



DRAFT FINAL REPORT

ACTION AREA PLAN

ANWARA



December 2025

PREPARATION OF CHATTOGRAM METROPOLITAN MASTER PLAN

Prepared in Association with





Chattogram Development Authority
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PREPARATION OF CHATTOGRAM METROPOLITAN MASTER PLAN
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Draft Final Report

ACTION AREA PLAN: ANWARA

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EXECUTIVE SUMMARY

The Anwara Action Area Plan presents a comprehensive and strategic framework for transforming the Anwara-Karnaphuli region, into a dynamic, sustainable, and resilient metropolitan hub. This plan is a critical instrument for realizing the "One City, Two Towns" concept, a strategic vision aimed at decongesting the core city of Chattogram by fostering a parallel, well-planned urban Paurashava on the southern bank of the Karnaphuli River. Historically, development has been overwhelmingly concentrated on the right bank, but the completion of the Karnaphuli Tunnel has unlocked significant potential for industrial and residential growth in Anwara, making planned development not only feasible but essential. The primary goal is to guide Anwara's orderly growth to accommodate projected increases in population and economic activity, leveraging its strategic location and proximity to key economic drivers like the Korean EPZ, the Chinese Economic and Industrial Zone (CEIZ) and Karnaphuli Fertilizer Company (KAFCO).

The Anwara Action Area Plan covers 7,314 acres across parts of Anwara and Karnaphuli Upazila. This area is characterized by a rapidly transitioning socio-economic landscape due to development of Korean EPZ and CEIZ which will create substantial number of jobs in future. The projected number of jobs and population in 2050 will be 1,90,833 and 7,24,223 respectively. This highlights a significant need for resilient and affordable housing solutions. The current land use is predominantly agricultural and fisheries (57%) and water bodies (9%), with residential use at around 27% and industrial use at 2.5%. Critical planning issues stem from this unplanned urbanization, including environmental degradation, acute infrastructure and service deficiencies, and land use conflicts.

To address these challenges, the Action Area Plan proposes a detailed Spatial Development and Land Use Plan that allocates specific zones to guide growth in a structured manner. To accommodate the resulting workforce, the plan allocates 2,882 acres (39.5%) area for general urban use including residential, commercial and other uses. The plan also designates 61-acre land for small industry and 741-acre land for cottage industry (within general urban use). Recognizing the region's agrarian roots, 2,388 acres (32.7%) are preserved for agriculture, protecting fertile lands from unplanned urban encroachment. Finally, 865 acres (11.9%) are identified as Roads, Utilities and Community Facilities to manage long-term expansion in a phased, sustainable manner. These zones will be governed by density controls, building height limits, and setback regulations to ensure a high-quality urban environment.

A robust Integrated Infrastructure and Services Plan is proposed to support this spatial vision. The transportation network will be significantly upgraded, with the Anwara and Patiya roads widened to a 160 ft Right-of-Way (ROW) to serve as primary freight and passenger corridors. Secondary and Local Distributors roads with 40-60 ft ROWs will improve internal circulation and link industrial and residential zones. The plan also calls for a dedicated truck terminal with a capacity for 1,000 vehicles and a new bus terminal to integrate Anwara into the regional public transport system. The summary of the proposed facilities is presented in Table-ES-1.

Table ES-1: Summary of the Implementation of the Proposed Facilities in the Anwara Action Area Plan

Component	Phase 1	Phase 2	Phase 3	Implementing Agency
Transport Infrastructures				
Primary Distributor	3.031 km		4.002 km	RHD
Secondary Distributor	9.004 km	5.297 km	6.922 km	CDA
Local Distributor	4.221 km	6.546 km	4.383 km	CDA
Access Roads				CC, LGED
Bus bay and stop	With associated Road Development			RHD and CDA
Parking	With associated Road Development			RHD, CDA and CC
Truck Terminal	1 location			CDA
Bus Terminal	1 location			CDA/LGED
Drainage				
Khal Rehabilitation				CDA
Water Retention				CDA
Local Drain				CDA and CC
Facilities and Amenities				
Primary School	4 locations	3 locations		Ministry of Primary and Mass Education
High School	3 locations	1 location		Ministry of Education
Clinic	4 locations	3 locations	2 locations	Ministry of Health and CC
Hospital	1 location			Ministry of Health and Family Welfare
Kitchen Market	9 locations	7 locations	2 locations	CDA and CC
Playground	10 acres	5 acres	5 acres	CDA and CC
Park/lake	2 locations (20 acre)	1 location (10 acre)	8-10 locations (10 acre)	CDA and CC
Utility				
Solid Waste				CC
Electricity				PDB
Water Supply and Sanitation				Chattogram WASA
Fire Service	1 Location			Ministry of Home Affairs
Police Station	1 Location			

*CC=City Corporation/Paurashava

An integrated Implementation Framework and Governance structure is proposed to ensure the plan's successful execution. Implementation will be staged over three phases, Phase 1 (2025–2035), Phase 2 (2035–2045), and Phase 3 (2045–2050), prioritizing foundational infrastructure in the initial years. The Chattogram Development Authority (CDA) will lead implementation, supported by a decentralized Zonal Implementation Office (ZIO) in Anwara to manage local approvals and monitoring. Coordination among agencies will be facilitated by an Urban Development Coordination Committee (UDCC) and a central Master Plan Implementation Unit (MPIU) within CDA. The financial strategy relies on a mix of public sector funding through Annual Development Programmes (ADP), private sector investment mobilized via Public-Private Partnerships (PPP), and innovative financing mechanisms like betterment fees and land value capture to ensure financial sustainability. Progress will be tracked using Key Performance Indicators (KPIs), and the plan will undergo a mandatory 5-yearly review to remain adaptive to emerging challenges and opportunities, ensuring Anwara develops into the resilient and prosperous urban Paurashava envisioned for 2050.

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1. INTRODUCTION AND STRATEGIC CONTEXT

1.1 VISION AND GOAL FOR ANWARA AS A STRATEGIC GROWTH HUB

The vision for Anwara action area plan is to transform it into a dynamic, sustainable, and resilient metropolitan hub that harmoniously integrates economic growth, social equity, and environmental conservation. As a key component of the Chattogram Metropolitan Area, Anwara is envisioned to become a premier destination for industrial investment, trade, and high-quality urban living. By 2050, it will stand as a model for planned development, featuring adequate infrastructure, efficient transportation, and a high quality of life for its residents.



Figure 1-1: Aerial View of Anwara showing a glimpse of its settlements

The primary goal of this plan is to guide the orderly growth of Anwara, ensuring it can accommodate the projected increase in population and economic activity. This involves leveraging its strategic location on the southern bank of the Karnaphuli River and its proximity to key economic drivers like the Korean Export Processing Zone (Korean EPZ hereafter) and Anwara-II Economic Zone or Chinese Economic and Industrial Zone (CEIZ hereafter). The plan aims to foster sustainable industrialization while preserving its unique natural assets, including the riverfront and coastal areas. Key objectives include:

- **Encouraging Economic Development:** Attracting international business and promoting export related industrial activities on the south bank of the Karnaphuli.
- **Ensuring Social Equity:** Providing adequate housing, particularly for industrial workers and low to middle-income groups, alongside essential community facilities like schools and healthcare.
- **Promoting Environmental Sustainability:** Protecting ecologically significant areas, implementing afforestation programs along the coast and riverbanks, and managing industrial pollution to maintain a healthy urban environment.

This strategic vision positions Anwara not merely as an extension of Chattogram but as a self-sustaining urban Paurashava that complements the core city, contributing to the balanced development of the entire metropolitan region.

1.2 RATIONALE FOR THE ACTION AREA PLAN: SUPPORTING THE "ONE CITY, TWO TOWNS" CONCEPT

The Anwara Action Area Plan is a critical instrument for envisioning the "One City, Two Towns" concept, a strategic vision that aims to decongest the core city of Chattogram by fostering a parallel, well-planned urban Paurashava on the southern bank of the Karnaphuli River. Historically, development has been overwhelmingly concentrated on the right bank of the river, leading to intense pressure on land, infrastructure, and services. The 1961 Master Plan had discouraged development on the left bank unless a large industrial enterprise could justify the high initial cost of public services. However, the current reality of rapid urbanization and economic expansion has made such development not only feasible but necessary.

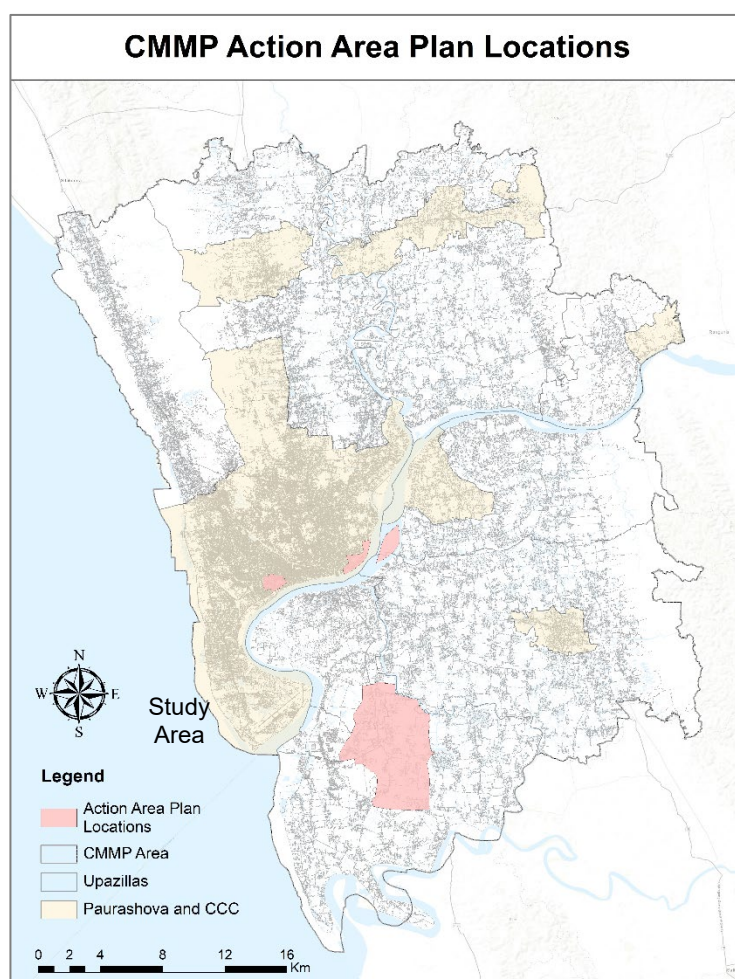


Figure 1-2: Study Area of Anwara Action Area Plan

The rationale for this Action Area Plan is rooted in several key factors:

- Strategic Location and Connectivity:** The completion of the Karnaphuli Tunnel has significantly strengthened physical integration between Chattogram's urban core and its southern periphery, particularly Anwara. Furthermore, the Chattogram Metropolitan Masterplan (2025–2050) has proposed two additional river crossings that will connect the main city to Char Lakkhya. These new links are expected to generate substantial cross-river traffic flows, thereby increasing Anwara's attractiveness as a residential location for the metropolitan workforce and reinforcing its role as a strategic growth node.

- **Economic Imperatives:** Anwara already accommodates critical economic assets such as KEPZ, CEIZ and the KAFCO. With the forthcoming CEIZ and related port-oriented industries, the subregion is positioned to become a major industrial hub. A structured land use and infrastructure strategy is required to optimize industrial land allocation, minimize land-use conflicts, and ensure the provision of utilities, logistics infrastructure, and environmental safeguards. This aligns with national policy directives to promote port-based industrialization along the south bank of the Karnaphuli.
- **Alleviating Urban Pressure:** The action plan envisions Anwara's transformation into a self-sustaining urban settlement with integrated residential, employment, and service functions. By adopting a polycentric growth model, the strategy aims to reduce excessive in-migration pressures on Chattogram's already overburdened city Paurashava. This balanced distribution of population and economic activity will help avoid the proliferation of informal settlements and promote a more resilient urban structure.
- **Guided Development:** In the absence of a comprehensive framework, accelerated development triggered by new infrastructure investments risks devolving into fragmented urban expansion, environmental degradation, and inefficient land use. The proposed action plan establishes a strategic spatial and regulatory framework to channel future growth in an orderly, sustainable, and resilient manner.

The Anwara Action Area Plan, therefore, is not just a local plan but a strategic component of the broader metropolitan vision, turning the "One City, Two Towns" concept into a tangible reality.

1.3 SCOPE AND OBJECTIVES OF THE PLAN

The Anwara Action Area Plan is formulated within the broader framework of the Chattogram Metropolitan Master Plan (CMMP) 2025-2050. It provides a detailed, micro-level development plan for an area of 7316 acres. The plan is designed to be a guiding document for all development activities undertaken by public and private sector entities.

Objective: The objective of the Anwara Action Area Plan is to translate the strategic vision of the Structure Plan into actionable, site-specific proposals.

Scope: The scope of the plan is comprehensive, encompassing the following key areas:

- **Land Use Zoning:** Specific zones will be designated for General Urban Use (residential, commercial, institutional, mixed-use), industrial (manufacturing, cottage), agricultural, and recreational purposes to ensure organized and sustainable urban growth.
- **Transportation Network:** Development of new link roads and widening of existing roads to improve connectivity and ensure smooth traffic flow across the AAP area.
- **Agricultural Preservation:** Protection and preservation of existing agricultural lands and prevent unplanned urban encroachment.
- **Housing and Community Facilities:** Making provisions for housing for all income groups, with a special focus on industrial workers, alongside necessary community facilities like schools, healthcare Paurashavas, parks, and markets.
- **Economic Development:** Creating a favourable environment for industrial investment, providing supporting forward and backward linkage activities.
- **Implementation and Regulation:** Providing a framework for plan implementation through institutional coordination, public-private partnerships, and land development regulations.

1.4 REVIEW OF PREVIOUS PLANS AND DEVELOPMENT STATUS (CMMP 1995, DAP 2008)

Past planning efforts for the Chattogram Metropolitan Area provide an essential context for the Anwara Action Area Plan. The two most significant preceding documents are the Chattogram Metropolitan Master Plan (CMMP) of 1995 and the Detailed Area Plan (DAP) of 2008.

Chattogram Metropolitan Master Plan (CMMP) 1995: The CMMP 1995 was a comprehensive effort to guide the development of Chattogram up to 2015. It consisted of a Structure Plan, which set out broad policies, and an Urban Development Plan with more specific guidelines.

- **Key Recommendations for Anwara Region:** The Structure Plan identified the south bank of the Karnaphuli, including Anwara, as a potential area for port-related industrial development. It discouraged general urban development immediately south of the river due to vulnerability to cyclonic surges but acknowledged the potential for industrial growth driven by port expansion.
- **Implementation Status:** While several infrastructure projects recommended in the previous Masterplan were implemented in the core city, the proposals for the southern bank, including Anwara, saw limited execution. The lack of a strong institutional mechanism for implementation and coordination among authorities hindered progress. The Master plan's vision was up to 2015, necessitating a new vision to address the changed circumstances, especially the enhanced connectivity provided by the Karnaphuli Tunnel.

