



ICCAUA Proceedings Journal

Proceedings of the international conference of contemporary affairs in architecture and urbanism-ICCAUA
Volume 9 (December 2026), 2610234

ICCAUA
Proceedings Journal
<https://journal.iccaua.com/>

Journal homepage: <https://journal.iccaua.com/>

DOI: <https://doi.org/10.38027/ICCAUA2026EN0234>

Life within Reach: Visionary Ten-Minute Neighborhoods along Padma, Mahananda, and Chandrima Site: Padma, Mahananda, Chandrima & Surrounding Residential Areas of Rajshahi

¹ Z H M Monjur Murshed, ² Sheikh Hameem, ³ Samanta Rahman Aorin, ⁴ Istiyak Ahmed Mahi, ⁵ Fardeen Reza Khan, ⁶ Abdullah Shahriar, ⁷ Rifah Tamanna Haque, ⁸ Subrin Shirmin Ritu

¹ Assistant Professor, Department of Architecture, Rajshahi University of Engineering & Technology, Rajshahi 6204, Bangladesh,

² Lecturer, Department of Architecture, Rajshahi University of Engineering & Technology, Rajshahi 6204, Bangladesh,

^{3,4,5,6,7,8} B.Arch. Student, Department of Architecture, Rajshahi University of Engineering & Technology, Rajshahi 6204, Bangladesh

¹ E-mail: zhm@arch.ruet.ac.bd, ² E-mail: sheikhameem@arch.ruet.ac.bd, ³ E-mail: aorinsamanta1.0@gmail.com,

⁴ E-mail: istiyakahmedmahhi69@gmail.com, ⁵ E-mail: fardeenrezakhan1@gmail.com, ⁶ E-mail: amshahariar96@gmail.com,

⁷ E-mail: 2009023@student.ruet.ac.bd, ⁸ E-mail: subrinsharmin281@gmail.com

Abstract

Received: 29.04.2026

Revised: 30.06.2026

Accepted: 01.07.2026

Available online: 10.07.2026

Copyright © 2026 by the author(s).
All rights reserved.

This article is published under an open-access model and is made available in accordance with the terms of the Creative Commons Attribution 4.0 International Licence (CC BY).



The publisher maintains a neutral stance concerning jurisdictional claims in published maps and institutional affiliations.

This article has been selected and peer-reviewed for publication in this journal as part of the 9th International Conference of Contemporary Affairs in Architecture and Urbanism, held on 7–8 May 2026 in Istanbul, Türkiye.

Rajshahi is one of the fastest growing urban centres of Bangladesh facing mounting pressure on housing, mobility, public services and environmental sustainability. The project aims to convert the Padma, Chandrima and Mahananda residential areas into a sustainable 10-minute city, where all essential facilities like healthcare, education, commerce, recreation and green spaces are accessible within a ten-minute walk or bicycle ride. With a population of about 65,000, the site presently lacks sufficient urban infrastructure and integrated community facilities. The proposal identifies gaps in accessibility and mobility through urban analysis, population projection and service distribution studies. It has mixed-use zoning, pedestrian and cyclist friendly streets, electric mini-van transportation, and shared community spaces for social interaction and everyday convenience. The design integrates green-blue infrastructure and climate responsive planning approaches to improve ecological resilience and inclusivity, and to create a sustainable, community-focused, and future-ready urban neighborhood rooted in the local character of Rajshahi.

Keywords: 10 Minute City; Urban Analysis; Population Projection; Program Distribution; Mobility; Community; Interactions; Society; Neighborhood; Mixed Use Zoning; Green-blue Infrastructure; Residential Fabric; Sustainable; Vibrant; Local Identity.

1. Introduction

1.1 Urban Context and Background

Rapid urbanization in Bangladesh has significantly transformed the physical and social structure of cities due to population growth, rural-to-urban migration, and real-estate-driven development (Asaduzzaman & Hameem, 2021). Along with horizontal urban expansion, vertically developed residential areas have become increasingly common to accommodate growing housing demand (Nilufar, 1999). Although housing supply has increased, many newly developed neighborhoods still lack walkability, social interaction spaces, climate-responsive environments, and integrated community facilities (Álvarez & Müller-Eie, 2017).

