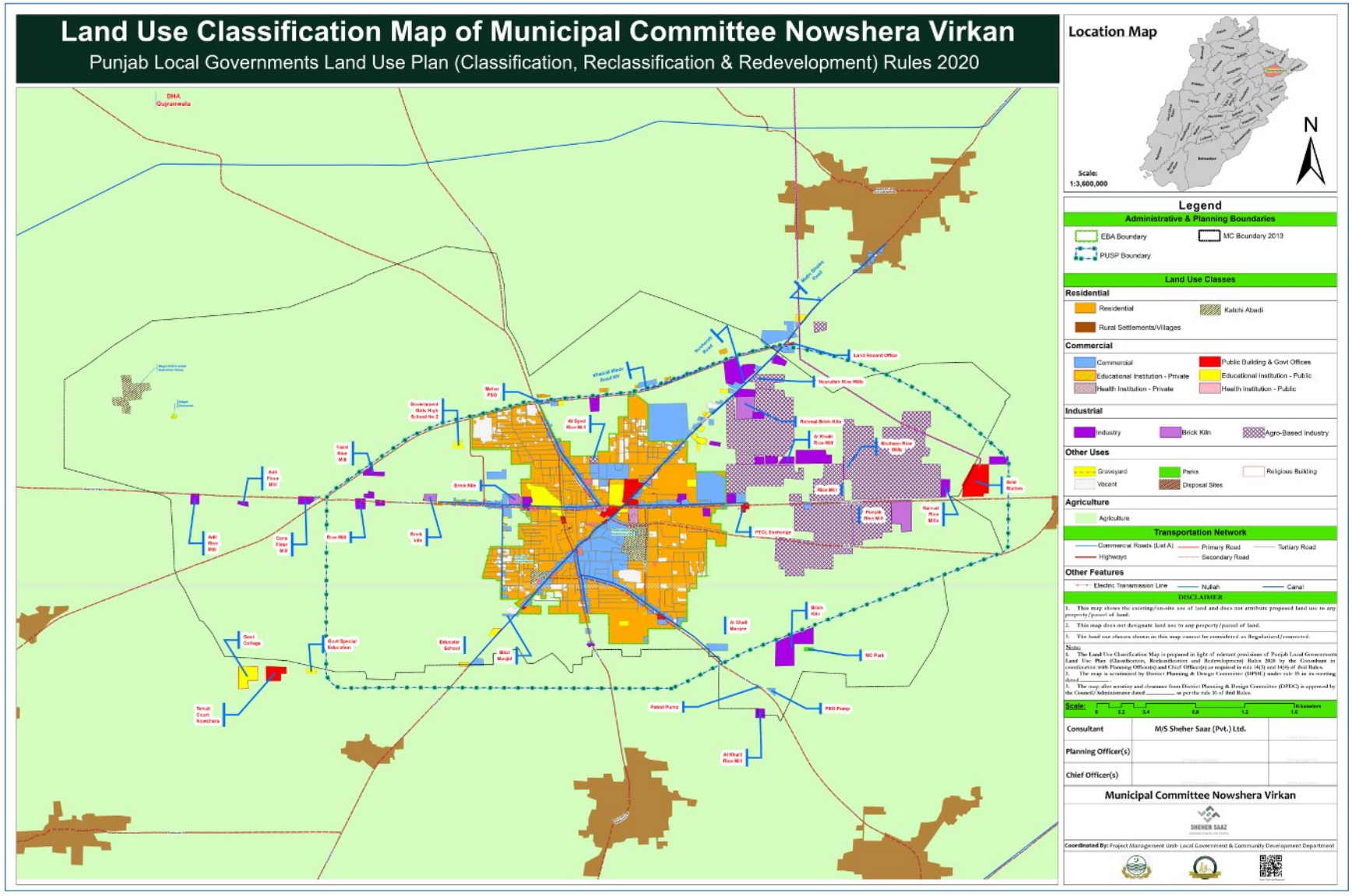
Table 2-3: Land Use Classification Analysis of Municipal Committee Nowshera Virkan

Land Use Classes & Sub-classes		Total EBA Area		MC (Inside EBA)		MC (Outside EBA)		Total MC	
		Area (Acres)	%Age	Area (Acres)	%Age	Area (Acres)	Area (Acres)	%Age	Area (Acres)
Sub-classes	Residential	272.44	51.31%	272.44	51.31%	-	-	272.44	6.78%
	Katchi Abadis	13.26	2.50%	13.26	2.50%	-	-	13.26	0.33%
Total Area of Residential Class		**285.7**	**53.80%**	**285.7**	**53.80%**	**-**	-	-	**7.11%**
Sub-classes	Commercial	92.59	17.44%	92.59	17.44%	23.46	0.67%	116.05	2.89%
	Educational Institutions (Public)	11.40	2.15%	11.40	2.15%	3.65	0.10%	15.05	0.37%
	Educational Institutions (Private)	0.28	0.05%	0.28	0.05%	2.06	0.06%	2.34	0.06%
	Health Institutions (Public)	2.63	0.50%	2.63	0.50%	-	-	2.63	0.07%
	Health Institutions (Private)	1.34	0.25%	1.34	0.25%	-	-	1.34	0.03%
	Religious Building	5.66	1.07%	5.66	1.07%	0.08	0.00%	5.74	0.14%
	Public Buildings & Govt. Offices	15.73	2.96%	15.73	2.96%	1.55	0.04%	17.28	0.43%
Total Area of Commercial (including institutional) Class		**129.6**	**24.41%**	**129.6**	**24.41%**	**30.8**	**0.88%**	**160.43**	**3.99%**
Sub-classes	Industrial	3.97	0.75%	3.97	0.75%	70.32	2.02%	74.29	1.85%
	Brick Kilns	-	-	-	-	1.15	0.03%	1.15	0.03%
Total Area of Industrial Class		**3.97**	**0.75%**	**3.97**	**0.75%**	**71.47**	**2.05%**	**75.44**	**1.88%**
Sub-classes	Cultivable (Seasonal & Permanent)	-	-	-	-	3,287.27	94.33%	3,287.27	81.85%
Total Area of Agriculture Class		-	-	-	-	**3,287.27**	**94.33%**	**3,287.27**	**81.8%**
Others	Graveyard	16.04	3.02%	16.04	3.02%	0.46	0.01%	16.5	0.41%
	Parks			-	-	0.47	0.01%	0.47	0.01%
	Vacant Area	40.55	7.64%	40.55	7.64%	0	0.00%	40.55	1.01%
	Transportation Network	55.11	10.38%	55.11	10.38%	94.53	2.71%	149.64	3.73%
Total Area of Others Land Use Classes		**111.70**	**21.04%**	**111.7**	**21.1%**	**95.46**	**2.74%**	**207.16**	**5.16%**
Total Area		**531**	**100%**	**531**	**100%**	**3,485**	**100%**	**4016**	**100%**

Source: Consultant, 2023

Note: The boundary of MC Nowshera Virkan, as notified in 2013, has been used for calculations. The total Established Built-up Area (EBA) includes both the EBA within the limits of MC and the EBA extending beyond those limits.

Map 4: Land Use Classification Map of Municipal Committee Nowshera Virkan



Source: The Consultant, 2023

2.2.4 Municipal Committee Qila Dedar Singh

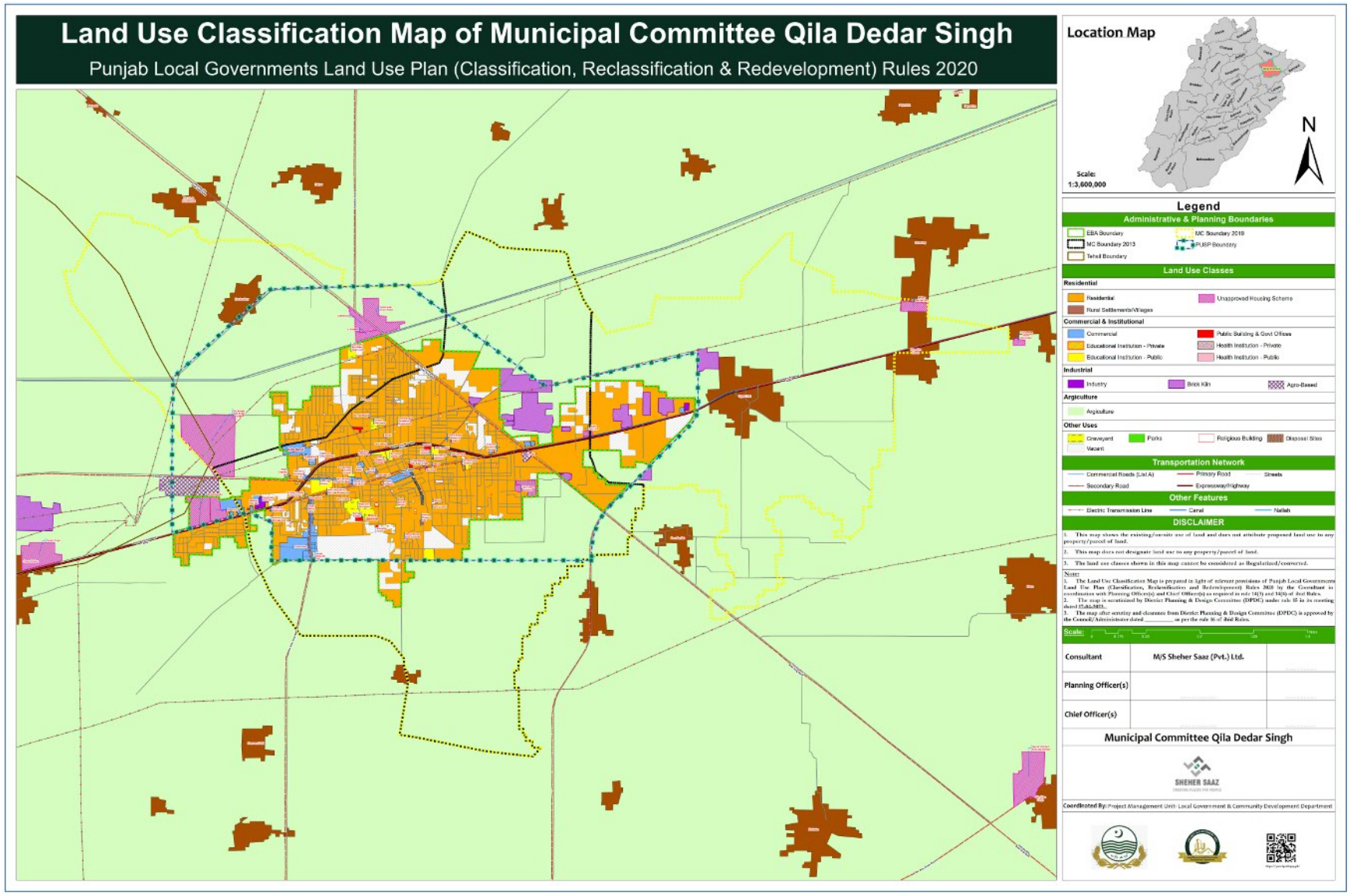
Table 2-4: Land Use Classification Analysis of Municipal Committee Qila Dedar Singh

Land Use Classes & Sub-classes		Total EBA Area		MC (Inside EBA)		MC (Outside EBA)		Total MC	
		Area (Acres)	%Age	Area (Acres)	%Age	Area (Acres)	Area (Acres)	%Age	Area (Acres)
Sub-classes	Residential	1029.8	72.80%	757.78	73.68%	-	-	757.78	29.68%
	Unapproved Schemes	26.12	1.85%	5.86	0.57%	5.35	0.35%	11.21	0.44%
Total Area of Residential Class		**1,055.92**	**74.64%**	**763.64**	**74.25%**	**5.35**	**0.35%**	**768.99**	**30.12%**
Sub-classes	Commercial	34.68	2.45%	30.2	2.94%	-	-	30.2	1.18%
	Educational Institutions (Public)	2.74	0.19%	2.74	0.27%	-	-	2.74	0.11%
	Educational Institutions (Private)	3.74	0.26%	3.74	0.36%	0.11	0.01%	3.85	0.15%
	Health Institutions (Public)	0.11	0.01%	0.11	0.01%	-	-	0.11	0.00%
	Health Institutions (Private)	1.34	0.09%	1.31	0.13%	-	-	1.31	0.05%
	Religious Building	5.81	0.41%	5.58	0.54%	-	-	5.58	0.22%
	Public Buildings & Govt. Offices	18.56	1.31%	18.56	1.80%	-	-	18.56	0.73%
Total Area of Commercial (including institutional) Class		**66.98**	**4.73%**	**62.24**	**6.05%**	**0.11**	**0.01%**	**62.35**	**2.44%**
Sub-classes	Industrial	5.91	0.42%	5.91	0.57%	0	0.00%	5.91	0.23%
	Brick Kilns			0	0.00%	47.72	3.13%	47.72	1.87%
	Agro-based Industry	1.71	0.12%	1.71	0.17%	-	-	1.71	0.07%
Total Area of Industrial Class		**7.62**	**0.54%**	**7.62**	**0.74%**	**47.72**	**3.13%**	-	**2.17%**
Sub-classes	Cultivable (Seasonal & Permanent)	-	-	-	-	1462.5	95.92%	1462.5	57.28%
Total Area of Agriculture Class		**-**	**-**	-	-	**1,462.5**	**95.92%**	-	**57.28%**
Sub-classes	Government Land	0.23	0.02%	0.23	0.02%	-	-	0.23	0.01%
Total Area of Notified Land uses Class		**0.23**	**0.02%**	**0.23**	**0.02%**	-	-	-	**0.01%**
Others	Graveyard	12.47	0.88%	10.01	0.97%	-	-	10.01	0.39%
	Vacant Area	154.01	10.89%	92.41	8.98%	-	-	92.41	3.62%
	Transportation Network	117.37	8.30%	92.35	8.98%	9.06	0.59%	101.41	3.97%
Total Area of Others Land Use Classes		**283.85**	**20.07%**	**194.77**	**18.94%**	**9.06**	**0.59%**	**203.8**	**7.98%**
Total Area		**1,415**	**100.00%**	**1,029**	**100%**	**1,525**	**100%**	**2,553**	**100%**

Source: Consultant, 2023

Note: The boundary of MC Qila Dedar Singh, as notified in 2013, has been used for calculations. The total Established Built-up Area (EBA) includes both the EBA within the limits of MC and the EBA extending beyond those limits.

Map 5: Land Use Classification Map of Municipal Committee Qila Dedar Singh



Source: The Consultant, 2023

2.2.5 Municipal Committee Ladhewala Warraich

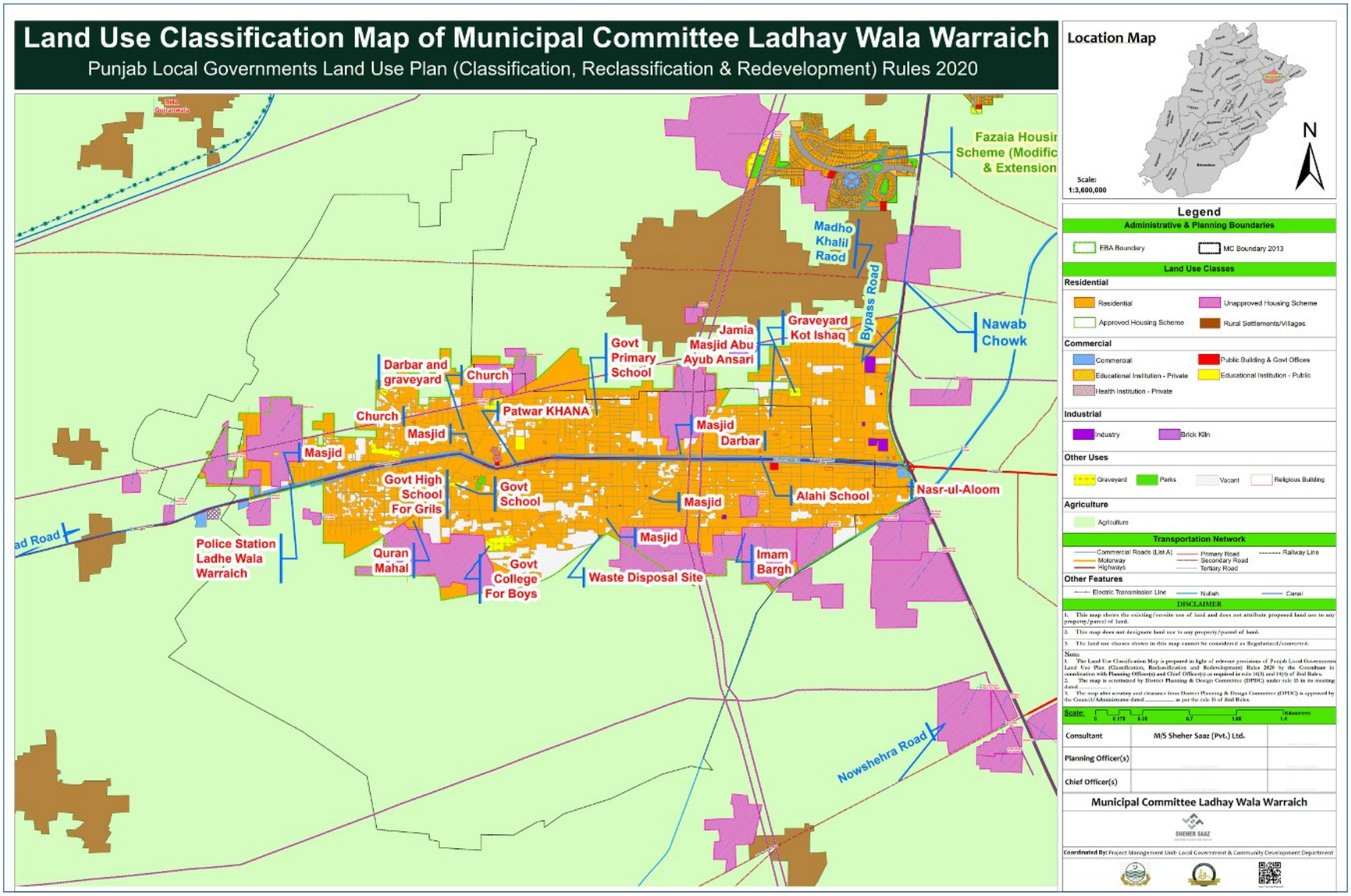
Table 2-5: Land Use Classification Analysis of Municipal Committee Ladhewala Warraich

Land Use Classes & Sub-classes		Total EBA Area		MC (Inside EBA)		MC (Outside EBA)		Total MC	
		Area (Acres)	%Age	Area (Acres)	%Age	Area (Acres)	Area (Acres)	%Age	Area (Acres)
Sub-classes	Residential	675.54	58.86%	-	-	158.49	65.36%	675.54	21.19%
	Unapproved Schemes	173.89	15.15%	12.62	0.62%	32.01	13.20%	186.51	5.85%
Total Area of Residential Class		**849.43**	**74.02%**	**12.62**	**0.62%**	**190.5**	**78.56%**	**862.05**	**27.04%**
Sub-classes	Commercial	25.35	2.21%	-	-	3.51	1.45%	25.35	0.80%
	Educational Institutions (Public)	3.41	0.30%	-	-	-	-	3.41	0.11%
	Health Institutions (Private)	1.22	0.11%	-	-	-	-	1.22	0.04%
	Religious Building	5.12	0.45%	-	-	-	-	5.12	0.16%
	Public Buildings & Govt. Offices	1.31	0.11%	-	-	-	-	1.31	0.04%
Total Area of Commercial (including institutional) Class		**36.41**	**3.17%**	**-**	**-**	**3.51**	**1.45%**	**36.41**	**1.14%**
Sub-classes	Cultivable (Seasonal & Permanent)	-	-	1,848.05	90.56%	-	-	1,848.05	57.96%
Total Area of Agriculture Class		**-**	**-**	**1,848.05**	**90.56%**	**-**	**-**	**1,848.1**	**57.96%**
Others	Graveyard	7.89	0.69%	-	-	1.06	0.44%	7.89	0.25%
	Parks	0.48	0.04%	-	-	-	-	0.48	0.02%
	Vacant Area	120.86	10.53%	-	-	12.45	5.13%	120.86	3.79%
	Transportation Network	132.54	11.55%	179.98	8.82%	34.75	14.33%	312.52	9.80%
Total Area of Others Land Use Classes		**261.77**	**22.81%**	**179.98**	**8.82%**	**48.26**	**19.90%**	**441.75**	**13.86%**
Total Area		**1,147.9**	**100%**	**2,040.65**	**100%**	**242.48**	**100%**	**3,188.3**	**100%**

Source: Consultant, 2023

Note: The boundary of MC Ladhewala Warriach, as notified in 2013, has been used for calculations. The total Established Built-up Area (EBA) includes both the EBA within the limits of MC and the EBA extending beyond those limits.

Map 6: Land Use Classification Map of Municipal Committee Ladhewala Warraich



Source: The Consultant, 2023

2.2.6 District Council Gujranwala

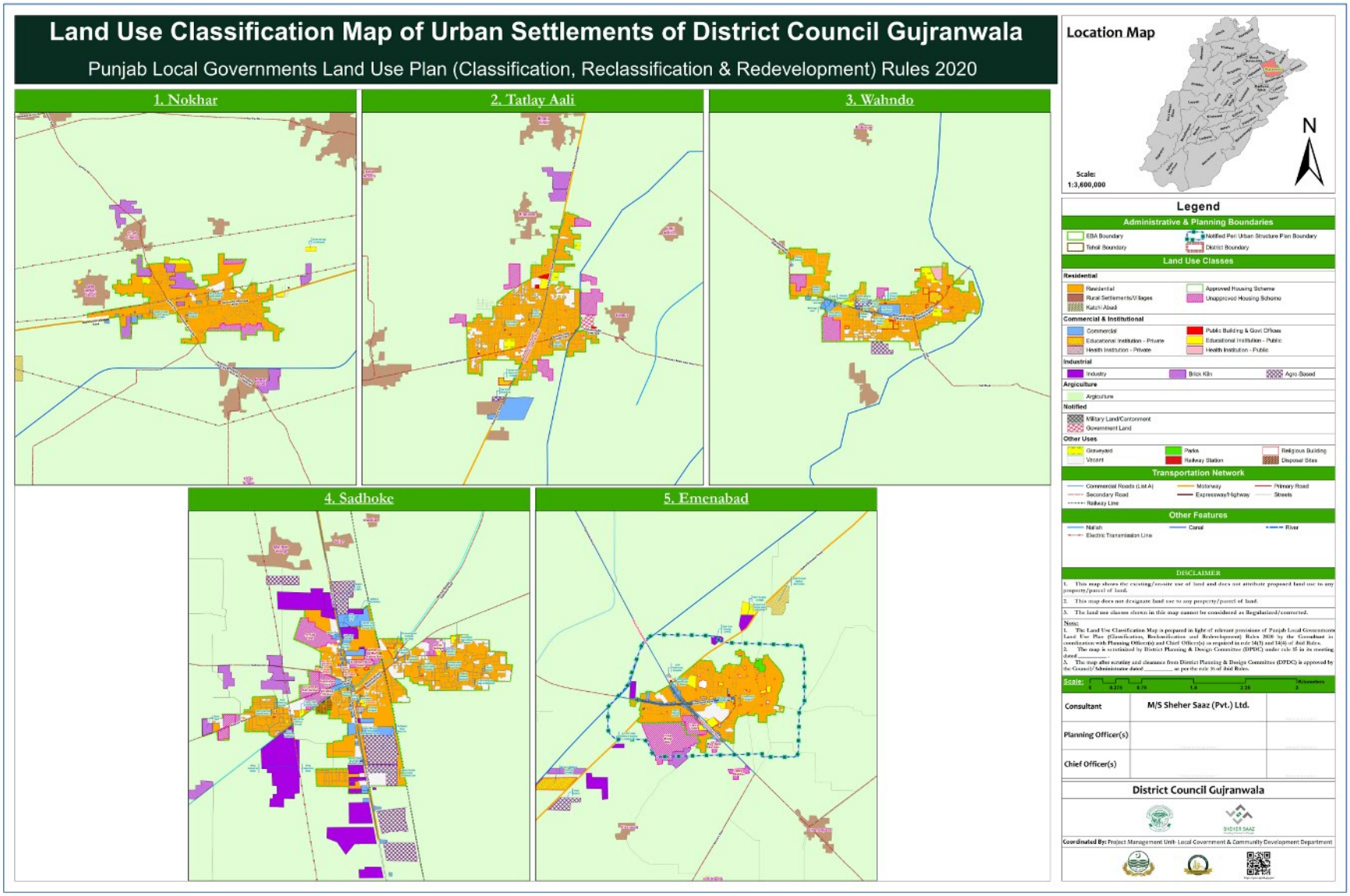
Table 2-6: District Council Gujranwala Land Use Classification

Land Use Classes & Sub-classes		EBA Gujranwala in DC		EBA Ladhewala Warraich in DC		EBA Kamoke in DC		EBA Qila Dedar Singh in DC		All Other EBAs in the DC		DC Area Outside EBAs	
		Area (acres)	%Age	Area (acres)	%Age	Area (acres)	%Age	Area (acres)	%Age	Area (acres)	%Age	Area (acres)	%Age
Sub-classes	Residential	3,179	32.21%	158.49	65.4%	88.54	69.39%	272.02	70.45%	1,874.5	70.69%	-	-
	Rural Settlements	-	-	-	-	-	-	-	-	-	-	18,247.7	3.41%
	Approved Schemes	2,781	28.17%	-	-	-	-	-	-	8.95	0.34%	-	-
	Unapproved Schemes	697.07	7.06%	32.01	13.2%	-	-	20.26	5.25%	164.8	6.21%	2,086.97	0.39%
Residential Class:		**6,657**	**67.44%**	**190.5**	**78.6%**	**88.54**	**69.39%**	**292.28**	**75.70%**	**2,049**	**77.3%**	**20,335**	**3.80%**
Sub-classes	Commercial	106.24	1.08%	3.51	1.45%	1.93	1.51%	4.48	1.16%	33.71	1.27%	497.61	0.09%
	Educational Institutions (Public)		-	-	-	-	-	-	-	25.89	0.98%	22.96	0.009%
	Educational Institutions (Private)	4.06	0.04%	-	-	-	-	-	-	0.81	0.03%	27.34	0.01%
	Health Institutions (Public)	-	-	-	-	-	-	-	-	5.07	0.19%	0.95	0.001%
	Health Institutions (Private)	2.52	0.03%	-	-	-	-	0.03	0.01%	4.26	0.16%	1.08	0.001%
	Religious Building	-	-	-	-	0.07	0.05%	0.23	0.06%	9.98	0.38%	6.57	0.00%
	Public Buildings & Govt. Offices	32.35	0.33%	-	-	-	-	-	-	4.81	0.18%	48.49	0.01%
Commercial (including institutional) Class:		**145.17**	**1.47%**	**3.51**	**1.45%**	**2**	**1.57%**	**4.74**	**1.23%**	**84.54**	**3.19%**	**605**	**0.11%**
Sub-classes	Industrial	231.26	2.34%	-	-	4.89	3.83%	-	-	89.01	3.36%	975.15	0.18%
	Brick Kilns	5.49	0.06%	-	-	7.19	5.63%	-	-	33.47	1.26%	6.15	0.001%
	Agro-based Industry	-	-	-	-	0.68	0.53%	-	-	63.47	2.39%	8.15	0.001%
Industrial Class:		**236.75**	**2.40%**	**-**	**-**	**12.76**	**10.00%**	**-**	**-**	**-**	**7.01%**	**901**	**0.17%**
Sub-classes	Cultivable (Seasonal & Permanent)	-	-	-	-	-	-	-	-	-	-	505,805	94.64%
Agriculture Class:		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**505,806**	**94.6%**
Sub-classes	Military Land / Cantonment	-	-	-	-	-	-	-	-	-	-	6,029	1.13%
	Government Land	11.02	0.11%	-	-	-	-	-	-	8.390	0.32%	1.92	0.00%
Notified Land uses Class:		**11.02**	**0.11%**	**-**	**-**	**-**	**-**	**-**	**-**	**8.390**	**0.32%**	**6031**	**1.13%**
Sub-classes	Graveyard	5.72	0.06%	1.06	0.44%	0.05	0.04%	2.46	0.64%	30.63	1.16%	24.21	0.00%
	Parks	7.13	0.07%	-	-	-	-	-	-	3.97	0.15%	6.98	0.00%
	Vacant Area	2,490	25.23%	12.45	5.13%	20.75	16.26%	61.6	15.95%	101.68	3.83%	-	-
	Transportation Network	317.99	3.22%	34.75	14.33%	3.54	2.77%	25.02	6.48%	188.48	7.11%	728.63	0.14%
Other Land uses Class:		**2,821**	**28.58%**	**48.26**	**19.9%**	**24.34**	**19.08%**	**89.08**	**23.07%**	**324.76**	**12.3%**	**759.82**	**0.14%**
Total Area (acres)		**9,870**	**100%**	**242**	**100%**	**128**	**100%**	**386**	**100%**	**2,652**	**100%**	**534,436**	**100%**

Source: Consultant, 2023

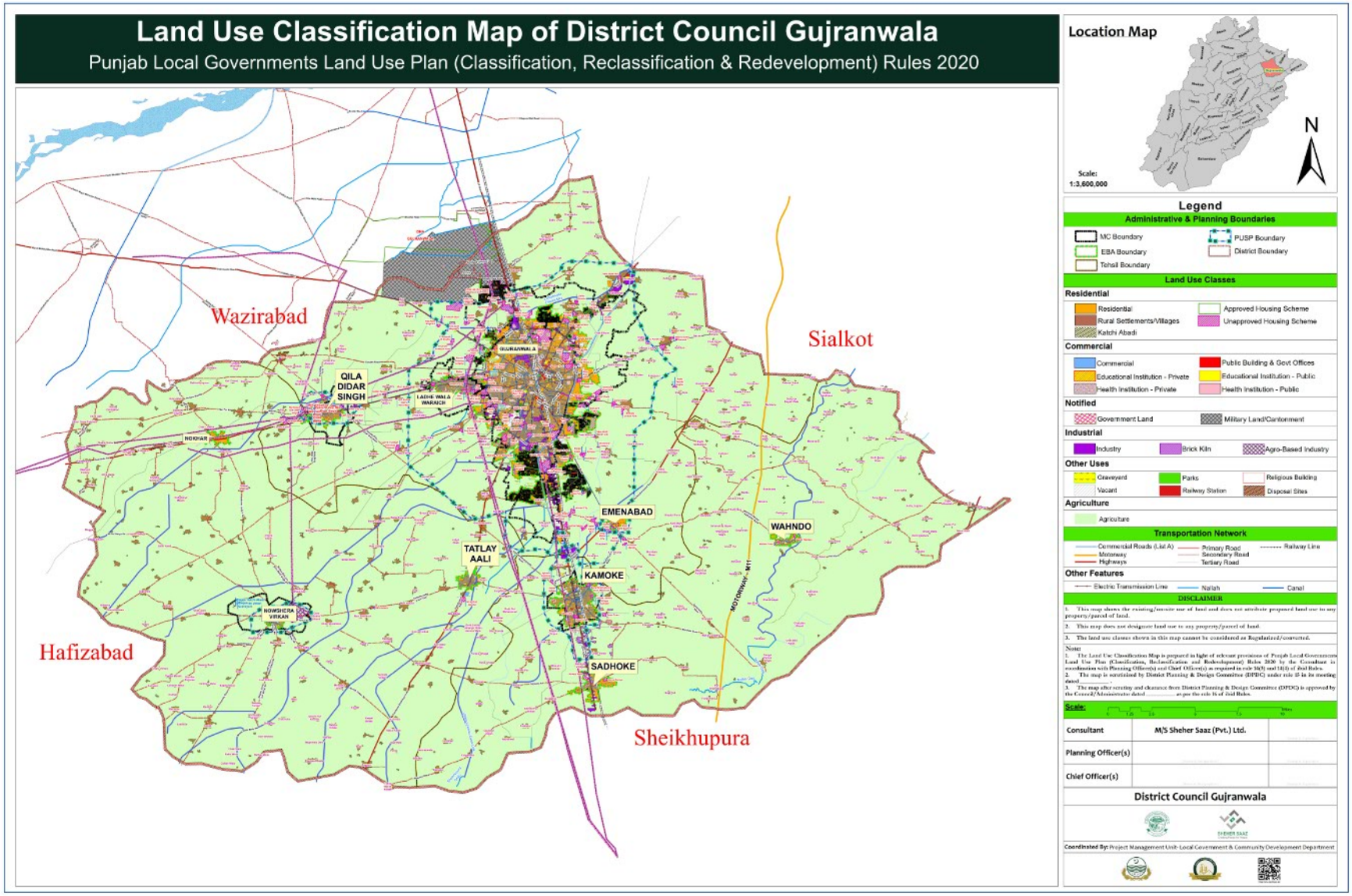
Note: The boundaries of Municipal Corporation/Committees as notified in 2013, have been used for calculations. The Established Built-up Areas (EBAs) extending beyond the MC boundaries includes areas that fall under the jurisdiction of the District Council (DC).

Map 7: Land Use Classification Map of Urban Settlements in District Council Gujranwala



Source: The Consultant, 2023

Map 8: Land Use Classification Map of District Council Gujranwala



Source: The Consultant, 2023

2.2.7 Urban Blocks of District Gujranwala

The Established Built-up Area (EBA) of each Local Government has been divided into urban blocks, with each block classified as residential, commercial, industrial, and notified based on the predominant land use in accordance with the Punjab Local Governments Land Use Plan (Classification, Reclassification, and Redevelopment) Rules 2020. A summary of urban blocks in District Gujranwala is provided below. For detailed information on each urban block, please refer to the notified plan:

Table 2-7: Block Level Land Use Classification of District Gujranwala

Sr. No.	Local Government	Residential	Commercial	Industry	Notified
Municipal Committees	MC Gujranwala (including Ladhewala Warraich)	1,710	942	112	2
	Kamoke	136	112	37	-
	Nowshera Virkan	55	56	10	-
	Qila Dedar Singh	87	64	8	-
District Council	Emenabad	39	31	-	-
	Sadhoke	24	16	-	-
	Wahndo	21	29	-	-
	Nokhar	31	41	2	-
	Tatlay Aali	38	31	-	-

Note: If a land use is marked as non-conforming in urban block maps based on the predominant land use, it may be treated as per its designated use in the previously notified Outline Development Plan (ODP).