Detailed Area Plan (DAP) 2008: The DAP 2008 was prepared to provide micro-level land use plans for the entire CMMP area, dividing it into 12 Detailed Planning Zones (DPZs). Anwara and parts of Karnaphuli Thana were designated as DPZ-12: Anwara-Karnaphuli.

- **Existing Conditions in DAP 2008:** At the time of the DAP preparation, DPZ-12 was predominantly rural, with agriculture and fisheries occupying 48.90% of the land, and water bodies covering another 20.93%. Residential use was limited to 8.23%, and industrial use, despite the presence of KEPZ and KAFCO, was only 2.28%. The area was susceptible to cyclonic surges and seasonal flooding, and its transport network was inadequate.
- **Key Proposals of DAP 2008 for DPZ-12:** The DAP proposed a transformative vision for Anwara, designating large areas for specific uses to guide future growth:
 - **Industrial Zone (28.97%):** A massive 10,195.4 acres were allocated for industrial development, primarily along the Karnaphuli River to support port-related activities.
 - **Residential Areas (Mixed and Planned):** A total of 3,556 acres were proposed for residential development to accommodate the workforce and new population.
 - **Recreation and Afforestation:** Significant areas were designated for recreation (3,841 acres at Parkir Char) and coastal afforestation (2,393 acres) to protect against natural disasters and enhance the environment.
 - **Infrastructure:** The plan proposed widening key roads, such as the Anwara Road and Patiya Road, to 160 ft ROW and building an embankment-cum-road along the Karnaphuli River.

- **Implementation Status:** Like the broader CMMP, the implementation of DAP 2008 in Anwara has been slow and fragmented. While some industrial growth has occurred, the lack of coordinated infrastructure development and weak enforcement of land use regulations have led to haphazard growth rather than the planned township envisioned. The current master planning effort (2025-2050) provides a renewed opportunity to realize the strategic potential of Anwara identified in previous plans, with updated strategies that reflect current realities.

In the current context, the south bank of the Karnaphuli River has emerged as a strategic industrial growth corridor, already accommodating one existing and one upcoming Economic Zone alongside many riverbank industries. With the realization of additional river crossings and expanded road networks as proposed in the Masterplan, the area is projected to attract further industrial investment and employment-generating activities. This industrial expansion will inevitably generate a parallel demand for commercial markets, urban services, and residential development to support the growing workforce. This, there is a critical need to designate and plan areas for general urban use, ensuring that industrial growth is complemented by well-integrated urban amenities, balanced land use, and sustainable settlement patterns.

1.5 STAKEHOLDER IDENTIFICATION AND ENGAGEMENT STRATEGY

The successful implementation of the Anwara Action Area Plan hinges on effective collaboration among a diverse range of stakeholders. A comprehensive engagement strategy is essential to ensure that the plan reflects the needs of the community, aligns with the objectives of government agencies, and secures the support of the private sector.

Identification of Key Stakeholders: The stakeholders for this plan are categorized based on their influence and interest in the development of Anwara. They include:

- **Government and Regulatory Authorities (High Influence, High Interest):**
 - **Chattogram Development Authority (CDA):** The lead agency responsible for planning, implementation, and development control.
 - **Local Government Institutions:** Responsible for local infrastructure maintenance, and community governance.
 - **Utility Providers: Utility Providers (CWASA, KGDCL, PDB):** Responsible for extending water, gas, and electricity services to support residential, industrial, and commercial growth.
 - **Chattogram Port Authority (CPA):** A key stakeholder due to the plan's focus on industrial development and infrastructure development that will facilitate the port.
 - **Department of Environment (DoE):** For ensuring environmental compliance, particularly concerning industrial emissions and hill/water body conservation.
 - **Other Government Agencies:** Including the Roads and Highways Department (RHD), Bangladesh Water Development Board (BWDB), Local Government Engineering Department (LGED).

- Private Sector and Industry Associations (High Interest):
 - Industrial Entities: Including KEPZ and CEIZ, KAFCO, and other manufacturing units that are central to Anwara's economy.
 - Real Estate Developers (REHAB): Key partners in developing planned residential and commercial areas.
 - Business Associations: Such as the Chattogram Chamber of Commerce & Industry (CCCI), representing the interests of the business community.
 - Transport Operators: Including bus-truck owners' associations, who are vital for freight and passenger mobility.

- Community and Civil Society (High Interest, Lower Influence):
 - Local Residents and Landowners: The primary beneficiaries and potential partners in land development schemes like Guided Land Development (GLD).
 - Non-Governmental Organizations (NGOs) and Community-Based Organizations (CBOs): Important for community mobilization, awareness campaigns, and implementing social development projects.
 - Professional and Academic Institutions: Such as the Bangladesh Institute of Planners (BIP), Institute of Architects Bangladesh (IAB), and universities (e.g., CUET), providing technical expertise and review.

2. BASELINE ANALYSIS: EXISTING CONDITIONS AND KEY ISSUES

2.1 LOCATION AND ADMINISTRATIVE COVERAGE

The Action Area is located on the southern side of the River Karnaphuli, covering a total of 7315.5 acres. Its boundaries are defined primarily by physical features such as roads, khals, and other natural edges, rather than administrative demarcations. The area is strategically positioned adjacent to major infrastructure and economic hubs, bounded by the Korean EPZ, portions of the CEIZ, Anwara Upazila Sadar, and the Murari Khal. Connectivity with the main city is ensured through the Karnaphuli Tunnel and the Shah Amanat Bridge, both of which link to the N115 highway, establishing the area as a critical node for future urban and industrial expansion.

The Action Area incorporates several zones of economic, social, and environmental significance. It includes areas adjacent to the Korean EPZ, where the initial boom of industrial and commercial activities is anticipated, as well as parts designated for the CEIZ, which are expected to host future large-scale development. The Anwara Upazila Paurashava serves as the current hub of local activities, complemented by notable natural and cultural assets such as Kala Bibir Dighi, Monu Miar Dighi, and land adjacent to the Murari Khal—all of which hold strong potential for transformation into public recreation spaces, including parks. Beyond these, numerous smaller waterbodies within the Action Area can be reimagined as local-level recreational nodes. Major highways traversing the area are also set to become prime freight corridors, enhancing the subregion's role in logistics and industrial trade.

Administratively, the Action Area encompasses the majority of five unions from Anwara and Karnaphuli Upazilas. However, owing to its boundaries being drawn along physical features rather than strict administrative lines, portions of four additional unions are also included.

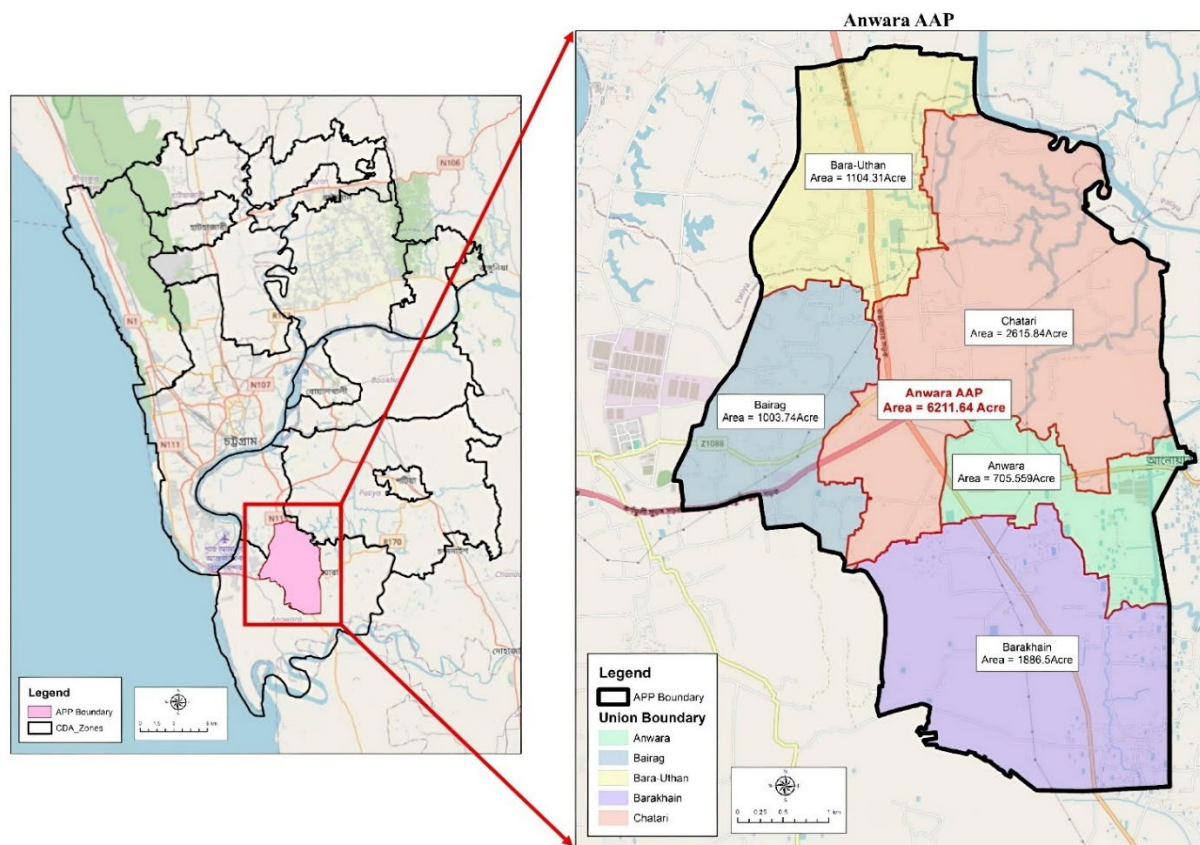


Figure 2-1: Anwara Action Area

2.2 POPULATION AND EMPLOYMENT

The population of the Action Area around 60,434 with a balanced gender ratio. Most residents are engaged in the service sector, many of whom commute daily to the city for employment. Industry provides the next largest share of jobs, supported by the nearby industries and related enterprises as well as considering those that travel to CEPZ and KEPZ for work. Agriculture, despite the area's extensive farmland, employs the smallest portion of the workforce, reflecting a gradual economic transition away from traditional livelihoods toward service- and industry-based employment.

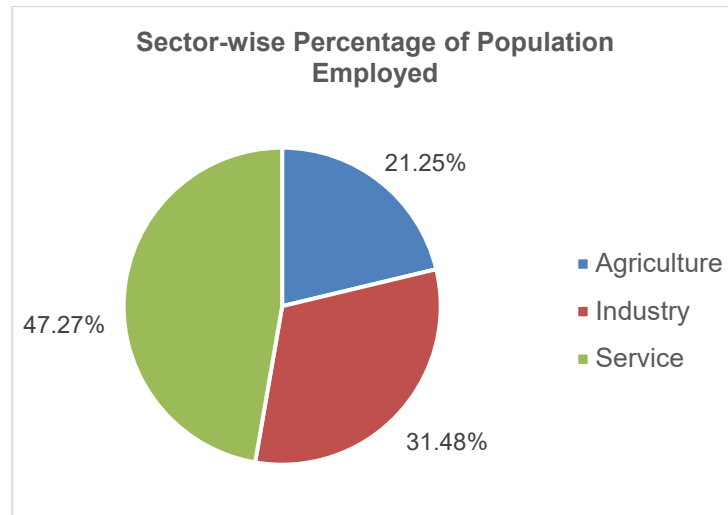


Figure 2-2: Employment Profile of the

The socio-economic landscape of the Anwara-Karnaphuli area is largely rural in character but is undergoing a rapid transformation due to industrialization.

2.3 HOUSING CONDITIONS

Housing in the Action Area is predominantly low-rise and non-permanent, reflecting its rural and developing character. One-story structures overwhelmingly dominate, with multi-story and high-rise buildings being rare. Tin-shed, Katcha, and Semi-Pucca structures make up the majority of the housing stock, while permanent Pucca buildings remain relatively limited.

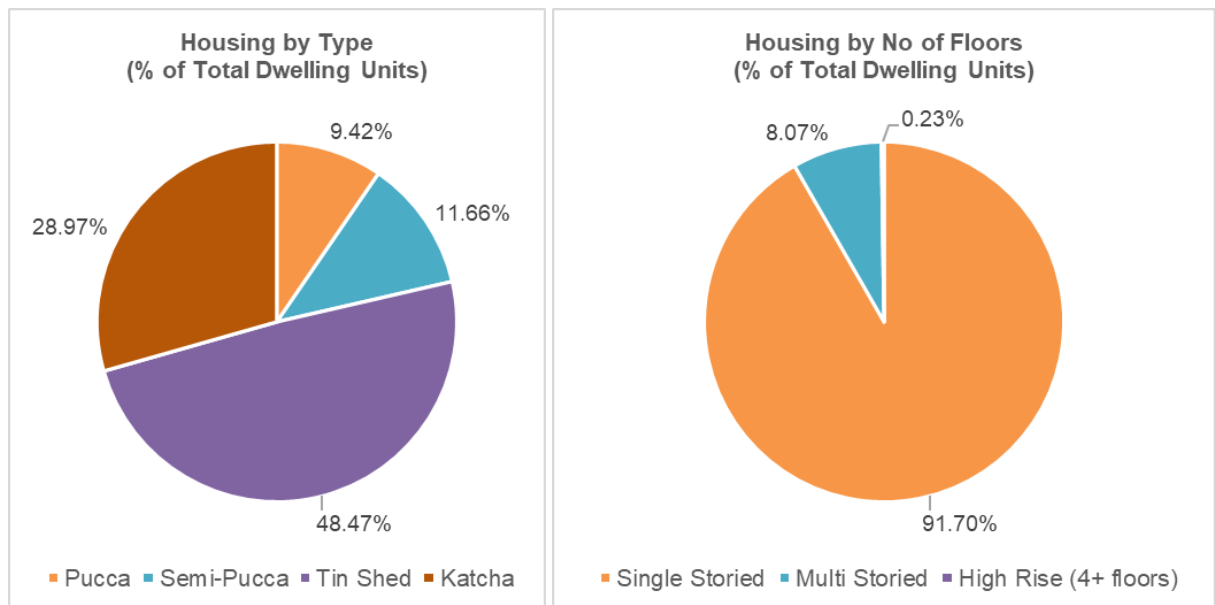


Figure 2-3: Housing Profile

The ownership profile of the Action Area shows that 85.41% of households live in self-owned homes, while only 14.59% reside in rented housing. This strong dominance of ownership reflects a deep attachment to land and property, consistent with the area's rural and semi-urban character. For the Action Area Plan, this suggests that redevelopment or land acquisition efforts could face resistance if

they disrupt existing owners, making in-situ upgrading and resilience-focused improvements a more practical approach. At the same time, the relatively small rental market points to a need for expanding affordable rental housing, especially to accommodate industrial workers and new migrants expected with the area's economic growth.