The Padma, Chandrima, and Mahananda residential belt of Rajshahi reflects this condition. Despite being a strategically located and rapidly growing residential area, the neighborhood remains dependent on motorized transport and lacks inclusive public spaces, mixed-use facilities, and pedestrian-friendly environments that support everyday community interaction (Hameem et al., 2023). Streets primarily function as traffic corridors rather than social or ecological spaces (Nilufar, 1999).

Contemporary planning concepts such as the 10-Minute City, Healthy Cities, and Human-Centered Urban Design promote compact, accessible, and socially vibrant communities where daily needs can be fulfilled within walking or cycling distance (Logan et al., 2022; Shoina et al., 2024). Inspired by these ideas, this research proposes a context-responsive framework titled “Life Within Reach” to transform the study area into a walkable, climate-sensitive, and socially connected neighborhood (Aouf, 2019).

1.2 Urban Problems and Gap of Research that Exist

The research area has a high density of residential population, as well as well-organized urban infrastructure, however it has low level of mixed use development, traffic congestion, unsafe pedestrian movement, and low level of community interaction (Amen et al., 2023; Hameem et al., 2023). In Bangladesh, existing planning practices are mostly focused on plot distribution, road hierarchy and road movement, and are less focused on human-friendly approach for neighborhood development (Nilufar 1999).

While some studies have studied urban growth and housing patterns in Bangladesh, there has been little research on introducing the 10-Minute City concept within the framework of planned residential neighbourhoods in the city of Rajshahi. Thus, there is a significant research gap in the development of a localised, climate-smart and socially inclusive planning process that enhances accessibility, livability and community resilience (Álvarez & Müller-Eie, 2017; Aziz Amen & Ali, 2025; Logan et al., 2022).

1.3 Research Aim and Planning Vision

This research is mainly focused on the development of sustainable and people centric 10-Minute City framework for Padma–Chandrima–Mahananda and surrounding residential area. The study is concentrated on: Enhancing walking and cycling facilities, and Incorporating facilities for mixed means in communities, and enhancing social relationships in public places, and strengthening climate-smart city facility, and Decreasing reliance on vehicles, and creating an inclusive neighborhood structure for all user groups.

The research suggests that the presence of a decentralized community facility, a mobility network built for walking and a human-centred public space can have a significant contribution towards enhancing the livability, accessibility and social cohesion in rapidly expanding residential neighbourhoods (Álvarez & Müller-Eie, 2017; Shoina et al., 2024).

1.4 Importance and Scope of the Study

The research addresses the issues of sustainable urban planning and suggests a model that is scalable and context-sensitive to the neighborhood for Bangladesh. The study contributes to SDG 3 (Good Health and Well-being), SDG 11 (Sustainable Cities and Communities), and SDG 13 (Climate Action) by enhancing walkability, social inclusion, and environmental resilience (Logan et al., 2022).

The paper is structured around site analysis, problem identification, urban design interventions, node-based proposals and a discussion of the anticipated social and spatial effects. The findings will serve as a transferable planning process for future residential development in Bangladesh and other urban planning contexts in south Asia (Aouf, 2019; Elshater, 2016).

2. Materials and Methods

2.1 Conceptual Framework

This study integrates evidence, design, and feasible actions through a thorough, people-focused approach. The "10-minute city" is an urban planning concept that aims for all essential services such as shops, schools, healthcare, parks, and public transport to be accessible within a comfortable 10-minute walk or bike ride from people's homes (Logan et al., 2022; Shoina et al., 2024; Elshater, 2016). This approach promotes walkability, reduces dependence on cars, and encourages more sustainable, connected, and vibrant neighborhoods (Álvarez & Müller-Eie, 2017; Aouf & [other authors], 2019).