CHAPTER 3

SITE DEVELOPMENT ZONE STRUCTURE PLAN (2023-2043)

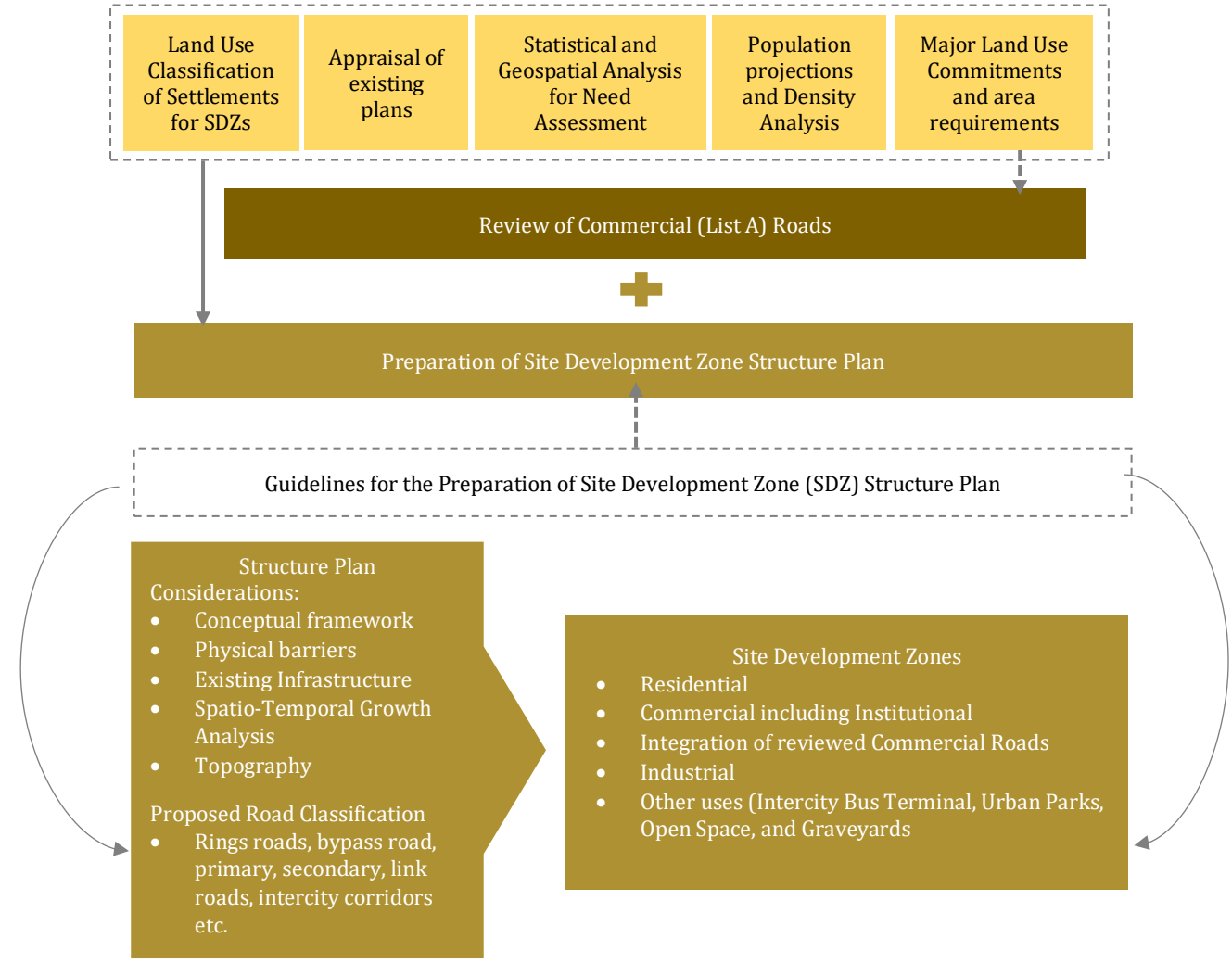
District Land Use & Zoning Plans
for Local Governments in Punjab

CHAPTER 3
SITE DEVELOPMENT ZONE STRUCTURE PLAN (2023-2043)

3.1 Process

The process examines the Existing Built-up Areas (EBAs) within the district for which the Site Development Zone (SDZ) Structure Plan has been prepared. A density analysis of the EBAs was conducted to determine the current density. Considering the density trends and population growth rate, future density has been planned for the period of 2023–2043. The planned density dictates the total area required by 2043, which has been allocated across various zones based on the land use analysis of the EBAs, addressing current gaps where necessary. The proposed land use zones incorporate a spatial understanding of the existing road network, compatibility between land uses, and planning principles. A road network has also been proposed to shape the city structure and guide future development prior to zoning demarcation. The following interdependent activities made the process interactive, achieving set goals through data-driven plans with inputs from local governments and stakeholders, ultimately leading to an inclusive plan.

Figure 3-1: Process and Components of Site Development Zone (SDZ) Structure Plan



3.2 Site Development Zone (SDZ) Structure Plan

The SDZ Structure Plan has been prepared for District Gujranwala for the next 20 years following the Land Use Rules 2020 and the Standing Instructions dated 17th September 2022. The plan's proposals are based on analysis of previous land use plans, the existing land use classification, established built up area, various types of other analyses including land cover, growth trend, urban sprawl analysis, accessibility analysis, population projection and density analysis etc. The SDZs have also considered optimizing land use, accommodated projected population, and promoted sustainable development. The following sections present further steps followed for the preparation of SDZ Structure Plan

The district Gujranwala comprises three tehsils namely Gujranwala, Kamoke, and Nowshera Virkan. The consultants have demarcated the EBA boundaries undertaking the prescribed guidelines from the LG & CD Department. The table below illustrates the list of all Local Governments (LGs) / Urban Settlements.

Table 3-1: List of Local Governments/Urban Settlements

Sr. #	Tehsil	Local Gvernments / Settlements (2013)	Area (Acre)	Administrative Levels	Requirement
1	Gujranwala	Gujranwala	39,459.5	Municipal Corporation	Site Development Zone Structure Plan
2		Ladhewala Warraich	3,188.26	Municipal Committee	
3		Qila Dedar Singh	2,553	Municipal Committee	
4		Emenabad	352	Urban Settlement	
5	Kamoke	Kamoke	3,317.36	Municipal Committee	Site Development Zone Structure Plan
6		Sadhoke	977	Urban Settlement	
7		Wahndo	386	Urban Settlement	
8	Nowshera Virkan	Nowshera Virkan	4,016	Municipal Committee	Site Development Zone Structure Plan
9		Tatlay Aali	549	Urban Settlement	
10		Nokhar	217	Urban Settlement	

The MC Ladhewala Warraich is situated in the west of Gujranwala and is part of the Gujranwala EBA. Additionally, EBA Emenabad is located southeast of Gujranwala and holds significant potential for the city's to be developed and connect Gujranwala. Therefore, with technical expertise it is recommended to develop the SDZ for Gujranwala that encompasses MC Gujranwala, Ladhewala Warraich, and the urban settlement of Emenabad, aiming to facilitate and accommodate the city's growth.

As per the Land use Plan Rules 2020, the SDZs have been aligned with the followings:

- Population Density
- Temporal analysis of land cover
- Densification
- Boundary has been drawn keeping in view the physical barriers
- The limits of the Site Development Zones (SDZs) do not extend into the restricted areas
- The location of the SDZ can be outside established built up area and close to its boundary to ensure a compact and contiguous form
- Connectivity to existing infrastructure and accessibility

Note: All on-ground developments with no legal/approval status are marked as "Area Under Development (AUD)" and their fate may be decided by the DPDC/LG&CDD.

3.2.1 Analysis & Projection

The geo-spatial and statistical analysis includes the land-use cover analysis, providing insights into land use patterns and trends over the past 30-40 years. Accessibility analysis assesses the connectivity and access to other facilities. Additionally, this section discusses social infrastructure, including health, education, and recreational facilities, in terms of both quantity and quality.

Population Projection Method:

Population projection is carried out to calculate the area requirement for the future development for the Site Development Zone Structure Plan. To project the population of Gujranwala district geometric progression method has been used. The formula to calculate population projection is:

$$Projected\ Population(Pf) = Pi\left(1 + \frac{r}{100}\right)\text{^}n$$

Where:

Pi = Population of the Current Year
Pf = Population for the Required Year
n = difference of years
r = Growth Rate

The settlements growth rate is kept constant for the projection as the growth rate is taken from the Pakistan bureau of statistics of 2017 census and kept it constant for the year 2043.

Population Density Analysis

Population density is defined as the number of people residing per unit of area, expressed as the number of people per acre.

Density in EBA = Estimated Population 2023 in Census / EBA area

Following the assessment of the existing density, a certain standard has been set for the next 20 years, depending on the existing density. If the existing density falls below 70 persons per acre, an increase of 20% in density is proposed. Conversely, if the existing density exceeds 70 persons per acre, a more conservative approach is advised, wherein a 10% increase in density is suggested for the next 20 years.

However, when the density reaches or surpasses approximately 100 persons per acre, it is recommended to maintain the density at 100 persons per acre for the subsequent 20 years. This approach ensures that the density remains within a sustainable range and prevents excessive population concentration that may strain the area's resources and infrastructure.

In some cases, the density of some cities has been kept constant, with only a minor increase applied. A factor was introduced to account for smaller cities, recognizing that these cities will also need to expand. This approach ensures the density factor is appropriately adjusted for the next 20 years, allowing for gradual urban growth.

3.3 Site Development Zone (SDZ) Structure Plan of Municipal Corporation Gujranwala

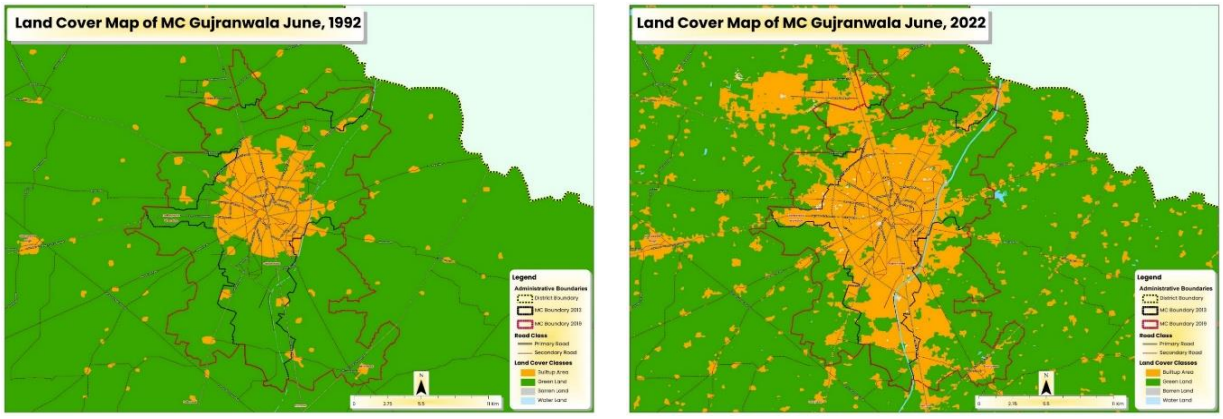
3.3.1 Past Trend Analysis of Municipal Corporation Gujranwala

The land cover analysis of Gujranwala from 1992 to 2022 reveals significant changes. In 1992, most of the area was green land, with a smaller portion used for built-up areas, including residential, commercial, and industrial spaces. Water and barren land made up a minimal part of the landscape. By 2022, green land had significantly decreased, while built-up areas had expanded considerably. Water and barren land also saw slight increases over the period.

Table 3-2: Land Cover Analysis of Municipal Corporation Gujranwala

Land Use	1992		2022		Change (2022-1992)	
	Area (acres)	Percentage	Area (acres)	Percentage	Area (acres)	Percentage
Green Land	59,090	79.9%	34,321	46.4%	24,768.80	-41.92%
Built-Up	14,676	19.9%	38,632	52.3%	23,955.96	163.23%
Water Land	148	0.2%	628	0.9%	480.60	325.07%
Barren Land	8	0.0%	340	0.5%	332.24	4152.97%

Figure 3-2: Land Cover Map of Municipal Corporation Gujranwala from 1992-2022

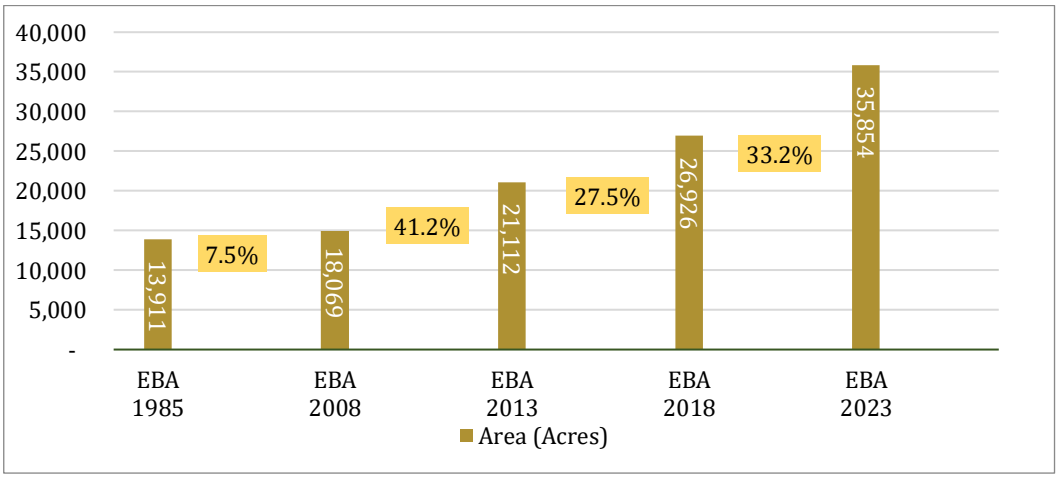


Source: The Consultant, 2023

3.3.2 Growth Trend Analysis

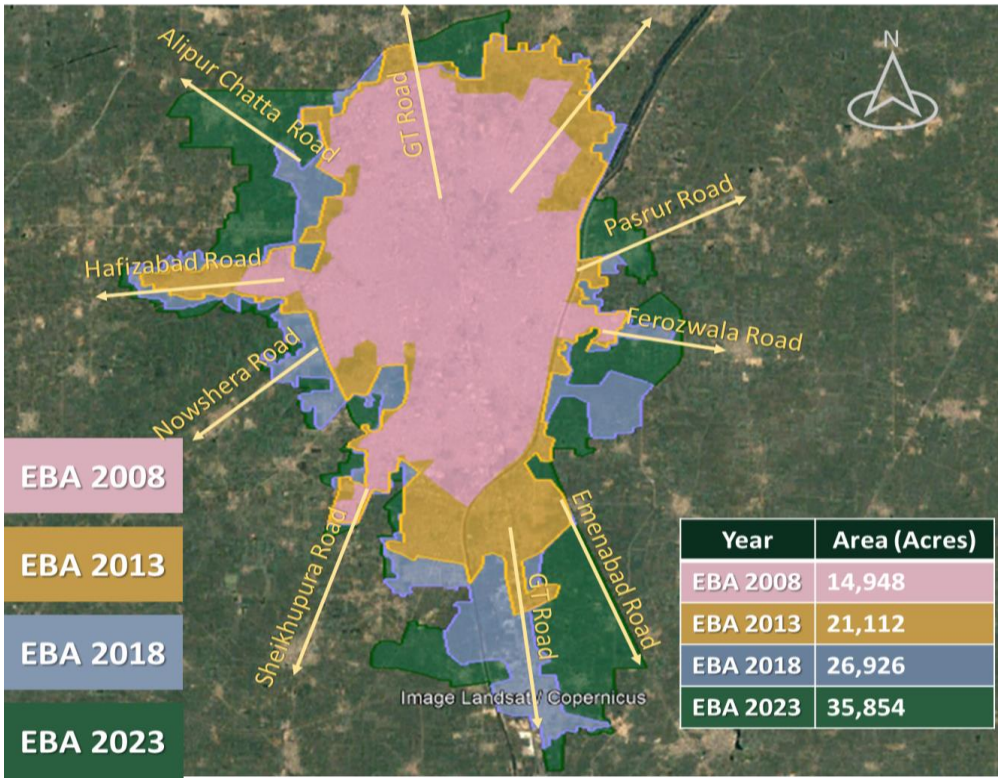
Gujranwala has seen significant urbanization over the years. The built-up areas expand in all directions, particularly along major roads. These include GT Road (both southern and northern sides), Sialkot Road, Pasrur Road, Sheikhupura Road, Emenabad Road, Hafizabad Road, Alipur Chattah Road, Nowshera Road, and Ferozwala Road.

Figure 3-3: Growth Trend Analysis of Municipal Corporation Gujranwala



Source: The Consultant, 2023

Figure 3-4: Growth Trend Map of Municipal Corporation Gujranwala



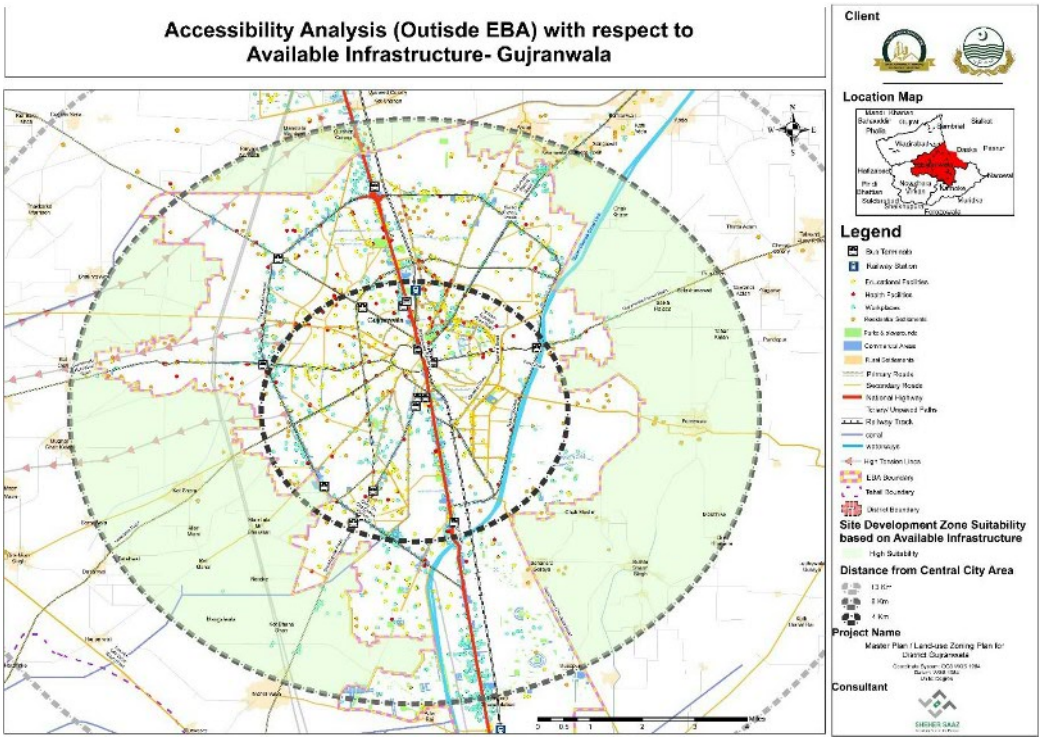
Source: The Consultant, 2023

3.3.3 Accessibility Analysis

The accessibility analysis outside the Existing Built-up Area (EBA) identifies potential locations for Site Development Zones (SDZs) based on the proximity to existing infrastructure. Using the 15-minute city model, areas with high and low accessibility are mapped, highlighting regions needing further development. This analysis, conducted for Gujranwala city, considers both public and private transport modes, with buffer distances of 4 km, 9 km, and 13 km representing 5, 10, and 15-minute travel times.

The process disregards highway conditions and traffic, focusing on the average travel speed of for various vehicles. Based on accessibility criteria—such as proximity to social functions, roads, and city centers—suitable locations for SDZs are identified. Priority is given to areas outside the EBA with available social functions and infrastructure. The map illustrates SDZ identification based on growth trends and road networks, supporting strategic site development.

Figure 3-5: Accessibility Analysis of Gujranwala outside Established Built-up Areas (EBAs) boundary



Source: Consultants, 2023

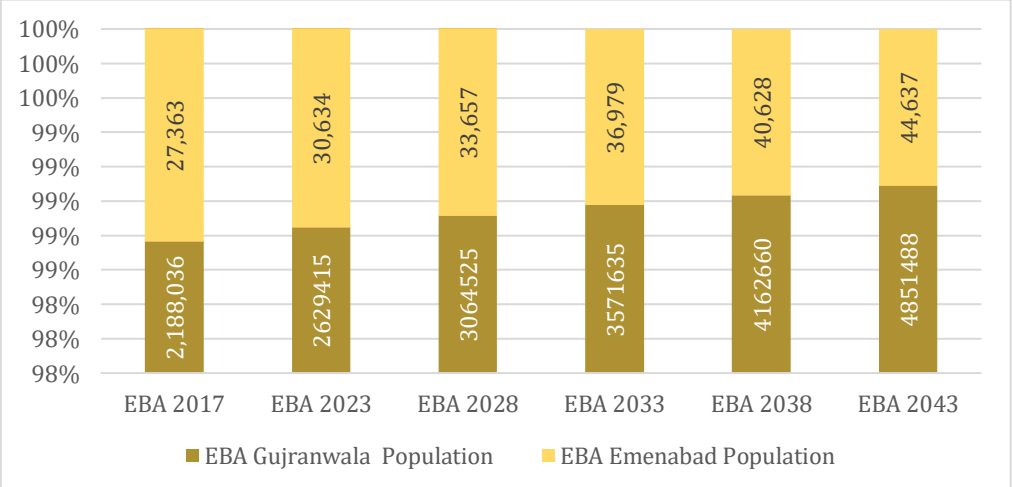
3.3.4 Population Projection

Table 3-3: Population Projection of Gujranwala & Emenabad Established Built-up Areas (EBAs)

Sr. No.	Year	EBA Gujranwala Population	Growth Rate Gujranwala	EBA Emenabad Population	Growth Rate Emenabad
1	2017	2,188,036	3.11%	27,363	1.9%
2	2023	2,629,415	3.11%	30,634	1.9%
3	2028	3,064,525	3.11%	33,657	1.9%
4	2033	3,571,635	3.11%	36,979	1.9%
5	2038	4,162,660	3.11%	40,628	1.9%
6	2043	4,851,488	3.11%	44,637	1.9%

Source: Calculated by consultant by using PBS Census 2017

Figure 3-6: Population Projection of Gujranwala & Emenabad Established Built-up Areas (EBAs)



Source: The Consultant, 2023

3.3.5 Density Analysis

To address urban planning needs, the following table presents the population density analysis for Gujranwala and Emenabad:

Table 3-4: Population Density Analysis for Gujranwala

Urban Settlements	EBA Pop 2023	EBA 2023 (Acres)	Existing Density	EBA Pop 2043	EBA 2043 (Acres)	Proposed Density
Gujranwala	2,629,415	35,854	73	4,851,488	55,128	88
Emenabad	30,634	352	87	44,637	513	87

Source: The Consultant calculated by using population from the PBS census

3.3.6 Future Area Requirement Assessment

The proposed residential Site Development Zone (SDZ) in Gujranwala is based on projected population growth. By 2043, the Existing Built Area (EBA) will expand to accommodate around 4.8 million residents. To accommodate this population, a total area of 19,274 acres is required for the SDZ. After considering the DHA factor, the final area requirement for the SDZ is projected to be 17,347 acres. The table shows the residential SDZ future area requirement for the planning period of (2023-2043).

Table 3-5: Future Area Requirement for Residential Site Development Zone (SDZ) of Gujranwala (2023-2043)

Description	*Statistics*	*Description*	*Statistics*
Population of MC Gujranwala (2017 census)	2,028,421	Population of Gujranwala EBA (2017)	2,188,036
Population of Emenabad EBA (2017)	27,363	EBA Gujranwala 2023 (Existing)	35,854 Acres
Population of EBA Gujranwala 2023 (Estimated)	2,629,415	EBA Emenabad 2023 (Existing)	352 Acres
Population of Emenabad EBA 2023 (Estimated)	32,445	Density of Emenabad EBA (2023)	87 PPA
Density of Gujranwala EBA (2023)	73 PPA	Increase in Density for year 2043	20%
EBA Gujranwala of 2043 (Projected)	55,128 Acres	Population Gujranwala of EBA 2043 (Projected)	4,851,488
EBA Emenabad of 2043 (Projected)	513 Acres	Population of EBA Emenabad 2043 (Projected)	57,249
Proposed Density Gujranwala for the year 2043	88 PPA	Future area requirement by 2043 for the SDZ	19,274 Acres
Future Area Requirement Emenabad by 2043 for the SDZ	161 Acres	DHA Gujranwala factor	10% (1927)
Area Requirement for SDZ after incorporating the DHA factor			17,347 Acres

Source: The consultant calculated by using population from the PBS 2017 census

3.3.7 Proposed Site Development Zone (SDZ)

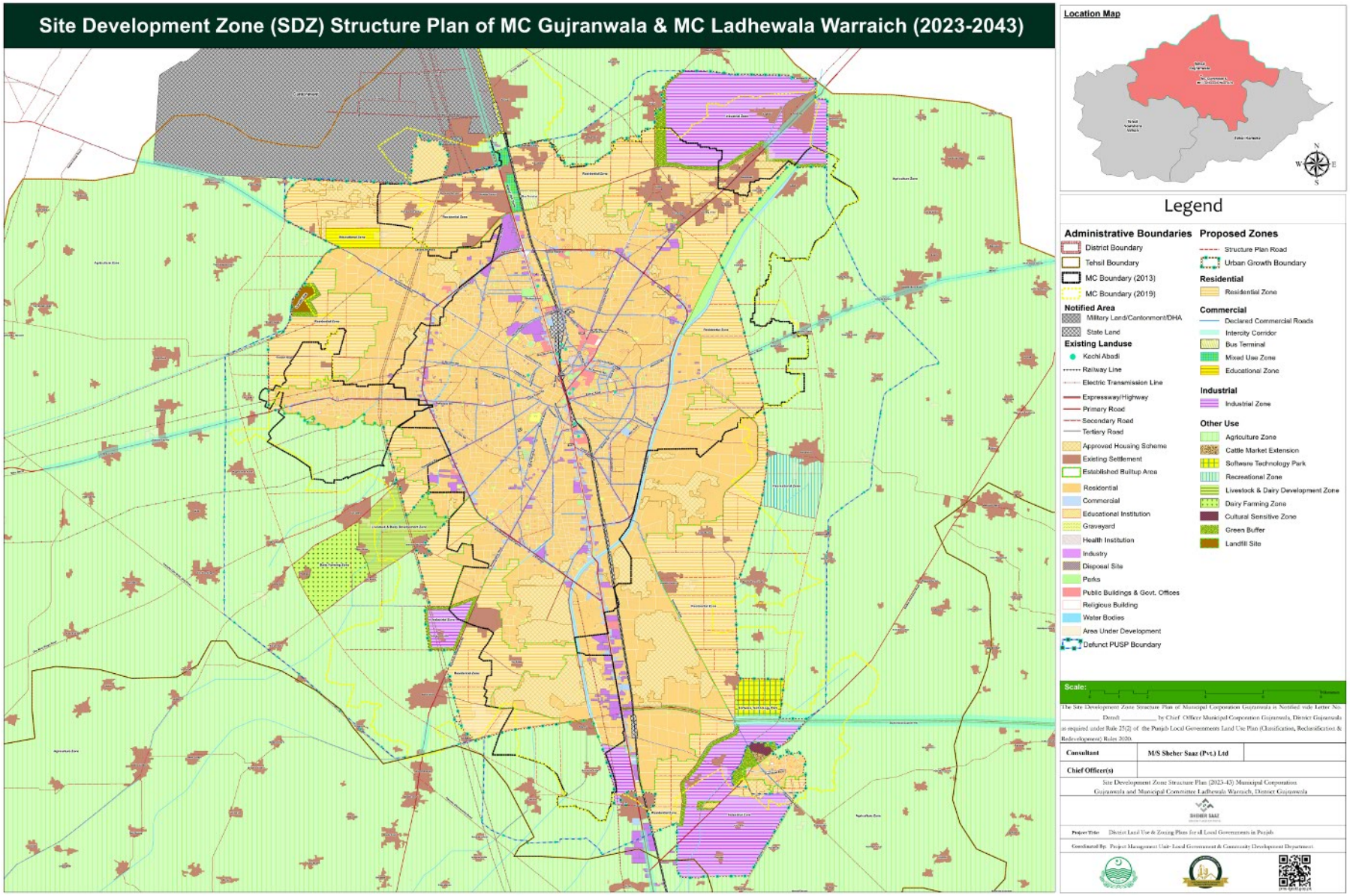
The site development zone has been proposed for the year 2043. The plans have been prepared for each land use class and have been discussed in detail along with the proposed zones and areas. The table shows the overall area and percentages of the residential zones, commercial zones, industrial zones and other zones.

Table 3-6: Proposed Site Development Zones in Gujranwala

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	17,040.73	71.55%
Commercial Zones	525.13	2.21%
Industrial Zones	6,249.46	26.24%
Total	**23,815.32**	**100%**
Other Zones		
Other Zones	587.17	-
Allied Agricultural Zone	3632.73	-

Source: The Consultant, 2023

Map 9: Site Development Zone Structure Plan of Municipal Corporation Gujranwala & Municipal Committee Ladhewala Warraich



3.3.7.1 Proposed Residential Zones

The residential zones were proposed based on the factors of accessibility, growth trend, market forces, compact development, and along the physical barrier. The location of Site Development Zones (SDZs) is identified on the basis of the growth trend, adjoining boundaries and other multiple factors that have influenced the future location for the development. The direction of future development is directed mainly in the Northern, Northwestern, Northeastern, Southern, and Southwestern side direction i.e., towards GT Road, Sialkot Road, Sheikhupura Road, Katcha Emenabad Road, Pasroor Road, Hafizabad Road and Alipur Chatha Road for the proposed site development zones. The discussed directions are experiencing growth as these are the main corridors of Gujranwala.

Table 3-7: Proposed Residential Zones in Gujranwala

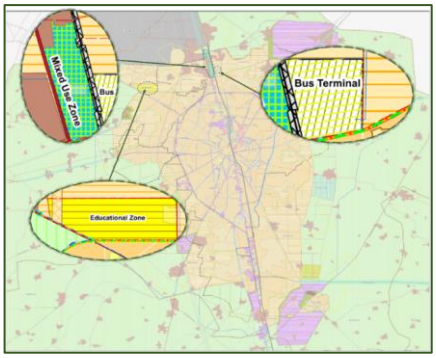
Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	17040.73	71.55%	

3.3.7.2 Proposed Commercial Zones

The commercial zones have been proposed based on several factors, including market trends, land use trends, main roads, infrastructure, road networks, and compatibility of land uses.

Table 3-8: Proposed Commercial Zones in Gujranwala

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Mixed Use Zone	164.72	0.7%	
Educational Zone	276.33	1.2%	
Bus Terminal	84.08	0.4%	



The Mixed-Use Zone covers 164.72 acres, representing 0.7% of the proposed area. This zone is designed to combine residential, commercial, and office spaces, creating dynamic, multi-functional city that promote walkability and economic diversity. The strategic location along the main GT road of mixed-use zones aims to enhance livability by reducing the need for long commutes and encouraging local commerce.

The Educational Zone spans 276.33 acres, accounting for 1.2% of the total proposed area. This zone accommodates educational institutions such as schools, colleges, and universities. By clustering these institutions in one area, the city can optimize infrastructure investments and create a focused educational hub.

The city bus terminal was in a congested area, which caused travel delays. Therefore, the inter-city bus terminal was provided to overcome traffic congestion and reduce travel time. The Bus Terminal occupies 84.08 acres (0.4% of the total proposed area) and serves as a critical infrastructure component to enhance the city's transportation network. These zones are designed not only to accommodate the current needs of the city but also to support long-term growth, reduce congestion, and enhance economic opportunities.

3.3.7.3 Proposed Industrial Zone

The industrial zone of Peri Urban Structure Plan (PUSP) has been retained in Site Development Zones because many industries are already functional in these zones.

The proposals are also supported by the industrial corridor development as specified in Punjab Spatial Strategy (PSS), 2047. The proposed zone will contribute to the economic growth of the district.

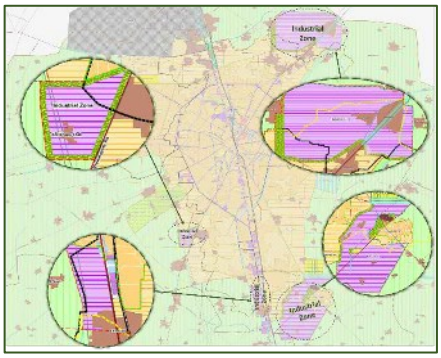


Table 3-9: Proposed Industrial Zones in Gujranwala

Land Uses	Area	Percentage of the Total Proposed Area	Symbology
Industrial Zone	6249.46	26.2%	

3.3.7.4 Proposed Other Zones

The other uses proposed in the Site Development zones are classified as software technology park, landfill site, cattle market extension, and culturally sensitive zones. A culturally sensitive zone (CSZ) is an area that is home to a unique culture or cultural heritage. CSZs are often protected by law or regulation in order to preserve their cultural significance. The landfill site for waste collection and processing was proposed by Urban Unit which is accommodated. The site is proposed towards the west side of Gujranwala.

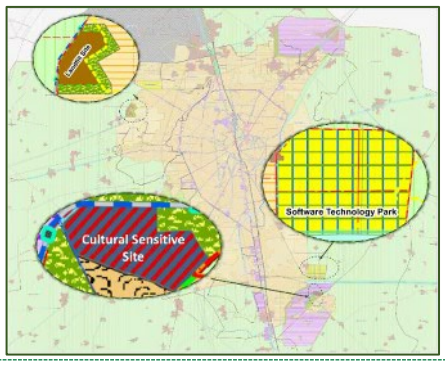


Table 3-10: Proposed Other Zones in Gujranwala

Land Uses	Area	Symbology
Recreational Zone	783.38	
Dairy Farming Zone	966.34	
Livestock & Dairy Development Zone	1023.09	
Cattle Market Extension	22.03	
Green Buffer	837.89	

3.3.7.5 Proposed Allied Agricultural Zones

The original land use of certain areas within the SDZ Structure Plan has been maintained and various zones under the agriculture category are proposed on an area of 3632.73 acres.

Recreational zones are proposed for parks, playgrounds, and leisure activities, providing essential public spaces for the community. Dairy farming zone is designated for dairy farming operations, promoting local milk production and agricultural sustainability. Livestock & dairy development zone is focused on the growth and development of the livestock sector, ensuring food security and supporting the local economy and cattle market extension is proposed for the expansion of cattle markets, facilitating trade and improving market infrastructure for livestock farmers. The distribution of these areas is shown in the table below.