2.4 EXISTING LAND USE ANALYSIS

The current land use pattern of the Action Area reflects its transitional nature, balancing a predominantly rural base with emerging urban and industrial functions. An existing land use map is shown in Figure 2-5 and a summary profile is shown in Figure 2-4. Agriculture is the most extensive use, occupying just over 60% of the land, indicating that large portions of the landscape remain under cultivation and continue to shape local settlement patterns and livelihoods. Residential areas cover approximately one-quarter of the Action Area, typically clustered around the Anwara Upazila Paurashava and along major transport routes. These settlements remain largely low-density and semi-rural in character but are poised for densification as connectivity with Chattogram improves through the Karnaphuli Tunnel and Shah Amanat Bridge. Industrial and storage uses account for just over 12% of the land and play a pivotal role in shaping the area's economic profile. This category includes portions of the Korean EPZ and CEIZ, which act as anchors for industrial investment, as well as smaller cottage industries scattered at intersections and within the Upazila Paurashava. The remaining 2% of land use is distributed across a range of functions grouped under "others", including business and mercantile activities, educational and research facilities, open space and recreation areas, health care services, mixed-use developments, public utilities, and administrative and service institutions. While these uses are currently limited in scale, their presence is essential for supporting urban life and indicates the gradual diversification of land use functions.

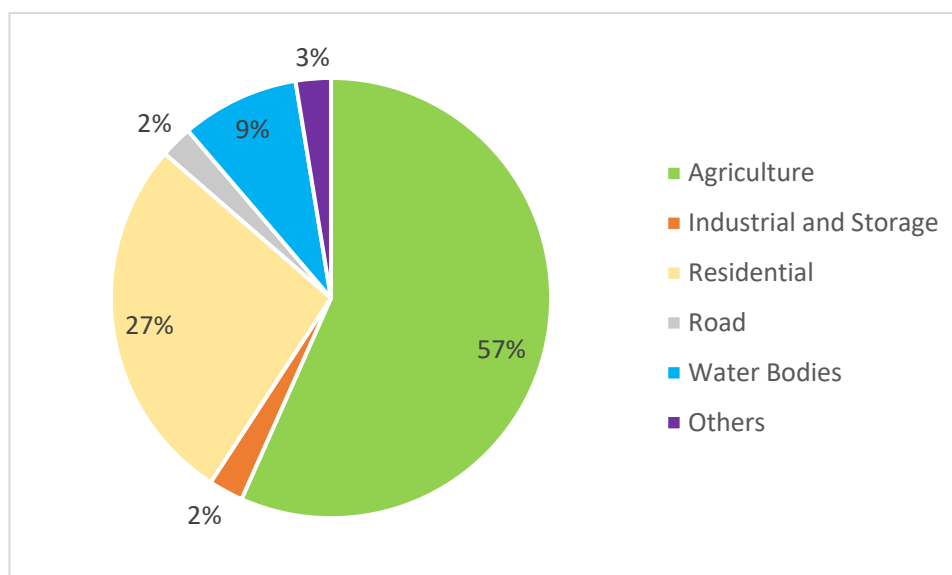


Figure 2-4: Existing Land Use Profile of the Study Area

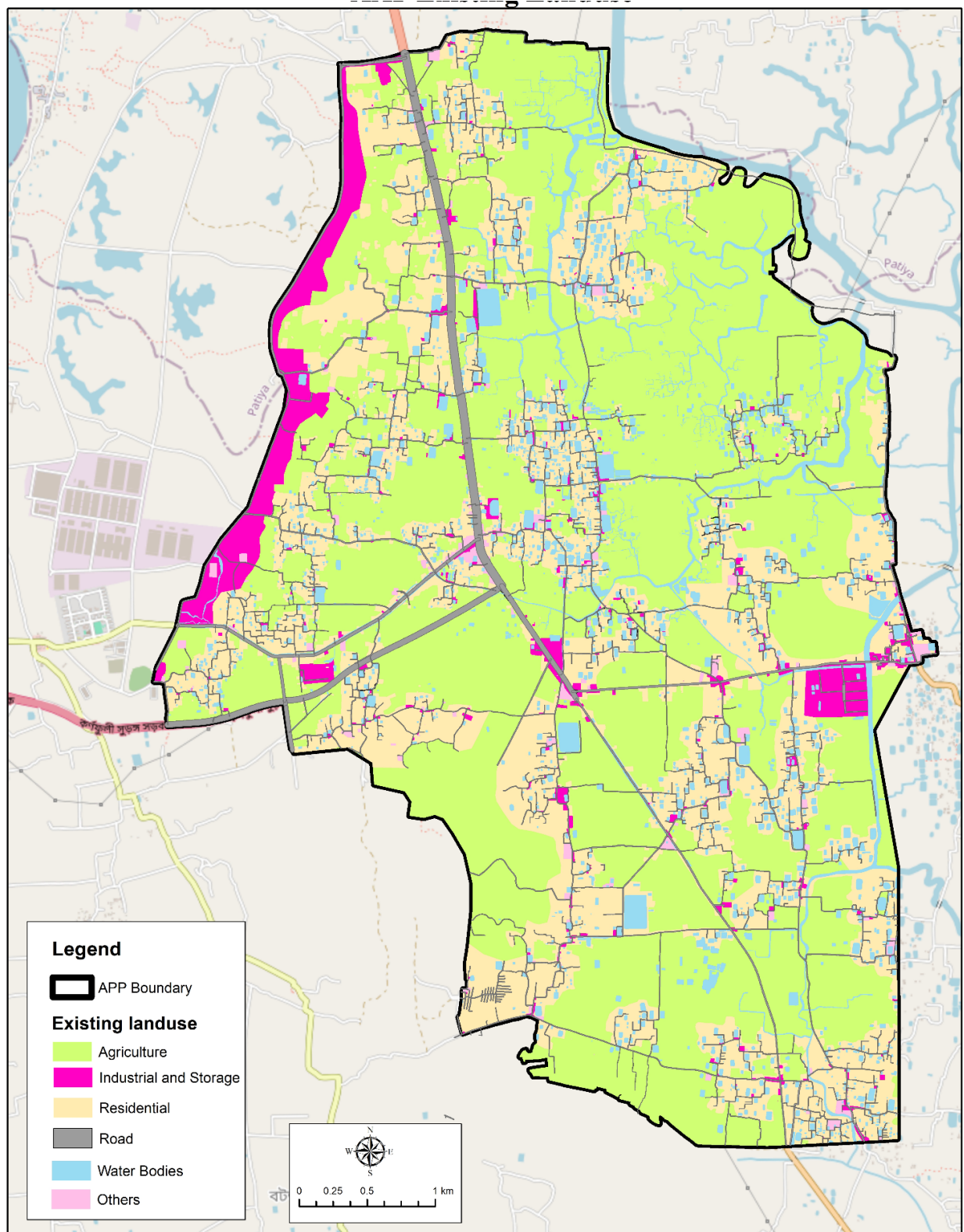


Figure 2-5: Existing Land Use Map of the Study Area

Overall, the land use structure highlights a region in transition from an agriculture-dominated landscape toward a more balanced urban-industrial setting. The significant share of agricultural land presents both a challenge and an opportunity: without careful planning, haphazard conversion could lead to sprawl and the loss of valuable farmland, but with strategic guidance, this land can be integrated into a planned

urban framework. Similarly, the clustering of industries within EPZs alongside scattered cottage enterprises points to the need for consolidated industrial zoning and infrastructure investment to ensure orderly growth. The relatively modest footprint of “other” urban-supporting land uses emphasizes the importance of strengthening social infrastructure, services, and recreational spaces to make Anwara a truly livable growth hub within the metropolitan system. Importantly, this pattern positions Anwara to realize the “One City, Two Towns” vision: by guiding residential expansion, consolidating industrial growth, and providing essential social and recreational facilities, the Action Area can develop as a self-sustaining urban node that complements Chattogram’s core, alleviates pressure on the northern city, and contributes to a balanced, polycentric metropolitan structure.

2.5 REVIEW OF SEIZ

The CEIZ is planned for a total area of 774.4 acre. The primary types of industries are suggested here includes textile & RMG, pharmaceutical, leather & footwear, light manufacturing and electric & electronic. The proposed landuse of SEIZ is presented in Figure 2-6. The major landuse include Industries (54.3%), Logistics (2.2%), Supporting Facilities (2.8%), Open Space (17.4%) and Infrastructure (23.3%).

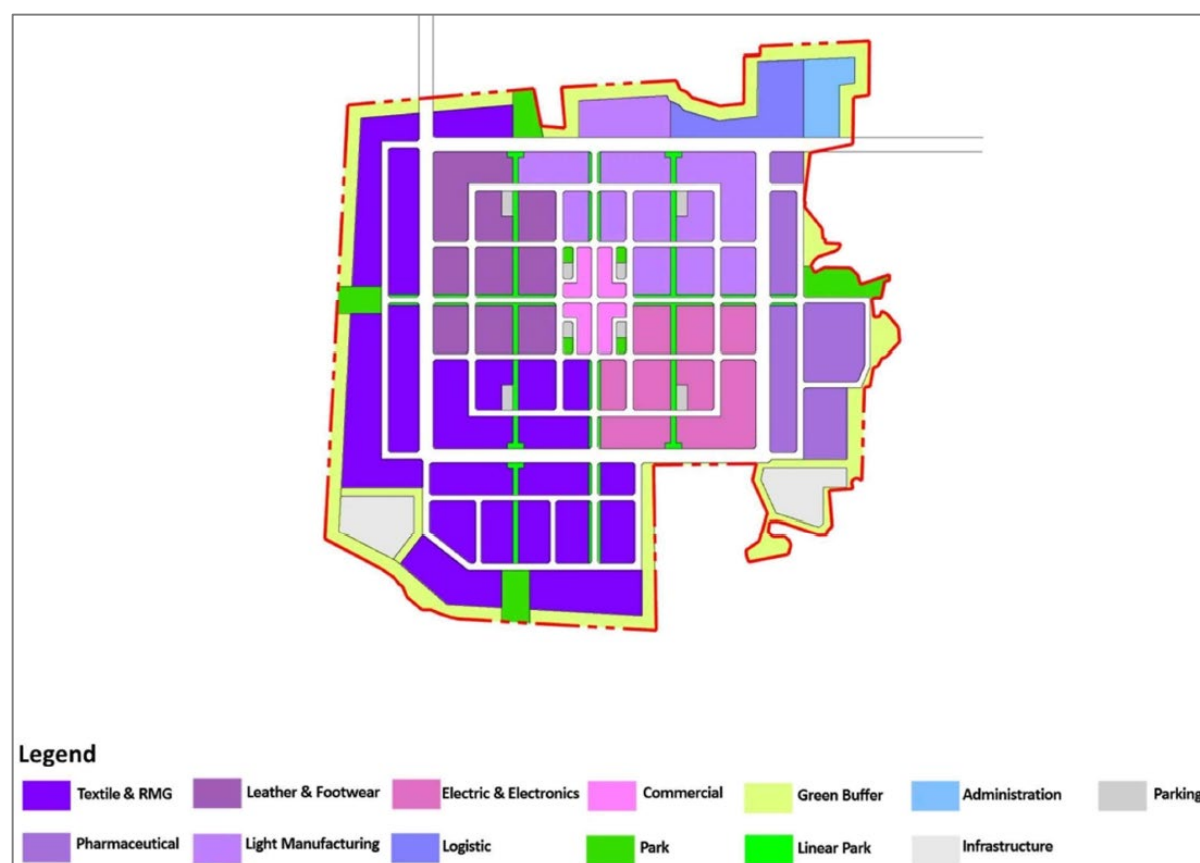


Figure 2-6: Landuse Plan of SEIZ

2.6 REVIEW OF KOREAN EPZ

Korean EPZ is located in Anwara, about 40 kilometers southeast of the center of Chattogram city. It covers an area of 2,492 acres, of which 52% is reserved for greenery. Inside the Korean EPZ, there are 40 kilometers of roads, including 6 kilometers of main roads, and 33 lakes and water bodies. In Korean EPZ, world-class garments, synthetic fibers, polyester yarn, sports shoes, leather bags, backpacks, and travel bags are produced. The industries located here export goods worth about 400 million dollars annually, with a target to increase this amount to 1.2 billion dollars. Currently, around 34,000 workers are directly employed here, the majority of whom are women. In addition, about 25,000 more people are indirectly dependent on this industrial zone. Facilities for workers include modern dormitories, a medical Paurashava, day-care, fair-price shops, and meals available at a subsidized rate. In 2024, a meeting of the interim government decided to simplify the land registration process for Korean EPZ and to ensure greater transparency in obtaining bond licenses. There are also plans to construct sixteen 24-story buildings in the future for the software and IT sector, which will create employment opportunities for 20,000 IT professionals.

2.7 CRITICAL PLANNING ISSUES

The rapid, often unregulated, transformation of Anwara presents a series of interconnected planning challenges that must be addressed to ensure sustainable and resilient development.

2.7.1 ENVIRONMENTAL DEGRADATION AND DISASTER VULNERABILITY

The Anwara-Karnaphuli zone is highly vulnerable to a range of environmental threats. Its low-lying coastal and riverine plains are susceptible to seasonal flooding, tidal surges, and cyclones. Unplanned hill cutting in the EPZ areas, though less prevalent than in other zones, still contributes to soil erosion and siltation of drainage channels, worsening waterlogging.

Industrial pollution is a major concern. The concentration of industries, including fertilizer plants and EPZs, leads to the discharge of untreated effluents into the Karnaphuli River, posing a significant threat to aquatic ecosystems and water quality. The lack of adequate waste treatment facilities for both industrial and municipal waste further degrades the local environment. Additionally, the coastal areas are at risk from erosion, which could be exacerbated by rising sea levels and climate change.

Although the Action Area is largely free from cyclonic surges, several khals traverse the region and face the risk of encroachment as development progresses. The area also contains numerous waterbodies, which are at risk of being filled, and its drainage channels may be obstructed if proper planning is not implemented. Therefore, special consideration must be given to preserving these natural waterways and maintaining effective drainage systems during the planning and development process.

2.7.2 INFRASTRUCTURE AND SERVICE DEFICIENCIES

The transportation network in the area is underdeveloped and struggles to support the area's economic activities. The existing road network is sparse, with few primary or secondary roads, forcing local and industrial traffic onto a limited number of congested routes. The primary north-south Anwara Road and the east-west Patiya Road are proposed for widening to 160 ft Right-of-Way (ROW) to handle the traffic load, but many internal and connecting roads remain narrow and inadequate.