2.2 Site Selection

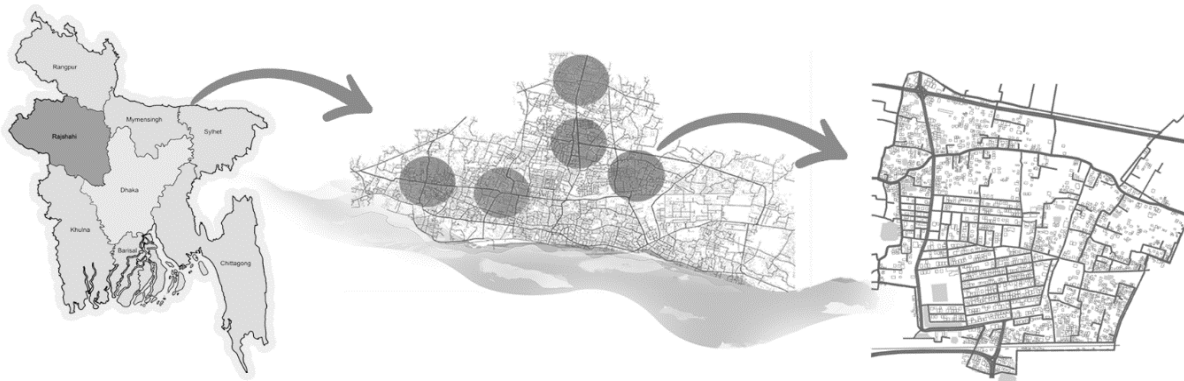


Figure 1. Site Selection.

The selected site for this research is the Hajar Mor–Podda Abashik neighborhood extending along the Baro Rasta–Chandrima corridor in Rajshahi. The site is a pre-planned Residential Precinct with Grid like parallel Roads and multi-story apartment buildings, offering Modern infrastructure and Amenities. It contrasts with older parts of Rajshahi due to its organized, high-density, vertical urban form and limited public spaces, oriented primarily for Functional Residential Living.

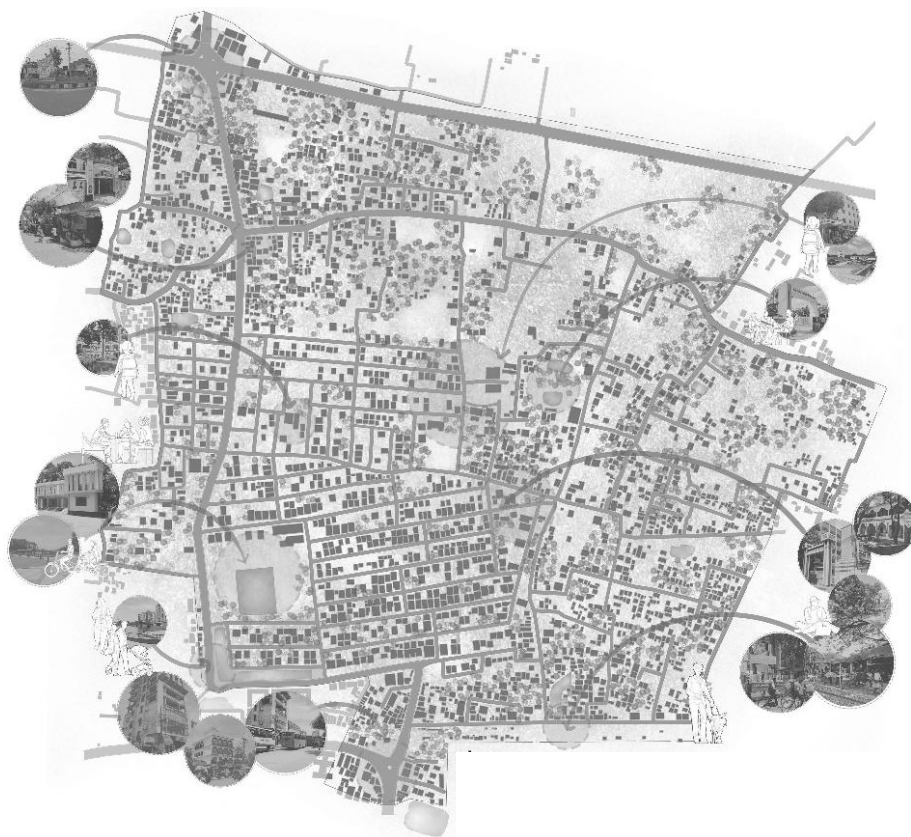


Figure 2. Existing Master plan.