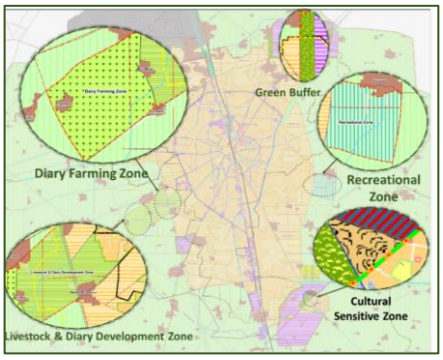


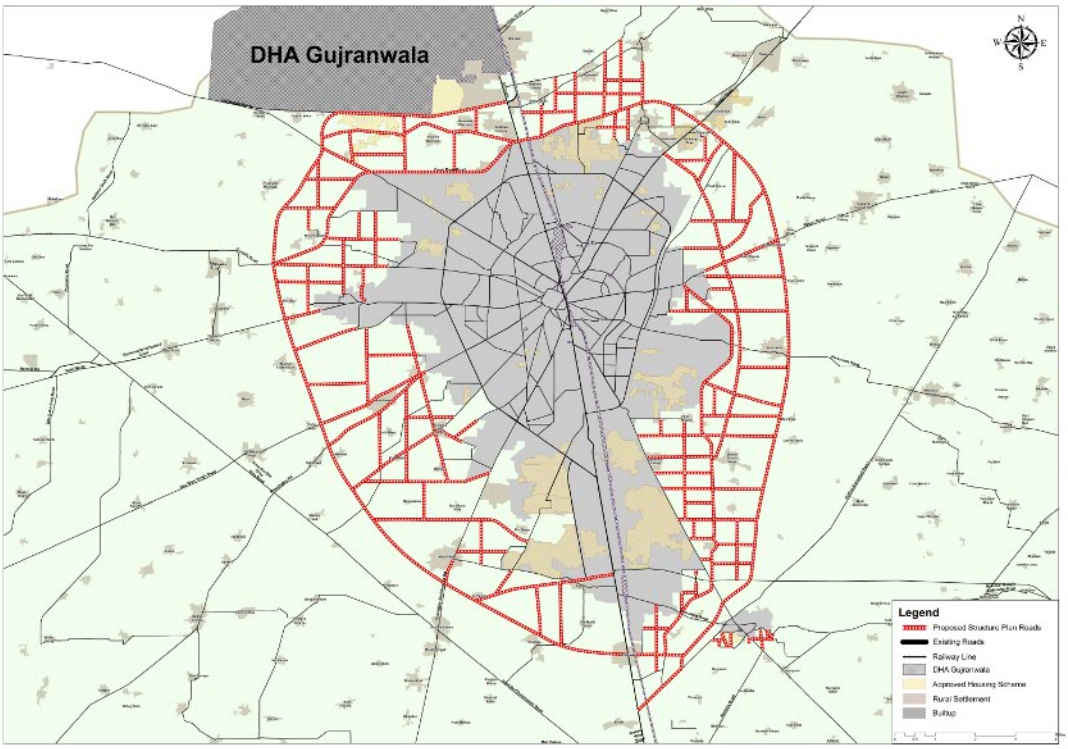
Table 3-11: Proposed Allied Agricultural Zones in Gujranwala

Land Uses	Area	Symbology
Software Technology Park	436.02	
Landfill Site	102.93	
Culturally Sensitive Zone	48.22	

3.3.8 Proposed Structure Plan Roads

The Structure Plan for Gujranwala has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Gujranwala City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Gujranwala for the next 20 years (2023-2043).

Figure 3-7: Proposed Structure Plan Roads of Gujranwala (2023-2043)



Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

The proposed plan ensures improved access to various land uses through well-connected existing and future networks. As for the prevailing road infrastructure within the established built-up area boundary, the existing Right of Way of major connections will be maintained. Various primary and secondary roads have been proposed in Gujranwala's SDZ structure plan. The proposed secondary road will provide access to all the proposed zones. In addition, link roads have also been proposed that will provide improved connectivity of MC. Additionally, multiple structure plan roads with a range of ROWs have been proposed to improve traffic circulation in future.

3.4 Site Development Zone (SDZ) Structure Plan of Municipal Committee Kamoke

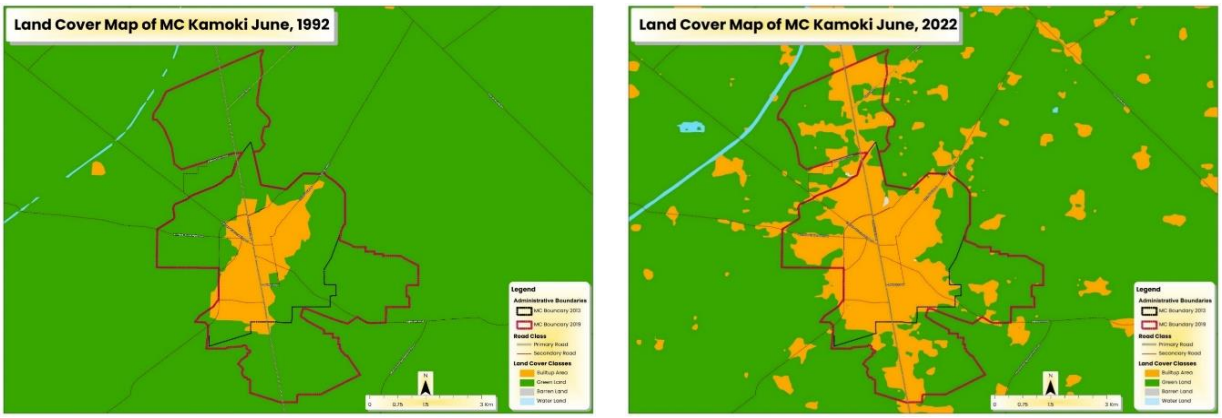
3.4.1 Past Trend Analysis of Municipal Committee Kamoke

The spatiotemporal analysis of Kamoke reveals significant changes in land use over the past 30 years, with a shift from agricultural to built-up areas. The change detection process highlighted the trend, indicating rapid urbanization and a reduction in green space. This analysis is essential for understanding land use patterns and supporting sustainable land management. The study spans from 1992 to 2022 and provides insights into physical growth trends in the region.

Table 3-12: Land Cover Analysis of Municipal Committee Kamoke

Land Use	1992		2022		Change (2022-1992)	
	Area (acres)	Percentage	Area (acres)	Percentage	Area (acres)	Percentage
Green Land	5,378	81.3%	3,148	47.6%	-2230.36	-41.47%
Built-Up	1,239	18.7%	3,463	52.3%	2223.66	179.40%
Barren Land	-	-	7	0.1%	7	-

Figure 3-8: Land Cover Map of Municipal Committee Kamoke from 1992-2022

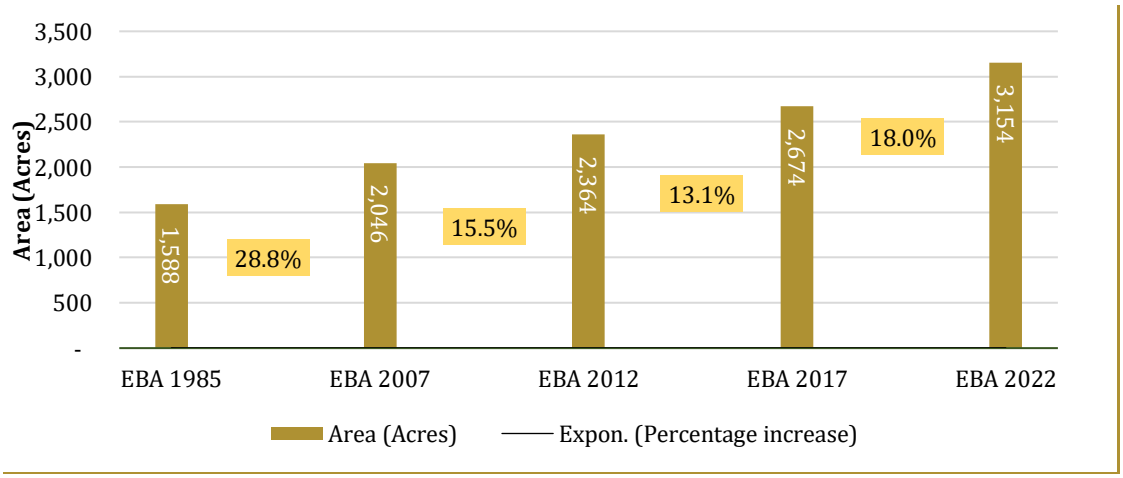


Source: The Consultant, 2023

3.4.2 Growth Trend Analysis

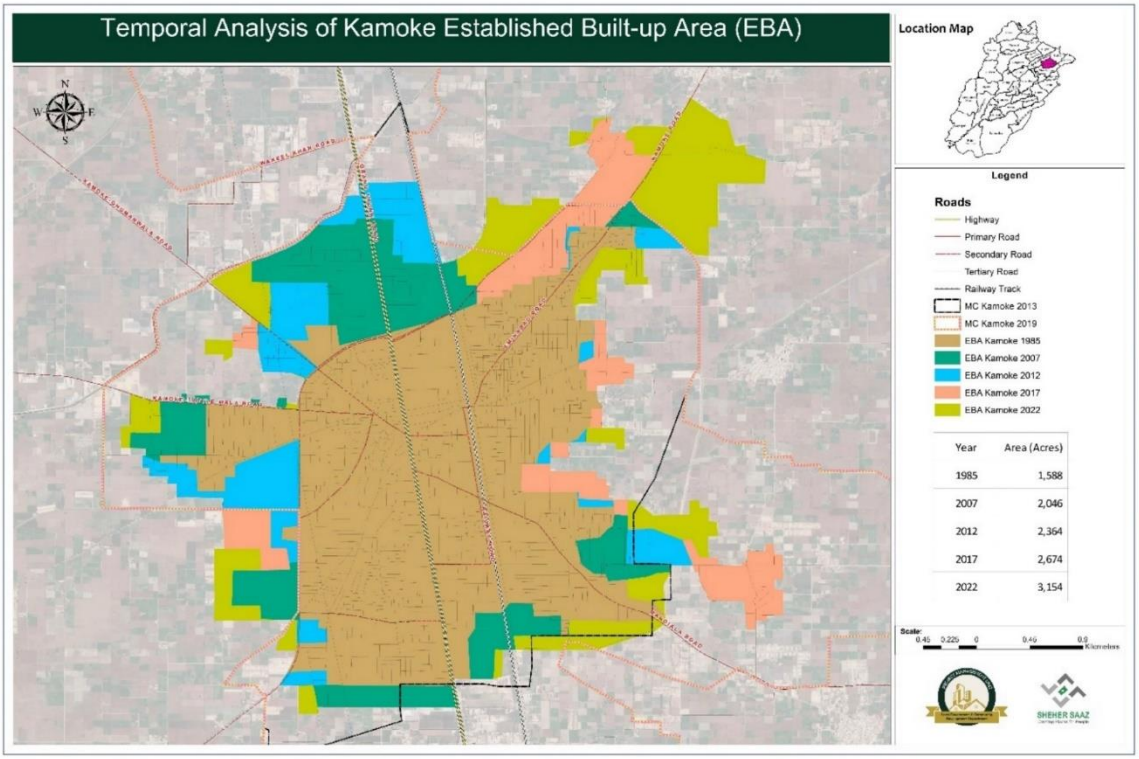
The graph shows a steady increase in Kamoke's Established Built-Up Area (EBA) from 1985 to 2022, with a total rise of 1,566 acres. From 1985 to 2007, the EBA increase by 458 acres (22.4%), and between 2017 and 2022, it expanded by 480 acres (15.2%). This growth reflects increased investment, economic activity, and improvements in infrastructure and transportation networks.

Figure 3-9: Growth Trend Analysis of Municipal Committee Kamoke



Source: The Consultant, 2023

Figure 3-10: Growth Trend Map of Municipal Committee Kamoke

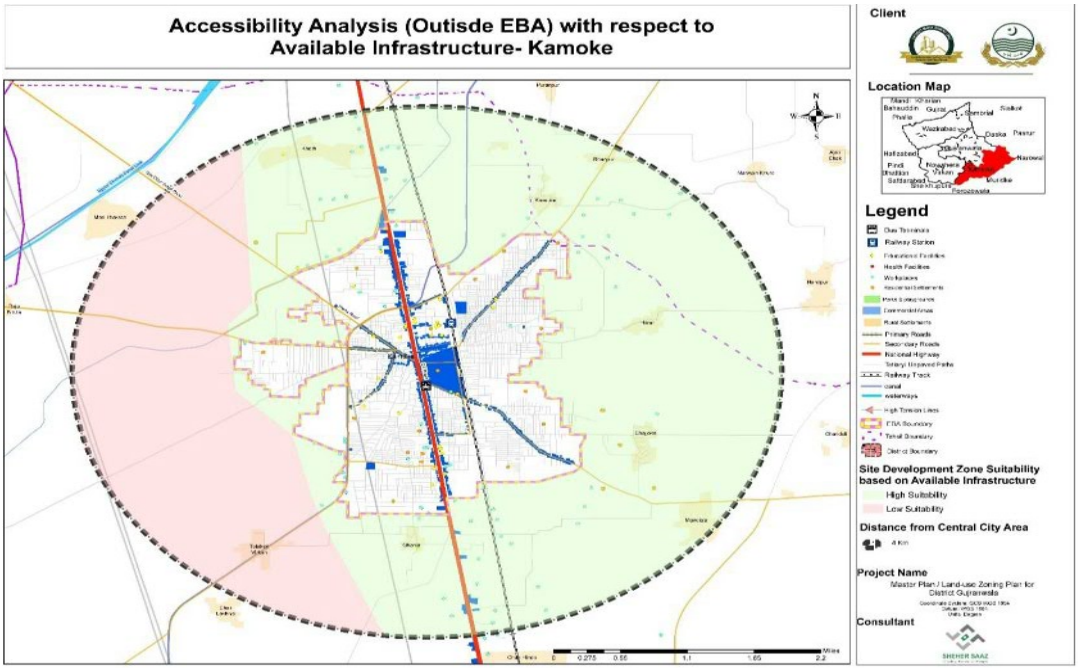


Source: The consultant, 2023

3.4.3 Accessibility Analysis

The accessibility analysis of Kamoke evaluates how well the transportation network supports access to essential services such as workplaces, education, health, commerce, and recreation. Based on the 15-minute city model, the analysis identifies residential settlements with access to these services within 5, 10, and 15-minute walking distances. The analysis identifies gaps where infrastructure improvements can enhance accessibility, contributing to more sustainable urban development and improved quality of life.

Figure 3-11: Accessibility Analysis of Kamoke Outside Established Built-up Area (EBA) Boundary



Source: Consultants, 2023

3.4.4 Population Projection

The population projection for Kamoke is based on the 2023 growth rate of MC Kamoke, as derived from the 2023 census data.

Table 3-13: Population Projection of Kamoke Established Built-up Area (EBA)

Sr. No.	Year	EBA Population	Population Increment	Growth Rate
1	2017	249,814	-	2.61%
2	2023	293,287	43,473	2.61%
3	2028	335,241	41,954	2.61%
4	2033	383,196	47,955	2.61%
5	2038	438,010	54,815	2.61%
6	2043	500,666	62,656	2.61%

Source: Calculated by consultant by PBS Census

3.4.5 Density Analysis

To address urban planning needs, the following table presents the population density analysis as per the certain standards as mentioned in 3.3. section for Kamoke:

Table 3-14: Population Density Analysis for Kamoke

Urban Settlements	EBA Population 2023	EBA 2023 (Acres)	Existing Density	EBA Pop 2043	EBA 2043 (Acres)	Proposed Density
Kamoke	293,287	2,616	112	500,666	5,007	100

Source: The Consultant calculated by using population from the PBS census

3.4.6 Future Area Requirement Assessment

The population of the Kamoke MC in the 2017 census was 248,814, and the EBA had a population of 249,814. By 2023, the EBA will be 2,616 acres, and the estimated population is projected to be 293,287, with the growth rate of the MC 2023 census. The consultant also projected the population for 2043 to be 500,666. As the existing density is already above 100, the proposed density has decreased to 100. The area required for the proposed residential zone is 2,391 acres.

Table 3-15: Future Area Requirement for Residential Site Development Zone (SDZ) of Kamoke for the Planning Period (2023-2043)

Description	*Statistics*
Population of MC (2017 census)	248,814
Population of EBA (2017)	249,814
EBA 2023 (Existing)	2,616 Acres
Population of EBA 2023 (Estimated)	293,287
Population Density	112 Persons Per Acre (PPA)
Proposed Density	100 PPA
Population of EBA 2043 (Projected)	500,666
EBA of 2043 (Projected)	5,007 Acres
Future Area Requirement by 2043 for the SDZ	**2,391 Acres**

Source: The Consultant calculated by using population from the PBS census

3.4.7 Proposed Site Development Zone (SDZ)

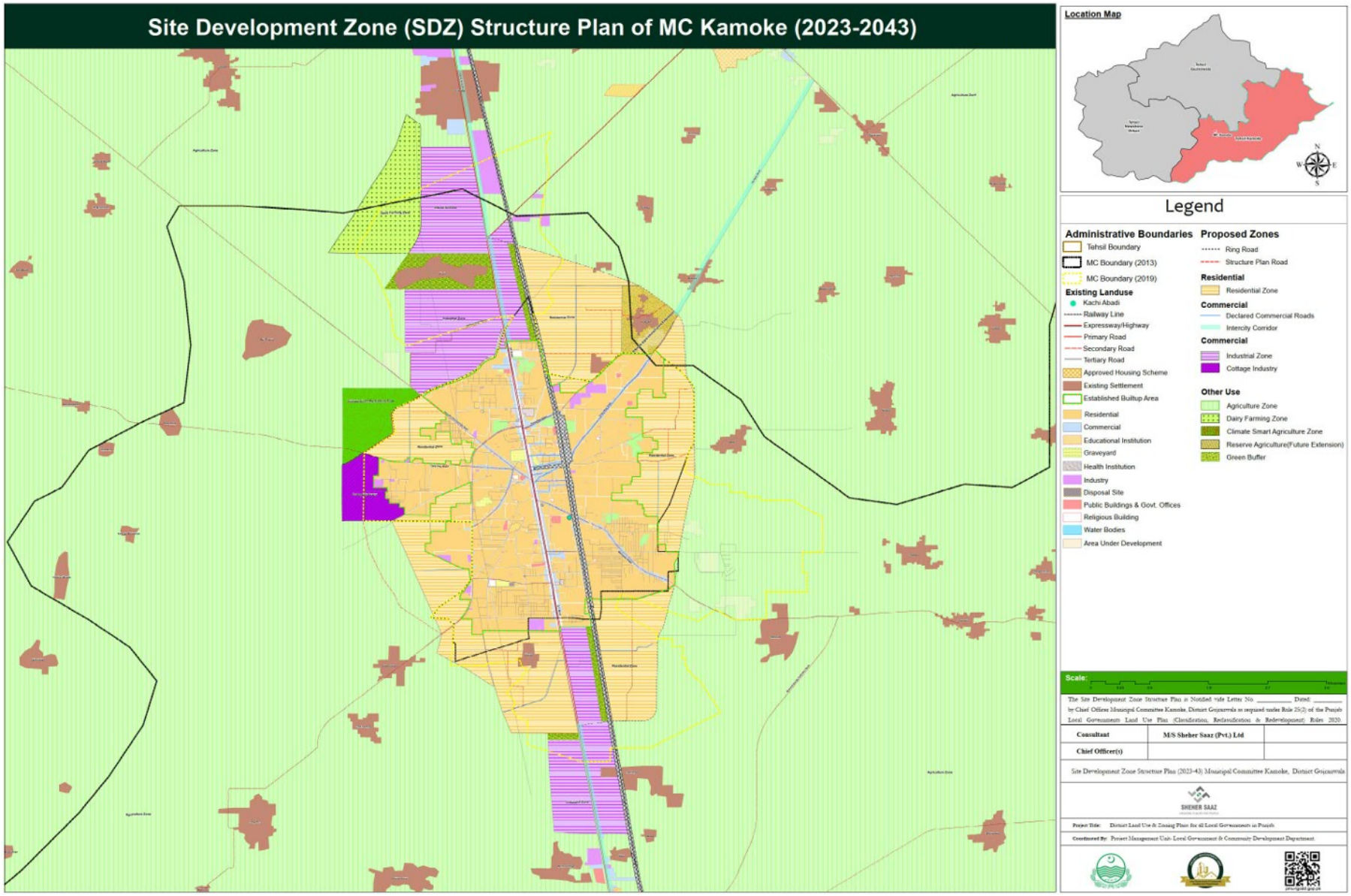
The site development zone has been proposed for the year 2043. The plans have been prepared for each land use class and will be discussed in detail along with the proposed zones and areas. The table shows the overall area and percentages of the residential, commercial, industrial, and other zones.

Table 3-16: Proposed Site Development Zones in Kamoke

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	2,202.63	60.62%
Industrial Zones	1,430.78	39.38%
Total	**3,633.41**	**100%**
Other Zones		
Allied Agricultural Zone	795.83	

Source: The Consultant, 2023

Map 10: Site Development Zone Structure Plan of Municipal Committee Kamoke



3.4.7.1 Proposed Residential Zones

The residential zones have been proposed based on the factors of accessibility, growth trends, market forces, compact development, and physical barriers. The zones have been proposed considering the existing growth trend analysis, adjacent land uses and are located adjacent to EBA boundary. These zones have been segregated on the basis of the proposed structure plan roads.

Table 3-17: Proposed Residential Zones in Kamoke

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	2,202.63	60.62%	

3.4.7.2 Proposed Industrial Zone

The industrial zones proposed towards the northern side of Kamoke are separated by green buffer to protect the environment and improve the quality of life. Moreover, the existing linkages such as Sialkot Emenabad Road, Railway Line and GT Road are considered for proposing the zones and generating employment in Kamoke. In addition, industrial zones were also proposed in the Peri-Urban Structure Plan of Kamoke that were retained by the consultant after the existing analysis.

Table 3-18: Proposed Industrial Zones in Kamoke

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Industrial Zone	1,295.37	35.65%	
Cottage Industry	135.40	3.73%	

3.4.7.3 Proposed Allied Agricultural Zones

Different sub-uses in Agriculture zone are proposed as promotional zones such as Proposed Dairy Farming Zone which would help to cater the agricultural needs of Kamoke. The other zones include the agricultural sub zones (including climate smart Allied Agricultural Zone, and dairy farming) zones, reserved agricultural (future extension) zones. The distribution of these areas is shown in the table below.

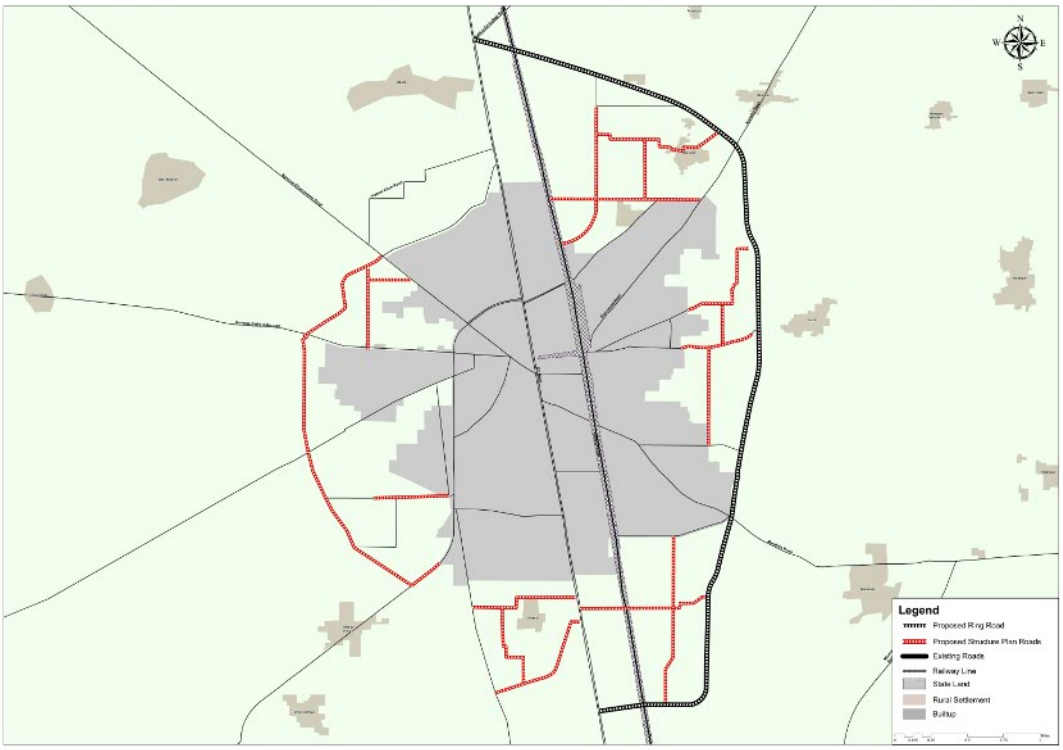
Table 3-19: Proposed Allied Agricultural Zones in Kamoke

Land Uses	Area (Acres)	Symbology
Reserve Agriculture (Future Extension)	115.68	
Dairy Farming Zone	323.98	
Climate Smart Agriculture Zone	165.73	
Green Buffer	190.44	

3.4.8 Proposed Structure Plan Roads

The Structure Plan for Kamoke has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Kamoke City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Kamoke for the next 20 years (2023-2043).

Figure 3-12: Proposed Structure Plan Roads of Kamoke (2023-2043)



Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

Primary, secondary, service roads, and ring roads have been proposed in the SDZ structure plan of Kamoke. The proposed secondary road will provide access to all the proposed zones. To reduce the congestion in the central areas of the city, a ring road has been proposed. In addition to the ring road, link roads have also been proposed to provide improved connectivity for this MC. Additionally, multiple structure plan roads with a range of ROWs have been proposed to improve the traffic circulation right in the future.

3.5 Site Development Zone (SDZ) Structure Plan of Municipal Committee Nowshera Virkan

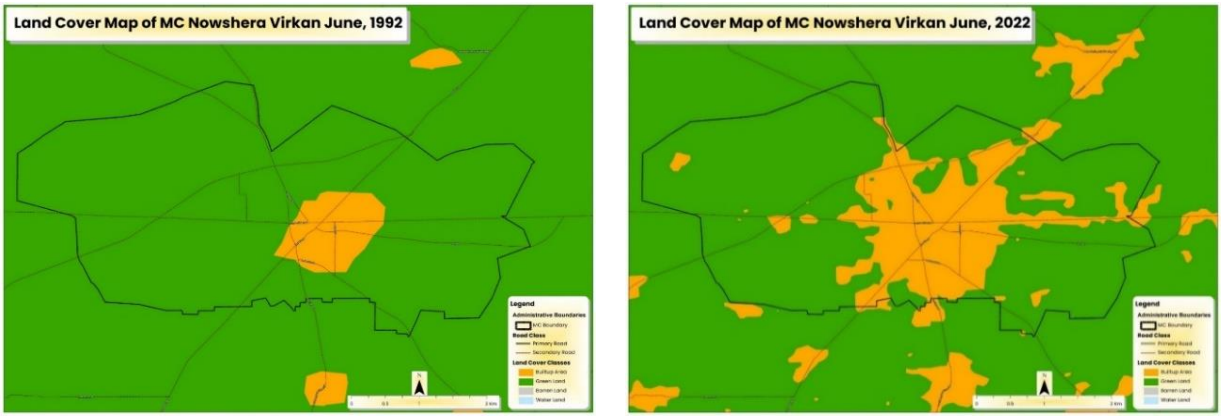
3.5.1 Past Trend Analysis of Municipal Committee Nowshera Virkan

The land cover changes in MC Nowshera Virkan for the years 1992, 2002, 2012, and 2022, divided into agricultural land, barren, water bodies and built-up categories. In 1992, green land covered 92.8% (3,708 acres) and built-up areas 7.2% (287 acres). By 2022, while the total land remained 3,995 acres, green land decreased to 74.9% (2,993 acres) and Built-up areas increased to 25.1% (1,002 acres).

Table 3-20: Land Cover Analysis of Municipal Committee Nowshera Virkan

Land Use	1992		2022		Change (2022-1992)	
	Area (acres)	Percentage	Area (acres)	Percentage	Area (acres)	Percentage
Green Land	3,708	92.8%	2,993	74.9%	-715.12	-19.29%
Built-Up	287	7.2%	1,002	25.1%	715.12	249.04%

Figure 3-13: Land Cover Map of Municipal Committee Nowshera Virkan from 1992-2022

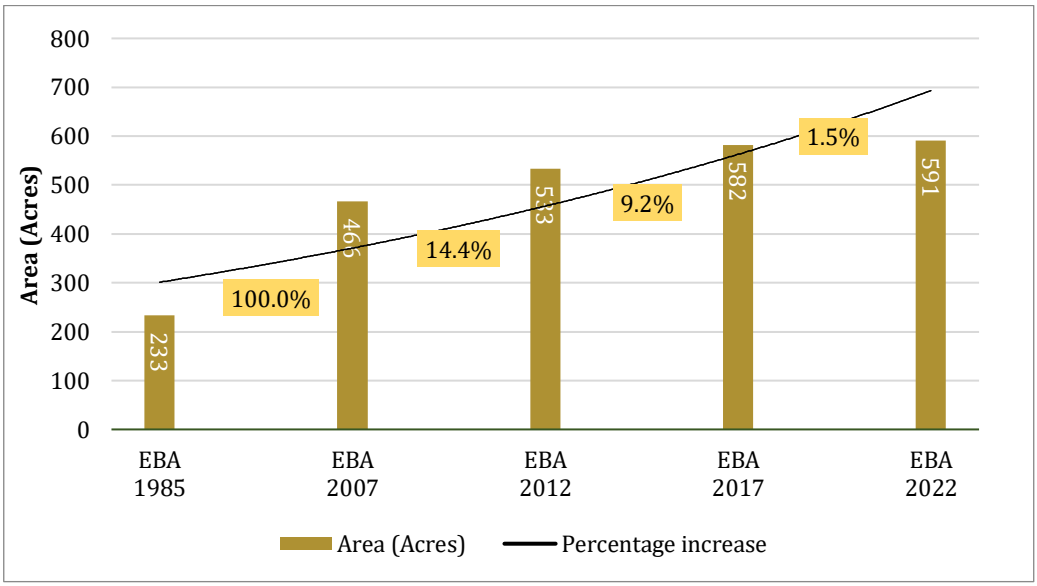


Source: The Consultant, 2023

3.5.2 Growth Trend Analysis

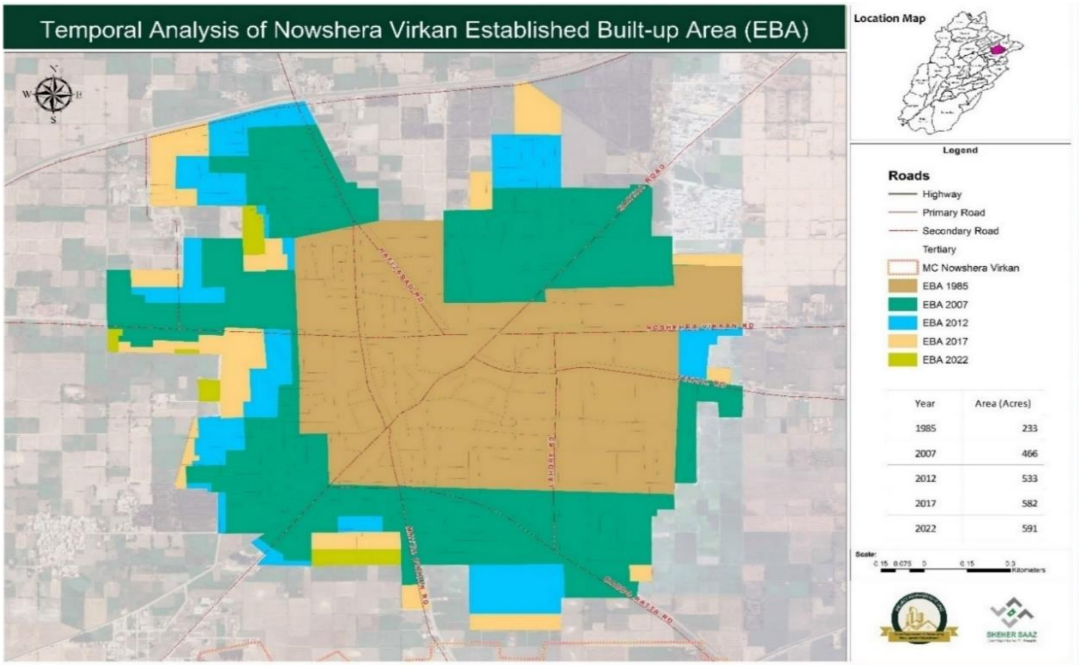
MC Nowshera Virkan has undergone significant urbanization, with its Established Built-Up Area (EBA) expanding from 233 acres in 1985. Since 2007, the EBA has increased by 358 acres over 15 years, reflecting a consistent urban growth trend, especially between 1985 and 2007.