The pace of development has far outstripped the provision of essential infrastructure and municipal services:

- **Inadequate Road Network:** The existing road network is insufficient to support the growing traffic generated by industrial zones and an expanding population. Most roads are narrow, poorly maintained, and lack proper pedestrian facilities, leading to congestion and safety hazards.
- **Lack of Utilities:** Many settlements, particularly informal and newly developed areas, lack access to reliable piped water, sanitation, and gas supply. There is no centralized sewerage system, and solid waste management is inadequate, with waste often dumped in open areas or water bodies.
- **Insufficient Community Facilities:** The provision of community facilities such as schools, health clinics, parks, and playgrounds is inadequate to serve the growing population. A survey indicates a significant deficit in essential services required for a healthy urban environment.

2.7.3 UNPLANNED URBANIZATION AND LAND USE CONFLICT

The primary challenge is the lack of a guiding framework for development, resulting in:

- **Haphazard Growth:** Development is largely piecemeal and driven by individual or private sector initiatives without adherence to a comprehensive plan. This leads to inefficient land use, where high-value industrial activities are surrounded by low-density, unplanned settlements.
- **Housing Shortages:** While there is a high demand for housing, particularly for industrial workers, the supply is dominated by informal, low-quality rental units. There is a lack of planned, affordable housing schemes that cater to different income groups.
- **Lack of Coordination:** There is a clear failure to coordinate among public sector agencies responsible for planning, infrastructure provision, and environmental regulation. This results in conflicting land uses and fragmented development efforts.

3. SPATIAL DEVELOPMENT AND LAND USE PLAN

3.1 ADMINISTRATIVE UNITS

The study area is situated within two Upazila administration and five Union Parishad as shown in Figure 3-1. The total area is 7315.5 acre.

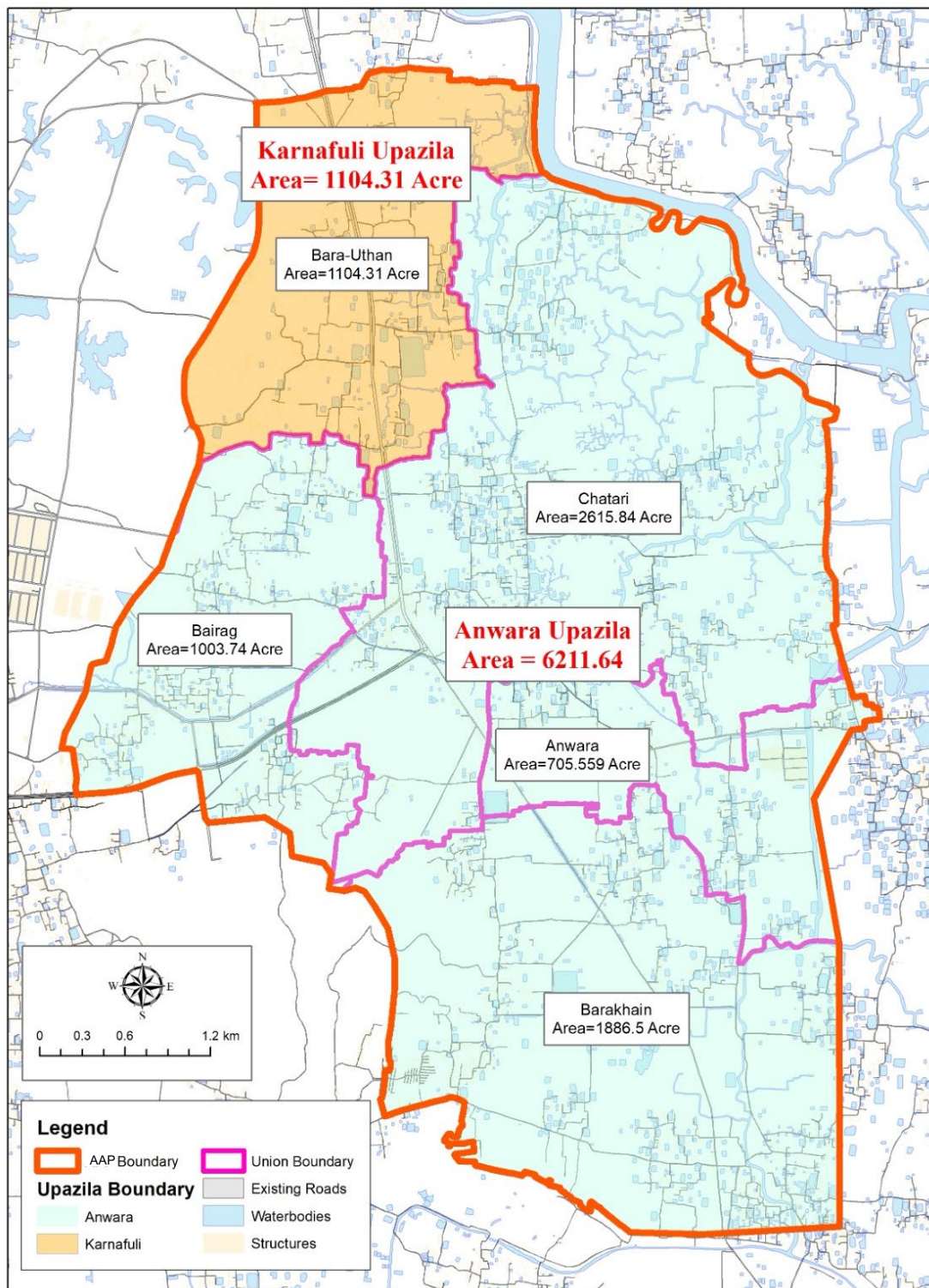


Figure 3-1: Administrative Units of the Study Area

3.2 POPULATION AND EMPLOYMENT PROJECTIONS (2022–2050)

The population forecast utilizes a trend-based approach, incorporating a geometrical growth rate of 2.32% for the City Corporation and Paurashava areas, and 1.28% for Upazila areas. Critically, these projections account for the anticipated catalytic effects of major projects like the Bay Terminal and the EPZs, which serve as strong pull factors for in-migration and job creation.

The forecasted population and employment growth for the Study Area, shown in Table 3-1, shows the massive scale of the anticipated urbanization. Employment forecasts reflect a commensurate need to accommodate a significantly larger workforce, reinforcing the area's planned economic shift.

Table 3-1: Population Projections for the Study Area and Employment

Administrative Unit		Total Land Area (in Acre)	Employment		Population	
Upazila	Union		Existing (2022)	Projected (2050)	Existing (2022)	Projected (2050)
Anwara	Bairag	1003	1,232	66,227	10,821	228,927
	Barakhain	1886.5	2,837	33,116	14,404	117,439
	Chatari	2616	2,238	34,605	18,050	164,300
	Anwara	706	6,627	15,801	5,067	80,757
Karnaphuli	Bara Uthan	1104	6,686	41,085	12,092	132,800
Total		7315.5	19,620	190,833	60,434	724,223

The population forecast serves as the foundation for this spatial and regulatory framework, ensuring that the development of Anwara is guided in an orderly, sustainable, and resilient manner.

3.3 PROPOSED LAND USE ZONING PLAN

The Proposed Land Use plan for the Anwara Action Area covers a total area of approximately 6,211.64 acres, strategically distributed across various functional categories to ensure balanced urban development while preserving key environmental and economic assets. Within the proposed structure, General Urban Use occupies the largest share, accounting for 39% of the total area, reflecting the growing demand for residential, commercial, and mixed-use developments in this rapidly urbanizing region. Agricultural land constitutes 33%, emphasizing the need to retain productive farmlands and maintain the rural character in certain zones. Road networks currently account for 9% of the total area to ensure improved connectivity and accessibility throughout the action area; however, this percentage may increase in the future as more access roads and internal linkages become necessary to support expanding urban and industrial activities. Industrial uses cover 8%, supporting economic growth and employment generation, while Utility and Community Facility zones comprise 8% and 2% respectively, ensuring the provision of essential urban services and social infrastructure. Additionally, another 1% of land is dedicated to utility purposes including water supply, waste management, and energy facilities.

Notably, the Anwara Action Area includes portions of two major industrial hubs — the Korean EPZ and the CEIZ — both of which play a vital role in regional industrialization. Out of the total 2,210 acres of KEPZ, approximately 168.3 acres fall within the AAP boundary, while the CEIZ, with a total area of 931.64 acres, contributes 296.5 acres within the AAP. The integration of these industrial zones within the proposed land use framework is expected to significantly boost investment opportunities, create employment, and strengthen Anwara's role as an emerging industrial and urban growth Paurashava in the Chattogram Metropolitan Region.

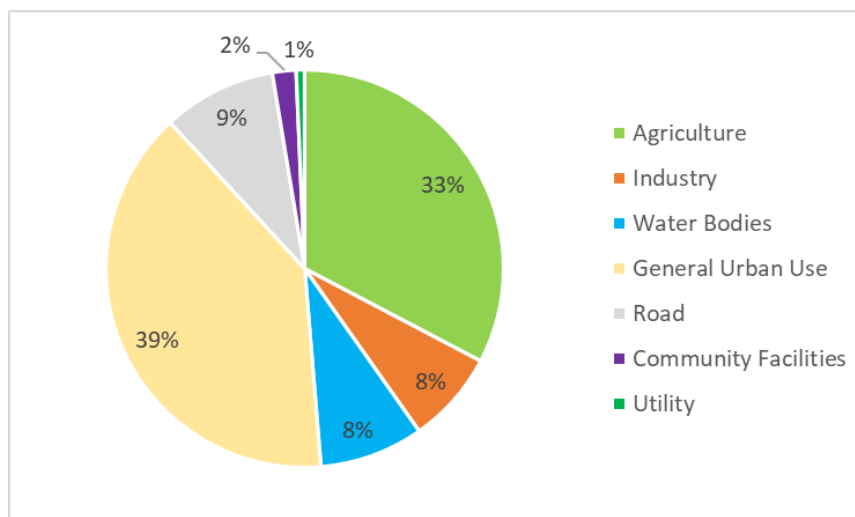


Figure 3-2: Distribution of Proposed Land Use

3.3.1 AGRICULTURAL PRESERVATION ZONES

The Proposed Agricultural Zone of the Anwara Action Area reveals a substantial reduction in agricultural land compared to existing conditions, as shown in Table 3-2. Overall, the total agricultural area is expected to decline from 4,147 acres to 2,388 acres, marking a 42% decrease across the AAP area. This reduction primarily results from the conversion of existing agricultural lands into industrial and general urban uses, reflecting the area's rapid transition toward industrialization and urban expansion. A key factor driving this change is the presence of major industrial hubs — the Korean EPZ and the CEIZ. Large portions of these zones were previously agricultural lands that have already been acquired by BEPZA and are now under industrial development.

Among all unions, Bairag Union experiences the most significant reduction, with agricultural land decreasing by 98%, from 494 acres to just 9 acres. This dramatic decline is primarily due to the establishment of KEPZ and its adjacent supporting facilities. The development of these industrial areas has not only converted agricultural land directly but also created demand for supporting industries, service facilities, housing, and urban amenities to accommodate the large influx of workers and migrants expected in the area. Consequently, surrounding lands are being reclassified under General Urban Use and Industrial Use, further accelerating the decline in agricultural zones. While this transformation signals Anwara's emergence as a vital industrial and urban Paurashava, it also underscores the importance of adopting sustainable land management strategies to balance industrial growth with the conservation of the remaining agricultural landscape.

Table 3-2: Proposed Agriculture Landuse of the Study Area

Administrative Unit		Total Land Area (in Acre)	Existing (in Acre)	Proposed (in Acre)	Decrease (in Acre)	Decrease (Percentage)
Upazila	Union					
Anwara	Anwara	706	347	198	150	43%
Anwara	Bairag	1003	494	9	485	98%
Karnaphuli	Bara Uthan	1104	543	312	231	42%
Anwara	Barakhain	1886.5	1071	723	348	32%
Anwara	Chatari	2616	1692	1146	546	32%
Total		7315.5	4147	2388	1759	42%

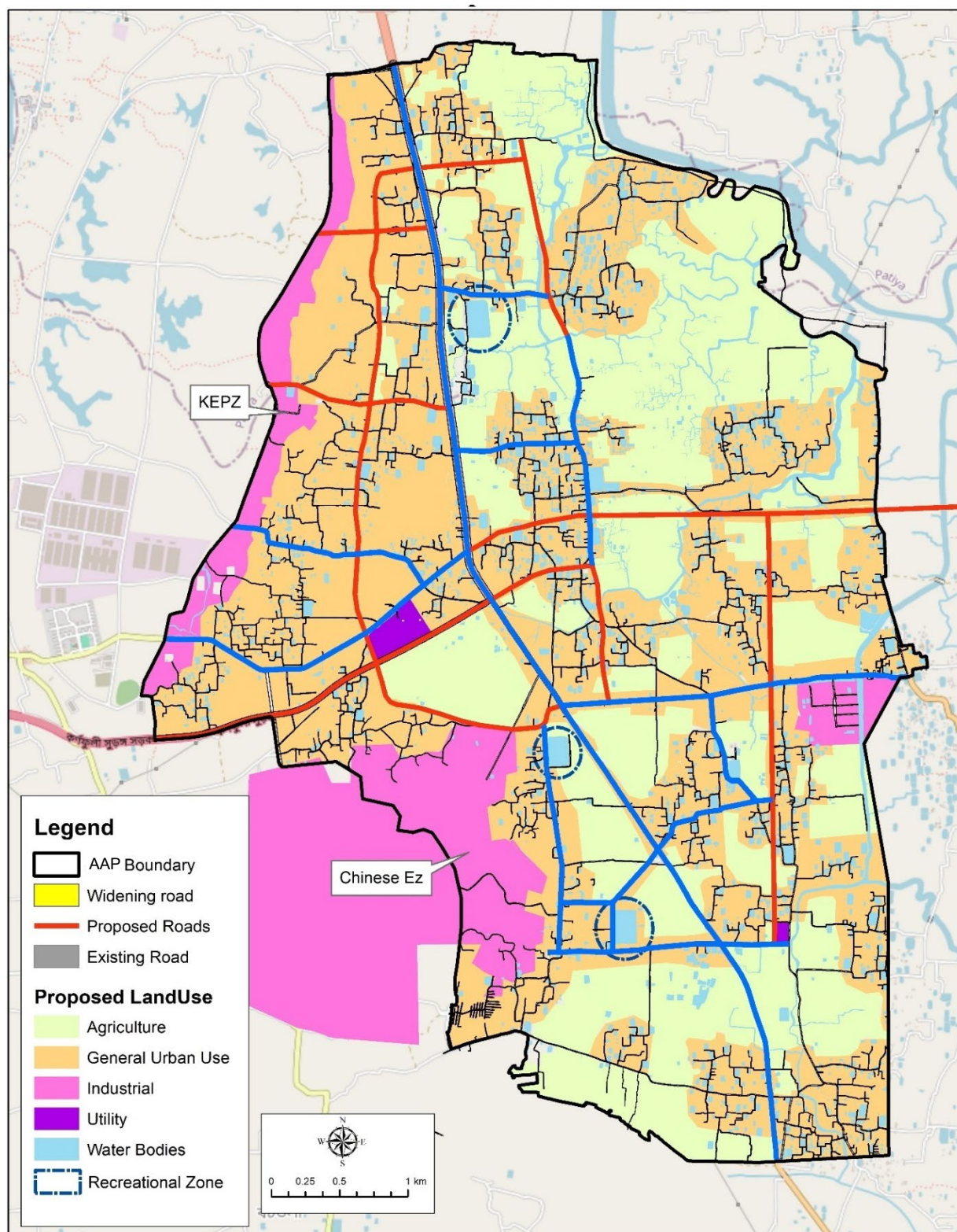


Figure 3-3: Proposed Land Use Zoning Plan of Anwara

3.3.2 INDUSTRIAL ZONES

The Proposed Industrial Zone within the Anwara Action Area is expected to expand significantly compared to the existing land use pattern, primarily due to the influence of large-scale industrial developments such as the Korean EPZ and the CEIZ. As shown in Table 3-3, the total pure industrial land covers about 550.1 acres (7.5%), while an additional 10.1% of land within General Urban Use is allocated for cottage and supporting industries. This overall increase reflects the growing demand for land to accommodate industrial support facilities, logistics, small-scale manufacturing, and service-oriented enterprises linked to KEPZ and CEIZ operations. Particularly in Bairag and Barakhain unions, the industrial share is comparatively higher due to their proximity to these major zones.