2.3 Data Collection and Layer Preparation

The present study is implemented to make Padma Residential Area more accessible and serviceable based on the concept of 'Walkable neighborhood as a walkable 10-Minute City' approach. The methodology involves spatial analysis, identification of intervention points, population projections and allocation of amenities.

Land use, transportation network, public amenities and residential areas were initially mapped using an amalgamation of planning documents, satellite imagery and rapid field surveys (Asaduzzaman & Hameem, 2021). The study area's current accessibility conditions were explored through an analysis of existing urban characteristics such as the planned residential structure, hierarchy of roads and distribution of services.

By using the spatial analysis, strategic intervention points are identified throughout the study area. Site selection was based on potential to enhance access and connectivity within and between residential clusters and vital services. The urban morphology and residential development pattern in the study area was also used for identifying the intervention points (Asaduzzaman & Hameem, 2021).

A distance-based accessibility measurement around each intervention point was then carried out to measure the accessibility to key facilities within a 10-minute walk radius. This study allowed the development of identification of areas in need of services and the alternative planning of future service facilities. The objective of the approach was to minimize travel time and provide equal access to day services for all residents.

A population projection for the year 2050 was provided so as to determine the future needs of the Urban Area. Future requirements for the facilities such as educational, healthcare, recreational, commercial, and community facilities have been estimated based on the projected population. Using these estimates, the size, size and placement of planned facilities were calculated to provide sufficient facilities for future residents.

The last step was synthesizing the proposed amenities and intervention strategies into an overall spatial plan. The framework aims at consolidating the public space, improving access and facilitating human interaction through the levers identified in the previous study (Nilufar, 1999) dealing with the problem of public space fragmentation and lack of community spaces. The proposed outcome is to create a more connected, accessible and sustainable residential life that will be more consistent with current neighborhood planning principles.



Figure 3. Methodology.

2.4 Site Characteristics and Problems Identified

2.4.1 Vodra Node- Commercial Transportation Hub to Residential Zone

Vodra is shaped by strong institutional influence and a dense student population. The area is experiencing rapid land-use conversion from residential to mixed-use, leading to congestion and pedestrian safety issues. Footpaths are narrow, public realm is weak, and infrastructure (drainage, waste management) is under pressure due to population concentration. Overall, it suffers from unplanned commercial spillovers and mobility conflicts.

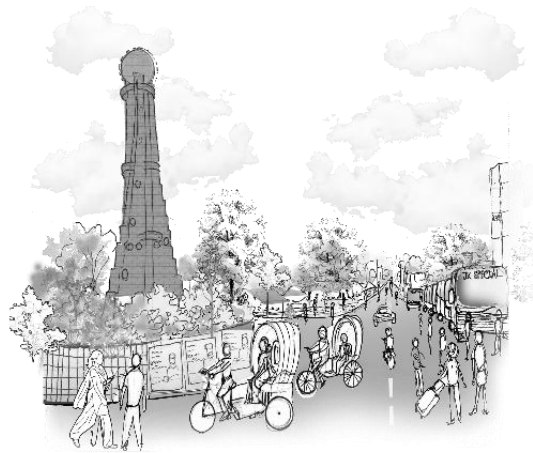


Figure 4. Vodra Node.

2.4.2 Padma Abashik Node – Low-Density Residential Livability Zone

Podda Abashik is primarily a planned residential area but now faces functional gaps. Lack of mixed-use options forces long travel for daily needs, and poor transit connectivity reduces accessibility. Seasonal waterlogging and limited community spaces weaken livability. The key problem is **rigid zoning and insufficient public facilities**, limiting the area's resilience and walkability.



Figure 5. Padma Abashik Node.

2.4.3 Hozor Mor Node – Commercial & Traffic Conflict Intersection

Hozor Mor is one of the busiest commercial intersections, with intense activity from shops, vendors, and transport modes. Congestion is severe due to the absence of traffic control systems and rampant roadside encroachment. Pedestrian movement is highly unsafe, and environmental quality is low because of noise and pollution. This node suffers from **traffic-commerce conflict**, requiring immediate design and management interventions.



Figure 6. Hozor Mor Node.