Figure 3-14: Growth Trend Analysis of Municipal Committee Nowshera Virkan



Source: The Consultant, 2023

Figure 3-15: Growth Trend Map of Municipal Committee Nowshera Virkan

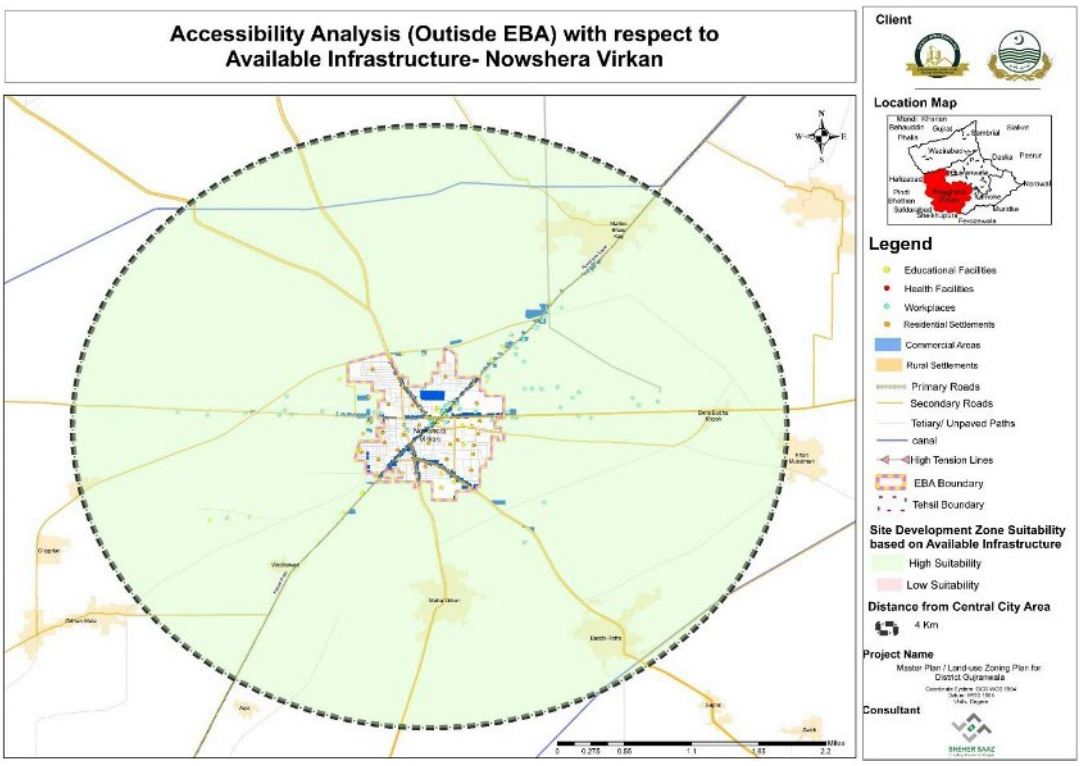


Source: The consultant, 2023

3.5.3 Accessibility Analysis

The accessibility analysis of Nowshera Virkan evaluates how well the transportation network supports access to essential services such as workplaces, education, health, commerce, and recreation. Based on the 15-minute city model, the analysis identifies residential settlements with access to these services within 5, 10, and 15-minute walking distances. The analysis identifies gaps where infrastructure improvements can enhance accessibility, contributing to more sustainable urban development and improved quality of life.

Figure 3-16: Accessibility Analysis of Nowshera Virkan Outside Established Built-up Area (EBA) Boundary



Source: Consultants, 2023

3.5.4 Population Projection

The growth rate of tehsil Nowshera Virkan of census 2023 has been used for the population projection.

Table 3-21: Population Projection of Nowshera Virkan EBA

Sr. No.	Year	Population	Population Increment	Growth Rate
1	2017	45,896	-	3.07%
2	2023	55,026	9,130	3.07%
3	2028	64,007	8,981	3.07%
4	2033	74,455	10,447	3.07%
5	2038	86,607	12,152	3.07%
6	2043	100,743	14,136	3.07%

Source: Calculated by consultant by PBS Census 2023

3.5.5 Density Analysis

To address urban planning needs, the following table presents the population density analysis for Nowshera Virkan:

Table 3-22: Population Density Analysis for Nowshera Virkan

Urban Settlements	Population 2023	Built-up Area 2023 (Acres)	Existing Density	Population 2043	Built-up Area 2043 (Acres)	Proposed Density
Nowshera Virkan	55,026	530	104	100,743	1,007	100

Source: The Consultant calculated by using population from the PBS census

3.5.6 Future Area Requirement Assessment

The population of the Nowshera Virkan MC in 2017 census was 49,377 and the EBA had a population of 45,896. By 2023, the EBA is 530 acres with the estimated population of the EBA is projected to 55,026. The consultant also projected the population for the year 2043, which is 100,743. As the existing density is 104 so the proposed density maintained at 100 PPA. The area required for the proposed residential zone is 477 acres.

Table 3-23: Future Area Requirement for Residential Site Development Zone (SDZ) of Nowshera Virkan for the Planning Period (2023-2043)

Description	*Statistics*
Population of MC (2017 census)	49,377
Population of EBA (2017)	45,896
EBA 2023 (Existing)	530 Acres
The population of EBA 2023 (Estimated)	55,026
Population Density	104 Persons Per Acre (PPA)
Proposed Density	100 PPA
Population of EBA 2043 (Projected)	100,743
EBA of 2043 (Projected)	1,007 Acres
Future Area Requirement by 2043 for the SDZ	**477 Acres**

Source: The Consultant calculated by using population from the PBS census

3.5.7 Proposed Site Development Zone (SDZ)

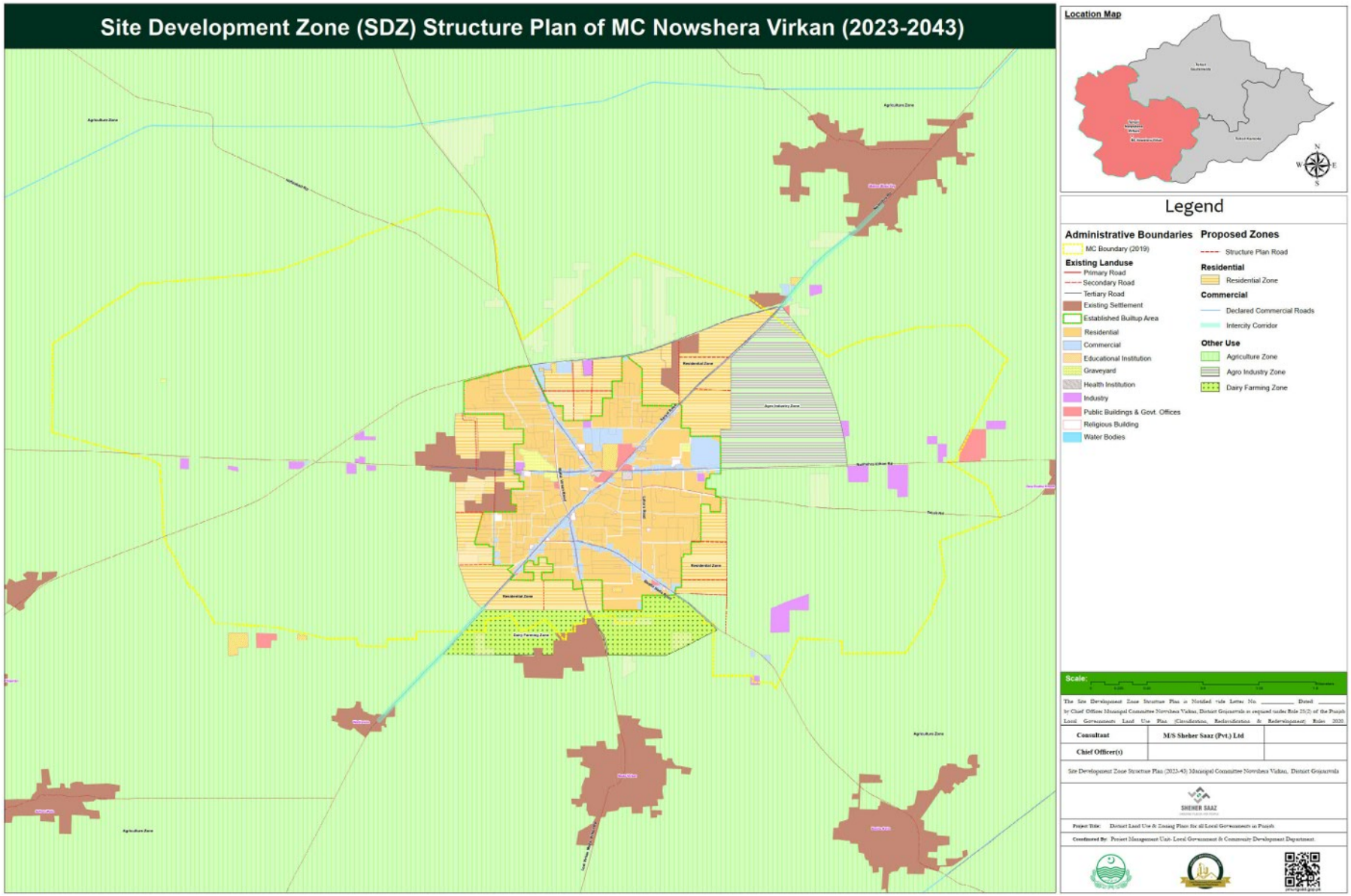
The site development zone has been proposed for the year 2043. The plans have been prepared for each land use class and will be discussed in detail along with the proposed zones and areas. The table shows the overall area and percentages of the residential, commercial, industrial, and other zones.

Table 3-24: Proposed Site Development Zones in Nowshera Virkan

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	337.05	100%
Total	337.05	**100%**
Other Zones		
Allied Agricultural Zone	342.69	-

Source: The Consultant, 2023

Map 11: Site Development Zone Structure Plan of Municipal Committee Nowshera Virkan



3.5.7.1 Proposed Residential Zones

The residential zones were proposed based on the several factors of accessibility, growth trend, market forces, compact development, and along the physical barrier. These residential zones have also been sub-divided on the basis of proposed structure plan roads.

Table 3-25: Proposed Residential Zones in Nowshera Virkan

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	337.05	100%	

3.5.7.2 Proposed Commercial Zones

Proposed Commercial corridors have been proposed along major corridors. Major roads have been identified in Nowshera Virkan that best suit the commercial activity. Creating a commercial zone can boost economic activities in the region. It attracts businesses, investments, and job opportunities, contributing to local prosperity and development. As commercial zones often come with improved infrastructure and amenities like roads, utilities, and public facilities, which enhance the overall living conditions for residents.

3.5.7.3 Proposed Allied Agricultural Zones

The purpose of allocating Allied Agricultural Zones is to ensure that the land in a particular region is used efficiently and exclusively for agricultural purposes. This helps maximize food production and promotes sustainable farming practices. Different sub-uses in Agriculture zone are proposed as promotional zones such as Proposed Agro-industry Zone, and Proposed Dairy Farming Zone which would help to cater the agricultural needs of Nowshera Virkan.

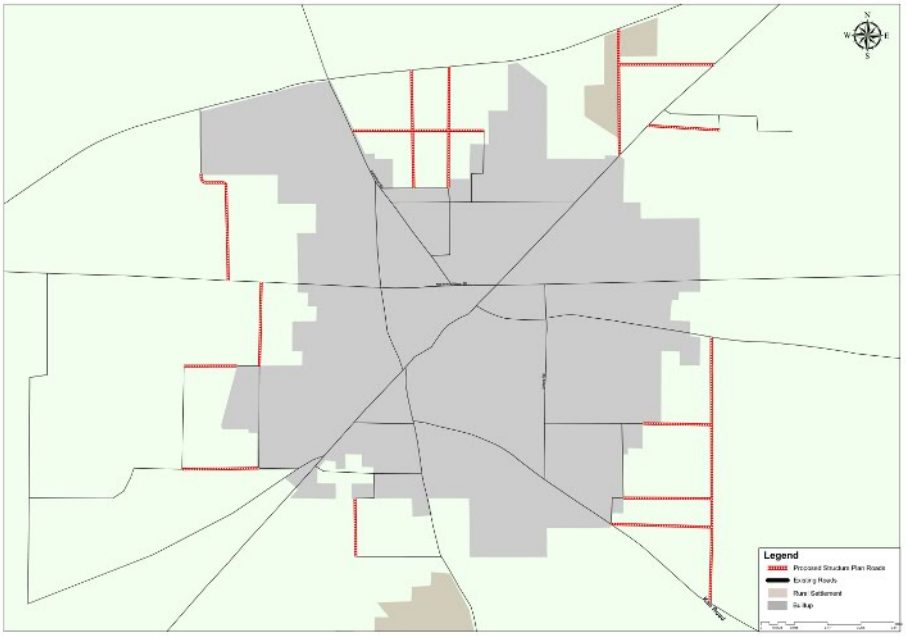
Table 3-26: Proposed Allied Agricultural Zones in Nowshera Virkan

Land Uses	Area (Acres)	Symbology
Agro Industry Zone	191.53	
Dairy Farming Zone	151.16	

3.5.8 Proposed Structure Plan Roads

The Structure Plan for Nowshera Virkan has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Nowshera Virkan City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Nowshera Virkan for the next 20 years (2023-2043).

Figure 3-17: Proposed Structure Plan Roads of Nowshera Virkan (2023-2043)



Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

Proposed secondary road will provide access to all the proposed zones. The link roads have also been proposed that will provide improved connectivity of this MC. Additionally, multiple structure plan roads with a range of ROWs have been proposed in order to Improve the traffic circulation right in future.

3.6 Site Development Zone (SDZ) Structure Plan of Municipal Committee Qila Dedar Singh

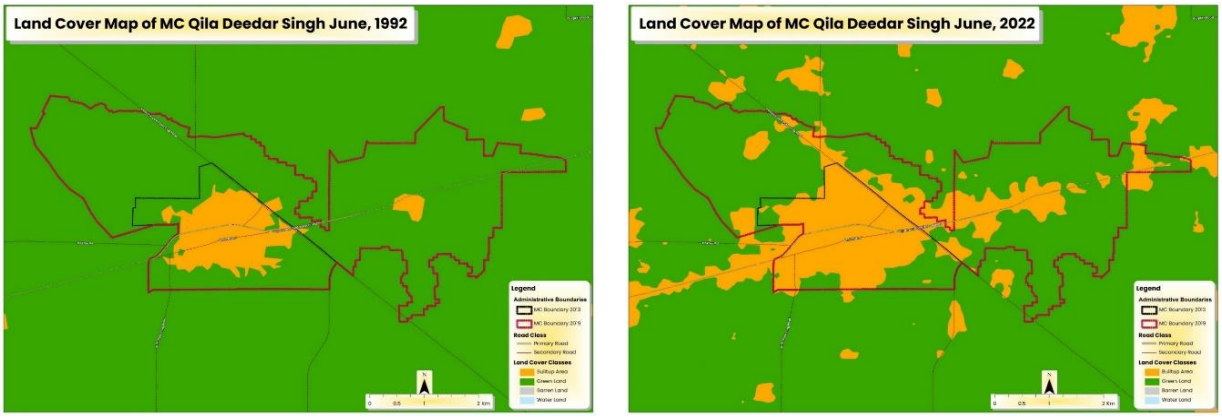
3.6.1 Past Trend Analysis of Municipal Committee Qila Dedar Singh

The land cover changes in MC Qila Dedar Singh over last four decades from 1992 highlights the distribution of green land, built-up areas, barren land, and water bodies. In 1992, green land covered 89.9% (3,789 acres) of the total 4,214 acres, while built-up areas accounted for 10.1%. By 2022, green land decreased to 64.7% (2,728 acres), and built-up areas increased to 35.3%.

Table 3-27: Land Cover Analysis of Municipal Committee Qila Dedar Singh

Land Use	1992		2022		Change (2022-1992)	
	Area (acres)	Percentage	Area (acres)	Percentage	Area (acres)	Percentage
Green Land	3,789	89.9%	2,728	64.7%	-1060.20	-27.98%
Built-Up	425	10.1%	1,486	35.3%	1060.24	249.29%

Figure 3-18: Land Cover Map of Municipal Committee Qila Dedar Singh from 1992-2022



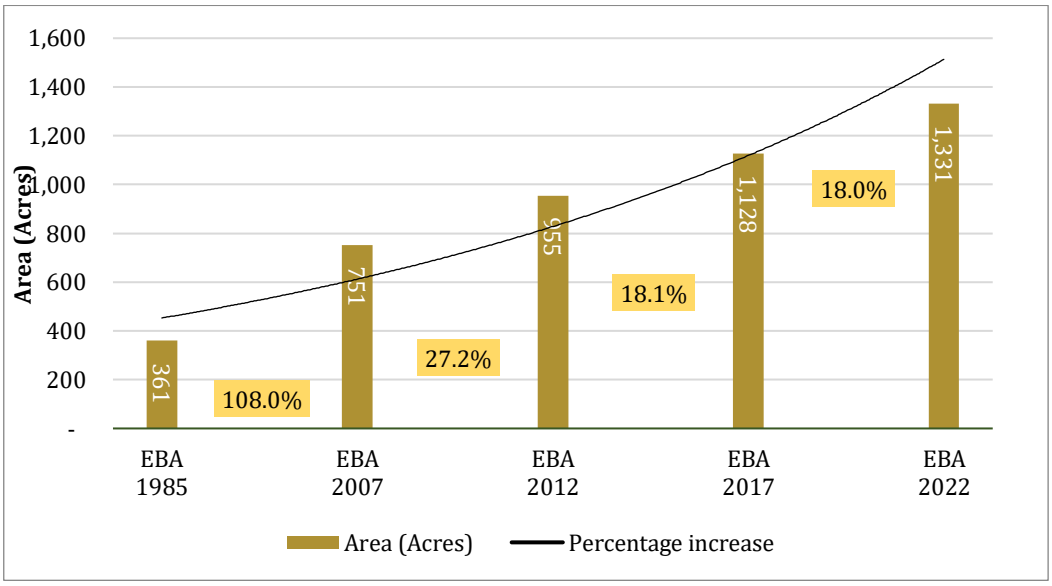
Source: The Consultant, 2023

3.6.2 Growth Trend Analysis

The urban growth trend in Qila Dedar Singh has been analyzed based on the increase in the established built-up area (EBA) boundaries over the years. The map shows EBA boundaries for the years 1985, 2007, 2012, 2017, and 2022 of Qila Dedar Singh.

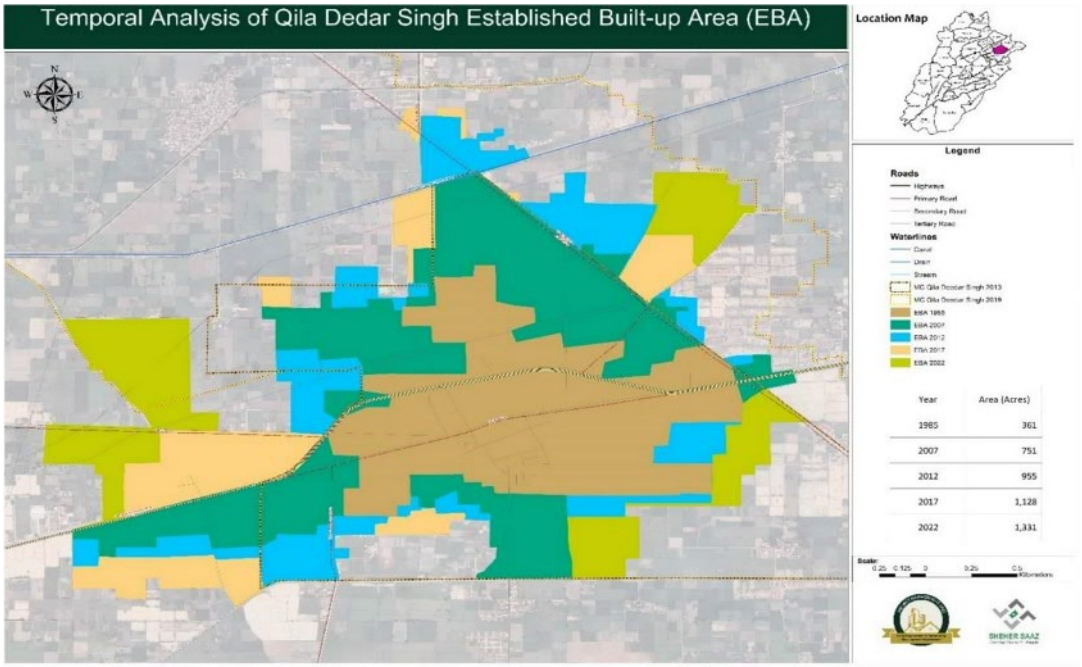
From 1985 to 2007, the EBA in Qila Dedar Singh increased by 390 acres, which represents a significant percentage increase of 51.9%. the graph shows that Qila Dedar Singh has experienced significant urbanization over the years, with the EBA boundaries expanding by a total of 970 acres between 1985 and 2022.

Figure 3-19: Growth Trend Analysis of Municipal Committee Qila Dedar Singh



Source: The Consultant, 2023

Figure 3-20: Growth Trend Map of Municipal Committee Qila Dedar Singh

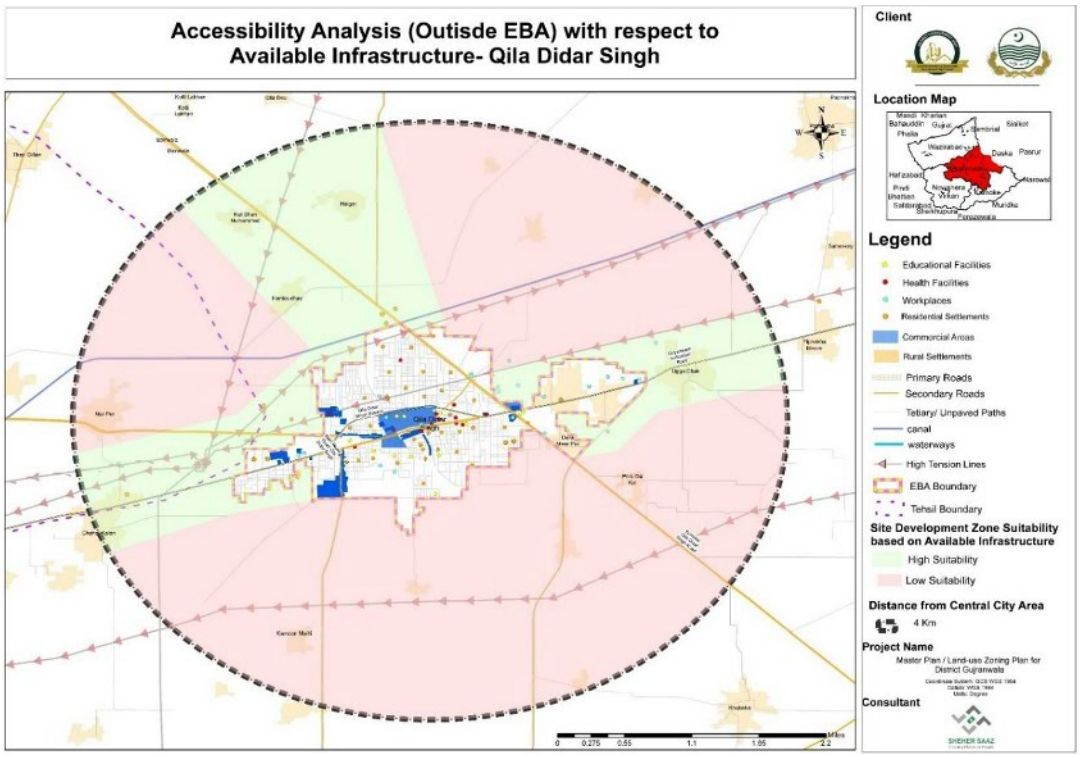


Source: The consultant, 2023

3.6.3 Accessibility Analysis

The accessibility analysis of Qila Dedar Singh evaluates how well the transportation network supports access to essential services such as workplaces, education, health, commerce, and recreation. Based on the 15-minute city model, the analysis identifies residential settlements with access to these services within 5, 10, and 15-minute walking distances. The analysis identifies gaps where infrastructure improvements can enhance accessibility, contributing to more sustainable urban development and improved quality of life.

Figure 3-21: Accessibility Analysis of Qila Dedar Singh Outside Established Built-up Area (EBA) Boundary



Source: Consultants, 2023

3.6.4 Population Projection

Table 3-28: Population Projection of Qila Dedar Singh EBA

Sr. No.	Year	Population	Population Increment	Growth Rate
1	2017	71,868	-	2.52%
2	2023	83,442	11,574	2.52%
3	2028	94,500	11,057	2.52%
4	2033	107,022	12,522	2.52%
5	2038	121,204	14,182	2.52%
6	2043	137,265	16,061	2.52%

Source: Calculated by consultant by PBS Census 2017

3.6.5 Density Analysis

For the next 20 years, the Qila Dedar Singh's density has been maintained at 59 people per acre. The following table depicts the population density analysis of Qila Dedar Singh:

Table 3-29: Population Density Analysis for Gujranwala

Urban Settlement	Population 2023	Built-up Area 2023 (Acres)	Existing Density	Population 2043	Built-up Area 2043 (Acres)	Proposed Density
Qila Dedar Singh	83,442	1,416	59	137,265	2,329	59

Source: The Consultant calculated by using population from the PBS census

3.6.6 Future Area Requirement Assessment

The area requirement for the residential SDZ of Qila Dedar Singh for the planning period of 2023 to 2043 has been calculated. The population of the MC was 66,491 as of 2017 census, and the EBA had a population of 71,868. The estimated population of the EBA is estimated to reach 83,442, and the existing EBA area covers 1,416 acres, with a population density of 59 Persons Per Acre (PPA). For the year 2043, the EBA area is projected to be 2,329 acres with a population of 137,265. The proposed density for 2043 is maintained as the existing density. The future area requirement for residential SDZ is 913 acres by 2043. The table below shows the details of the area requirement of residential SDZ for the planning period of 2023-2043.

Table 3-30: Future Area Requirement for Residential Site Development Zone (SDZ) of Qila Dedar Singh for the Planning Period (2023-2043)

Description	*Statistics*
Population of MC (2017 Census)	66,491
Population of EBA (2017)	71,868
EBA 2023 (Existing)	1,416 Acres
Population of EBA 2023 (Estimated)	83,442
Density of EBA (2023)	59 Persons Per Acre (PPA)
Increase in Density for Year 2043	20%
EBA of 2043 (Projected)	2,329 Acres
Population of EBA 2043 (Projected)	137,265
Proposed Density for the Year 2043	59 PPA
Future Area Requirement by 2043 for the SDZ	**913 Acres**

Source: The Consultant calculated by using population from the PBS census

3.6.7 Proposed Site Development Zone (SDZ)

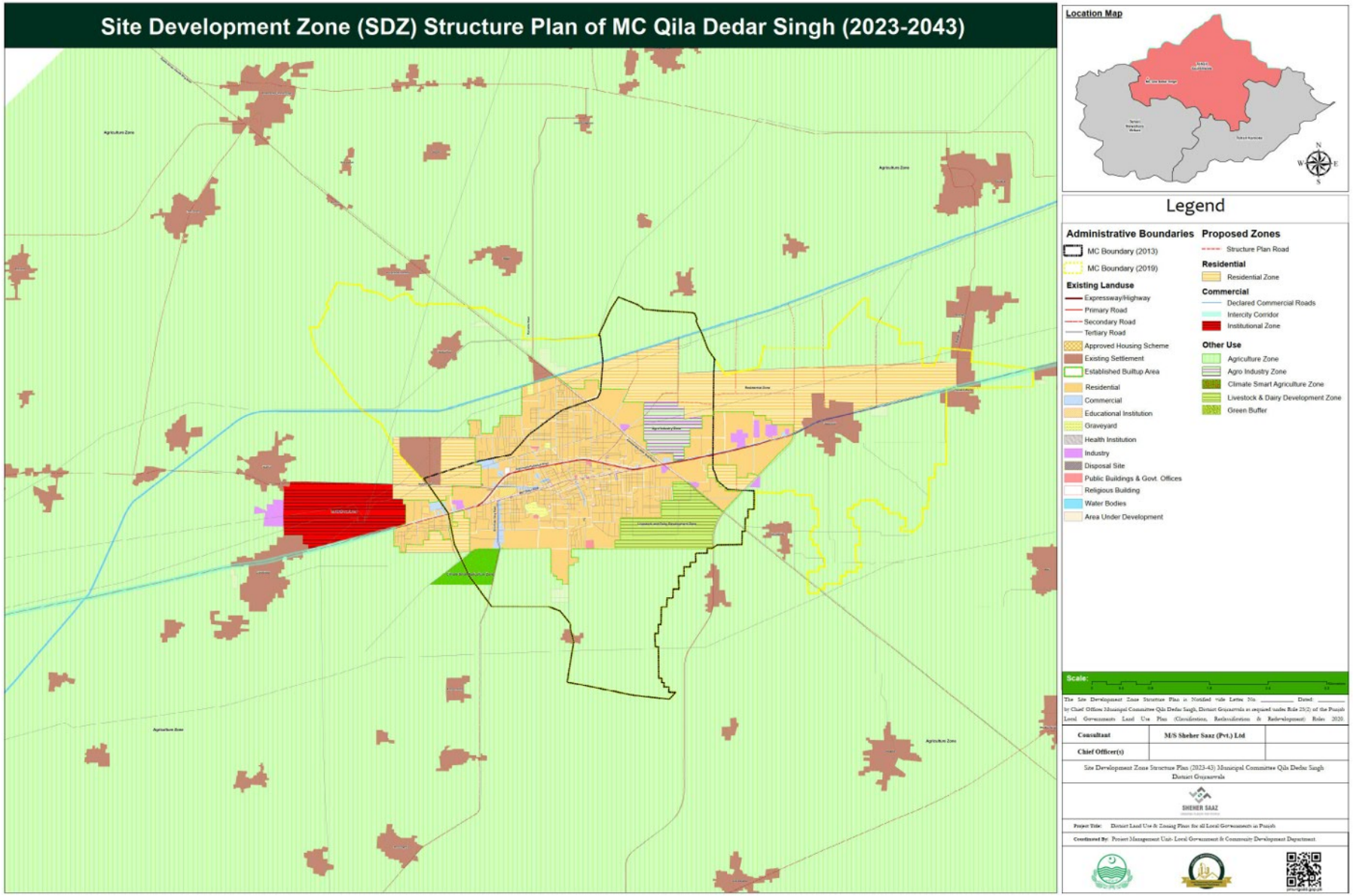
The site development zone has been proposed for the year 2043. The plans have been prepared for each land use class and will be discussed in detail along with the proposed zones and areas. The table shows the overall area and percentages of the residential zones, commercial zones, industrial zones and other zones.

Table 3-31: Proposed Site Development Zones in Qila Dedar Singh

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	878.93	78.11%
Commercial Zones	246.28	21.89%
Total	**1,125.21**	**100%**
Other Zones		
Allied Agricultural Zone	324.30	

Source: The Consultant, 2023

Map 12: Site Development Zone Structure Plan of Municipal Committee Qila Dedar Singh



3.6.7.1 Proposed Residential Zones

The residential zones were proposed based on the several factors of accessibility, growth trend, market forces, compact development, and along the physical barrier. The main residential zones were further divided into the blocks based on the proposed structure plan roads. The zones are proposed adjacent to proposed structure plan road, on Alipur Chatta road, and Hafizabad-Gujranwala Road of Qila Dedar Singh, Gujranwala. These will also act as physical barrier and would help to control the haphazard expansion of this settlement. These zones are in close proximity to EBA's boundary and hold the potential to be developed in the future. Furthermore, these residential zones have been given based on Growth trend as it is also depicted on growth trend map of Qila Dedar Singh. In addition, these zones would help to achieve compact urban development in future.

Table 3-32: Proposed Residential Zones in Qila Dedar Singh

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	878.93	78.11%	

3.6.7.2 Proposed Commercial Zones

The commercial zones were proposed on the several factors including, market trend, land use trend, along main roads, infrastructure, road network, and compatibility of land uses.

Table 3-33: Proposed Commercial Zones in Qila Dedar Singh

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Institutional Zone	246.28	21.89%	

3.6.7.3 Proposed Allied Agricultural Zones

In order to preserve the original character/ land use of few pockets falling under the planning area was retained and marked as promotional zones of agricultural activities. Agricultural uses are proposed these pockets to preserve the valuable agricultural character of these parcels. In order to guide the future development these zones are carefully proposed keeping in consideration the nature and existing features of the land. An agro-industrial zone proposed that will be designated area for the development of agro-based industries. The zones are typically located near agricultural areas, so that they can have access to raw materials and labor. The original land use of certain areas within the SDZ Structure Plan has been maintained and various zones under the agriculture category are proposed on an area of 324.30 acres.

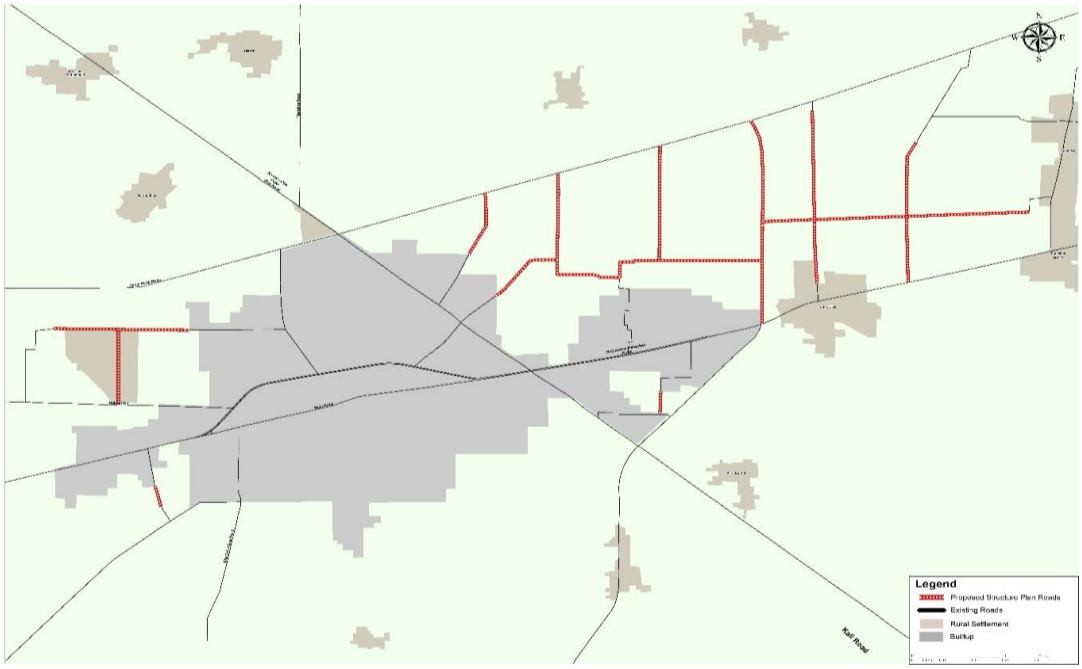
Table 3-34: Proposed Allied Agricultural Zones in Qila Dedar Singh

Land Uses	Area (Acres)	Symbology
Livestock and Dairy Development Zone	171.24	
Agro Industry Zone	92.43	
Climate Smart Agriculture Zone	60.63	

3.6.8 Proposed Structure Plan Roads

The Structure Plan for Qila Dedar Singh has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Qila Dedar Singh City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Qila Dedar Singh for the next 20 years (2023-2043).

Figure 3-22: Proposed Structure Plan Roads of Qila Dedar Singh (2023-2043)



Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

The primary and secondary service roads have been proposed in the SDZ structure plan of Qila Dedar Singh. The proposed secondary road will provide access to all the proposed zones. The link roads have also been proposed that will provide improved connectivity of this MC. Additionally, multiple structure plan roads with a range of ROWs have been proposed in order to improve the traffic circulation right in future.