Table 3-3: Proposed Industrial Landuse of the Study Area

Administrative Unit		Total Land Area (in Acre)	Pure Industrial Use		Cottage Industry within General Urban Use	
Upazila	Union		Area (in Acre)	Percentage	Area (in Acre)	Percentage
Anwara	Anwara	706	61.2	8.7%	0.9	0.1%
Anwara	Bairag	1003	147.7	14.7%	39.1	3.9%
Karnaphuli	Bara Uthan	1104	89.0	8.1%	173.5	15.7%
Anwara	Barakhain	1886.5	165.5	8.8%	279.3	14.8%
Anwara	Chatari	2616	86.7	3.3%	248.7	9.5%
Total		7315.5	550.1	7.5%	7.5%	10.1%

3.3.3 GENERAL URBAN USE

The Proposed General Urban Use within the Anwara Action Area Plan (AAP) covers approximately 2,882 acres, which is about 39% of the total study area, as presented in Table 3-4. This category encompasses a combination of commercial, institutional, mixed-use, residential, and green/open spaces, following the land use intensity hierarchy outlined in the Structure Plan of Chattogram Metropolitan Masterplan. According to the Structure Plan's Land Use Intensity Policy (Section 4.5.2), urban development is to be guided by a descending intensity order—allowing lower-intensity uses (such as residential or green areas) within higher-intensity zones (like commercial or industrial)—to ensure flexibility, balanced urban growth, and gradual densification. However, higher-intensity developments will not be permitted in lower-intensity zones to avoid infrastructure pressure, traffic congestion, and environmental degradation.

Table 3-4: Proposed General Urban Use of the Study Area

Administrative Unit		Total Land Area (in Acre)	General Urban Use	
Upazila	Union		Area (in Acre)	Percentage
Anwara	Anwara	706	286	41%
Anwara	Bairag	1003	627	63%
Karnaphuli	Bara Uthan	1104	452	41%
Anwara	Barakhain	1886.5	670	36%
Anwara	Chatari	2616	847	32%
Total		7315.5	2882	39%

In the Anwara AAP, the share of General Urban Use is expected to increase further in the coming years, primarily due to the rapid industrialization driven by Korean EPZ and CEIZ. These large-scale

employment hubs are generating significant migration and settlement pressure, as workers and supporting service populations move into the area. To accommodate this growing demand, additional land will be required for residential neighbourhoods, mixed-use developments, and commercial services surrounding the industrial zones. Among the unions, Bairag currently shows the highest proportion of General Urban Use (63%) due to its proximity to these major employment Paurashavas. Overall, the expansion of General Urban Use reflects Anwara's transformation into a dynamic urban-industrial growth corridor, supporting both economic activity and sustainable community development within the Chattogram Metropolitan Region.

3.3.4 UTILITY SERVICES

The plan proposed a total of 50-acre land for different utility services which is around 0.7% of the total area. The details of these are presented in Table 3-5. The suitable locations of Bus and Truck Terminals are proposed in Figure 3-3. However, the locations of the other services needed to be determined in the plan implementation phase.

Table 3-5: Proposed Utility Services (area in acre) of the Study Area

Administrative Unit		Area (in Acre)	Truck Terminal	Bus Terminal	Solid Waste	PDB	WASA	Fire Service	Police Station
Upazila	Union								
Anwara	Anwara	706			0.8	1	2		
Anwara	Bairag	1003			0.8	1	2		1
Karnaphuli	Bara Uthan	1104			0.8	1	2	2.5	
Anwara	Barakhain	1886.5		3.2	0.8	1	2		
Anwara	Chatari	2616	24.5		0.8	1	2		
Total		7315.5	24.5	3.2	4	5	10	2.5	1

3.4 COMMUNITY FACILITIES

To ensure social infrastructure meets population demands, the AAP applies PRLD standards for community services per 1,000 population as mentioned in Table 3-6. The spatial distribution of the community facilities is shown in Table 3-7 to Table 3-9. The locations of the existing facilities are analysed and best locations of the required facilities are derived. These are shown in Figure 3-4 to Figure 3-8.

Table 3-6: PRLD Standards vs. Proposed Provisions in the Study Area

Facility	Standard (acre/1,000 pop.)	Minimum Requirement (acre)	Existing (acre)	Additional Proposed (acre)
Primary School	0.038	27.5	35.1	18
High School & College	0.04	29.0		
Clinic, Hospital, Health Care	0.03	21.7	3.5	19.5
Hat-Bazar, Community Paurashava	0.02	14.5	2.7	18
Playground	0.03	21.7	5.1	60
Park/Lake	0.03	21.7		
Total		136.2	46.4	115.5

Table 3-7: Union-wise Existing Distribution of the Community Facilities (Number)

Administrative Unit		Area (in Acre)	Primary School	High School & College	Clinic	Hospital	Hat-Bazar
Upazila	Union						
Anwara	Anwara	706	3	1		2	1
Anwara	Bairag	1003	5	1	2		1
Karnaphuli	Bara Uthan	1104	6	1			3
Anwara	Barakhain	1886.5	7	3	1		2
Anwara	Chatari	2616	4	1			3
Total		7315.5	25	7	3	2	10

Table 3-8: Union-wise Proposed (New) Distribution of the Community Facilities (Number)

Administrative Unit		Area (in Acre)	Primary School	High School & College	Clinic	Hospital	Hat-Bazar
Upazila	Union						
Anwara	Anwara	706	2	1	1		2
Anwara	Bairag	1003		1	1	1	4
Karnaphuli	Bara Uthan	1104	1	1	3		7
Anwara	Barakhain	1886.5	2		3		4
Anwara	Chatari	2616	3	1	1		1
Total		7315.5	8	4	9	1	18

Table 3-9: Union-wise Proposed (New) Distribution of the Community Facilities (Area in Acre)

Administrative Unit		Area (in Acre)	Primary School	High School & College	Clinic	Hospital	Hat-Bazar	Playground	Park/Lake
Upazila	Union								
Anwara	Anwara	706	2.0	2.5	1.5		2.0	3	10
Anwara	Bairag	1003	0.0	2.5	1.5	6	4.0	4	5
Karnaphuli	Bara Uthan	1104	1.0	2.5	4.5		7.0	5	5
Anwara	Barakhain	1886.5	2.0	0.0	4.5		4.0	3	15
Anwara	Chatari	2616	3.0	2.5	1.5		1.0	5	5
Total		7315.5	8	10	13.5	6	18	20	40