2.4.4 Baro Rasta Mor Node – Major Urban Connector & Mobility Hub

Baro Rasta Mor is a major junction connecting multiple districts and linking residential and commercial corridors. High vehicle flow, weak intersection control, poor nighttime lighting, and fragmented land use create an unsafe and inefficient environment. Narrow sidewalks and damaged drainage worsen mobility. The node experiences chaotic movement patterns and weak urban design structure.

2.5 Design Response and Strategy

To solve this, the plan incorporates bike pathways, shaded pedestrian corridors, and interactive nodes along daily activity paths, guaranteeing that interaction happens organically within regular mobility (Logan et al., 2022; Shoina et al., 2024). The design turns everyday transportation into a chance for identity building and community interaction by emphasizing human-centric planning and climate comfort (Álvarez & Müller-Eie, 2017; Aouf & [other authors], 2019).

3. Results



Figure 7. Proposed Master Plan

3.1 Presentation of Key Findings

3.1.1 Vodra Node- Commercial Transportation Hub to Residential Zone

The existing bus stand at Vodra More is proposed to be relocated to the Baro Rasta bypass road. By removing heavy traffic from the core, congestion at Vodra More can be significantly reduced.

3.1.2 Podda Abashik- Low Density Residential Livability Zone

To enhance everyday livability, a network of pocket spaces is proposed along the boundary roads, complemented by small “Cha Tongs”, tongs where people come drink tea and connect with each other, that support informal social interaction. Essential daily-life functions such as schools, diagnostic centers, pharmacies, kacha bazaars, and departmental stores etc are strategically positioned so that every resident can reach them within a 5–7-minute walking distance.

3.1.3 Hozor Mor Node - Commercial & Traffic Conflict Intersection

As the busiest node within the site, Hozor Mor requires a comprehensive spatial reorganization. The existing kacha bazar is reimagined as a structured built form that incorporates indoor, semi-outdoor, and open-air platforms to accommodate vendors and manage peak-hour crowding. Additionally, a sequence of pocket spaces with small green interventions is introduced.

3.1.4 Baro Rasta Mor Node - Major Urban Connector & Mobility Hub

To strengthen the role of Baro Rasta Mor as a key mobility hub, a public park with an amphitheater is proposed.

3.1.5 Other Interventions:

- Proposed street lighting throughout all residential streets.
- Proposed a commercial complex on Bypass Road.
- Designed a secondary transfer system for waste management.
- Schools, daycares, and primary education facilities have been designed according to local needs.
- A prototype residential block has been designed for the remaining land area, incorporating dedicated recreational spaces for residents.