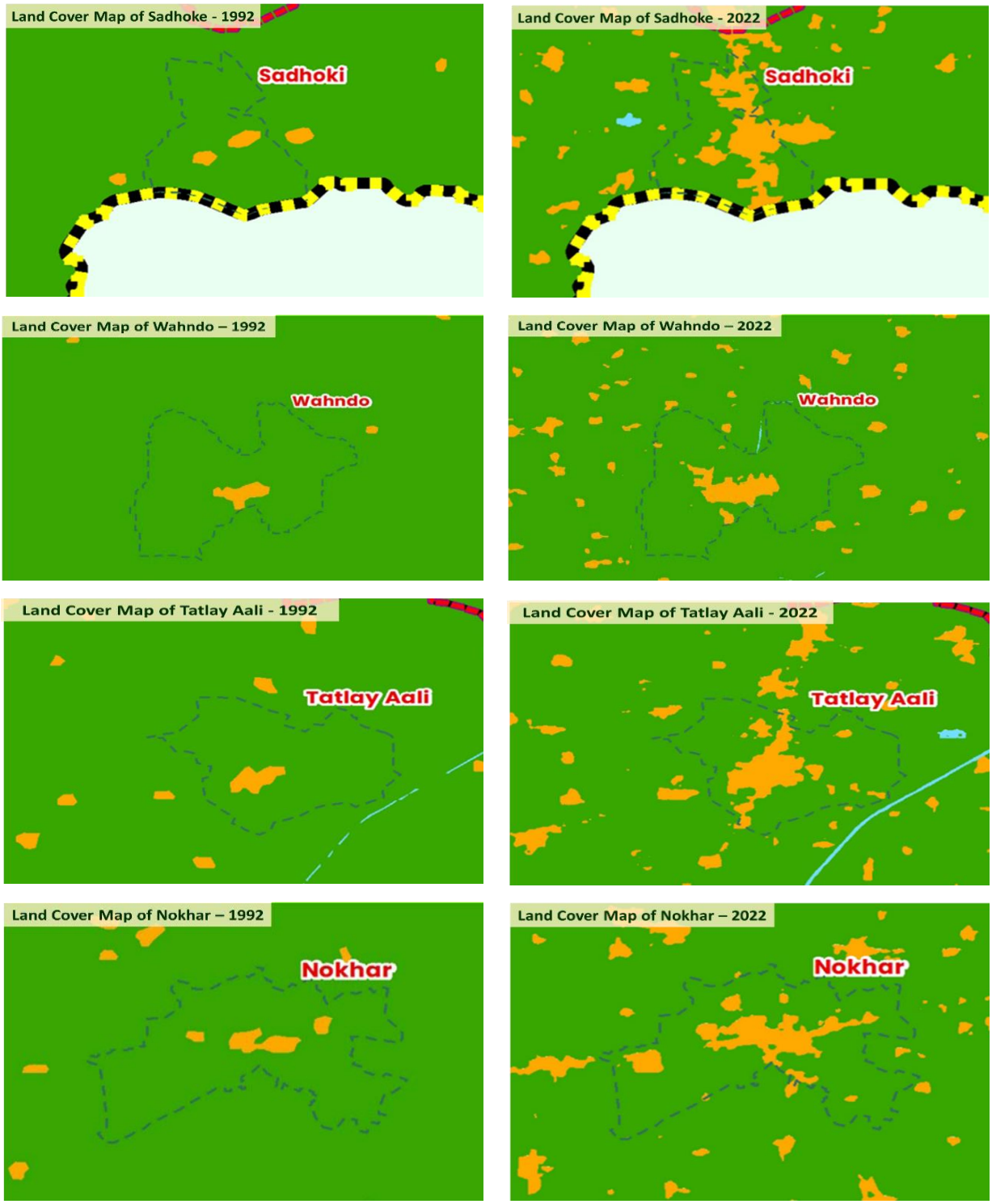
3.7 Site Development Zone (SDZ) Structure Plan of District Council (DC) Gujranwala

The District Council of Gujranwala encompasses four urban settlements: Sadhoke, Nokhar, Wahndo, and Tatlay Aali. The analysis of these settlements is detailed below:

3.7.1 Past Trend Analysis of District Council Gujranwala

In Sadhoke, Nokhar, Wahndo, and Tatlay Aali the land cover analysis has been conducted over the year 1992 to the year 2022. Through this analysis the growth directions have been accessed for the urban settlements over the past 30 years.

Figure 3-23: Land Cover Analysis of Urban Settlements in District Council Gujranwala (1992-2022)



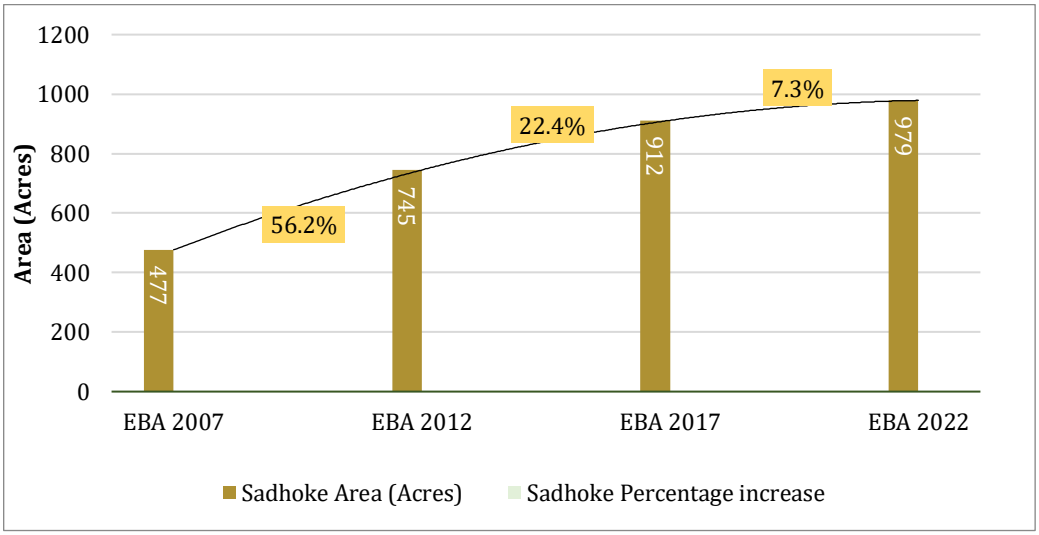
Source: The Consultant, 2023

3.7.2 Growth Trend Analysis

3.7.2.1 District Council (Urban Settlement Sadhoke)

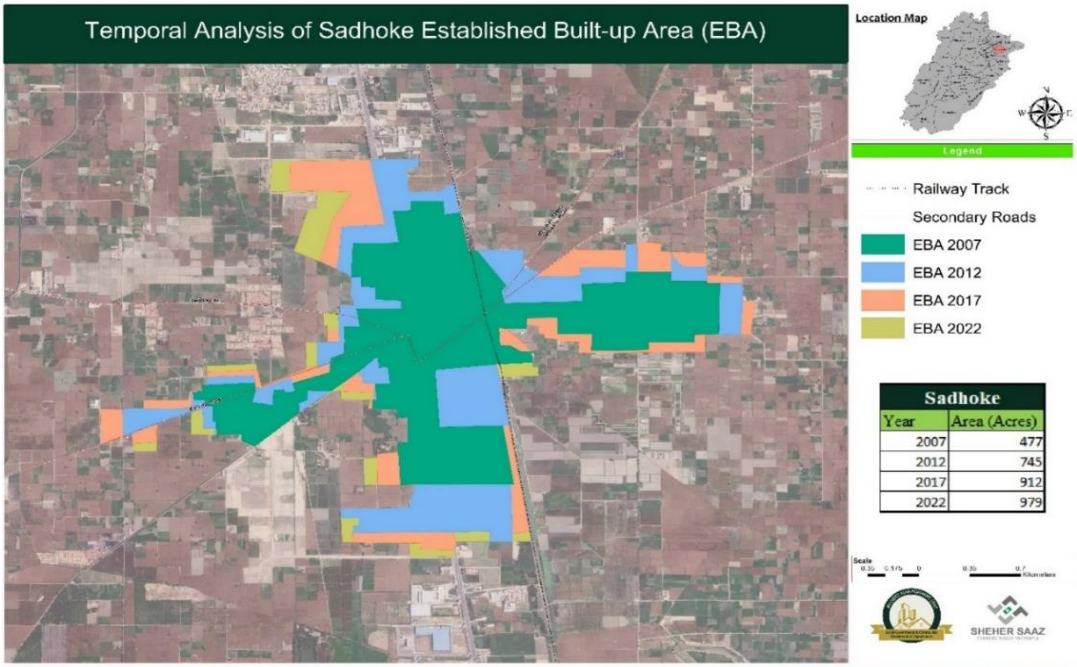
The growth trend in Sadhoke has been assessed, with the increase in established built-up area (EBA) showing between 2007 and 2022. The analysis shows significant growth, with the EBA increasing by 268 acres between 2007 and 2012, 167 acres from 2012 to 2017, and 67 acres between 2017 and 2022, culminating in a total expansion of 502 acres.

Figure 3-24: Growth Trend Analysis of Sadhoke



Source: The Consultant, 2023

Figure 3-25: Growth Trend Map of Urban Settlement Sadhoke

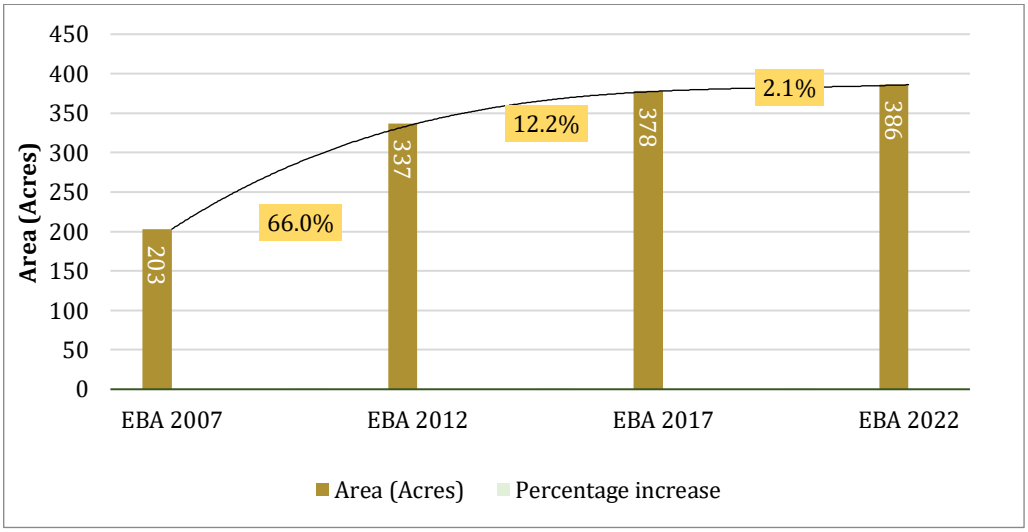


Source: The consultant, 2023

3.7.2.2 District Council (Urban Settlement Wahndo)

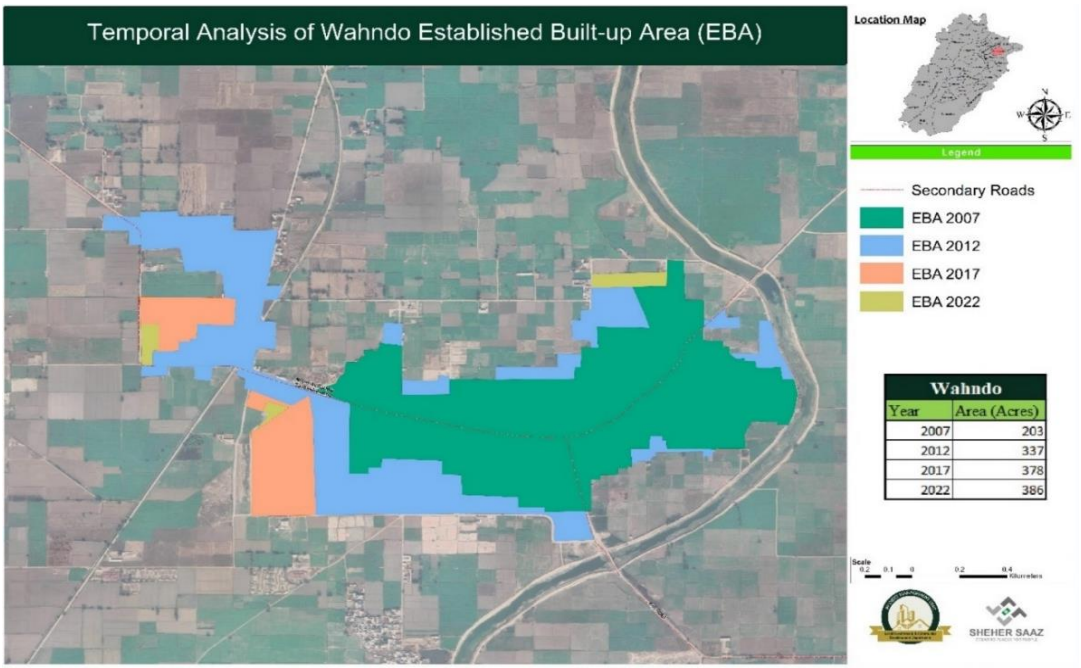
The urban growth in Wahndo has been assessed based on the expansion of established built-up area (EBA) boundaries from 2007 to 2022. The EBA grew by 134 acres between 2007 and 2012, 41 acres between 2012 and 2017, and 8 acres from 2017 to 2022, resulting in a total expansion of 183 acres over the period.

Figure 3-26: Growth Trend Analysis of Wahndo



Source: The Consultant, 2023

Figure 3-27: Growth Trend Map of Urban Settlement Wahndo

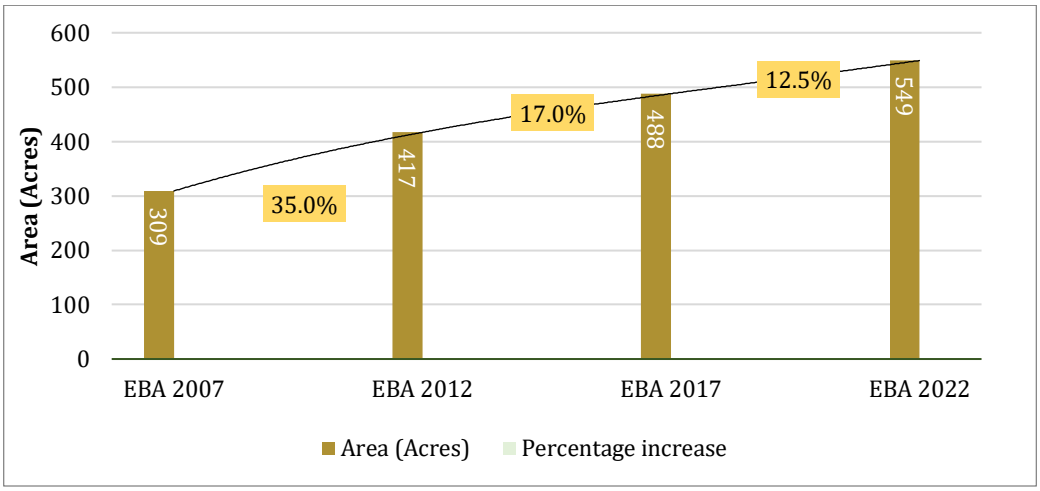


Source: The consultant, 2023

3.7.2.3 District Council Gujranwala (Urban Settlement Tatlay Aali)

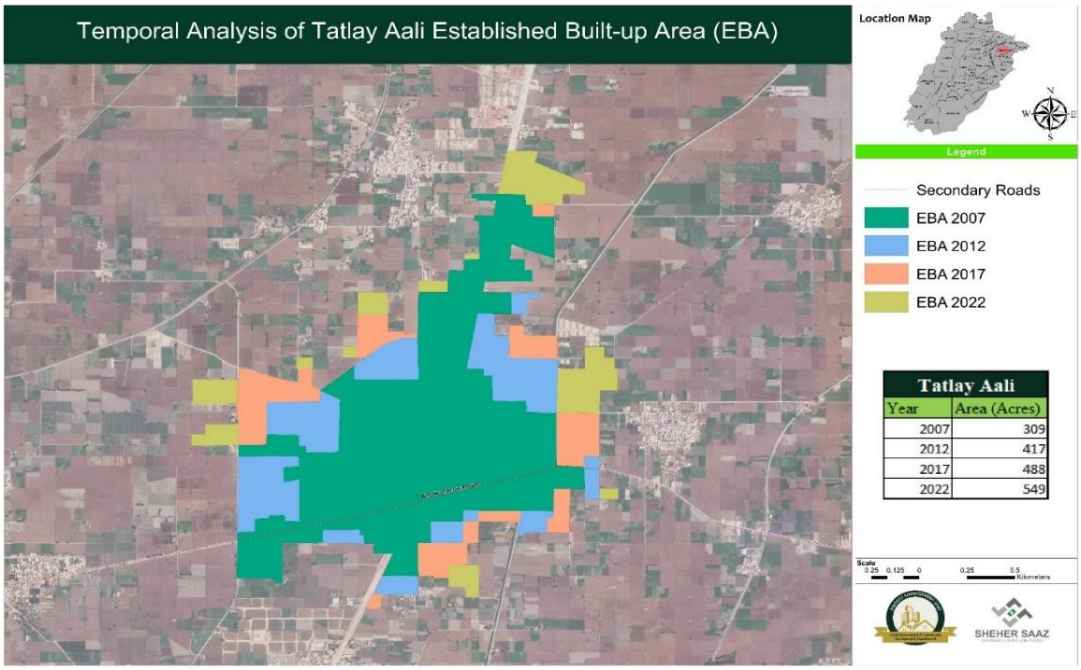
The urban growth of Tatlay Aali has been analyzed through the expansion of the established built-up area (EBA) from 2007 to 2022. The EBA increased by 108 acres between 2007 and 2012, 71 acres from 2012 to 2017, and 61 acres between 2017 and 2022. In total, Tatlay Aali's EBA expanded by 240 acres over this period, reflecting significant urbanization.

Figure 3-28: Growth Trend Analysis of Tatlay Aali



Source: The Consultant, 2023

Figure 3-29: Growth Trend Map of Urban Settlement Tatlay Aali

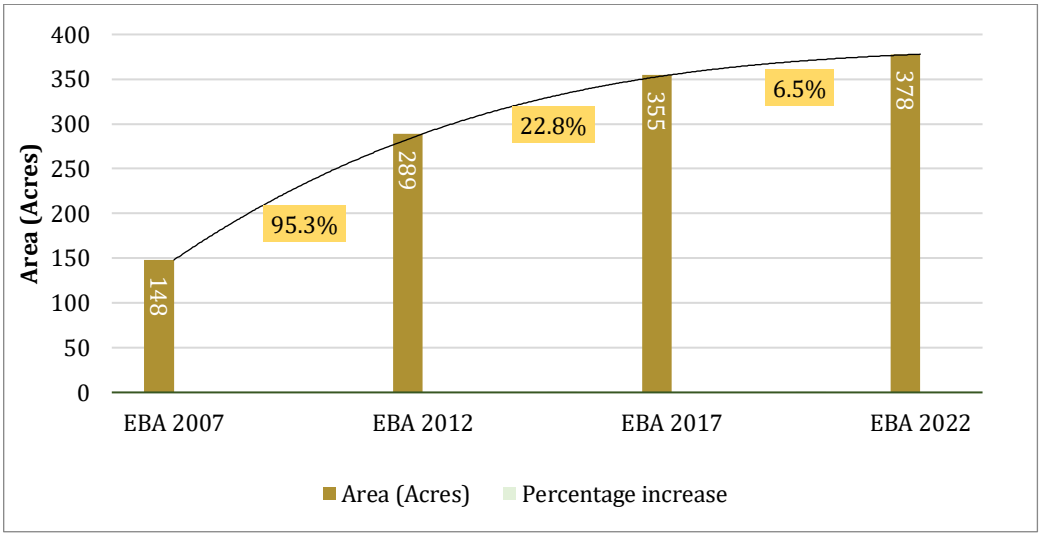


Source: The consultant, 2023

3.7.2.4 District Council Gujranwala (Urban Settlement Nokhar)

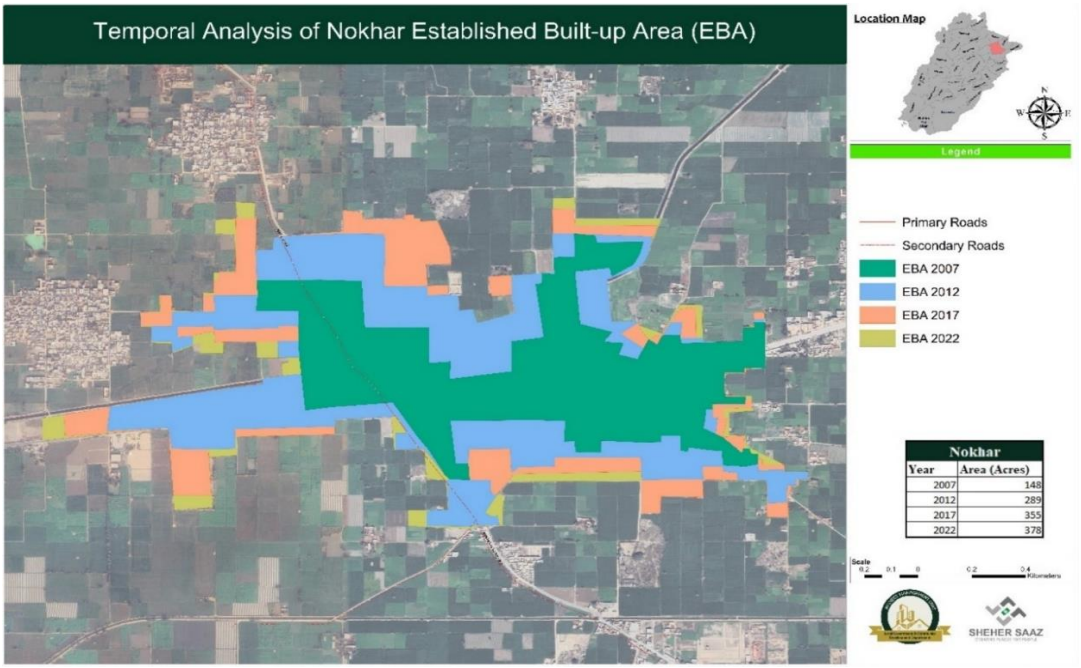
The urban growth of Nokhar has been analyzed through the expansion of the established built-up area (EBA) from 2007 to 2022. The EBA grew by 141 acres between 2007 and 2012, 66 acres from 2012 to 2017, and 23 acres between 2017 and 2022.

Figure 3-30: Growth Trend Analysis of Nokhar



Source: The Consultant, 2023

Figure 3-31: Growth Trend Map of Urban Settlement Nokhar

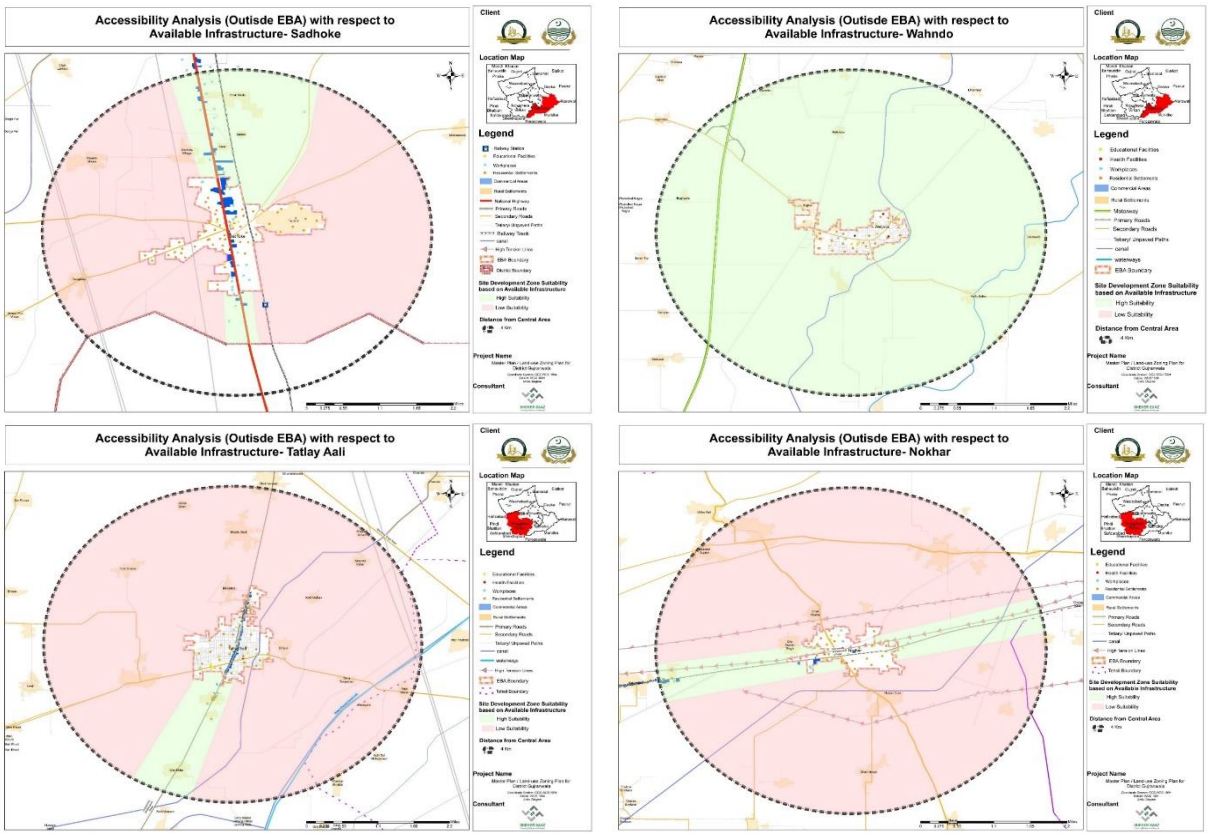


Source: The consultant, 2023

3.7.3 Accessibility Analysis

The accessibility analysis of urban settlements in District Council Gujranwala evaluates how well the transportation network supports access to essential services such as workplaces, education, health, commerce, and recreation. Based on the 15-minute city model, the analysis identifies residential settlements with access to these services within 5, 10, and 15-minute walking distances. The analysis identifies gaps where infrastructure improvements can enhance accessibility, contributing to more sustainable urban development and improved quality of life.

Figure 3-32: Accessibility Analysis of Urban Settlements in District Council Gujranwala Outside EBA Boundary



Source: Consultants, 2023

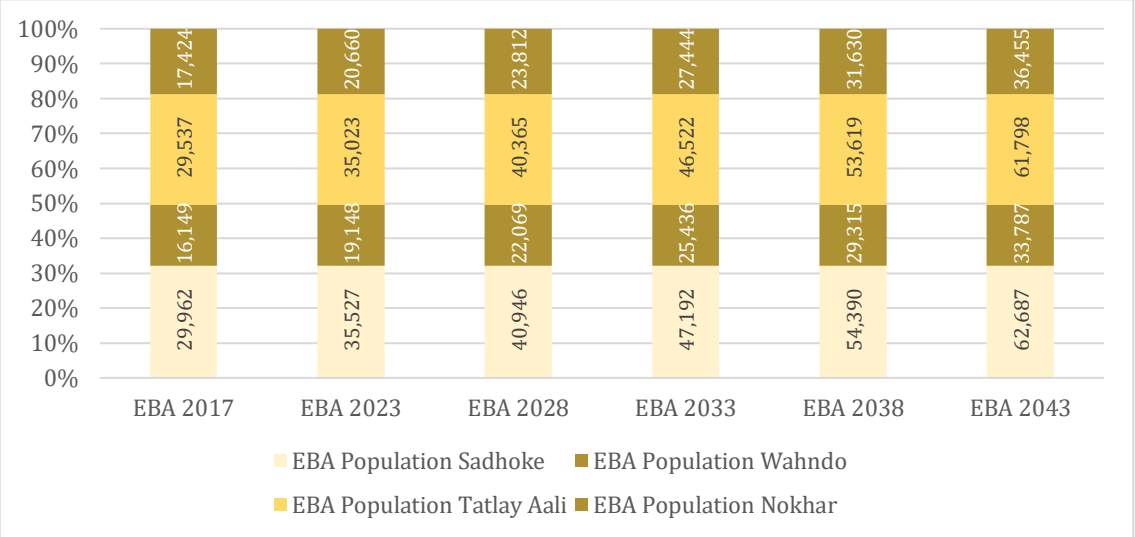
3.7.4 Population Projection

The population projection of urban settlements in DC Gujranwala is as below:

Table 3-35: Population Projection of District Council Gujranwala

Sr. No.	Year	Growth Rate	Established Built-up Area (EBA) Population			
			Sadhoke	Wahndo	Tatlay Aali	Nokhar
1	2017	2.88%	29,962	16,149	29,537	17,424
2	2023	2.88%	35,527	19,148	35,023	20,660
3	2028	2.88%	40,946	22,069	40,365	23,812
4	2033	2.88%	47,192	25,436	46,522	27,444
5	2038	2.88%	54,390	29,315	53,619	31,630
6	2043	2.88%	62,687	33,787	61,798	36,455

Figure 3-33: Population Projection of District Council Gujranwala



Source: The Consultant, 2023

3.7.5 Density Analysis

To address urban planning needs, the following table presents the population density analysis for District Council Gujranwala:

Table 3-36: Population Density Analysis for District Council Gujranwala

Sr. No.	Urban Settlements	EBA Population 2023	EBA 2023 (Acres)	Existing Density	EBA Population 2043	EBA 2043 (Acres)	Proposed Density
1	Sadhoke	35,527	977	36	62,687	1,642	38
2	Wahndo	18,176	386	47	26,955	572	47
3	Tatlay Aali	35,023	549	64	61,798	969	64
4	Nokhar	20,660	217	95	36,455	383	95

Source: The Consultant calculated by using population from the PBS census

3.7.6 Future Area Requirement Assessment

The future area requirement for the residential SDZ of the urban settlement Sadhoke has been calculated, accommodating the population with a 5% increase in the existing density for the planning period 2023-2043. This adjustment considers its strategic location along the main GT Road and its potential for future growth. The remaining settlements have kept the density constant to allow balanced growth and avoid overburdening the main cities.

Table 3-37: Future Area Requirement for Residential Site Development Zone (SDZ) of District Council Gujranwala for the Planning Period (2023-2043)

Description	Urban Settlements			
	Nokhar	Wahndo	Sadhoke	Tatlay Aali
EBA 2023 (Existing)	217 Acres	386 Acres	977 Acres	549 Acres
Population of EBA (2017)	17,424	16,149	29,962	29,537
Population of EBA 2023 (Estimated)	20,660	19,148	35,527	35,023
Population Density (in Persons per Acre)	95 PPA	50 PPA	36 PPA	64 PPA
Proposed Density (PPA)	95 PPA	50 PPA	38 PPA	64 PPA
Population of EBA 2043 (Projected)	36,455	33,787	62,687	61,798
EBA of 2043 (Projected)	383 Acres	681 Acres	1,642 Acres	969 Acres
Future area requirement by 2043 for the SDZ	**166 Acres**	**295 Acres**	**665 Acres**	**420 Acres**

Source: The Consultant calculated by using population from the PBS census

3.7.7 Proposed Site Development Zone (SDZ)

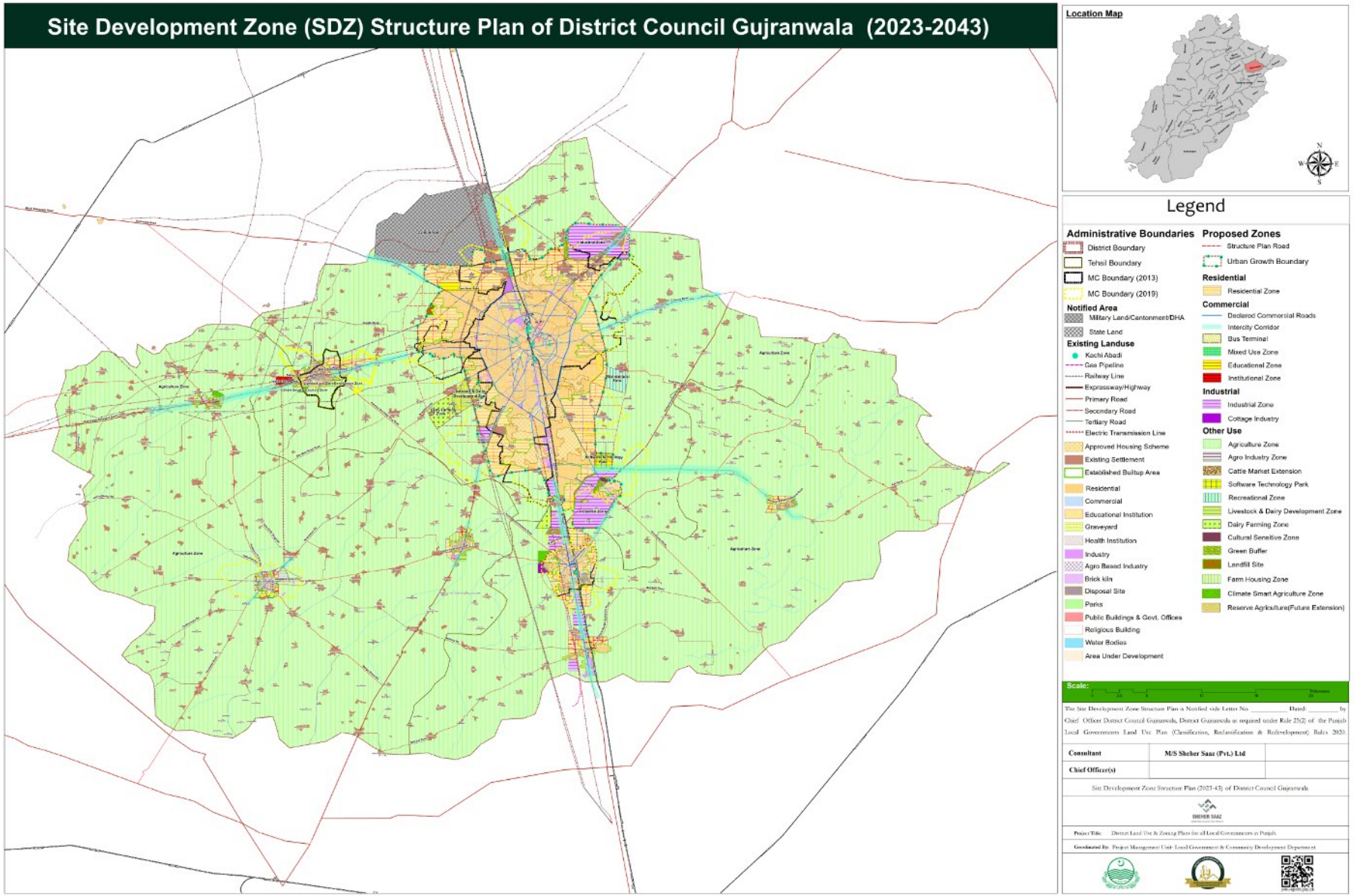
The site development zone has been proposed for the year 2043. The plans have been prepared for each land use class and will be discussed in detail along with the proposed zones and areas. The table shows the overall area and percentages of the residential zones, commercial zones, industrial zones and other zones.