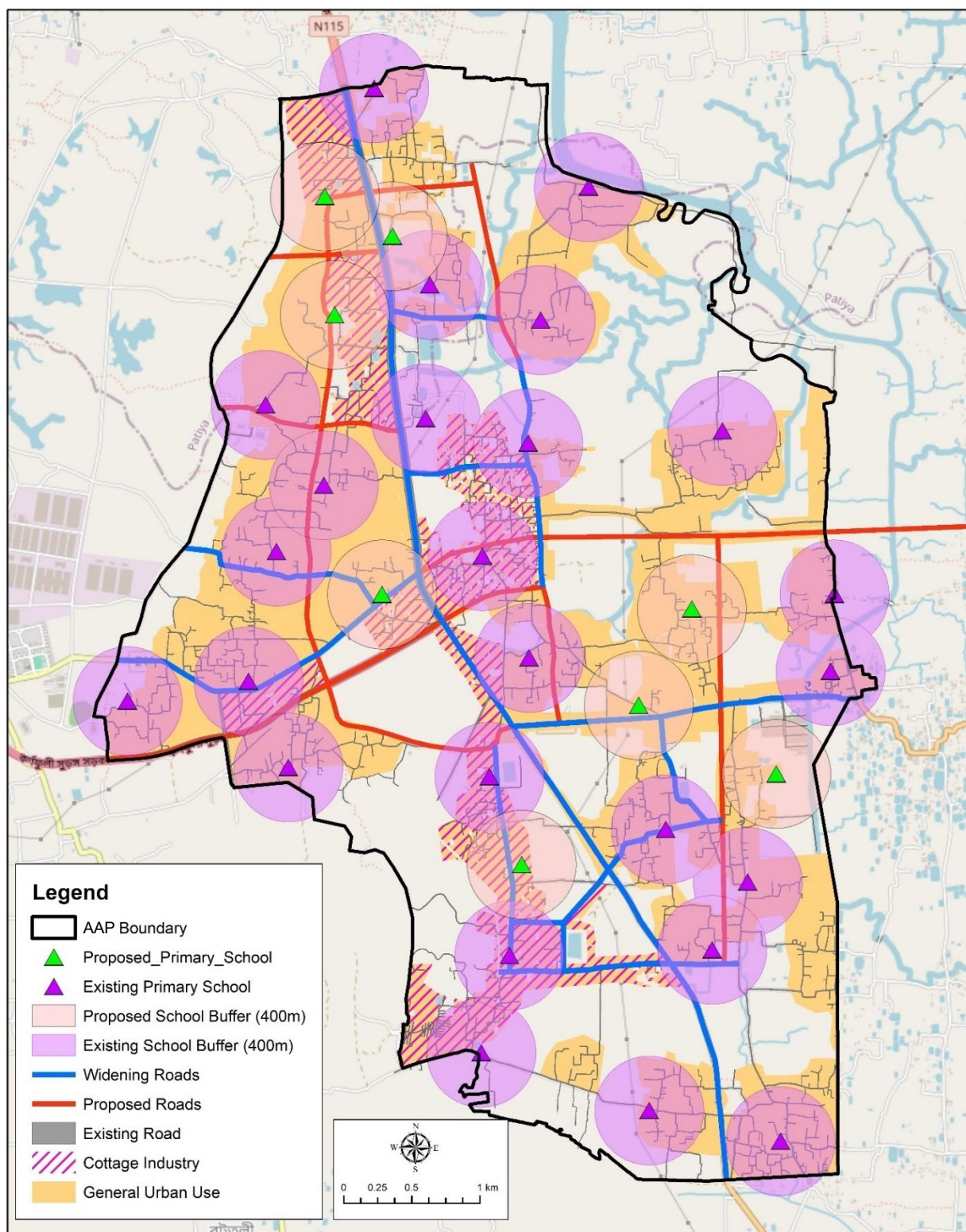


Figure 3-4: Distribution of Primary Schools in The Study Area

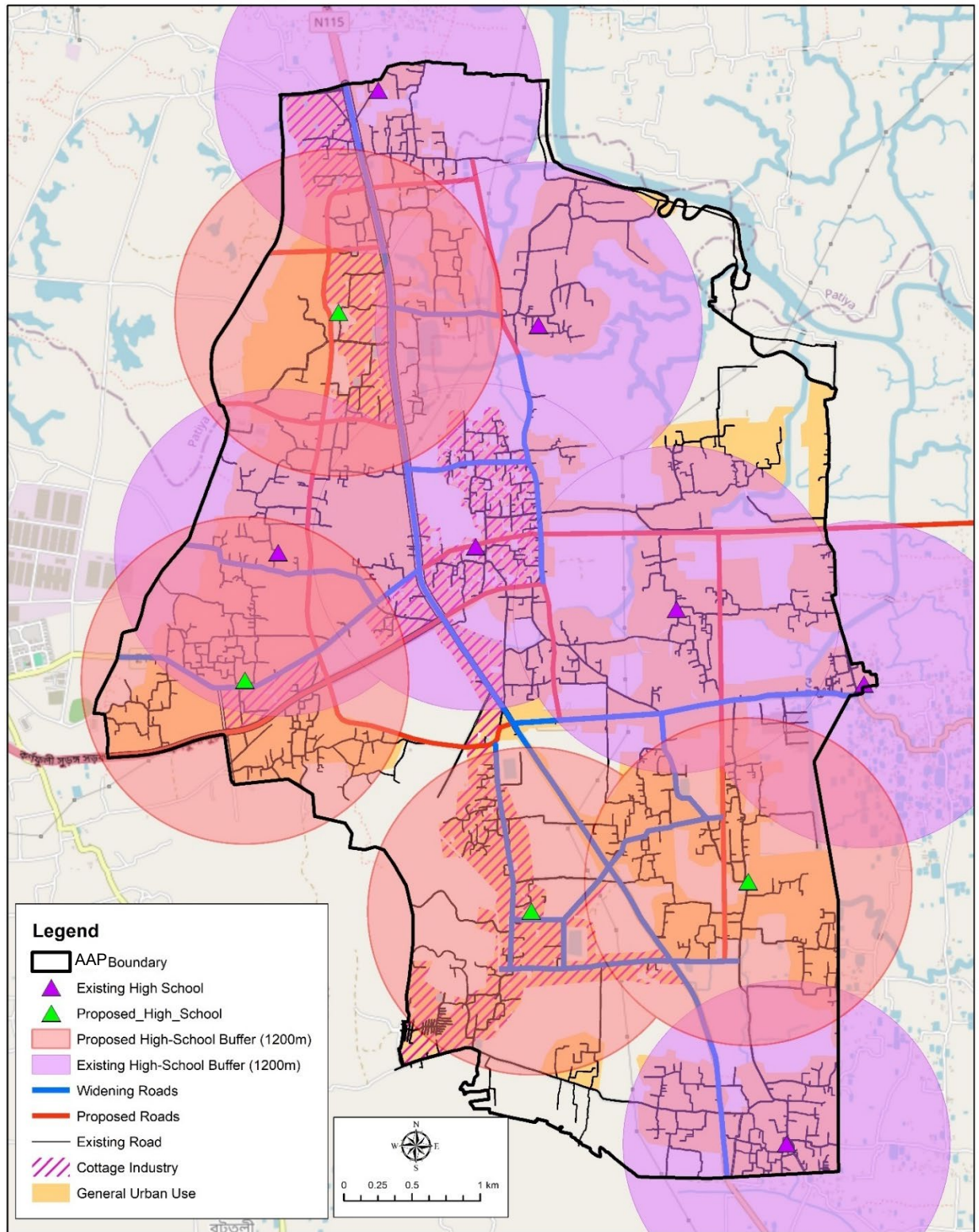


Figure 3-5: Distribution of High Schools in The Study Area

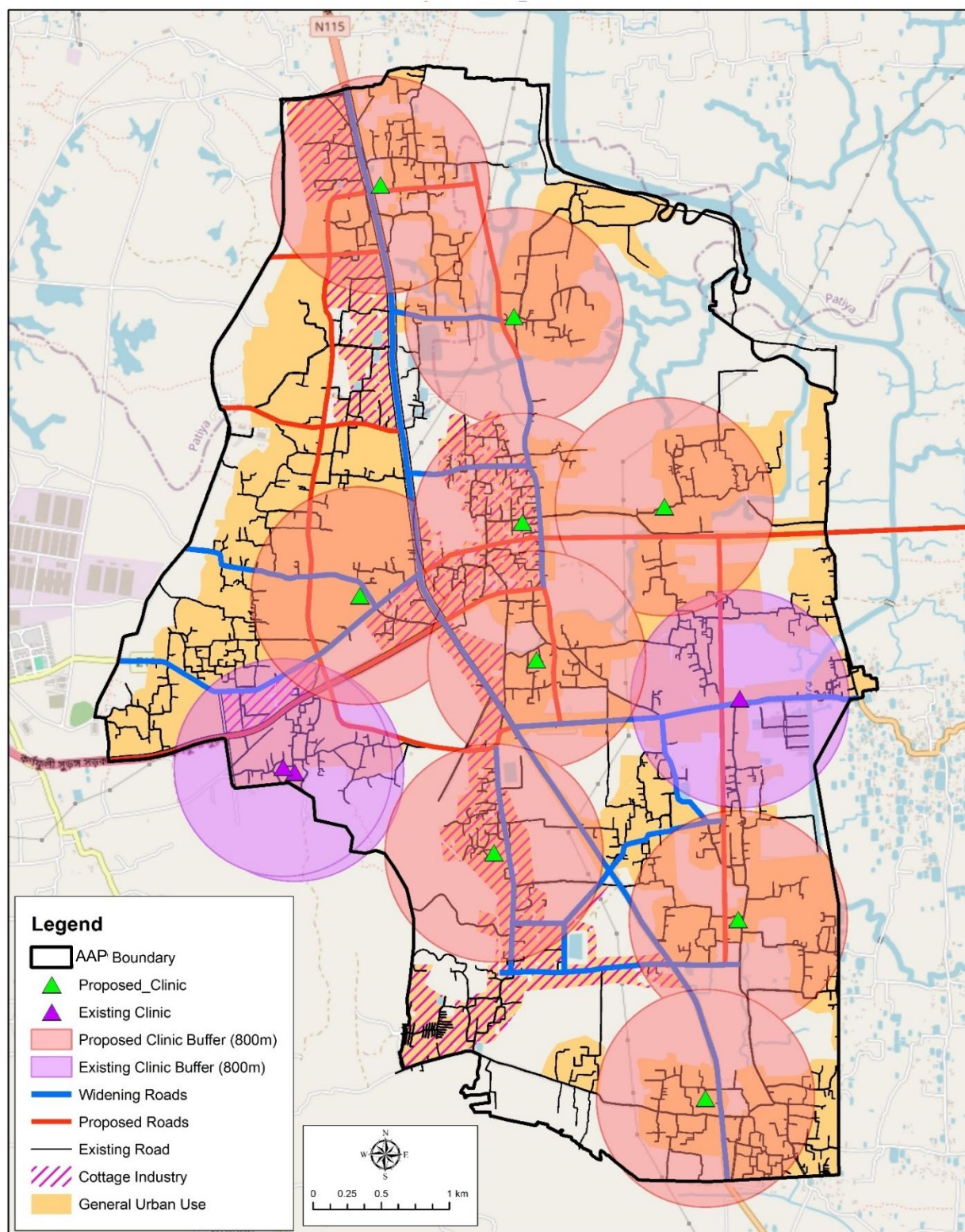


Figure 3-6: Distribution of Clinics in The Study Area

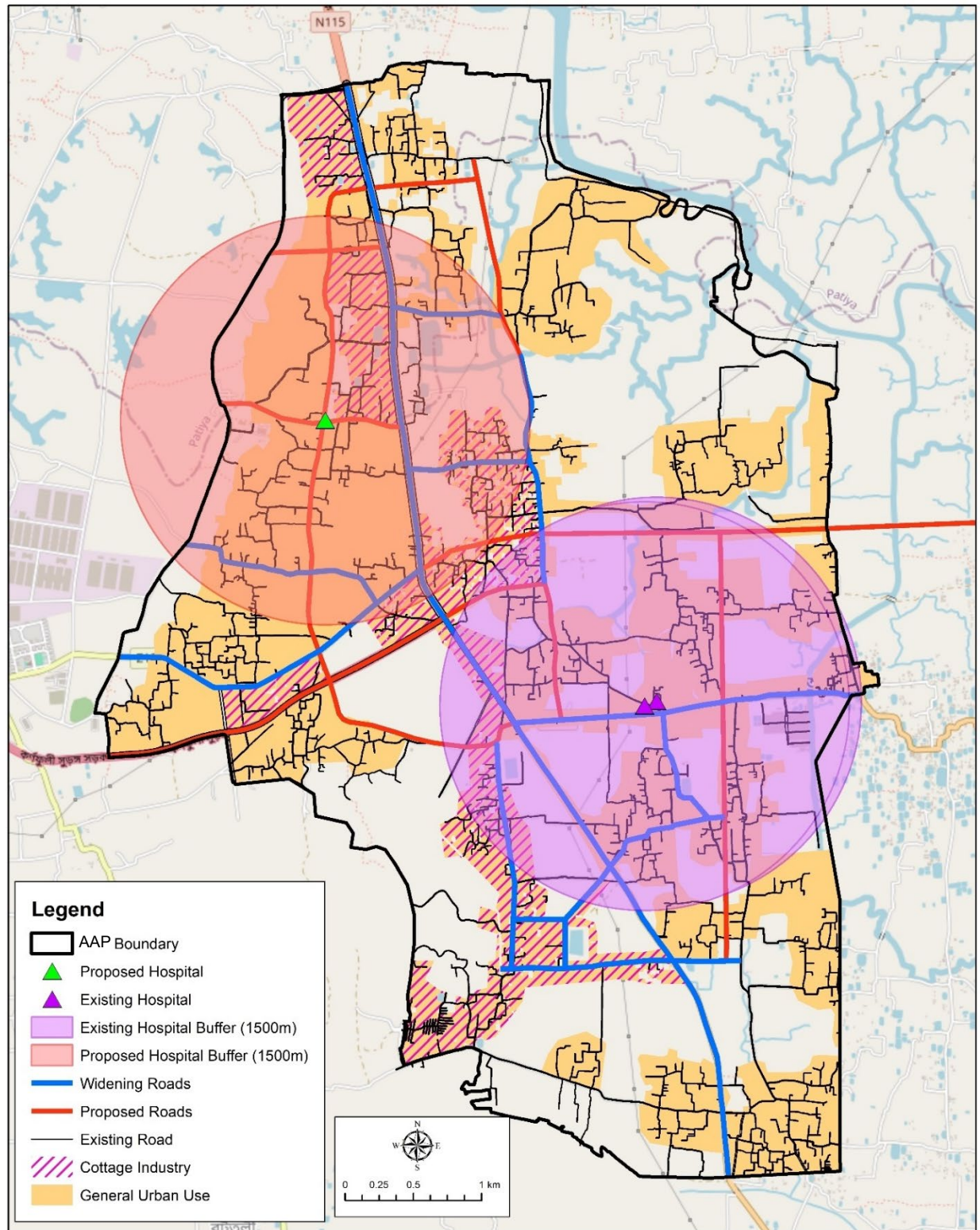


Figure 3-7 Distribution of Hospitals in The Study Area

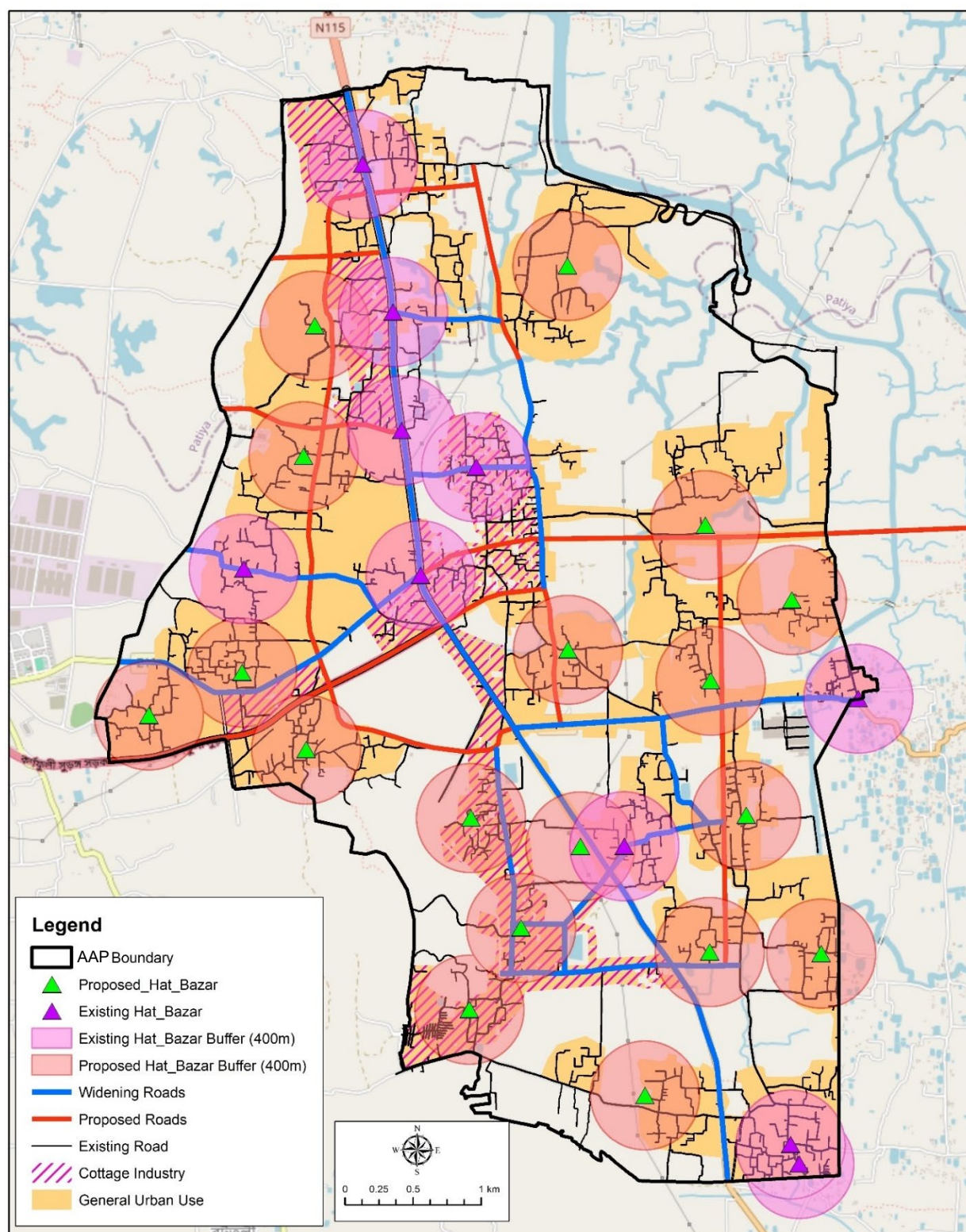


Figure 3-8: Distribution of Hat-Bazar/Kitchen Market in The Study Area

3.5 PROPOSED DENSITY

To prevent overcrowding, manage the region's transition from a rural to an urban-industrial zone, and ensure a high-quality urban environment, the Action Area Plan (AAP) introduces specific, targeted regulations for density control and building height. Table 3-10 proposed required density to accommodate the future projected population inside the study area.

Table 3-10: Density Control for the Study Area

Administrative Upazila	Administrative Union	Land Area (acre)	General Urban use (acre)		Proposed Density (Per acre)	
			Present	Proposed	Gross	Net
Anwara	Anwara	706	196	286.4	114	282
Anwara	Bairag	1003	310	627.0	228	365
Karnaphuli	Bara Uthan	1104	330	451.5	120	294
Anwara	Barakhain	1886.5	615	670.3	62	175
Anwara	Chatari	2616	540	847.0	63	194
Total		7315.5	1991	2882	99	251

3.6 TRANSPORTATION NETWORK

An efficient transportation network is the cornerstone of Anwara's future development, essential for supporting its role as a key industrial and logistics hub connected to the Chattogram Port and the broader national economy. The plan aims to establish a well-structured road hierarchy, enhance regional connectivity, and integrate multimodal transport options to manage both passenger and freight traffic effectively.

3.6.1 ROAD NETWORK DEVELOPMENT

The current transportation network in the Anwara area is underdeveloped and sparse, characterized by narrow roads inadequate for projected traffic volumes generated by industrial and population expansion. The core objective of the road plan is to establish a well-structured system, providing multiple alternative routes for movement. The proposed major road network is shown in Figure 3-9.

Table 3-11 provides a summary of the major road network. The plan proposes a total of 47.8 km new and improved roads. Among them 11.4 km primary, 21.2 km secondary and 15.2 km Local roads. The entire road network must strictly adhere the direction of the Transport Master Plan provided in Table 3-12.