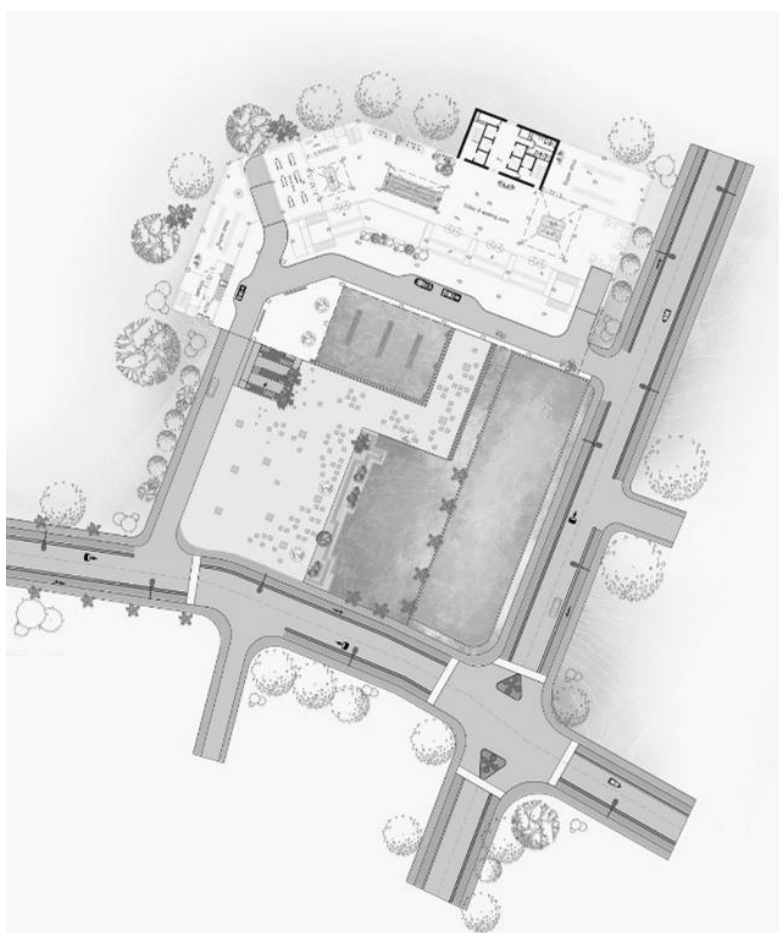


Figure 8. Commercial Complex Ground Floor Plan.

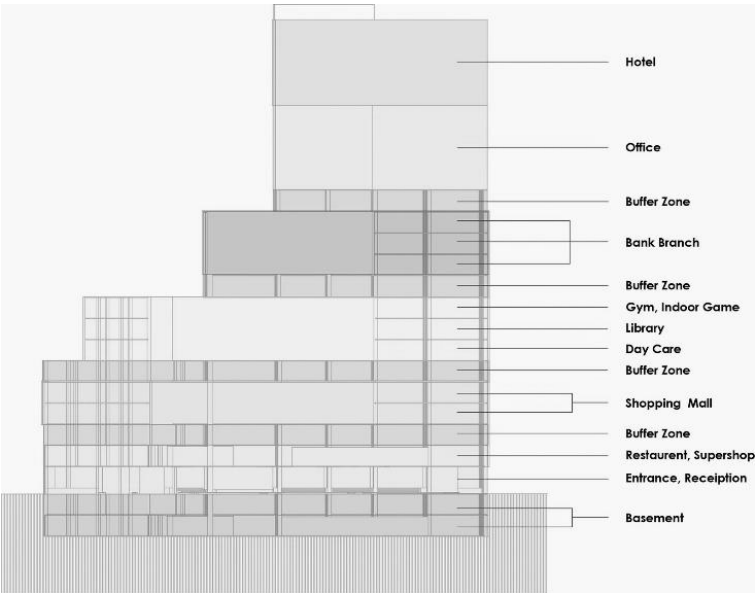


Figure 9. Commercial Complex Vertical Zoning.

3.3 Use of Tables and Figures

3.3.1 Program Analysis

To transform the site into a 10-Minute City, a significant range of programs was studied to ensure their accessibility throughout the site. The following chart shows the required functions based on existing number of those particular functions:

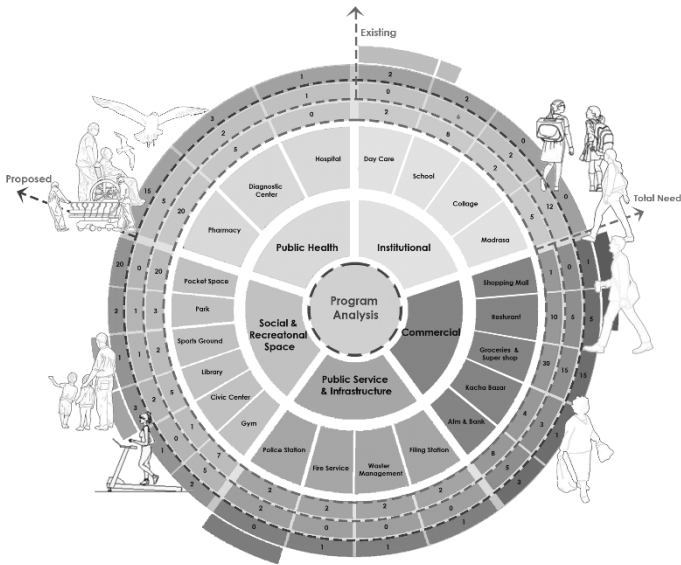


Figure 10. Program Analysis.