Table 3-38: Proposed Site Development Zones in Urban Settlements of District Council Gujranwala

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	1,585.37	83.56%
Industrial Zones	311.9	16.44%
Total	**1,897.27**	**100%**
Other Zones		
Allied Agricultural Zone	335.61	-

Source: The Consultant, 2023

Map 13: Site Development Zone Structure Plan of District Council Gujranwala



3.7.7.1 Proposed Site Development Zone (SDZ) of Sadhoke

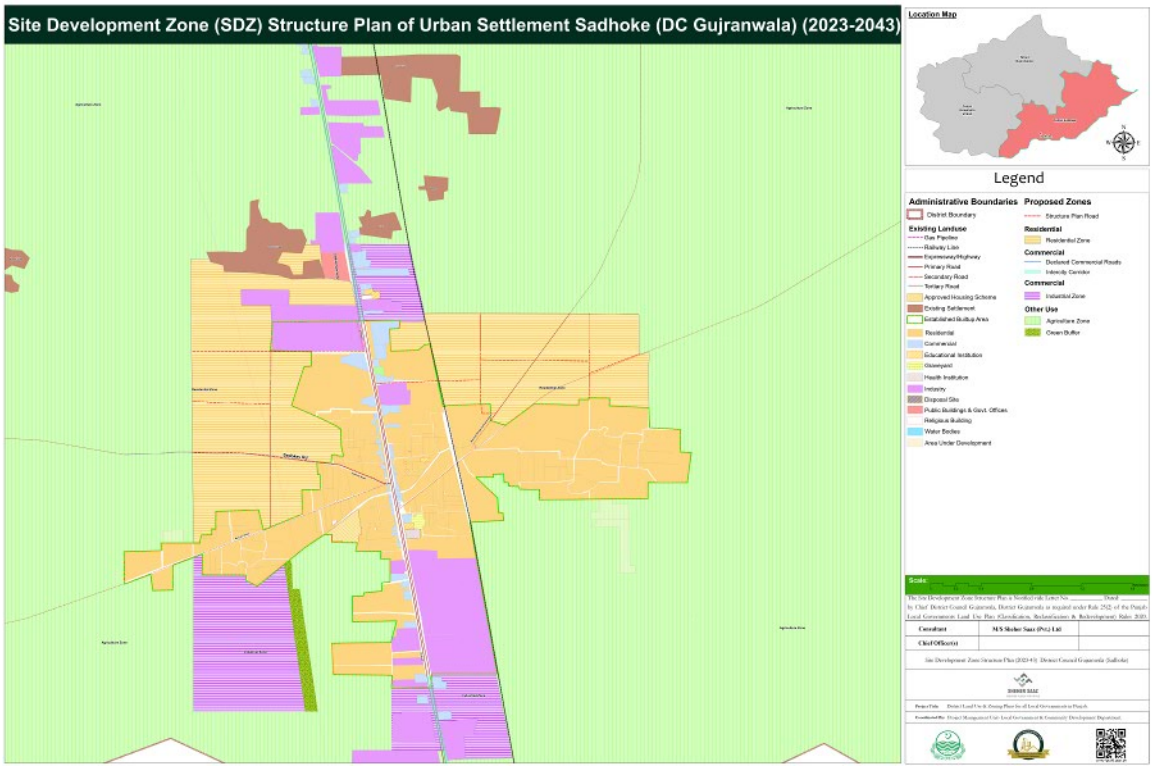
The distribution of various zones proposed in the SDZ Structure Plan are shown in the table below:

Table 3-39: Proposed Site Development Zones of District Council Gujranwala (Urban Settlement Sadhoke)

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	661.11	67.94%
Industrial Zones	311.91	32.06%
Total	**973.02**	**100%**
Other Zones		
Allied Agricultural Zone	22.19	-

Source: The Consultant, 2023

Map 14: Site Development Zone Structure Plan of District Council Gujranwala (Urban Settlement Sadhoke)



Source: Devised by Consultant, 2023

3.7.7.1.1 Proposed Residential Zones

The zones are located in close proximity to EBA's boundary and hold the potential to be developed in the future. Furthermore, these residential zones have been given on the basis of Growth trend as it is also depicted on growth trend map of Sadhoke. In addition, these zones would help to achieve compact urban development of Sadhoke in the future.

Table 3-40: Proposed Residential Zones in Sadhoke

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	661.11	67.94%	

3.7.7.1.2 Proposed Industrial Zone

In Sadhoke, there already exists an industrial estate named Kings Industrial Estate and few other industries are already located on North and South of GT Road. Based on prevailing development patterns and growth potential

the industrial zone has been proposed that would help to create more employment opportunities for the residents of Sadhoke.

Table 3-41: Proposed Industrial Zones in Sadhoke

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Industrial Zone	311.91	32.06%	

3.7.7.1.3 Proposed Allied Agricultural Zones

The land used in certain areas of the SDZ Structure Plan has been preserved, with a green buffer around the industrial zone to safeguard the environment and enhance quality of life.

Table 3-42: Proposed Allied Agricultural Zones in Sadhoke

Land Uses	Area (Acres)	Symbology
Green Buffer	837.89	

3.7.7.2 Proposed Structure Plan Roads

The Structure Plan for Sadhoke has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Sadhoke City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Sadhoke for the next 20 years (2023-2043).

Figure 3-34: Proposed Structure Plan Roads of Sadhoke (2023-2043)

Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

Structural Plan roads with a proposed road width of 80'-100' have been proposed. These roads will improve the accessibility and connectivity for this settlement. The proposed secondary road will provide access to all the proposed zones, reducing congestion in the central areas of the city. Additionally, multiple structural plan roads with a range of ROWs have been proposed to Improve traffic circulation in the future.

3.7.7.3 Proposed Site Development Zone (SDZ) of Wahndo

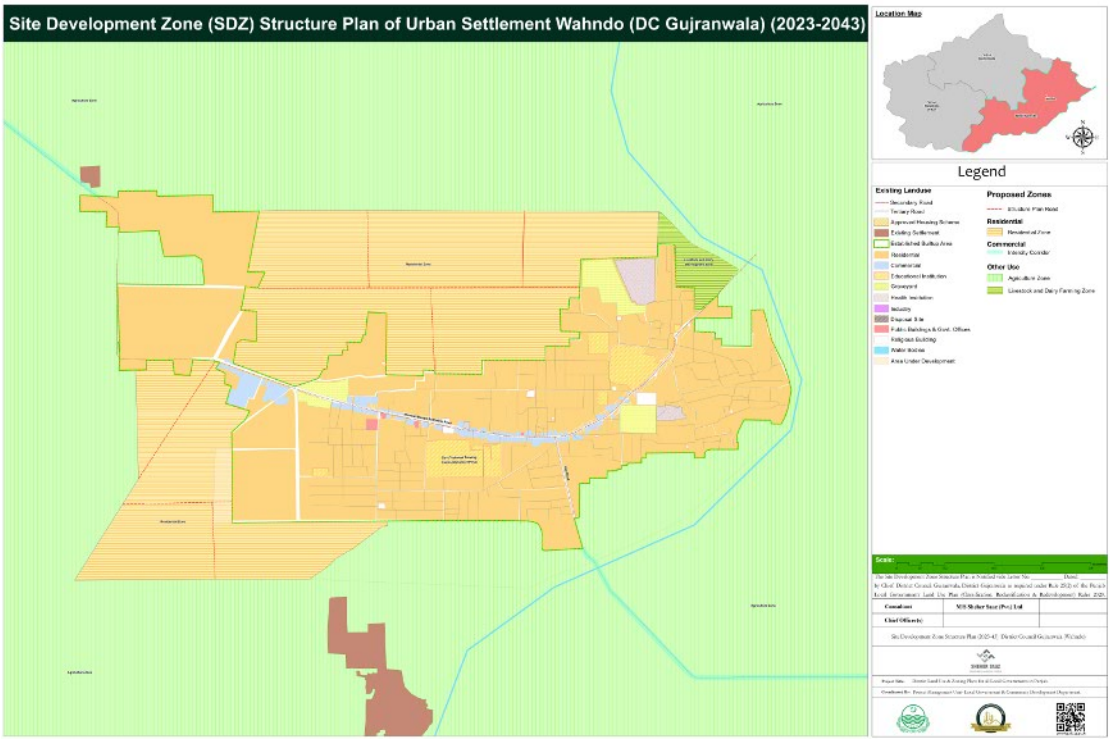
The SDZ Structure Plan for Wahndo is prepared keeping in view the growing demand of the area. Several zones are then proposed keeping in view the planning principles and factors outlined in the previous chapter. The distribution of various zones proposed in SDZ Structure Plan are shown in the table below:

Table 3-43: Proposed Site Development Zones of District Council Gujranwala (Urban Settlement Wahndo)

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	294.90	100%
Total	294.90	**100%**
Other Zones		
Allied Agricultural Zone	10.78	-

Source: The Consultant, 2023

Map 15: Site Development Zone Structure Plan of District Council Gujranwala (Urban Settlement Wahndo)



Source: Devised by Consultant, 2023

3.7.7.3.1 Proposed Residential Zones

The residential zones have been given on the basis of Growth trend that can be depicted on growth trend map of Wahndo. In addition, these zones would help to achieve compact urban development in future. These residential zones have been sub-divided on the basis of proposed structure plan roads.

Table 3-44: Proposed Residential Zones in Wahndo

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	295	100%	

3.7.7.3.2 Proposed Allied Agricultural Zones

The purpose of allocating Allied Agricultural Zones is to ensure that the land in a particular region is used efficiently and exclusively for agricultural purposes. Proposed Livestock and Dairy Farming Zone has been proposed which would help to cater the agricultural needs of Wahndo.

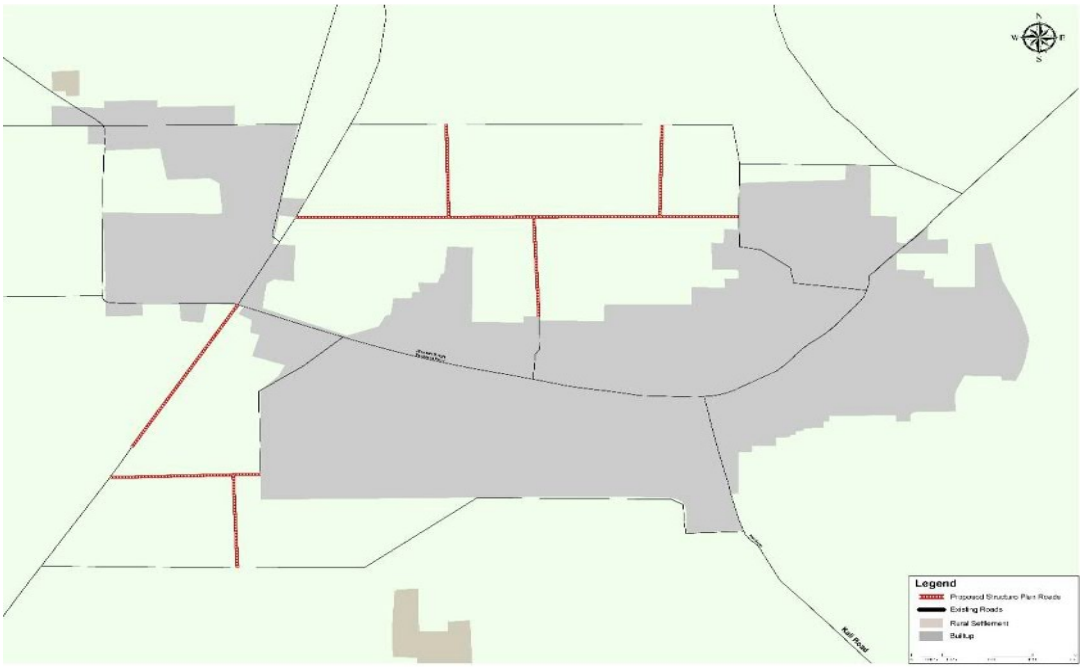
Table 3-45: Proposed Other Zones in Wahndo

Land Uses	Area (Acres)	Symbology
Livestock and Dairy Farming Zone	10.78	

3.7.7.4 Proposed Structure Plan Roads

The Structure Plan for Wahndo has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Wahndo City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Wahndo for the next 20 years (2023-2043).

Figure 3-35: Proposed Structure Plan Roads of Wahndo (2023-2043)



Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

Structural Plan roads with a proposed road width of 80'-100' have been proposed. These roads will improve the accessibility and connectivity of this settlement. A proposed secondary road will provide access to all the proposed zones. Additionally, multiple structural plan roads with a range of ROWs have been proposed to Improve traffic circulation in the future.

3.7.7.5 Proposed Site Development Zone (SDZ) of Tatlay Aali

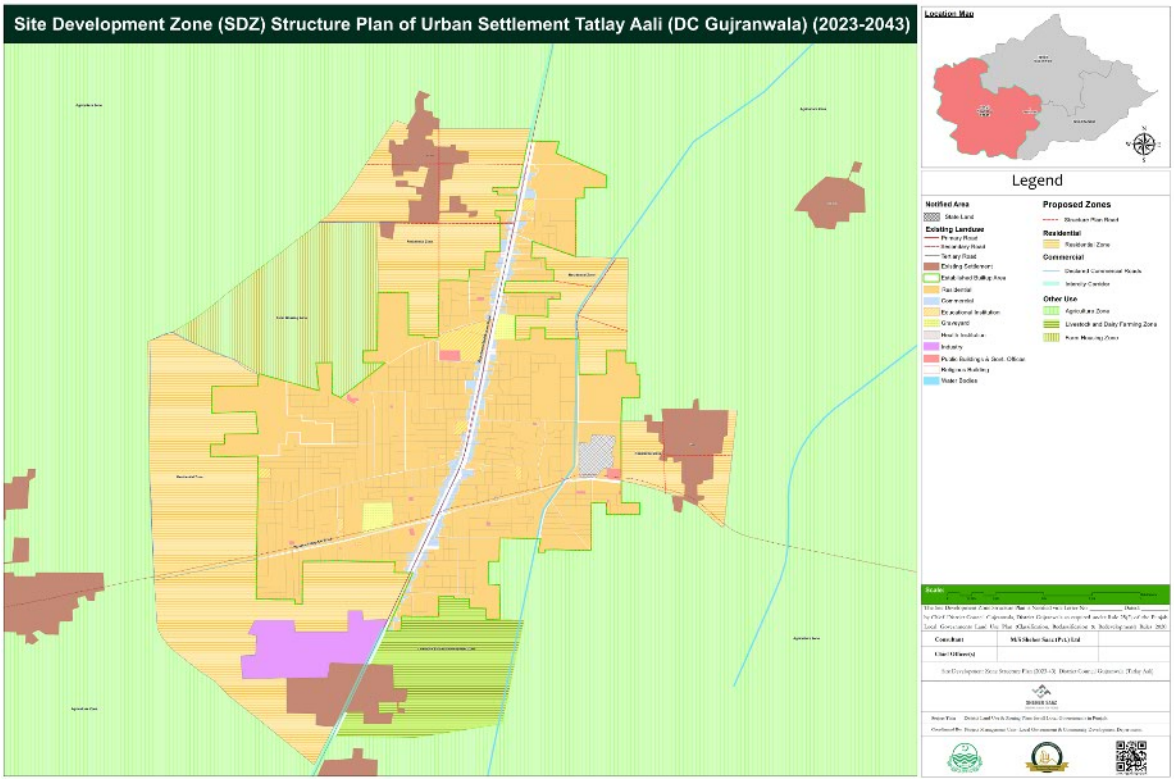
The SDZ Structure Plan of Tatlay Aali is prepared keeping in view the growing demand of the area. Several zones are then proposed keeping in view the planning principles and factors outlined in the previous chapter. The distribution of various zones proposed in SDZ Structure Plan are shown in the table below:

Table 3-46: Proposed Site Development Zones of District Council Gujranwala (Urban Settlement Tatlay Aali)

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	430.68	100%
Total	**430.68**	**100%**
Other Zones		
Allied Agricultural Zone	211.1	-

Source: The Consultant, 2023

Map 16: Site Development Zone Structure Plan of District Council Gujranwala (Urban Settlement Tatlay Aali)



Source: Devised by Consultant, 2023

3.7.7.5.1 Proposed Residential Zones

The residential zones were proposed based on the several factors of accessibility, growth trend, market forces, compact development, and along the physical barrier. These residential zones have also been sub-divided based on proposed structure plan roads.

Table 3-47: Proposed Residential Zones in Sadhoke

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	430.68	100%	

3.7.7.5.2 Proposed Allied Agricultural Zones

The purpose of allocating Allied Agricultural Zones is to ensure that the land in a particular region is used efficiently and exclusively for agricultural purposes. This helps maximize food production and promotes sustainable farming practices. Different sub-uses in Agriculture zone are proposed as promotional zone such as Proposed Livestock & Diary Farming Zone, Proposed and Proposed Farm Housing Zone which would help to cater the agricultural needs of Tatlay Aali.

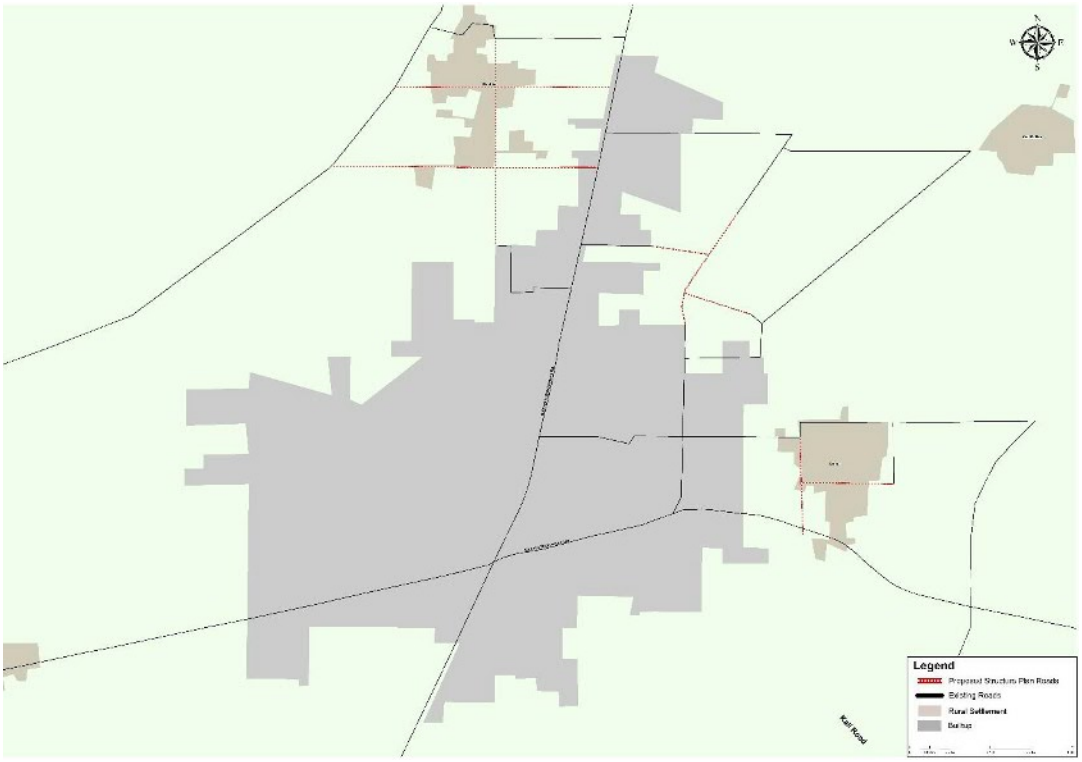
Table 3-48: Proposed Allied Agricultural Zones in Sadhoke

Land Uses	Area (Acres)	Symbology
Farm Housing Zone	122.35	
Livestock & Dairy Development Zone	88.75	

3.7.7.6 Proposed Structure Plan Roads

The Structure Plan for Tatlay Aali has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Tatlay Aali City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Tatlay Aali for the next 20 years (2023-2043).

Figure 3-36: Proposed Structure Plan Roads of Tatlay Aali (2023-2043)



Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

Structural Plan roads have been proposed with a proposed road width of 80'-100'. These roads will improve the accessibility and connectivity for this settlement. Proposed secondary road will provide access to all the proposed zones. Additionally, multiple structure plan roads with a range of ROWs have been proposed in order to Improve the traffic circulation right in future.

3.7.7.7 Proposed Site Development Zone (SDZ) of Nokhar

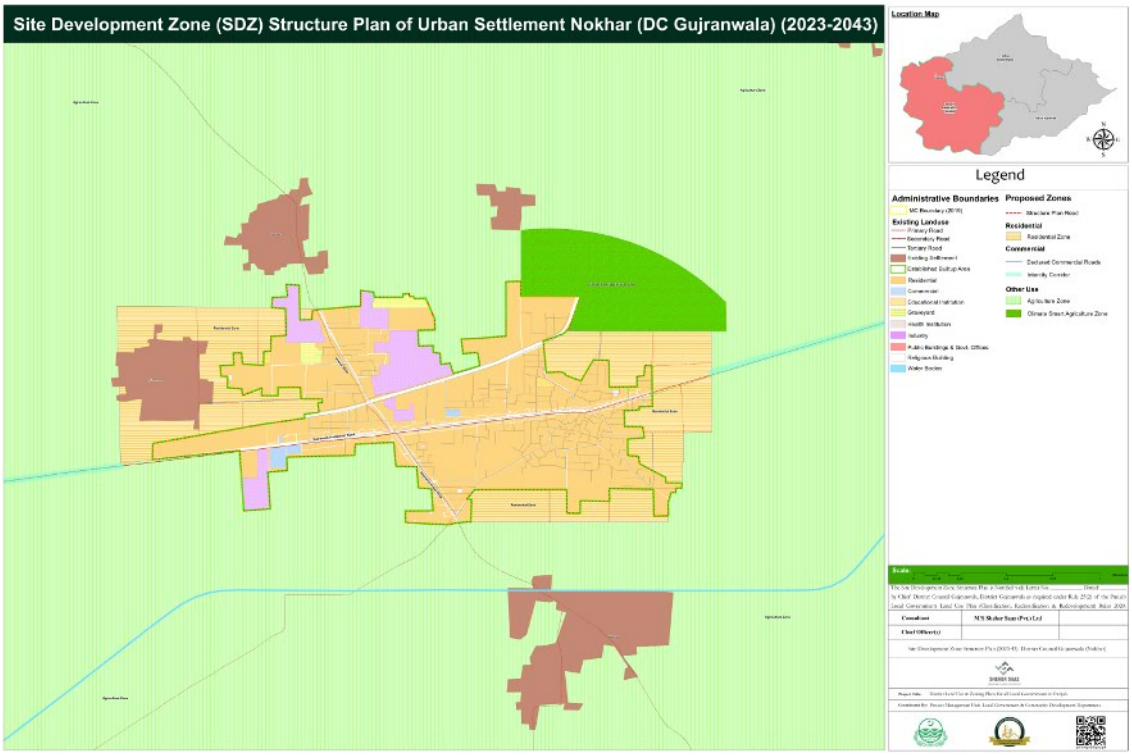
The SDZ Structure Plan of Nokhar is prepared keeping in view the growing demand of the area. Several zones are then proposed keeping in view the planning principles and factors outlined in the previous chapter. The distribution of various zones proposed in SDZ Structure Plan are shown in the table below:

Table 3-49: Proposed Site Development Zones of District Council Gujranwala (Urban Settlement Nokhar)

Land Uses	Area (Acres)	Percentage of the Total Proposed Area
Site Development Zones		
Residential Zones	198.68	100%
Total	198.68	**100%**
Other Zones		
Allied Agricultural Zone	91.54	-

Source: The Consultant, 2023

Map 17: Site Development Zone Structure Plan of District Council Gujranwala (Urban Settlement Nokhar)



Source: Devised by Consultant, 2023

3.7.7.7.1 Proposed Residential Zones

The residential zones were proposed based on the several factors of accessibility, growth trend, market forces, compact development, and along the physical barrier. These residential zones have also been sub-divided on the basis of proposed structure plan roads.

Table 3-50: Proposed Residential Zones in Nokhar

Land Uses	Area (Acres)	Percentage of the Total Proposed Area	Symbology
Residential Zones	198.68	100%	

3.7.7.7.2 Proposed Allied Agricultural Zones

The purpose of allocating Allied Agricultural Zones is to ensure that the land in a particular region is used efficiently and exclusively for agricultural purposes. This helps maximize food production and promotes sustainable farming practices therefore the Climate Smart Agriculture Zone is proposed in Nokhar.

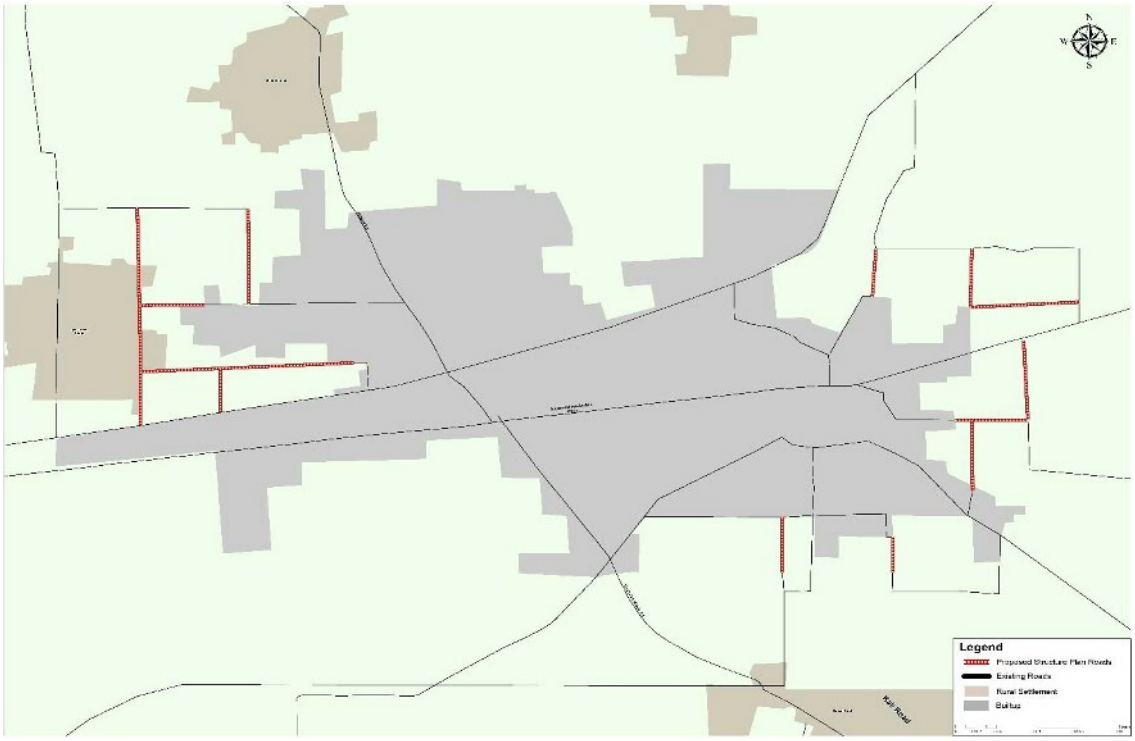
Table 3-51: Proposed Other Zones in Nokhar

Land Uses	Area (Acres)	Symbology
Climate Smart Agriculture Zone	91.54	

3.7.7.8 Proposed Structure Plan Roads

The Structure Plan for Nokhar has been developed for the next 20 years (2023-2043) based on factors such as connectivity of existing infrastructure, growth trends, topography, and land use patterns. When proposing new roads in a city, it is crucial to consider route proposals and alignments carefully to ensure that the roads serve their intended purposes effectively while minimizing negative impacts. To support Nokhar City's future development, a proposal has been made that includes constructing a network of structure plan roads. The following map shows the proposed structure plan roads of Nokhar for the next 20 years (2023-2043).

Figure 3-37: Proposed Structure Plan Roads of Nokhar (2023-2043)



Source: Devised by Consultant, 2023

Note: The comprehensive list of proposed structure plan roads has been provided under 5.2. section of proposed structure plan roads.

Structural Plan roads have been proposed with a proposed road width of 80'-100'. These roads will improve the accessibility and connectivity for this settlement. The proposed secondary road will provide access to all the proposed zones. Additionally, multiple structure plan roads with a range of ROWs have been proposed in order to Improve the traffic circulation right in future.

3.8 Recommendations

For implementation of Site Development Zones are listed as follows:

- Overlay of Structure Plan Roads with Revenue Maps: Section 4: Integrating revenue records with the SDZ structure plan through GIS mapping is crucial for effective urban planning, land management, and identifying roads within specific revenue units. After integrating revenue records with the SDZ structure plan, road segments will be aligned with Section 4 to govern future land transactions within the proposed zones. This integration is essential for guiding future development. The district administration will issue No Objection Certificates (NOCs) to ensure compliance with the plan, maintaining the integrity of the structure plan roads for the next twenty years.
- Zoning regulations implementation by respective local governments: Policy guidelines for proposed zones are discussed in relevant sections of the Site Development Zone. It is proposed that local governments and authorities will develop their implementation frameworks or regulations based on these guidelines. Land use rules should be reviewed and amended according to the policy guidelines, integrated into the regulations by the respective authorities.
- Enforcement Measures for LG Department: The Local Government (LG) department should use satellite surveillance, periodic inspections, and Geographic Information Systems (GIS) to enforce zoning plans effectively. These tools can monitor land use, identify unauthorized constructions, and track changes over time. Additionally, public awareness campaigns, inter-agency collaboration, and a strengthened legal framework with clear penalties will support enforcement and ensure the integrity of urban planning.

CHAPTER 4

REVIEW & INTEGRATION OF DECLARED COMMERCIAL ROADS

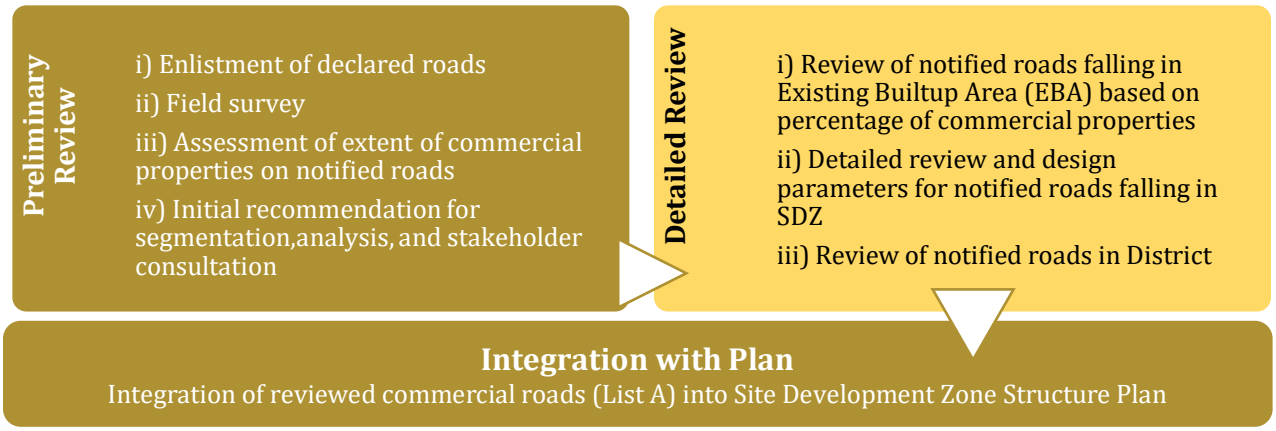
CHAPTER 4
REVIEW & INTEGRATION OF DECLARED COMMERCIAL ROADS

4.1 Process

4.1.1 Review Mechanism for Notified Commercial (List-A) Roads

The analysis of the notified roads (List-A) within the study area is organized into a three-stage framework. The first stage involves data preparation and a preliminary review. The second stage conducts a more in-depth examination based on the parameters established in the PLG Land Use Rules 2020. The third stage integrates the roads into SDZ Structure Plan. Each stage is explained in the following sections for clarity.

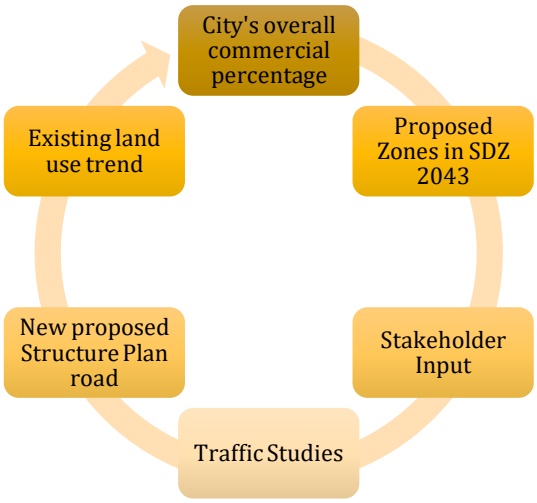
Figure 4-1: Analysis of Notified Commercial (List-A) Roads



4.1.2 Review Mechanism for List B Roads

All roads where commercialization is frozen will be reviewed to assess their potential for commercialization based on existing land use, proposed land use zones, stakeholder feedback, and findings from the transportation study. Additionally, new linkages proposed in the SDZ Structure Plan will also be evaluated for their potential to serve as commercial roads. The decision to consider List B roads for commercial use and recommend their inclusion in List A results from a comprehensive assessment aimed at balancing economic development with sustainable urban growth. The figure summarizes the methodology used for this review.

Figure 4-2: Analysis of Notified Commercial (List-A) Roads



4.2 Review & Recommendation for Continuation of Commercial Use

The Land Use Plan harmonizes different land uses and ensures a balanced distribution, considering land use suitability factors. Commercial activity is a significant land use that greatly influences urban dynamics and can impact the performance of other urban systems, such as transportation. To manage the spread of commercial activity along city roads, all roads are classified into two categories. The first category, known as List A roads, allows commercial activity, enabling property owners to convert their properties into commercial use after following the proper procedures. The second category, List B roads, prohibits commercial activity, and properties on these roads cannot be converted for commercial use.