Table 3-11: Road Network Development Summary (Road Length)

Construction Type	Road Type (Road length in meter)			Grand Total (in meter)
	Primary Distributor	Secondary Distributor	Local Distributor	
New		14,386	5,295	19,682
Widening	7,033	6,837	9,856	23,727
No Intervention	4,392			4,392
Grand Total (in meter)	11,426	21,224	15,151	47,800

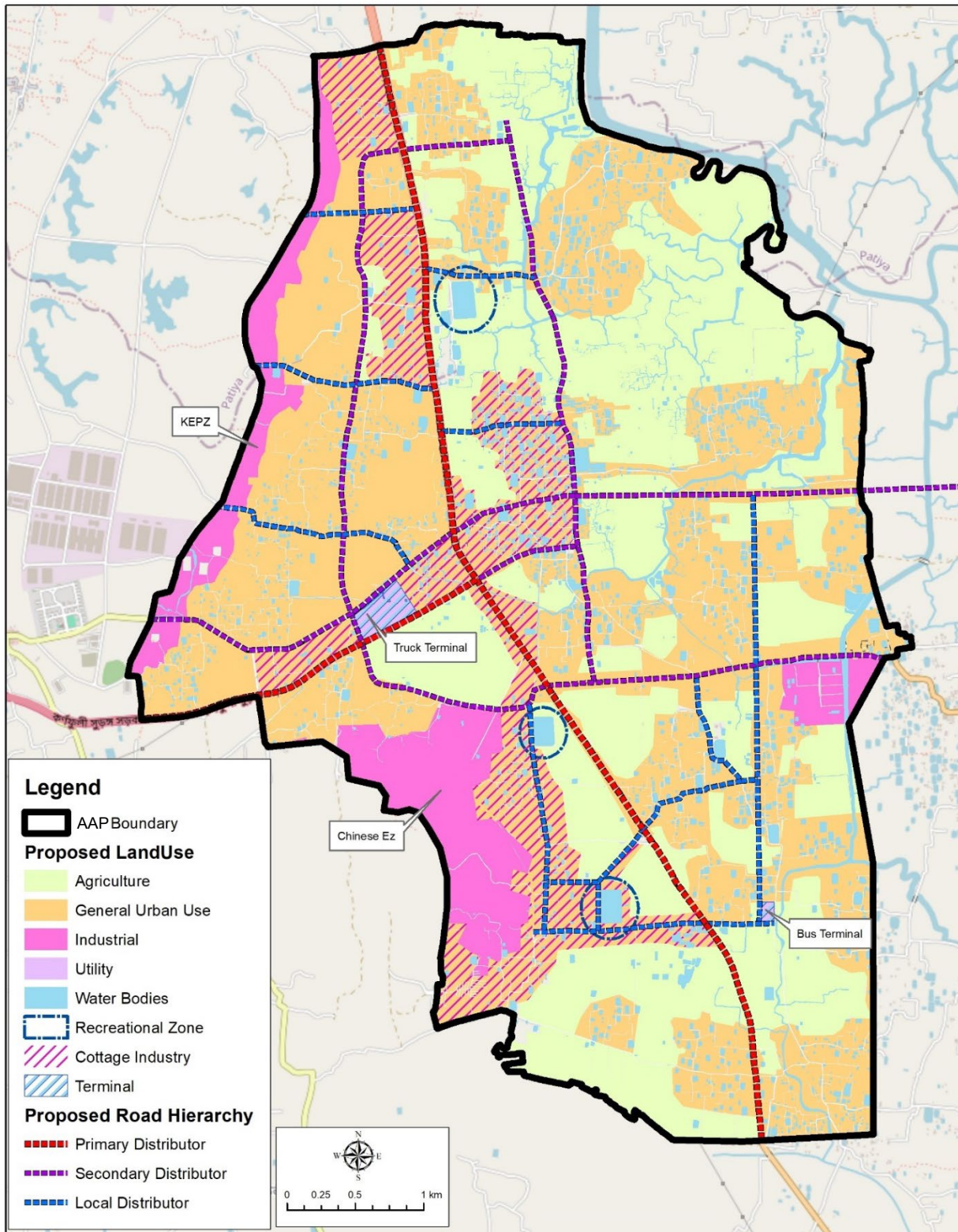


Figure 3-9: Proposed Major Road Network of The Study Area

Table 3-12: Road Network Development Guideline in Transport Master Plan

Component	Primary Distributor	Secondary Distributor	Local Distributor	Access Road
Function	Act as through-routes, avoiding entry into the internal road network of the city.	Link the city with Primary Distributors and connect various important activity nodes.	Collect and distribute traffic to/from residential areas.	Provide direct access to residential areas and properties therein.
ROW (ft)	80–120	60–80	40–60	At least 20
Design Speed (Km/h)	60, 80	50	40	30
Number of lanes	4–8	2–4	2–4	2
Access Constraint	Prohibited direct access to residential, commercial, or mixed-use blocks.	Prohibited direct access to residential, commercial, or mixed-use blocks.	Designed for residential access.	Designed for direct property access.

3.6.2 REGIONAL CONNECTIVITY: KARNAPHULI TUNNEL APPROACHES AND LINKS TO MATARBARI PORT

Anwara's strategic importance has been significantly elevated by the completion of the Bangabandhu Sheikh Mujib Tunnel under the Karnaphuli River, which provides direct connectivity to Chattogram's urban core. This has spurred industrial investment on the southern bank, particularly in the Anwara region where new Export Processing Zones (EPZs) are being established. To leverage this, the master plan ensures that tunnel approach roads are integrated into the primary road network, facilitating smooth traffic flow to and from the city.

Furthermore, with the development of Matarbari Port as Bangladesh's first deep-sea port, Anwara will serve as a crucial transit area for freight movement. The plan calls for upgrading the R170 route to function as a supplementary freight corridor, relieving pressure on the N107 highway and ensuring robust connectivity between Matarbari, Anwara, and Chattogram Port.

3.6.3 FREIGHT CORRIDORS AND TRUCK TERMINAL FACILITIES

The concentration of industrial zones like the Korean EPZ, CEIZ, CUFL, and KAFCO in the area generates substantial freight traffic. To manage this, the plan designates dedicated freight corridors to segregate heavy vehicle traffic from local passenger movement. Roads connecting the industrial areas to the port and national highways, particularly the widened road from Bridgeghat Moore, will form the backbone of this freight network.

A major issue for freight transport is the lack of organized parking and terminal facilities, leading to trucks parking along roadsides, causing congestion and safety hazards. To address this, the plan proposes the development of a truck terminal of around 24.5 acre with a capacity for 1,000 trucks. This facility will provide secure parking and necessary amenities for drivers, reducing road congestion and improving logistics efficiency.

3.6.4 PUBLIC TRANSPORT INTEGRATION AND FUTURE RAIL CONNECTIVITY

While the current focus is on road infrastructure, the long-term vision includes integrating Anwara into a regional public transport network. The plan proposes establishing a new bus terminal in Anwara as part of a broader strategy to decentralize transport operations and improve connectivity between Upazilas and the city core. This terminal will serve as an interchange point for local and regional bus routes. An area of 3.2 acre is designated for bus terminal in the action plan.

Although rail (Monorail/MRT) service is not immediately planned for Anwara, the master plan's emphasis on reserving corridors and planning for future expansion leaves open the possibility of extending commuter rail services to the southern bank of the Karnaphuli as the region develops into a major economic and residential hub.

4. PLAN IMPLEMENTATION

The Anwara Action Area Plan is designed to transform the region into a dynamic economic hub while ensuring sustainable and resilient urban development. Central to this vision is an integrated infrastructure and services plan that addresses the area's current deficiencies and prepares for future growth driven by industrial expansion and population increase. This chapter outlines the implementation strategy for transportation, utility services, and social infrastructure, aligning with the broader goals of the Chattogram Metropolitan Master Plan (CMMP) for the period 2025-2050.

4.1 PRIORITY PHASING

The plan prioritizes certain areas which is derived from the projected industrial growth of the area. Therefore, the plan proposes the following three phases of development. The proposed priority areas are shown in Figure 4-1.

1st Phase: Year 2025 to year 2035

2nd Phase: Year 2035 to year 2045

3rd Phase: Year 2045 to year 2050

4.2 STRATEGIES FOR URBAN GROWTH

Major strategies are as follows:

- CDA should establish its zonal office as soon as possible to ensure that all development in this area follow the land use plan and infrastructure and buildings are built in accordance to rules and standard.
- It is anticipated that the area between KEPZ and the Regional Highway (R170) needs to be developed first as the KEPZ factories are starting to be developed near that area.
- CDA should explore land readjustment techniques and guided land development initiatives.
- CDA/National Housing Authority can also consider to provide government housing (site and service) in this area
- As density control is a key for a liveable township, building setback and FAR should be carefully maintained
- Cottage industries are permitted in some designated areas. Care should be taken when judging this landuse. Monitoring is also needed to comply this landuse regulation.

4.3 STRATEGIES FOR INFRASTRUCTURE DEVELOPMENT

Major strategies are as follows:

- Preparations for the alignment of the major roads should be made immediately.
- The road design guidelines mentioned in the Transport Master Plan should be followed. Spaces should be designated for bus bays and parking as mentioned in the guidelines.
- To guide the developments, major road network of that area should be developed first. The priority of the road construction is suggested in Figure 4-2.
- Since land acquisition has become very expensive and time-consuming, government organizations should procure land within the area immediately to provide the necessary facilities.

- As a significant amount of the population will be working class. Hence, it is very important to establish different urban amenities including schools and madrasa (primary and high), hospitals/ clinics by the government.
- The summary of needed basic infrastructures and their probable implementation agencies are provided in Table 4-1.

Table 4-1: Road Network Development Guideline in Transport Master Plan

Component	Phase 1	Phase 2	Phase 3	Implementing Agency
Transport Infrastructures				
Primary Distributor	3.031 km		4.002 km	RHD
Secondary Distributor	9.004 km	5.297 km	6.922 km	CDA
Local Distributor	4.221 km	6.546 km	4.383 km	CDA
Access Roads				CC, LGED
Bus bay and stop	With associated Road Development			RHD and CDA
Parking	With associated Road Development			RHD, CDA and CC
Truck Terminal	1 location			CDA
Bus Terminal	1 location			CDA/LGED
Drainage				
Khal Rehabilitation				CDA
Water Retention				CDA
Local Drain				CDA and CC
Facilities and Amenities				
Primary School	4 locations	3 locations		Ministry of Primary and Mass Education
High School	3 locations	1 location		Ministry of Education
Clinic	4 locations	3 locations	2 locations	Ministry of Health and CC
Hospital	1 location			Ministry of Health and Family Welfare
Kitchen Market	9 locations	7 locations	2 locations	CDA and CC
Playground	10 acre	5 acre	5 acre	CDA and CC
Park/lake	2 locations (20 acre)	1 location (10 acre)	8-10 locations (10 acre)	CDA and CC
Utility				
Solid Waste				CC
Electricity				PDB
Water Supply and Sanitation				Chattogram WASA
Fire Service	1 Location			Ministry of Home Affairs
Police Station	1 Location			