The Review of Notified Roads report thoroughly presents the List A roads of Gujranwala district, as outlined under Chapter III (Enlistment and Review of Listed Roads) of the Punjab Local Government Land Use Plan (Classification, Reclassification, and Redevelopment) Rules, 2020 - Rule 12.

4.3 Review of Notified Commercial (List-A) Roads

The table below provides the identified segments from the proposed structure plan roads and existing roads recommended for commercialization under List-A notification. Additionally, there are two List-B roads in MC Gujranwala, one of which remains in List-B, while the other has been recommended for inclusion in List-A, with its fate to be decided by the DPDC.

Table 4-1: List of Notified Commercial (List A) Roads - District Gujranwala

Sr. #	Road Name	Segment	Starting Point	Ending Point	ROW	Proposal as Per Analysis
Municipal Corporation Gujranwala						
1.	Approach Road People Colony	AB	Under Pass Chowk	Kashmir Road	100ft	Continue as List A 16ft Recommended Setback
2.	Aroop Road 1	AB	Maafiwala Chowk	Govt High School	70ft	Continue as List A 20ft Recommended Setback
3.	Aroop Road 2	AB	Sialkot Road Daska CNG	Govt School Aroop	60ft	Continue as List A 16ft Recommended Setback
4.	Asghar Ali Road	AB	Gill Road	Labh Singh / Bokhari Road	60ft	Continue as List A 16ft Recommended Setback
5.	Awais Qurni/Ganda naala Road	AB	GT Road	By Pass	16ft	Continue as List A 16ft Recommended Setback
6.	Awais Market Truck Adda Khiali Road	AB	Khiali Chowk	End of Market	40ft	Continue as List A 10ft Recommended Setback
7.	Baba Fareed Road	AB	Canal Upper Channab	Pasroor Road	56ft	Continue as List A 16ft Recommended Setback
8.	Billa Chowk Road	AB	Billa Chowk Road	MC School	40ft	Continue as List A 10ft Recommended Setback
9.	Bypass Road 1	AB	Kangniwala Bypass GT Road	Al-Hayat Enterprises	220ft	Continue as List A 20ft Recommended Setback
		BC	Al-Hayat Enterprises	Ex Solar Power	220ft	Continue as List A 20ft Recommended Setback
		CD	Ex Solar Power	Butt Burger and Shawarma	220ft	Continue as List A20ft Recommended Setback
		DE	Butt Burger and Shawarma	Baba Fareed Road	220ft	Continue as List A 20ft Recommended Setback
		EF	Kangniwala Bypass GT Road	Baba Fareed Road	220ft	Continue as List A 20ft Recommended Setback
10.	Bypass Road 2	AB	GT Road	Khan CNG	220ft	Continue as List A 20ft Recommended Setback
		BC	Baba Fareed Road	Sialkot Sweets	220ft	Continue as List A 20ft Recommended Setback
		CD	Sialkot Sweets	GT Road	220ft	Continue as List A 20ft Recommended Setback
11.	Bypass Road 3	AB	Khan CNG Ali G Town Main Bazaar	Allam Chowk	220ft	Continue as List A 20ft Recommended Setback
12.	Bypass Road 4	AB	Tariq Electronics	Chandila Qila G-T Road	220ft	Continue as List A 20ft Recommended Setback
		BC	Pso. Petrol Pump	Tariq Electronics	220ft	Continue as List A 20ft Recommended Setback

Sr. #	Road Name	Segment	Starting Point	Ending Point	ROW	Proposal as Per Analysis
		CD	Aalam Chowk	Pso. Petrol Pump	220ft	Continue as List A 20ft Recommended Setback
13.	Canal Road 1	AB	Gt Road	Bypass Road	45ft	Continue as List A 16ft Recommended Setback
14.	Canal Road 2	AB	Bypass Road	Citi Housing Gate	100ft	Continue as List A 20ft Recommended Setback
15.	DC Road	AB	Chowk DIG Residence	Railway Phatak	70ft	Continue as List A 16ft Recommended Setback
16.	Disposal Road Wahdat Colony	AB	Pasroor Road	MC School	30ft	Continue as List A 10ft Recommended Setback
17.	Food Street Mohallah Bakhtewala	AB	Katcha Darwaza	Gaib Chowk	30ft	Continue as List A 10ft Recommended Setback
18.	Gala Coca cola Factory Near Same Nala	AB	Bypass Road	End bazaar	30ft	Continue as List A 10ft Recommended Setback
19.	Ghareeb Nawaz Road	AB	Kashmir Road	Bypass	45ft	Continue as List A 16ft Recommended Setback
20.	Gill Road	AB	Police Station Civil Line	Hospital Road Corner	35ft	Recommended as List A but fate to be decided by DPDC. 10ft Recommended Setback
21.	Gill Road 1	AB	Shamsi Chowk DC Road	Police Station Civil Line chowk	35ft	Continue as List A 10ft Recommended Setback
22.	Grid Station Saheenabad	AB	GT Road	Grid Station Shaheen Abad	30ft	Continue as List A 5ft Recommended Setback
23.	GT Road	AB	Rehmat CNG	Gulfam Industry	220ft	Continue as List A 20ft Recommended Setback
24.	GT Road Attawa	AB	Upper Chanab Canal	Al-Rehmat/four-star CNG	220ft	Continue as List A 20ft Recommended Setback
25.	GT Road Lohianwala	AB	Railway Crossing (Contonment Board LImit) GT Road	Daewoo Express Bus Terminal Gujranwala	220ft	Continue as List A 20ft Recommended Setback
26.	Hadri Road	AB	Corner Bazaar no 1	Race Course Road	30ft	Continue as List A 5ft Recommended Setback
27.	HFC Road	AB	Chowk Women Degree College	Pasroor Road	60 ft	Continue as List A 16ft Recommended Setback
28.	Hospital Road / Commissioner Office Road	AB	Civil Line Railway Phattak	Munir Chowk	55ft	Continue as List A 16ft Recommended Setback
29.	Hospital Road / Commissioner Road Part 2	AB	National Bank Chowk	Hamilton Road Chowk	55ft	Continue as List A 16ft Recommended Setback
30.	Jail Road / Govt Girls Degree College Road	AB	Sialkot Road	Mian Market Satellite Town	60ft	Continue as List A 16ft Recommended Setback
31.	Kashmir Road 1	AB	Pasroor Road	Ferozwala Road	40ft	Continue as List A 10ft Recommended Setback
32.	Kashmir Road 2	AB	Ferozwala Road	Approach Road people Colony	100ft	Continue as List A

Sr. #	Road Name	Segment	Starting Point	Ending Point	ROW	Proposal as Per Analysis
						16ft Recommended Setback
33.	Kashmir Road 3	AB	Meer Bakers	Katcha Emenabad Road	60ft	Continue as List A 16ft Recommended Setback
34.	Katcha Emenabad Road AB	AB	Pipli Wala Pull	Qila Mian Singh Road (TAJ Chowk Emenabad more)	110ft	Continue as List A 20ft Recommended Setback
35.	Katcha Emenabad Road 2	AB	Sialkot Emenabad Road	Kamoke Road	110ft	Continue as List A 16ft Recommended Setback
36.	Kachahri Road	AB	Munir Chowk	Sialkot Chowk	40ft	Continue as List A 10ft Recommended Setback
37.	Laab Singh Road /Bokhari Road 1	AB	Batala Road	Asghar Ali Road	50ft	Continue as List A 16ft Recommended Setback
38.	Lab Singh / Bokhari Road 2	AB	Asghar Ali Road	Dura Phattak	50ft	Continue as List A 16ft Recommended Setback
39.	Liaquat Ali Khan Road	AB	Jail Road	Dastgeer Road	50ft	Continue as List A 10ft Recommended Setback
40.	Link HFC Road	AB	Rasheed Dahi Bhally	Main Market	30ft	Continue as List A 10ft Recommended Setback
41.	Link Wapda Town Road	AB	Canal Upper Chenab Western Bypass Road	Mughal Plaza Chowk	80 ft	Continue as List A 16ft Recommended Setback
42.	Lohianwala Road	AB	Bypass Road Lohainwala Chowk	GT Road Lohianwala	25ft	Continue as List A 16ft Recommended Setback
43.	Lone Street Satellite Town	AB	Bank Road	Liaquat Ali Khan Road	50ft	Continue as List A 10ft Recommended Setback
44.	Madni Road	AB	Sheikhupura Road	By Pass Road	40ft	Continue as List A 10ft Recommended Setback
45.	Mafiwala Road	AB	Sialkot Road	Aroop Road	80ft	Continue as List A 20ft Recommended Setback
46.	Main Bazaar Shaheenabad	AB	GT Road	Awais Qurni Road (Ganda Nallah)	16ft	Continue as List A 16ft Recommended Setback
47.	Main Bazar 30' Foota Shaheenabad	AB	GT Road	Shiekhan Wala Bazar	30ft	Continue as List A 10ft Recommended Setback
48.	Main Bazar ex Counselor Hameed Wala Islam Pura Dulle Jannah Road	AB	Jannah Road	Molvi Hadayatullah Counselor	16ft	Continue as List A 7ft Recommended Setback
49.	Main Bazar Ghulam Muhammad Town	AB	Bypass Road	Main Bazar Puliwala	20 and 30ft	Continue as List A 5ft Recommended Setback
50.	Main Bazaar Madina Masjid	AB	Ghordor road	Kashmir Road	15ft	Continue as List A 7ft Recommended Setback
51.	Main Bazar Malik Park Chowk to Fatomand Road/ Link sui gas rd	AB	Sui Gas Road	Fatomand Road	20ft	Continue as List A 5ft Recommended Setback
52.	Main Bazar No 2 Arfat Colony	AB	Haidary Road	Gali No. 18	20ft	Continue as List A 5ft Recommended Setback

Sr. #	Road Name	Segment	Starting Point	Ending Point	ROW	Proposal as Per Analysis
53.	Main Market Satellite Town Excluding Satellite Town Scheme Area	AB	Bijli Ghar	Haneef Heights	60ft	Continue as List A 16ft Recommended Setback
54.	Main Road Choti Civil Line	AB	Chowk Stadium	Sialkot Road	30ft	It was recommended in List B which will be retained as List B.
55.	Main Wapda Town Road	AB	Western Bypass Road	Main Gate Wapda Town	117ft	Continue as List A 16ft Recommended Setback
56.	Makki Masjid Civil Line	AB	Dura Phattak GT Road	DHQ Boundary	30ft	Continue as List A 10ft Recommended Setback
57.	Makki Road	AB	Bajwa Road	Khiali Bye Pass	35ft	Continue as List A 10ft Recommended Setback
58.	Mandiyala Bazar	AB	GT Road	dahi Markaze Seha	30ft	Continue as List A 10ft Recommended Setback
59.	Mian Zia ul; Haq Road	AB	Katcheri Road	National Bank Chowk	40ft	Continue as List A 10ft Recommended Setback
60.	Nafee Tower Road	AB	Kangni Wala Chowk	By Pass	45ft	Continue as List A 10ft Recommended Setback
61.	Naumania Road	AB	Gondlawala Road	Plaza Haji Munir Ahmad	16 and 25ft	Continue as List A 5ft Recommended Setback
62.	Parrao Road	AB	GT Road	Khiali Gate	80ft	Continue as List A 16ft Recommended Setback
63.	Pasroor Road 1	AB	Upper Chanab Canal	Distributary Jandiala baghwal	100ft	Continue as List A 20ft Recommended Setback
64.	Pasroor Road 2	AB	Distributary Jandiala Baghwala	Cheema Floor Mills	100ft	Continue as List A 20ft Recommended Setback
65.	Post Office Road	AB	Pasroor Road	Main Market Satellite Town	60ft	Continue as List A 10ft Recommended Setback
66.	Ratta Road	AB	Saint Joseph School	Baba Fareed Road	20ft	Continue as List A 5ft Recommended Setback
67.	Rex Cinema Road	AB	Pasroor Road	main Market Satellite Town	60 ft	Continue as List A 16ft Recommended Setback
68.	Road from Circular Road Saint Joseph Road Towards Billa Chowk	AB	Saint Joseph School Road	MC School / Gurda Hospital	40 ft	Continue as List A 10ft Recommended Setback
69.	Road Satellite Town Market to Saint Jeosof School Road	AB	Popular Nursery Chowk Circle Road	main Market	60ft	Continue as List A 16ft Recommended Setback
70.	Saint Joseph School Road	AB	Sialkot Road	Zero Point	100ft	Continue as List A 16ft Recommended Setback
71.	Session Court Road	AB	Hospital Road	Session Court	30ft	Continue as List A 10ft Recommended Setback
72.	Session Court Road / Kacheri Road	AB	Kacheri Road	Session Court Gate	50ft	Continue as List A 16ft Recommended Setback

Sr. #	Road Name	Segment	Starting Point	Ending Point	ROW	Proposal as Per Analysis
73.	Sethi Plaza GT Road Bazar No 1,2,3	AB	Gt Road	End Point Bazar 1	40ft	Continue as List A 10ft Recommended Setback
		BC	Gt Road	End Point Bazar 2	40ft	Continue as List A 10ft Recommended Setback
		CD	Gt Road	End Point Bazar 3	40ft	Continue as List A 10ft Recommended Setback
74.	Sheikhupura Road (Gujranwala)	AB	Khaili Chowk Bypass Road	Main Francisabad Bazar	110ft	Continue as List A 20ft Recommended Setback
75.	Sialkot Road	AB	Aroop Mor	ZIC Petrol Pump	110ft	Continue as List A 16ft Recommended Setback
		BC	ZIC Petrol Pump	Nandi Pur Nehar	110ft	Continue as List A 16ft Recommended Setback
76.	Sialkot Road 1	AB	Silver Star Chowk	Aroop Mor	127ft	Continue as List A 20ft Recommended Setback
77.	Sui Gas Office Road	AB	Shamsi Chowk	Bypass Road	27/38ft	Continue as List A 10ft Recommended Setback
78.	Tehsil Road	AB	Sialkot Road	Pasroor Road	17ft	Continue as List A 7ft Recommended Setback
79.	Wanniawala bazar	AB	Wania Chowk, Sialkot Bypass Road	Government High School, Sialkot Bypass Road	30ft	Continue as List A 10ft Recommended Setback
Municipal Committee Qila Dedar Singh						
80.	Kamon Malhi Road Qila Dedar Singh	AB	Main Bazar Qila Dedar Singh	Rice Mill	40ft	Continue as List A 10ft Recommended Setback
81.	Noor Pur Road (Khurram Market), Qila Dedar Singh	AB	Hafizabad Road	Main Bazar	25ft	Continue as List A 5ft Recommended Setback
82.	Hafizabad Road	AB	HFC Qila Didar Singh	Magrabi Chungi	42ft	Continue as List A 20ft Recommended Setback
Municipal Committee Kamoke						
83.	G.T Road	AB	Hamza Rice Mill	Sadar Thana	220ft	Continue as List A 20ft Recommended Setback
84.	Ladies Park Road	AB	G.T Road	Phatak Ladies Park	66ft	Continue as List A 16ft Recommended Setback
85.	Telephone Exchange Road	AB	G.T Road	Gol Bazar	30ft	Continue as List A 10ft Recommended Setback
86.	Edhi Road	AB	G.T Road	Railway Line	25ft	Continue as List A 10ft Recommended Setback
87.	Kasoki Road	AB	G.T Road	Railway Phatak	66ft	Continue as List A 16ft Recommended Setback
88.	Masjid Umer Road	AB	G.T Road	Railway Road	28 ft	Continue as List A 5ft Recommended Setback
89.	Qabrastan Road	AB	G.T Road	Railway underpass	40ft	Continue as List A

Sr. #	Road Name	Segment	Starting Point	Ending Point	ROW	Proposal as Per Analysis
						10ft Recommended Setback
Municipal Committee Nowshera Virkan						
90.	Tatay Aali Road	AB	Telephone Exchange	MC Limit NV	45ft	Continue as List A 10ft Recommended Setback
91.	Khatiali Minor Road NV	AB	Dhillon Filling Station	Sheikh Irfan Filling Station	40ft	Continue as List A 10ft Recommended Setback
92.	Nokhar Road NV	AB	Italian Mode Super Store	MC Limit NV	45ft	Continue as List A 10ft Recommended Setback
93.	Babbar Road NV	AB	Big graveyard	MC limit NV	45ft	Continue as List A 10ft Recommended Setback
94.	Chand Colony Road	AB	Water Supply Babar Road	Chowk Muhammad Pura	40ft	Continue as List A 10ft Recommended Setback
95.	Matta Road	AB	Qudus Masjid	MC Limit	45ft	Continue as List A 10ft Recommended Setback
96.	Baddo Ratta Road	AB	Chungi No 2	MC limit NV	45ft	Continue as List A 10ft Recommended Setback
97.	Nowshera Road	Matto Bhaike Road AB	Rajbah Matto Bhaike	Dillion Filling station	42ft	Continue as List A 10ft Recommended Setback
		Matto Bhaike Road BC	Dillion Filling station	Ghari Shop	42ft	Continue as List A 10ft Recommended Setback
		CD	Ghari Stop	TMA Office	40ft	Continue as List A 10ft Recommended Setback
		DE	TMA Office	Shamoon Chowk	40ft	Continue as List A 10ft Recommended Setback
		Nowshera Virkan Kadial Road	Shamoon Chowk	Slaughter House	33ft	Continue as List A 10ft Recommended Setback
		Karryal Road NV	Slaughter House	MC Limit NV	40ft	Continue as List A 10ft Recommended Setback
District Council Gujranwala						
98.	Nowshera Road	AB	Western Byepass Road Awan Chowk	Village Shera Kot Chowk	55ft	Continue as List A 16ft Recommended Setback
99.	Emenabad Road Morr Eminabad	AB	Railway Line	Mosque Shaban Darba	65ft	Continue as List A 16ft Recommended Setback
100.	(Kot Ladha) Gujranwala (Towards Hafizabad) Hafizabad Kot ladha	AB	Abdullah Floor Mill	Police Station Kot Ladha	42ft	Continue as List A 16ft Recommended Setback
101.	Madho Khalil Road	AB	Nawab Chowk Western Byepass Road	To End Madhu Khalil (Shops Ch. Yaqoob Councilor)	56ft	Continue as List A 16ft Recommended Setback
102.	Gonlanwala Road (Kalaskay)	AB	Hajveri Rice Mill	Ittefaq Rice Mills	72ft	Continue as List A 20ft Recommended Setback

Sr. #	Road Name	Segment	Starting Point	Ending Point	ROW	Proposal as Per Analysis
103.	Gondalawala Road (Kalaskay)	AB	Ali Pur Chowk	Dera Shoib Butt	72ft	Continue as List A 20ft Recommended Setback
104.	Kacha Emenabad Road	AB	Upper Chanab Canal	Rajba Chandian	66ft	Continue as List A 16ft Recommended Setback
105.	Main Emenabad Road	AB	Rajba Imanabad Road	Police Station Imanabad	66ftt	Continue as List A 16ft Recommended Setback
106.	Sialkot Road	AB	Aroop Mor	Limit District Council Gujranwala	180ft	Continue as List A 20ft Recommended Setback
107.	GT Road Chan Da Qila	AB	Desire Marque	Shel Petrol Pump	220ft	Continue as List A 20ft Recommended Setback
108.	Kotli Mahal Road	AB	Mahal House	Rajaba Kotli Mahal	30ft	Continue as List A 16ft Recommended Setback
109.	Hafizabad Road (Nokhar)	AB	Union Council	AL-Mateen Marque	110ft	Continue as List A 20ft Recommended Setback
110.	GT Road Wazirabad	AB	Moulana Zafar Ali Chowk	Dhonkal Morr	115ft	Continue as List A 20ft Recommended Setback
111.	Sheikhupura Road (Gujranwala Tatlay Aali Road)	AB	Bhaday Stop	Ijaz Rice Mill	92ft	Continue as List A 20ft Recommended Setback
112.	Narowal Road	AB	Govt. Girls School Kali Subha	Main Narowal Road	32ft	Continue as List A 10ft Recommended Setback
113.	Pasroor Road	AB	Distributary Jandiala Baghwala	Limit District Gujranwala Chak Nizam	60ft	Continue as List A 16ft Recommended Setback
114.	Ali Pur Road	AB	Dera Shoib Butt (Gondlanwala)	Hajveri Rice Mill	60ft	Continue as List A 16ft Recommended Setback
115.	Byepass Road Wazirabad	AB	Moulana Zafar Ali Chowk	Chenat Bridge	220ft	Continue as List A 20ft Recommended Setback
116.	GT Road Kamoke	AB	National Petroleum Police Station Saddar Kamoke	Limit District Gujranwala Rall Road Sdhoke	220ft	Continue as List A 20ft Recommended Setback
117.	Wazirabad Sialkot Road	AB	Laado Di PULLI	Toll Plaza Sohdra	120ft	Continue as List A 20ft Recommended Setback
118.	Hafizabad Road	AB	Pani Wali Tanki (Ladhewala)	HFC Qila Dedar Singh	60ft	Continue as List A 1ft Recommended Setback
119.	G.T Road	AB	PSO Pump (Kotli Saiyan)	Dhonkal Morr	220ft	Continue as List A 20ft Recommended Setback

Source: Assessment Carried out on Officially Notified Roads by Local Government

CHAPTER 5

DISTRICT LAND USE AND ZONING PLAN

CHAPTER 5
DISTRICT LAND USE AND ZONING PLAN

The District Land Use & Zoning Plan is a comprehensive strategy aimed at promoting balanced economic, social, and physical development across rural-urban and urban-urban areas within Gujranwala. It focuses on fostering sustainable growth and ensuring well-coordinated development throughout the district. The plan addresses immediate infrastructure needs while anticipating future demands, establishing a framework for a resilient and well-connected district. It will support strategic development, promote sustainable land use practices, and contribute to the district's long-term growth potential.

5.1 District Connectivity Plan

A district connectivity plan is an initiative designed to improve and enhance transportation, communication, and economic linkages between different cities within a district or between other districts. The main objective of this plan is to accomplish necessary transportation infrastructure improvements such as roads and highways, and transit systems to improve regional connectivity. These plans aim to stimulate economic growth by making it easier to transport goods and services across the district. This presents a comprehensive plan based on existing transportation network performance after conducting traffic count survey analysis. Moreover, based on the results, and identifying district growth potential a conceptual district connectivity plan for horizon year 2043 is proposed while complementing projects which are already in pipeline for enhancing transport connectivity.

5.1.1 Capacity Improvement of Roads/Rehabilitation of Existing Roads

The Manual Classified Count (MCC) Survey was conducted to access the LOS of these roads at the entry/exit points of the study area. Moreover, considering the strategic importance of these primary corridors, interventions are proposed to improve the overall traffic mobility for intercity travel. Similarly, new structure plan roads are also proposed to provide access and cater traffic demand for proposed infrastructure development for 2043.

The primary corridors of Gujranwala district are analyzed for existing traffic volume of base year 2023. To determine whether these corridors will be sufficient to cater the traffic demand of horizon year 2043, an average of individual growth rate for each vehicle type was taken to project the future traffic volume. This growth rate comes out to be 2.4% for Gujranwala study area. The growth rate was determined by comparing growth in vehicle registration data for Gujranwala District from 2020 to 2021. The data was obtained from the Punjab Development Statistics of 2020-2021. The lane capacity for all provincial highways is inferred by engineering judgement as 1600 PCU/hr (IRC guidelines: 106-1990, Table 2). For, National Highway, the Ideal Lane capacity is taken i.e., 2300 PCU/hr (Highway Capacity Manual, HCM 2010)

The following two scenarios are considered for comparison:

- Future traffic demand with current geometry
- Future traffic demand with interventions (improved geometry)

As apparent from the aforementioned table, the following roads are considered for addition of lanes to improve level of service for smooth inter-city travel.

- GT Road: From 4-Lane Highway to 8-Lane Highway with 4 lanes in each direction. The addition of a carriageway lane along with bypass for Sadhoke and Kamoke cities is expected to improve traffic level of service.
- Gujranwala- Pasrur Road: From 2-Lane Highway to 4-Lane Highway with 2 lanes in each direction
- Gujranwala- Alipur Chatha Road: From 2-Lane Highway to 4-Lane Highway with 2 lanes in each direction
- Gujranwala-Nowshera Road: From 2-Lane Highway to 4-Lane Highway with 2 lanes in each direction

In Tehsil Gujranwala, Gujranwala-Alipur Chattha Road, Gujranwala-Nowshera Road, GT Road section (Gujranwala city to Ghakkar), and Gujranwala-Pasur Road are proposed for addition of lanes. While in Tehsil Kamoke, half of the GT Road section from Gujranwala to Sadhoke is proposed for addition of lanes.

5.1.1.1 Secondary Roads

The secondary roads joining primary roads at intersections shall be improved to effectively manage the traffic flow at the primary road. These roads shall also serve multimodal transportation and be equipped with footpaths. In this way, the active and motorized traffic from secondary roads shall be diverted towards service lanes to access adjacent land uses without interrupting the traffic moving at the primary roads.

Some of the secondary roads in Gujranwala city are listed below and highlighted in the traffic mobility section.

- Jinnah Road
- Garjakh Road
- Nowshera Sansi Road
- Ferozwala Road
- Hospital Road
- Ghondlawala Road
- DC Road

The following interventions are proposed for the secondary roads.

- Footpaths shall be provided near the building line on both sides for easy pedestrian access to adjacent land use along the road.
- Lanes should be marked throughout the running length of the road to avoid weaving conflicts among drivers. For marking, lane width should be considered as 12 feet.
- On-street parking must be avoided on secondary road for improving overall mobility
- Implementing speed limits and traffic calming measures, such as speed humps can reduce vehicle speeds and improve safety.

5.1.2 Comprehensive District Connectivity Plan

The highway capacity analysis was conducted to determine if improvement in level of service is required for existing highways. However, other than capacity analysis, regional planning demands new and improved facilities such as alternate routes, public transport connectivity, and increased accessibility to other regions. For this purpose, the following proposals are considered for Gujranwala District:

- Primary roads (180-200 ft wide) are proposed to ensure connectivity and accessibility to motorway interchanges, Sialkot airport, proposed Muridke and Lahore Master Plan-2050 airports.
- Primary-link roads (150-180 ft wide) are proposed to ensure connectivity of existing highways and accessibility to main primary roads to and from major cities.
- Existing provincial highways are identified for improvement to complement the proposed regional roads.
- After meeting with NHA officials, their proposal regarding carriageway addition of GT Road from Lahore to proposed Chan-da-Qila interchange (8-Lane Highway) is incorporated in the overall district connectivity plan. Similarly, bypass carriageway addition (6-Lane Highway) is also incorporated.
- Secondary roads are identified for improvement as Farm-to-Market roads.
- Inter-city public transport terminals are proposed to provide public transport accessibility to minor cities.

5.2 Proposed Structure Plan Roads

For future development, structure plan roads are proposed which will carry traffic towards the existing road network to establish connectivity with the proposed zones such as residential, healthcare facilities, civic & trade zones, mixed-use zone, education facilities. For this purpose, several unpaved roads have been identified to serve as a link between these land uses. The ROW and carriageway lanes of these roads are proposed as per guidelines against functional classification and significance of a road.

5.2.1 Ring Roads

To reduce the congestion in the central areas of the city, a ring road has been proposed. In addition to ring road, link roads have also been proposed that will provide improved connectivity of the city. Additionally, multiple structure plan roads with a range of ROWs have been proposed in order to improve the traffic circulation right in future.

Table 5-1: Proposed Ring Roads in District Gujranwala

Name	Length (km)	ROW	Start X	Start Y	End X	End Y
RR1-2043	12.48	220 ft	9.98	32.00995779	74.21581998	31.94290582

5.2.2 Proposed Primary Roads

The primary roads are essential for connectivity and economic growth. The Structure Plan (2043) for District Gujranwala proposes the development of seven primary roads, designed to integrate with major transportation corridors. These roads will provide direct linkages to critical regional arteries, including the GT Road, Sialkot Road, Pasroor Road, Sheikhupura Road, Hafizabad Road, Alipur Chatta Road, and Ferozwala Road, thereby improving overall mobility and access to key economic hubs.

Table 5-2: Proposed Primary Structure Plan Roads in District Gujranwala

Name	Length (km)	ROW	Start X	Start Y	End X	End Y
P1-2043	12.48	100 ft	32.2290201	74.16846736	32.17055634	74.08451883
P2-2043	32.27	100 ft	32.02999472	74.21219077	32.21489343	74.17290639
P3-2043	32.54	100 ft	32.21490232	74.17283651	32.00981927	74.21567662
P4-2043	1.43	100 ft	31.99405049	74.22336038	31.99403754	74.22800236
P5-2043	1.43	100 ft	31.99403237	74.22799471	31.99393663	74.23845755
P6-2043	4.79	100 ft	31.95769273	74.21241839	31.98833017	74.20661756
P7-2043	1.74	100 ft	32.14654665	74.04289632	32.14729265	74.06136087

5.2.3 Proposed Secondary Structure Plan Roads

The proposed secondary road network across the entire Gujranwala District, spanning from S1 to S221, forms an integral part of the transportation infrastructure. These roads serve as secondary connectors, linking the primary road network and establishing a cohesive system. This network is crucial for driving economic development, improving mobility for residents, and facilitating better access to essential services and markets, thereby playing a significant role in the district's overall infrastructure and socio-economic growth.

Table 5-3: Proposed Secondary Structure Plan Roads in District Gujranwala

Sr.#	Name	Length (km)	ROW	Start X	Start Y	End X	End Y
Municipal Corporation Gujranwala							
1.	S1-2043	4.24	80ft	32.17615391	74.23184369	32.19718664	74.26142859
2.	S2-2043	2.76	80ft	32.16806928	74.23975695	32.17917901	74.26598504
3.	S3-2043	4.16	80ft	32.1318801	74.13951946	32.11303014	74.10163599
4.	S4-2043	2.29	80ft	32.14731255	74.1147262	32.1395745	74.09222964
5.	S5-2043	1.29	80ft	32.15404709	74.1018667	32.15079768	74.0886968
6.	S6-2043	3.92	80ft	32.1696963	74.12610172	32.17056099	74.08452776
7.	S7-2043	2.7	80ft	32.07861933	74.22993802	32.07849161	74.25853585
8.	S8-2043	2.24	80ft	32.20393083	74.13191286	32.22410371	74.13159772
9.	S9-2043	1.88	80ft	32.20377164	74.11927877	32.21238208	74.10214506
10.	S10-2043	8.09	80ft	32.16338079	74.23216784	32.10085996	74.24233092
11.	S11-2043	4.99	80ft	32.17109776	74.24672601	32.21030392	74.22524515
12.	S12-2043	4.83	80ft	32.04933877	74.15737532	32.05880039	74.20698734
13.	S13-2043	4.18	80ft	32.18977731	74.12133374	32.15670869	74.11687514

Sr.#	Name	Length (km)	ROW	Start X	Start Y	End X	End Y
14.	S14-2043	1.72	80ft	32.08978822	74.24266347	32.08982517	74.22449114
15.	S15-2043	0.43	80ft	32.03542504	74.24232422	32.03542628	74.24680583
16.	S16-2043	0.3	80ft	32.03538439	74.24500777	32.03269285	74.24514262
17.	S17-2043	1.18	80ft	32.21710363	74.18101292	32.22771643	74.18106616
18.	S18-2043	1.82	80ft	32.22530204	74.1738386	32.22552077	74.19313786
19.	S19-2043	2.49	80ft	32.22459461	74.20350117	32.24704572	74.20395289
20.	S20-2043	1.28	80ft	32.23678038	74.20374255	32.23668491	74.21731752
21.	S21-2043	1.65	80ft	32.25161429	74.20961601	32.23673913	74.20960756
22.	S22-2043	1.09	80ft	32.114412	74.15804186	32.10785504	74.14942746
23.	S23-2043	0.96	80ft	32.10659962	74.15272687	32.11081776	74.14397106
24.	S24-2043	3.88	80ft	32.21481604	74.17024979	32.21745904	74.13170153
25.	S25-2043	1.53	80ft	32.20439462	74.14960886	32.2182321	74.14963155
26.	S26-2043	0.94	80ft	32.21767745	74.15753397	32.22616333	74.15752179
27.	S27-2043	2.17	80ft	32.12801083	74.23958021	32.1208625	74.26082991
28.	S28-2043	2.68	80ft	32.16619217	74.23991662	32.16613791	74.2682892
29.	S29-2043	0.64	80ft	32.03811906	74.24574989	32.03267977	74.24795729
30.	S30-2043	2.87	80ft	32.21734877	74.13170325	32.21753097	74.1071398
31.	S31-2043	2.87	80ft	32.21756883	74.10724546	32.21595547	74.10211055
32.	S32-2043	1.38	80ft	32.06273294	74.24245274	32.06285655	74.25703827
33.	S33-2043	1.29	80ft	32.06966927	74.24407873	32.06947635	74.25779151
34.	S34-2043	2.28	80ft	32.07855385	74.25157339	32.05802804	74.25129298
35.	S35-2043	2.2	80ft	32.10129661	74.24235091	32.10098883	74.21903422
36.	S36-2043	0.92	80ft	32.03929629	74.22716554	32.03938846	74.21741989
37.	S37-2043	2.3	80ft	32.04466714	74.22244147	32.02389383	74.22247569
38.	S38-2043	0.38	80ft	32.04466714	74.22244147	32.04807406	74.2224165
39.	S39-2043	0.6	80ft	32.05061754	74.23669273	32.05599235	74.23669413
40.	S40-2043	0.47	80ft	32.05222611	74.23176116	32.052318	74.23669317
41.	S41-2043	0.83	80ft	32.04473086	74.23145153	32.05222805	74.23157254
42.	S42-2043	0.2	80ft	32.05859905	74.23667875	32.06039669	74.23665761
43.	S43-2043	0.85	80ft	32.0718641	74.2340265	32.0717394	74.24297539
44.	S44-2043	0.75	80ft	32.07178756	74.23594411	32.07858395	74.23594597
45.	S45-2043	0.4	80ft	32.06422117	74.24238577	32.06424028	74.23820094
46.	S46-2043	2.24	80ft	32.10888788	74.23944165	32.108727	74.21569925
47.	S47-2043	0.68	80ft	32.11491342	74.22396686	32.10878361	74.22405304
48.	S48-2043	3.89	80ft	32.11376004	74.23247725	32.07865305	74.23273686
49.	S49-2043	0.93	80ft	32.09541144	74.23260338	32.09535134	74.24246106
50.	S50-2043	0.96	80ft	32.08461579	74.23268936	32.08452783	74.2428616
51.	S51-2043	1.04	80ft	32.09541144	74.23260338	32.09531963	74.22161126
52.	S52-2043	0.8	80ft	32.11596092	74.24721382	32.11601224	74.23868848
53.	S53-2043	1.18	80ft	32.12661178	74.24334731	32.11598525	74.24317239
54.	S54-2043	0.6	80ft	32.10888788	74.23944165	32.10884568	74.24581423
55.	S55-2043	1.12	80ft	32.23673913	74.20960756	32.22665906	74.20943785
56.	S56-2043	1.29	80ft	32.23193803	74.20369225	32.23187208	74.21741082
57.	S57-2043	1.93	80ft	32.22192152	74.19310554	32.23928868	74.19315014
58.	S58-2043	1.66	80ft	32.23193803	74.20369225	32.23198701	74.1860411
59.	S59-2043	1.26	80ft	32.20695118	74.11316351	32.21829417	74.11186146
60.	S60-2043	1.79	80ft	32.2099611	74.11273809	32.21006314	74.13171775