*CC=City Corporation/Paurashava

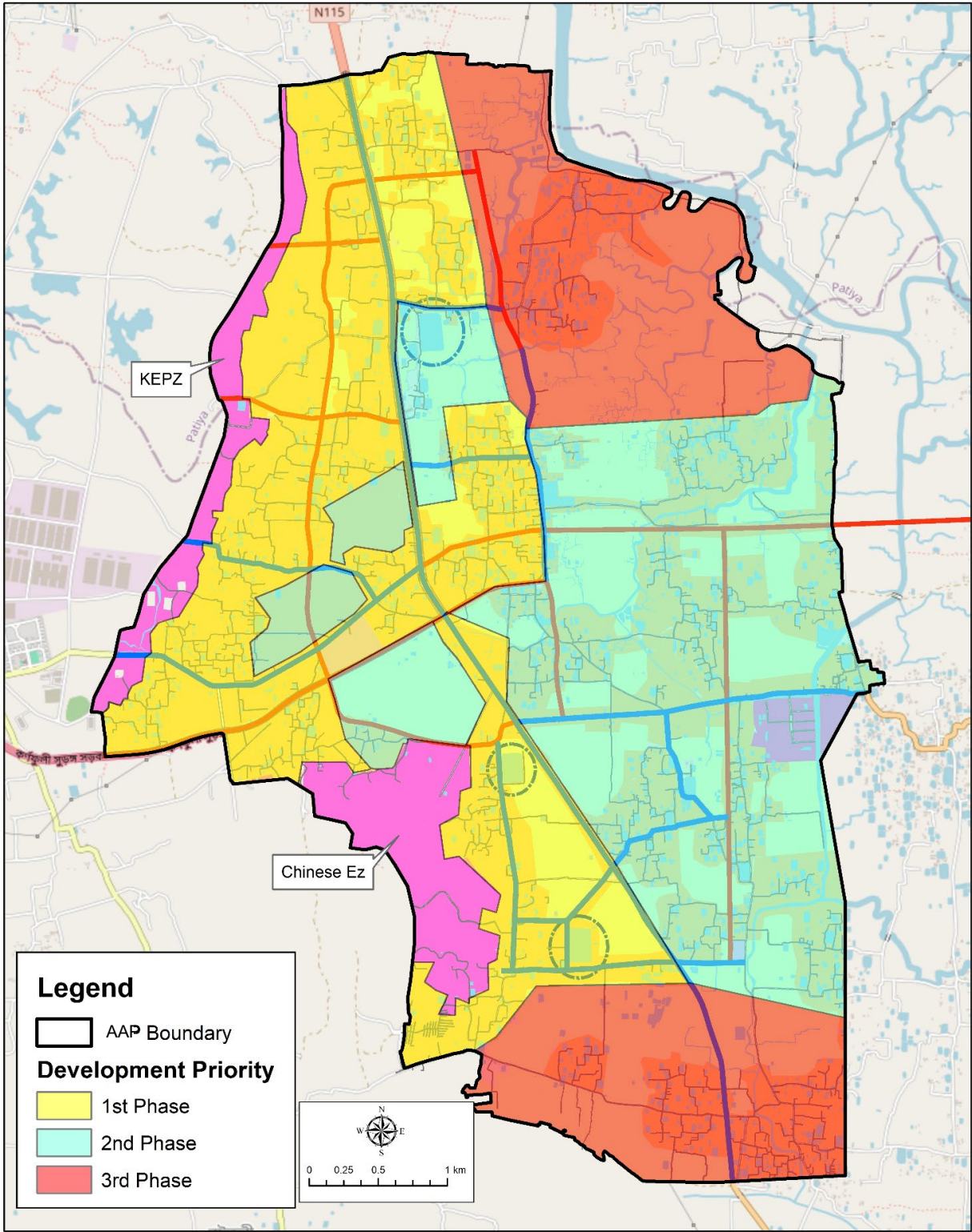


Figure 4-1: Priority Phasing for Implementation of The Study Area

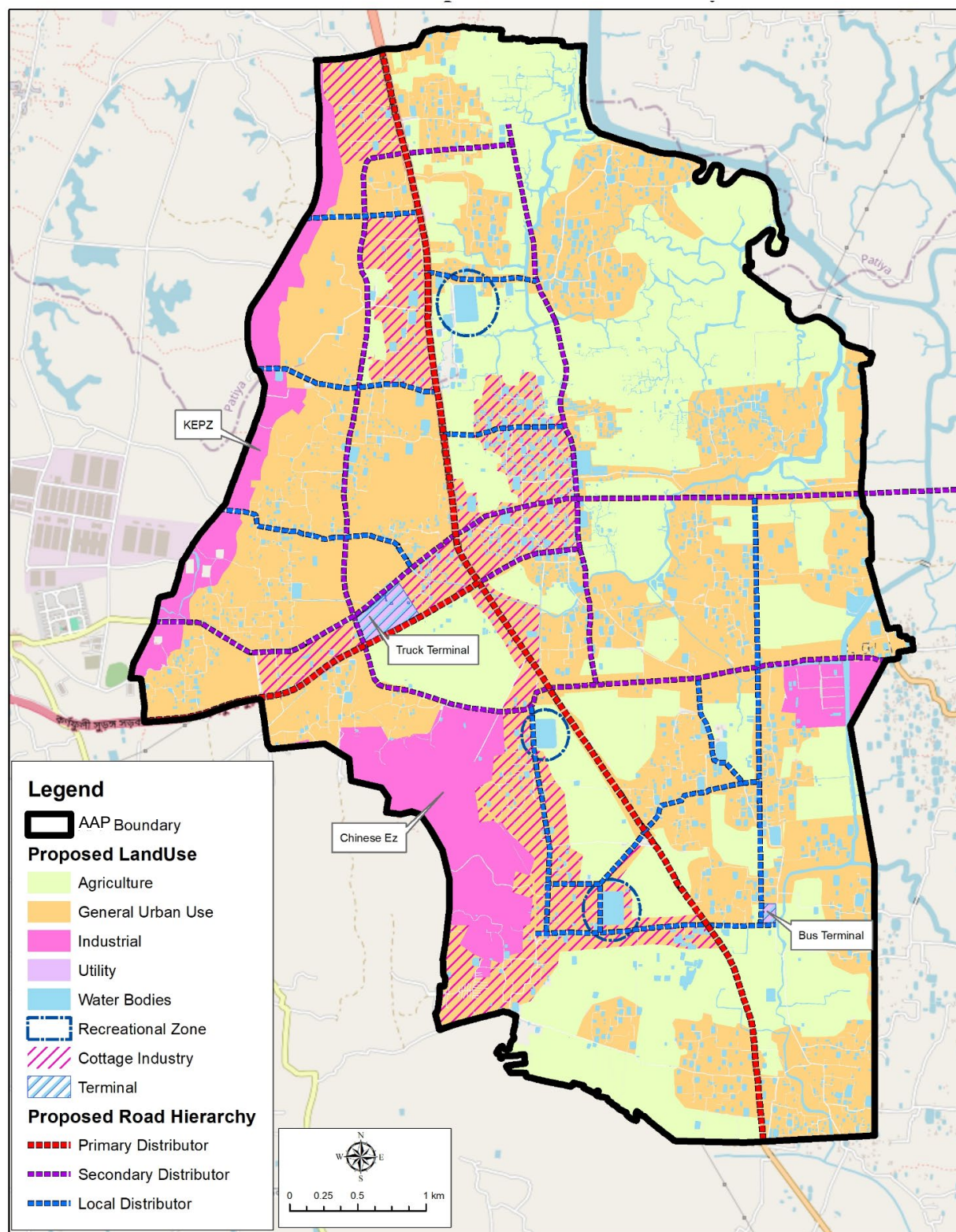


Figure 4-2: Priority Phasing for Road Development of The Study Area

4.4 INSTITUTIONAL ARRANGEMENT AND COORDINATION

The successful implementation of this plan hinges on a collaborative and well-defined institutional framework that overcomes historical fragmentation and weak coordination among urban development agencies. A multi-tiered structure led by the Chattogram Development Authority (CDA) is proposed to ensure accountability, streamline decision-making, and foster synergy between government bodies, private entities, and the community.

4.4.1 ROLE OF CDA, PAURASHAVAS, AND ZONAL OFFICES IN IMPLEMENTATION

- **Chattogram Development Authority (CDA):** As the lead planning agency under the Town Improvement Act of 1953, CDA holds the primary responsibility for managing urban development within its command area in accordance with CMMP policy framework, plans, and guidelines. Its key roles include enforcing land use zoning, managing development control, preparing and implementing specific development schemes, and coordinating with all other stakeholders. To overcome past limitations, CDA must transition from merely undertaking isolated projects to becoming an effective facilitator and regulator of urban development.
- **Paurashavas (Municipalities):** Local government bodies, such as the Anwara Paurashava (needed to be established), will play a crucial role in on-the-ground implementation and service delivery. They will be responsible for local infrastructure maintenance (local roads, drains), solid waste management, and enforcing building regulations in coordination with CDA. A collaborative model is essential, where CDA focuses on metropolitan-scale planning while Paurashavas handle municipal services and local governance. To fulfil this role, Paurashavas must enhance their technical capacity by employing qualified planners and engineers.
- **Zonal Offices (ZOs):** To decentralize operations and improve service delivery, a dedicated CDA Zonal Office for Anwara (Zone 2) is proposed. This office will bring planning and development control closer to the community, facilitating faster permit approvals, better monitoring of local projects, and more effective enforcement of regulations. The ZO will serve as a hub for community engagement and a direct point of contact for residents, developers, and local businesses, ensuring a transparent, responsive implementation process that meets local needs.

4.4.2 ESTABLISHMENT OF AN URBAN DEVELOPMENT COORDINATION COMMITTEE (UDCC)

A major reason for the non-implementation of past plans was the failure to coordinate among public sector agencies. To address this, an Urban Development Coordination Committee (UDCC) will be established at the zonal level for Anwara. This committee will serve as a formal platform for inter-agency collaboration, ensuring that projects are aligned and executed without conflict or duplication.

- **Composition:** The UDCC will be led by the Deputy Commissioner (DC) and will include representatives from key agencies such as CDA, the local Paurashava, LGED, RHD, DoE, CWASA, PDB, KGDCL, and the Chattogram Metropolitan Police (CMP). Representation from professional bodies like the Bangladesh Institute of Planners (BIP) and the Institute

of Architects Bangladesh (IAB), as well as community leaders, will ensure inclusive decision-making.

- Functions: The UDCC will meet quarterly to review ongoing and upcoming development projects, resolve inter-agency conflicts, and ensure consistency with the master plan. It will focus on mega-projects (e.g., investment over BDT 500 crore or land area over 1 acre) to guide sustainable development without replacing existing regulatory mechanisms.

4.4.3 MASTER PLAN IMPLEMENTATION UNIT (MPIU) WITHIN CDA

A dedicated Master Plan Implementation Unit (MPIU) will be established within CDA to serve as the central coordinating body for the entire CMMP, including the Anwara Action Area Plan. This specialized unit will be staffed with professionals in urban planning, engineering, finance, and GIS. The key functions of the MPIU is as follows:

- Manage implementation schedules and budgeting.
- Coordinate with development partners, ministries, and local bodies.
- Maintain a project tracking system with GIS and MIS integration.
- Facilitate legal and technical support for plan enforcement.

4.5 FINANCIAL PLAN AND INVESTMENT STRATEGY

The ambitious vision for Anwara requires a pragmatic, diversified financial strategy that leverages public funds while actively encouraging private-sector investment. Historically, financial constraints and a lack of innovative funding mechanisms have been significant impediments to implementing master plans. This section outlines a multi-pronged approach to secure the necessary resources.

4.5.1 PUBLIC SECTOR FUNDING AND ANNUAL DEVELOPMENT PROGRAMMES (ADP)

Public sector investment will be crucial for foundational infrastructure projects that have broader societal benefits but may not offer immediate commercial returns.

- Annual Development Programmes (ADP): Key infrastructure projects, such as the construction of primary roads, flood control embankments, major drainage channels, and public utilities, will be financed through the national ADP. CDA, in coordination with the UDCC, will prepare and submit prioritized project proposals to the Planning Commission for inclusion in the ADP.
- Coordination for Budget Allocation: The MPIU will play a vital role in coordinating with various ministries (e.g., Ministry of Housing and Public Works, LGRD, Ministry of Water Resources) to ensure that their development budgets are aligned with the priorities of the Anwara Action Area Plan. This will prevent fragmented spending and ensure that infrastructure develops in an integrated manner.

4.5.2 MECHANISMS FOR PRIVATE SECTOR INVESTMENT AND PPP

The private sector is expected to be a major driver of development, particularly in housing, commercial, and industrial sectors. To optimize private investment, the following mechanisms are proposed:

- Public-Private Partnerships (PPP): PPP models can be utilized for large-scale projects like the development of industrial zones, affordable housing for workers, recreational facilities

(e.g., the Parkir Char tourism area), and specialized infrastructure like waste treatment plants. CDA can form subsidiary development companies, potentially as joint ventures with private firms, to undertake specific schemes, ensuring both public oversight and private sector efficiency.

- Incentives for Developers: To encourage private developers to align their projects with the master plan's goals (e.g., providing public open spaces, affordable housing units), CDA will offer incentives. These can include Transfer of Development Rights (TDR), density bonuses (additional FAR), and fast-tracked approval processes. This will make investment in planned, sustainable projects more attractive than unregulated development.

4.5.3 INNOVATIVE FINANCING: BETTERMENT FEES AND LAND VALUE CAPTURE

To create a self-sustaining financial model for urban development, innovative financing mechanisms that capture the value created by public investment will be introduced.

- Betterment Fees: A betterment fee will be levied on properties whose value increases significantly due to public infrastructure projects, such as the construction of new roads or the development of the Bay Terminal. This fee, collected during land use conversion or building plan approval, will help recoup public investment and fund further infrastructure maintenance and development.
- Land Readjustment (LR): For upgrading existing unplanned settlements or developing new areas, Land Readjustment techniques will be employed. In this model, landowners pool their fragmented land parcels, a portion of which is used to develop public infrastructure (roads, parks) and commercial plots. The remaining land is returned to the original owners as smaller, fully serviced, and more valuable plots. The sale of commercial plots helps finance the entire development, making it a self-sustaining process that benefits both landowners and the public.

4.6 MONITORING, EVALUATION, AND REVIEW MECHANISM

A continuous monitoring and evaluation (M&E) process is essential to track progress, ensure accountability, and allow for adaptive management of the Action Area Plan. This framework will ensure that the plan remains relevant and effective over its 25-year horizon.

A comprehensive and strategic framework for transforming the Anwara region - the performance indicators should focus on measuring outcomes, long-term impact, resilience, compliance enforcement, and institutional efficiency.

Given the goals of the Anwara Action Area Plan appropriate performance indicators should measure the transition from a predominantly rural, unplanned area into a resilient, planned urban Paurashava supporting the "One City, Two Towns" concept.

4.6.1 LAND USE AND COMPLIANCE INDICATORS (MEASURING ORDERLY GROWTH)

The Anwara AAP establishes a strategic spatial and regulatory framework to channel future growth in a controlled manner. KPIs should reflect effective land management and successful execution of zoning:

- **Zoning Compliance Rate:** Measure the percentage of new developments complying with zoning regulations and density controls. This moves beyond mere project tracking to confirm the regulatory framework established by the plan.
- **Industrial Land Utilization Rate:** Measure the area (in acres) of designated industrial land brought into productive use. This tracks the effectiveness of attracting investment and utilizing the allocated 10,195.4 acres for industrial zones.
- **Agricultural Preservation Success:** Measure the percentage change in the area of preserved agrarian land (7,081.72 acres designated) compared to baseline, ensuring fertile lands are protected from unplanned encroachment.

4.6.2 INFRASTRUCTURE AND RESILIENCE INDICATORS (MEASURING FLOOD MITIGATION AND SUSTAINABILITY)

The plan prioritizes building resilience against climate change and addressing critical infrastructure deficiencies. KPIs should measure the actual reduction in vulnerability:

- **Flood Vulnerability Reduction:** Measure the reduction in the frequency and extent of waterlogging in critical areas, especially near industrial hubs and major roads. This outcome-based indicator reflects the success of the Flood Control Master Plan (which includes khals rehabilitation and embankment construction).
- **Environmental Quality Compliance:** Measure the percentage of industrial units compliant with Effluent Treatment Plant (ETP) standards. This indicator is crucial for pollution control and protecting the Karnaphuli River.
- **Service Access Coverage:** Measure the percentage of residential areas (planned and mixed-use) served by piped water supply and formal solid waste collection systems.

4.6.3 SOCIAL AND ECONOMIC IMPACT INDICATORS (MEASURING INCLUSIVENESS AND EQUITY)

The plan aims to support a growing workforce by providing planned housing and decentralizing urban functions. KPIs should reflect improved quality of life:

- **Affordable Housing Provision:** Measure the number of new affordable housing units constructed for industrial workers. This KPI directly addresses the critical shortage identified in the baseline analysis.
- **Decentralization Success:** Measure the growth rate of commercial establishment licenses issued in designated growth Paurashavas (Anwara, Rangadia, and Sikalbaha) versus the Chattogram core city, indicating progress toward polycentric development.
- **Community Facility Access:** Measure the ratio of essential community facilities (e.g., schools, healthcare Paurashavas) provided per projected population density in new planned residential areas.

4.6.4 INSTITUTIONAL AND GOVERNANCE INDICATORS (MEASURING EFFICIENCY AND TRANSPARENCY)

To overcome historical implementation challenges due to weak coordination and capacity, institutional KPIs are essential:

- **Regulatory Efficiency:** Measure the average time required for development permit approval through the Zonal Office. This addresses the goal of decentralizing services and streamlining approvals.
- **Coordination Effectiveness:** Measure the number of inter-agency conflicts resolved by the Urban Development Coordination Committee (UDCC).
- **Innovative Financing Adoption:** Measure the percentage of planned infrastructure projects mobilized through Public-Private Partnerships (PPP) or innovative financing mechanisms like betterment fees/land value capture.
- **Plan Adaptivity:** Track the completion and public reporting of the mandatory 5-yearly review of the Action Plan, ensuring it remains adaptive to emerging challenges.

By focusing on these outcome-oriented and institutional indicators, the MPIU can demonstrate the comprehensive success of the plan in transforming Anwara into the resilient and prosperous urban Paurashava envisioned by 2050, moving beyond the "bookish" comparison of raw project outputs.

4.6.5 FRAMEWORK FOR 5-YEARLY REVIEW AND UPDATE OF THE ACTION PLAN

The Structure Plan is a long-term strategic document. But the urban area it is for is characterized by dynamic land use and population change. Therefore, a mandatory 5-yearly review of the Anwara Action Area Plan will be conducted to ensure it remains responsive to emerging challenges and opportunities.

- **Process:** The review will be led by the MPIU and will involve extensive stakeholder consultations, including the UDCC, Paurashavas, private sector representatives, and the community. The process will assess the progress against KPIs, re-evaluate demographic and economic projections, and identify any new priorities or challenges that have emerged.
- **Updating the Plan:** Based on the review, the Action Plan will be updated. This may involve adjusting project priorities, revising land use zones, or incorporating new strategies to address unforeseen issues like accelerated climate impacts or new economic opportunities. This adaptive management approach ensures that the plan remains a living document that effectively guides Anwara's sustainable development toward 2050.