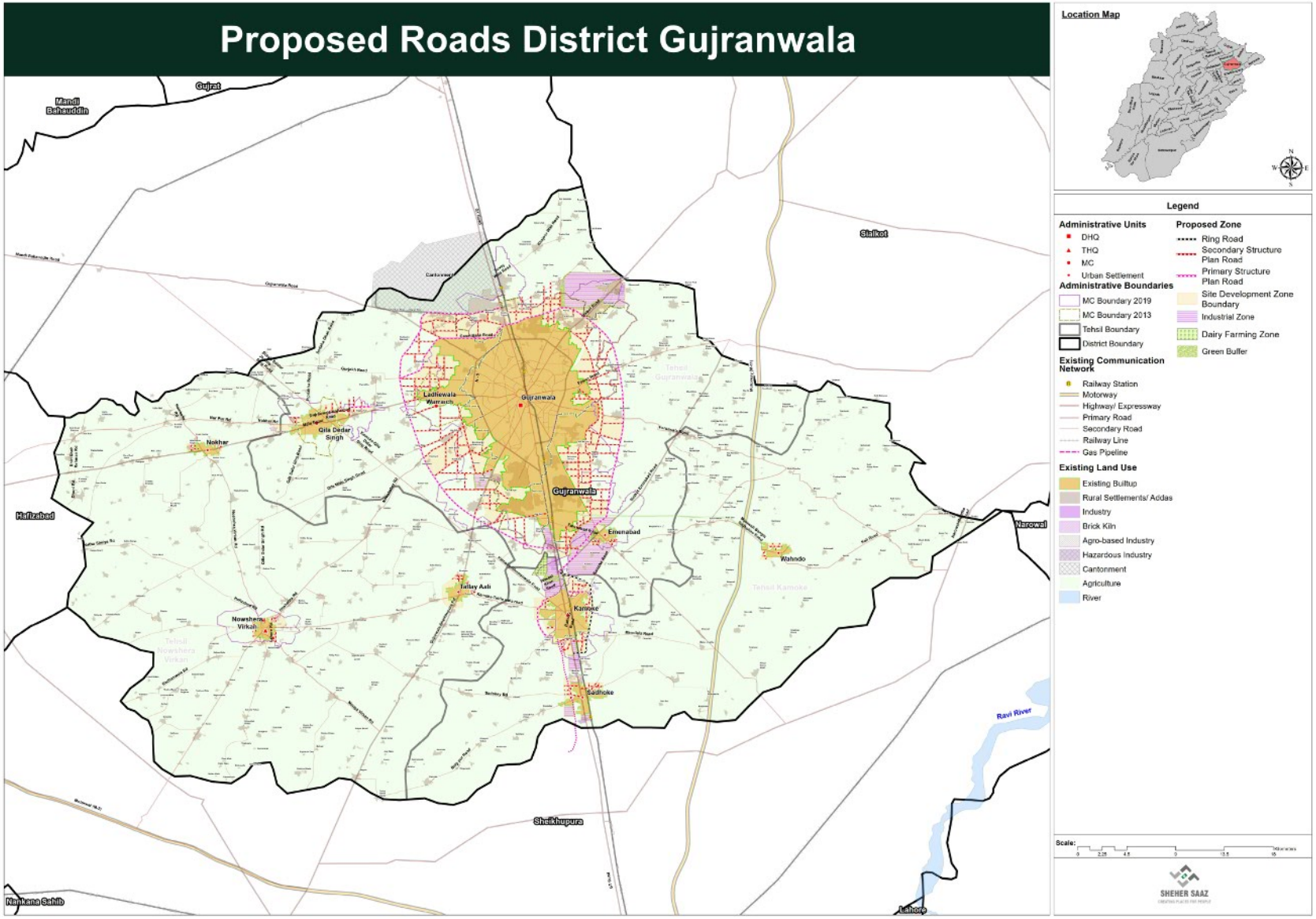
Sr.#	Name	Length (km)	ROW	Start X	Start Y	End X	End Y
61.	S61-2043	2.45	80ft	32.1794296	74.12979898	32.17983151	74.10382191
62.	S62-2043	1.73	80ft	32.06711616	74.16878524	32.06705896	74.15044614
63.	S63-2043	1.81	80ft	32.078549	74.15933642	32.0622607	74.15930072
64.	S64-2043	1.01	80ft	32.06422348	74.14931222	32.055513	74.14652786
65.	S65-2043	5.35	80ft	32.02986803	74.2256072	32.07136435	74.24294075
66.	S66-2043	1.68	80ft	32.0298088	74.21463157	32.02979927	74.23238724
67.	S67-2043	5.55	80ft	32.07069407	74.1760757	32.07858425	74.12041089
68.	S68-2043	1.7	80ft	32.09563117	74.16286093	32.09220476	74.14566543
69.	S69-2043	1.85	80ft	32.11596092	74.24721382	32.11571564	74.26684992
70.	S70-2043	0.68	80ft	32.10884568	74.24581423	32.10866305	74.25300939
71.	S71-2043	3.07	80ft	32.14762164	74.11804223	32.11993417	74.11845506
72.	S72-2043	1.75	80ft	32.13790898	74.13676741	32.13774791	74.11818945
73.	S73-2043	2.07	80ft	32.12768609	74.11833948	32.12715635	74.09644828
74.	S74-2043	2.44	80ft	32.12573767	74.13230846	32.1037102	74.13242841
75.	S75-2043	1.67	80ft	32.11574364	74.15004133	32.11523499	74.13236565
76.	S76-2043	2.25	80ft	32.09715053	74.12312972	32.11728664	74.12267582
77.	S77-2043	2.71	80ft	32.09220476	74.14566543	32.09239632	74.11696697
78.	S78-2043	1.27	80ft	32.1037102	74.13242841	32.09229323	74.13241151
79.	S79-2043	1.52	80ft	32.07856784	74.13869212	32.09225129	74.13869444
80.	S80-2043	1.15	80ft	32.05149247	74.16424008	32.06040198	74.17046706
81.	S81-2043	2.5	80ft	32.05568074	74.18777524	32.03317245	74.18826869
82.	S82-2043	1.96	80ft	32.05453549	74.18000122	32.0368433	74.18058131
83.	S83-2043	1.15	80ft	32.10866305	74.25300939	32.1085971	74.2651698
84.	S84-2043	1.71	80ft	32.08978822	74.24266347	32.08947881	74.26079656
85.	S85-2043	1.21	80ft	32.20777311	74.22874528	32.20796344	74.24159608
86.	S86-2043	0.94	80ft	32.20793969	74.23999294	32.21644139	74.23997644
87.	S87-2043	0.77	80ft	32.22040727	74.22842971	32.2273919	74.22834356
88.	S88-2043	1.3	80ft	32.22679982	74.21231292	32.21506351	74.21223876
89.	S89-2043	1.02	80ft	32.21995555	74.21238231	32.21999658	74.20160302
90.	S90-2043	1.07	80ft	32.21565174	74.20724262	32.22525793	74.20763698
91.	S91-2043	1.75	80ft	32.1907959	74.10670673	32.19076737	74.08819927
92.	S92-2043	1.98	80ft	32.19078409	74.10064866	32.20860877	74.1006682
93.	S93-2043	1.72	80ft	32.20117611	74.11417828	32.20110785	74.09588858
94.	S94-2043	0.85	80ft	32.19077742	74.09722246	32.18310176	74.09713898
95.	S95-2043	1.97	80ft	32.17028863	74.0969559	32.1524873	74.09712876
96.	S96-2043	1.14	80ft	32.17002985	74.10972312	32.15974772	74.10970626
97.	S97-2043	2.28	80ft	32.16421148	74.08558079	32.16388741	74.10971305
98.	S98-2043	1.09	80ft	32.17002985	74.10972312	32.1796852	74.10946846
99.	S99-2043	1.12	80ft	32.18967085	74.11551104	32.17953266	74.11535534
100.	S100-2043	0.61	80ft	32.0381323	74.24920929	32.0326531	74.24916516
101.	S101-2043	0.77	80ft	32.0390786	74.25976602	32.03212824	74.26056274
102.	S102-2043	0.75	80ft	32.03558718	74.25651792	32.03546621	74.26449565
103.	S103-2043	0.4	80ft	32.03910088	74.26221783	32.03549453	74.2626279
104.	S104-2043	0.25	80ft	32.03548785	74.26306822	32.03743508	74.26442318
105.	S105-2043	0.27	80ft	32.03632135	74.2557784	32.03389421	74.25576641
106.	S106-2043	4.01	80ft	32.15362591	74.26955302	32.1535002	74.22703952
107.	S107-2043	0.91	80ft	32.16182097	74.23331003	32.15363121	74.23335663

Sr.#	Name	Length (km)	ROW	Start X	Start Y	End X	End Y
108.	S108-2043	0.71	80ft	32.16164975	74.24943185	32.16164365	74.24190512
109.	S109-2043	1.37	80ft	32.22540591	74.1860582	32.23779449	74.18602602
110.	S110-2043	0.8	80ft	32.18615717	74.24295569	32.18614736	74.23449685
111.	S111-2043	1.17	80ft	32.18615409	74.24311232	32.18610001	74.25547106
112.	S112-2043	2.78	80ft	32.18612413	74.24995864	32.21117506	74.2505375
113.	S113-2043	6.42	80ft	32.09233513	74.14733676	32.14885746	74.13264447
114.	S114-2043	3.27	80ft	32.10085996	74.24233092	32.07136435	74.24294075
115.	S115-2043	7.96	80ft	32.10063856	74.24363047	32.17113309	74.24678505
116.	S116-2043	1.61	80ft	32.22877777	74.21738909	32.24331009	74.21736721
117.	S117-2043	0.13	80ft	32.10063856	74.24363047	32.1008306	74.24228222
118.	S118-2043	0.49	80ft	32.13332006	74.25714678	32.13340876	74.25197959
119.	S119-2043	1.24	80ft	32.133329	74.25662608	32.13335883	74.26975384
120.	S120-2043	0.66	80ft	32.1208625	74.26082991	32.11947999	74.26764136
121.	S121-2043	1.87	80ft	32.19989404	74.2372971	32.21473041	74.2465393
122.	S122-2043	3.64	80ft	32.08952294	74.11287426	32.11007407	74.142687
123.	S123-2043	4.24	80ft	32.10513595	74.10439592	32.13066816	74.13727757
Municipal Committee Kamoke							
124.	S124-2043	0.9	80ft	31.98712841	74.20518374	31.9789885	74.205213
125.	S125-2043	0.41	80ft	31.98596142	74.20517297	31.98596676	74.20950342
126.	S126-2043	1.21	80ft	31.95314274	74.22640884	31.95422734	74.23852939
127.	S127-2043	1.89	80ft	31.94351753	74.23495846	31.96038145	74.23574389
128.	S128-2043	0.4	80ft	31.98908058	74.24328594	31.98641127	74.24209592
129.	S129-2043	1.27	80ft	31.95179445	74.22642488	31.94470485	74.21792402
130.	S130-2043	1.09	80ft	31.95328384	74.21561863	31.95427764	74.22596252
131.	S131-2043	1.03	80ft	31.95326596	74.2186078	31.94562718	74.22076161
132.	S132-2043	1.68	80ft	31.98957443	74.22463736	32.00330567	74.22803303
133.	S133-2043	1.42	80ft	32.00048535	74.22800931	32.00080696	74.24033005
134.	S134-2043	0.67	80ft	31.99399262	74.23289587	32.00001042	74.23287219
135.	S135-2043	0.45	80ft	31.98357966	74.24062747	31.97952651	74.24064797
136.	S136-2043	0.76	80ft	31.98295903	74.23716411	31.9863406	74.24207483
137.	S137-2043	0.71	80ft	31.97911688	74.2364852	31.98057711	74.24356553
138.	S138-2043	1.09	80ft	31.97217518	74.23921959	31.96941394	74.23923274
139.	S139-2043	1.09	80ft	31.9792505	74.23929453	31.97215338	74.23923296
140.	S140-2043	0.72	80ft	31.96440164	74.2133111	31.96417069	74.20572665
Municipal Committee Nowshera Virkan							
141.	S141-2043	0.19	80ft	31.96109139	73.96464247	31.96108882	73.96267539
142.	S142-2043	0.24	80ft	31.95403757	73.96903438	31.95618888	73.9690051
143.	S143-2043	0.5	80ft	31.9688772	73.97880547	31.97342389	73.97875964
144.	S144-2043	0.24	80ft	31.95896632	73.97967917	31.95891927	73.98220935
145.	S145-2043	0.46	80ft	31.96767379	73.97117969	31.9718623	73.97113265
146.	S146-2043	0.47	80ft	31.96979561	73.96899226	31.96981027	73.97395298
147.	S147-2043	0.45	80ft	31.96801137	73.97244138	31.97205372	73.97256481
148.	S148-2043	0.34	80ft	31.9722443	73.97876343	31.97222753	73.98236905
149.	S149-2043	0.24	80ft	31.9699697	73.97994672	31.96982253	73.98251461
150.	S150-2043	0.32	80ft	31.96399432	73.96551517	31.96109	73.96547109
151.	S151-2043	1.08	80ft	31.96209481	73.9821943	31.95232521	73.98215005
152.	S152-2043	0.31	80ft	31.95618164	73.98222232	31.95621008	73.97894885

Sr.#	Name	Length (km)	ROW	Start X	Start Y	End X	End Y
153.	S153-2043	0.35	80ft	31.95512807	73.98222731	31.9552471	73.97849636
154.	S154-2043	0.24	80ft	31.95731069	73.96544301	31.95727734	73.96288219
155.	S155-2043	0.53	80ft	31.96405031	73.96417213	31.96820562	73.96315715
Municipal Committee Qila Dedar Singh							
156.	S207-2043	0.18	80ft	32.13313661	74.0358242	32.13147925	74.03576072
157.	S208-2043	0.55	80ft	32.14349615	74.02863408	32.14071657	74.02443022
158.	S209-2043	0.56	80ft	32.14395182	74.02251602	32.14879886	74.02364255
159.	S210-2043	0.89	80ft	32.13797651	74.00313889	32.13810012	73.99375428
160.	S211-2043	0.19	80ft	32.12562931	74.00077353	32.12399325	74.00121166
161.	S212-2043	0.93	80ft	32.15450023	74.04204476	32.14620174	74.04286224
162.	S213-2043	1.61	80ft	32.14349615	74.02863408	32.14347546	74.04283986
163.	S214-2043	0.51	80ft	32.14628869	74.04647094	32.14167212	74.04664209
164.	S215-2043	0.76	80ft	32.14349615	74.02863408	32.15035597	74.02869537
165.	S216-2043	0.66	80ft	32.13207452	73.99823292	32.13803861	73.99823271
166.	S217-2043	1	80ft	32.14628869	74.04647094	32.15528317	74.04632228
167.	S218-2043	0.72	80ft	32.15285341	74.05355434	32.14644332	74.05285788
168.	S219-2043	1	80ft	32.152516	74.03577121	32.14346019	74.03570932
169.	S220-2043	0.52	80ft	32.14644332	74.05285788	32.14174526	74.05295965
170.	S221-2043	0.86	80ft	32.14620174	74.04286224	32.13846797	74.04282666
Urban Settlement Nokhar							
171.	S156-2043	0.69	80ft	32.11686064	73.91213027	32.11065721	73.9122201
172.	S157-2043	0.3	80ft	32.11682762	73.91506226	32.11411615	73.91507972
173.	S158-2043	0.53	80ft	32.11218888	73.91221253	32.1124435	73.91784548
174.	S159-2043	0.14	80ft	32.11228472	73.91433282	32.11102847	73.91431915
175.	S160-2043	0.15	80ft	32.11569616	73.93164808	32.11431164	73.93155258
176.	S161-2043	0.27	80ft	32.11402497	73.9341417	32.11417223	73.93702041
177.	S162-2043	0.18	80ft	32.11080852	73.93373811	32.11080665	73.93566641
178.	S163-2043	0.19	80ft	32.11402497	73.9341417	32.11569488	73.93418465
179.	S164-2043	0.22	80ft	32.11080808	73.93418446	32.10881782	73.93420353
180.	S165-2043	0.25	80ft	32.11080665	73.93566641	32.11308059	73.93555265
181.	S166-2043	0.17	80ft	32.10647032	73.92917794	32.10804842	73.929177
182.	S167-2043	0.16	80ft	32.11407668	73.91218729	32.11410021	73.91391188
183.	S168-2043	0.11	80ft	32.10647186	73.93209378	32.10747647	73.93209554
Urban Settlement Tatlay Aali							
184.	S169-2043	0.78	80ft	32.00897539	74.13363006	32.00190741	74.13363562
185.	S170-2043	0.86	80ft	32.0046085	74.13070594	32.00458114	74.13712128
186.	S171-2043	0.86	80ft	32.00460897	74.13070628	32.00461652	74.12802544
187.	S172-2043	0.7	80ft	32.00732177	74.13019824	32.00731901	74.13756014
188.	S173-2043	0.47	80ft	32.00295806	74.14191181	31.99917279	74.14015637
189.	S174-2043	0.23	80ft	32.0002782	74.1400809	31.99953656	74.14240386
190.	S175-2043	0.19	80ft	32.00188231	74.13898127	32.00159091	74.14097009
191.	S176-2043	0.37	80ft	31.99532029	74.14407683	31.99194863	74.14418818
192.	S177-2043	0.3	80ft	31.99377053	74.14412801	31.99371837	74.14729859
Urban Settlement Wahndo							
193.	S178-2043	0.55	80ft	32.02445026	74.3850534	32.02881909	74.38790342
194.	S179-2043	0.38	80ft	32.02351365	74.38446273	32.02361338	74.38852096
195.	S180-2043	0.32	80ft	32.02359514	74.38777884	32.02073916	74.38789175

Sr.#	Name	Length (km)	ROW	Start X	Start Y	End X	End Y
196.	S181-2043	1.13	80ft	32.03150545	74.38946158	32.03152665	74.40137658
197.	S182-2043	0.34	80ft	32.03151684	74.39586277	32.02845337	74.39600091
198.	S183-2043	0.32	80ft	32.03151276	74.39357244	32.03437595	74.39351261
199.	S184-2043	0.31	80ft	32.03152287	74.39925333	32.03435175	74.39931369
Urban Settlement Sadhoke							
200.	S185-2043	0.85	80ft	31.90679843	74.23492858	31.90871277	74.2263549
201.	S186-2043	0.56	80ft	31.90871277	74.2263549	31.90367458	74.22632969
202.	S187-2043	0.07	80ft	31.9112456	74.24204176	31.91174269	74.24243355
203.	S188-2043	0.49	80ft	31.91174269	74.24243355	31.91552482	74.24521312
204.	S189-2043	0.41	80ft	31.91239429	74.22637332	31.90871277	74.2263549
205.	S190-2043	0.53	80ft	31.91239429	74.22637332	31.9125986	74.22076056
206.	S191-2043	0.7	80ft	31.914146	74.24133665	31.91389807	74.23393414
207.	S192-2043	0.37	80ft	31.914146	74.24133665	31.91174269	74.24243355
208.	S193-2043	0.21	80ft	31.9146138	74.2490838	31.91273374	74.24906322
209.	S194-2043	0.37	80ft	31.9146138	74.2490838	31.91597748	74.25267096
210.	S195-2043	0.1	80ft	31.91547187	74.24909319	31.9146138	74.2490838
211.	S196-2043	0.37	80ft	31.91552482	74.24521312	31.91547187	74.24909319
212.	S197-2043	0.44	80ft	31.91552482	74.24521312	31.9188642	74.24769354
213.	S198-2043	0.16	80ft	31.91557768	74.24134047	31.914146	74.24133665
214.	S199-2043	0.37	80ft	31.91557768	74.24134047	31.91552482	74.24521312
215.	S200-2043	0.65	80ft	31.91613295	74.23322276	31.91615284	74.22639213
216.	S201-2043	0.42	80ft	31.91615284	74.22639213	31.91239429	74.22637332
217.	S202-2043	0.01	80ft	31.91623039	74.22639252	31.91615284	74.22639213
218.	S203-2043	0.37	80ft	31.9188512	74.24913017	31.91547187	74.24909319
219.	S204-2043	0.37	80ft	31.91887712	74.24134925	31.91557768	74.24134047
220.	S205-2043	0.53	80ft	31.91615284	74.22639213	31.91616606	74.22076314
221.	S206-2043	0.53	80ft	31.90871277	74.2263549	31.90897461	74.22080089

Map 18: Proposed Structure Plan Roads in District Gujranwala



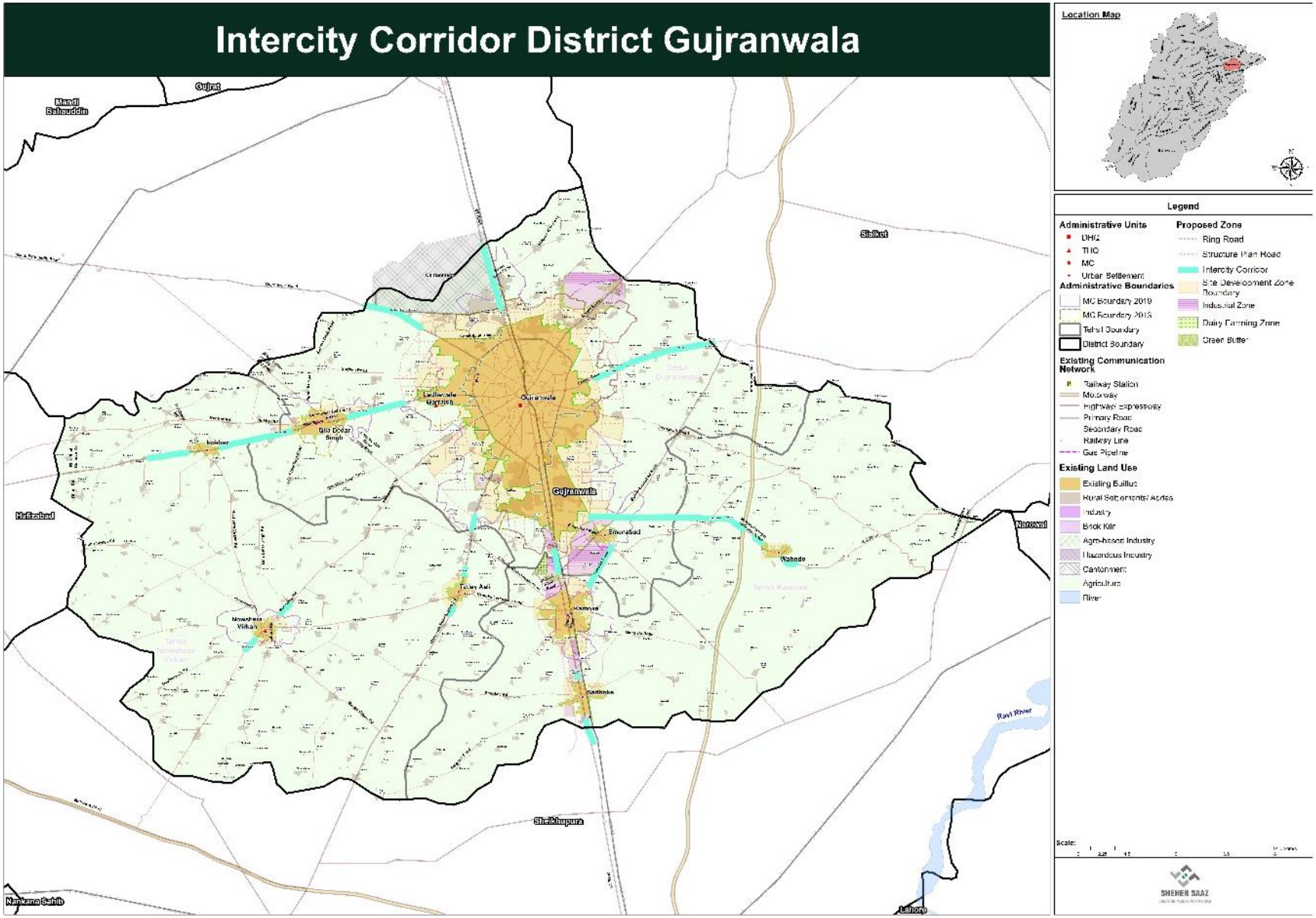
5.3 Intercity Corridors

In Gujranwala district, a total of 18 intercity corridors with a Right of Way (ROW) of 220 feet have been proposed to enhance regional connectivity and boost the local economy. These roads, including major routes like GT Road, Sheikhupura Road, Wahndo, Emenabad, Nowshera Road, Alipur Chatta, Pasrur Road, Gujranwala Expressway and Hafizabad Road, are designed to improve transportation efficiency, and facilitate the movement of goods and services between key industrial and agricultural hubs. By linking Gujranwala to nearby cities such as Lahore, Sialkot, Sheikhupura, and Rawalpindi these corridors play a crucial role in supporting industrial growth, promoting trade, and fostering economic development in the region. Additionally, these roads strengthen local connectivity by providing vital links to rural areas, ensuring better access to markets, and supporting the agricultural sector. These intercity corridors will play a crucial role in the development of the city through provision of improved inter-city mobility as well as creating economic growth opportunities. Below is a detailed table of each road in the district.

Table 5-4: Intercity Corridors in District Gujranwala

Sr #	Name	Length (km)	Start X	Start Y	End X	End Y
1	Gt Road	2.04	31.8870248	74.2388725	31.8695067	74.2450559
2	Wahndo Road	0.62	32.0387317	74.3787187	32.0349073	74.3835301
3	Wahndo Road	1.28	32.0218737	74.4015052	32.0171538	74.4122070
4	Sheikhupura Road	0.53	32.0130821	74.1389626	32.0084200	74.1378292
5	Sheikhupura Road	0.61	31.9806886	74.1286523	31.9756095	74.1262232
6	Hafizabad Road	5.57	32.1269253	73.9938661	32.1137043	73.9370222
7	Hafizabad Road	2.99	32.1091847	73.9084331	32.1047320	73.8772693
8	Nowshera Road	1.06	31.9831929	73.9934145	31.9759434	73.9861472
9	Nowshera Road	1.14	31.9541062	73.9645940	31.9460685	73.9571562
10	Emenabad Road	3.94	31.9995646	74.2417937	32.0313460	74.2603322
11	GT road	5.90	32.2804455	74.1532122	32.2288673	74.1685781
12	Alipur Chatta	4.85	32.2127080	74.1019538	32.2309232	74.0562444
13	Pasrur	9.78	32.2000527	74.3439211	32.1708372	74.2468519
14	Gujranwala Expressway	12.26	32.0460843	74.3686919	32.0557737	74.2424435
15	Hafizabad Road	4.40	32.1502837	74.0872126	32.1385783	74.0427728
16	Sheikhupura Road	1.13	32.0461453	74.1449198	32.0561631	74.1467330
17	Gt Road	0.47	31.9238317	74.2318506	31.9280581	74.2310573
18	Gt Road	1.96	32.0277996	74.2129292	32.0104095	74.2158528

Map 19: Intercity Corridors in Gujranwala District



5.4 District Land Use & Zoning Plan

The District Land Use and Zoning Plan for Gujranwala provides a comprehensive framework for urban and regional development across the district. It integrates existing land use patterns, administrative boundaries, proposed site development zones, economic activity hubs, allied agricultural zones, and a comprehensive network of structure plan roads. The plan aims to optimize land resource utilization, ensuring orderly development in line with regulatory requirements and growth projections.

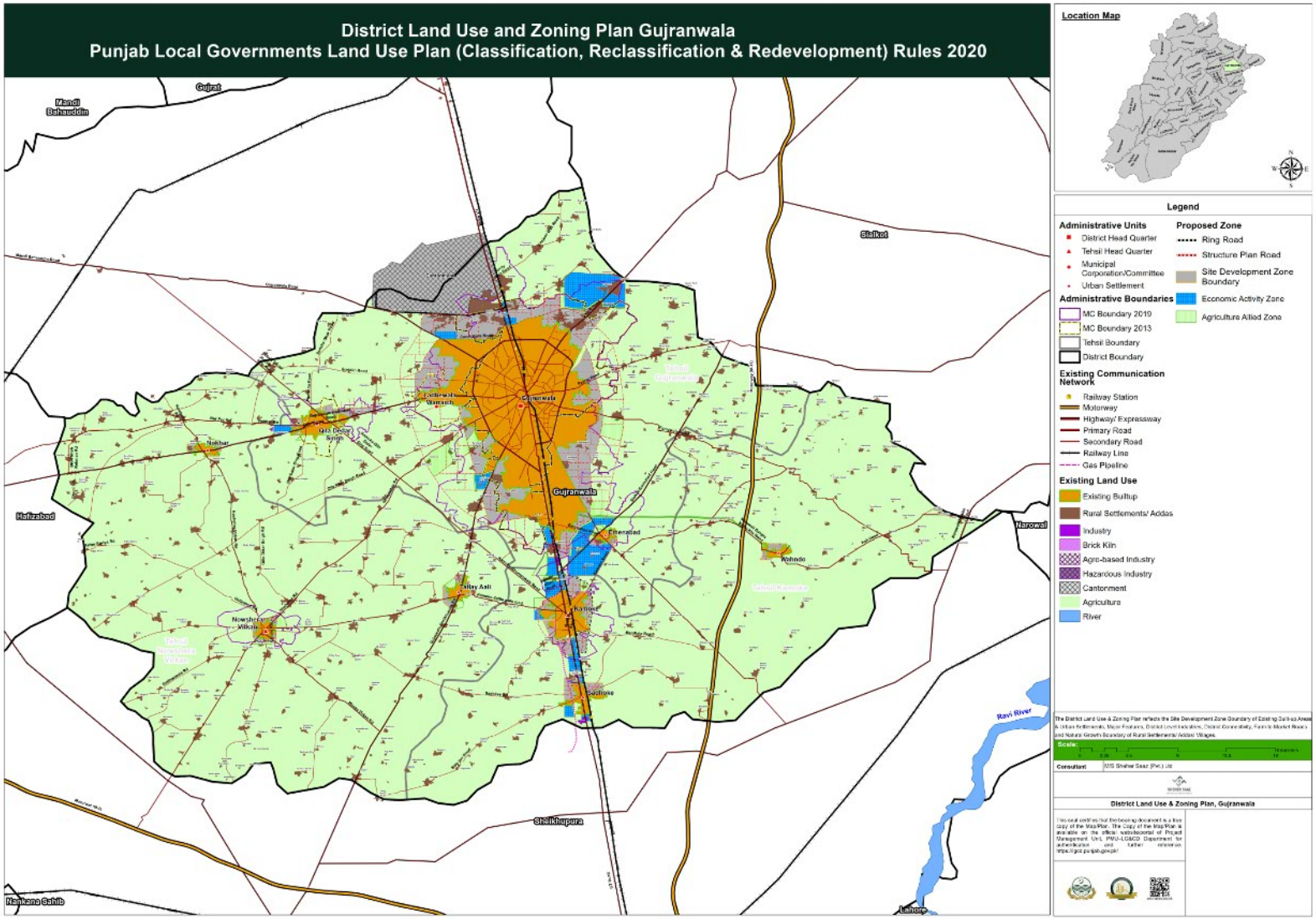
This plan consolidates Established Built-up Areas (EBAs), Site Development Zones (SDZs), and delineated growth boundaries for settlements across the district. It covers the Site Development Zone Structure Plans for five Municipal Corporation/Committees (Gujranwala, Kamoke, Nowshera Virkan, Qila Dedar Singh, and Ladhewala Warraich) and five urban settlements, including Sadhoke, Wahndo, Tatlay Aali, Nokhar and Emenabad. These spatial components are systematically aligned to ensure uniformity in planning and zoning strategies, addressing urban expansion and rural growth simultaneously.

The plan incorporates zoning principles to proposed specific land uses effectively. Site Development Zones (SDZs) are proposed to plan the urban expansion areas and mitigate unplanned sprawl. Economic Activity Zones are identified to concentrate industrial, commercial, and service-oriented development activities, maximizing economic productivity. Allied Agricultural Zones are designated to sustain agriculture and agro-industrial activities, preserving the rural economy while integrating it with urban growth. These zoning provisions are complemented by detailed structure plan roads to enhance regional connectivity and support the transportation needs of economic corridors and settlement clusters.

In compliance with the Land Use Rules 2020 and the standing instructions issued on 17.09.2022, the plan ensures adherence to planning regulations, aligning all proposed interventions with legal standards. Detailed mapping and analysis underpin the zoning classifications, including the integration of List A roads and the identification of future development zones.

The Land Use and Zoning Plan serves as a regulatory framework for the comprehensive spatial development of Gujranwala. It ensures structured and sustainable land management by addressing the spatial requirements of residential, commercial, industrial, and agricultural activities. The plan supports infrastructure development, enhances regional connectivity, and fosters economic integration through precise zoning and development strategies. By employing rigorous technical methodologies and aligning with statutory regulations, this framework provides a clear and actionable roadmap for the district's long-term spatial planning and economic growth. This strategic and sustainable framework provide beyond the traditional zoning practices, addressing both current and future development needs while ensuring a cohesive and community-focused approach. The detailed land use plan including the existing land use classification, notified list A roads as well as proposed Site Developments Zones, Economic Activity Zone, Agricultural Allied Zones, and Proposed Roads have been shown in below map.

Map 20: District Land Use and Zoning Plan Gujranwala



Planning Support System:

The Planning Support System is a comprehensive digital platform equipped with advanced tools to assist Local Governments in implementing and monitoring Land Use Plans. It generates Automated Zoning Reports, detects Land Cover Changes and supports policymakers in reviewing and updating the plans effectively. To access the portal, please visit:

http://pmu-lgcdd.gop.pk/portal/

Project Management Unit (PMU)

Local Government and Community Development Department

http://pmu-lgcdd.gop.pk/public/