3.3.2 Design Strategy

The proposed design strategy focuses on creating a more connected, walkable, and socially active neighborhood environment. The following diagram illustrates the key planning and urban design interventions adopted to transform the site into a sustainable and people oriented 10-Minute City:

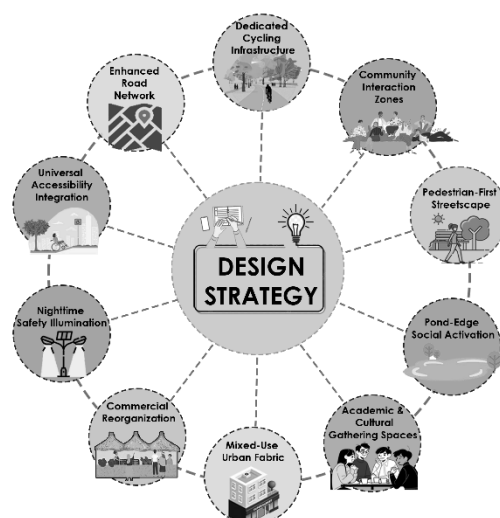


Figure 11. Design Strategy.

3.3 Statistical Analysis:

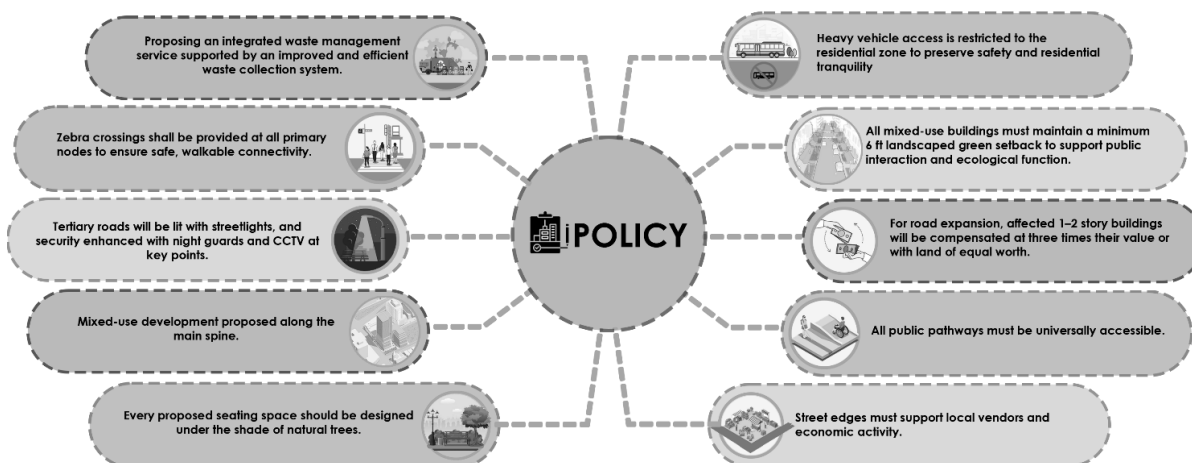


Figure 12. Policy.

4. Discussion

4.1 Interpretation of Key Findings:

4.1.1 Improved Safety and Functionality at Vodra Node

- Relocating the bus stand to the bypass road has meaningfully reduced the volume of heavy vehicles entering the residential streets.
- This change has made the node noticeably safer and calmer, particularly for students and pedestrians who rely on these routes daily.
- With reduced commercial spillover, the area is gradually regaining a more organized and pedestrian-friendly character.

4.1.2 Enhanced Livability in Podda Abashik

- The introduction of pocket spaces and small “cha tongs” has strengthened everyday social life within the neighborhood.
- Essential services positioned within a 5-7 minute walking distance ensure that residents can meet daily needs without long travel.
- These interventions collectively improve accessibility, reinforce walkability, and support a healthier residential environment.

4.1.3 A Better-Organized and Safer Hozor Mor

- Restructuring the kacha bazar into a defined built form has improved circulation, reduced crowding, and created a more orderly commercial setting.
- The addition of small green pockets enhances walkability and provides moments of relief within the dense commercial environment.

- As a result, Hozor Mor is transitioning from a conflict-prone intersection to a safer and more coherent commercial node.

4.1.4 Revitalized Public Life at Baro Rasta Mor

- Introducing a park and amphitheater transforms the node into more than a mobility junction it becomes a meaningful public gathering space.
- This addition enriches the social landscape while supporting smoother movement patterns across the intersection.

4.1.5 Strengthened Urban Infrastructure

- Comprehensive street lighting across the residential network improves nighttime safety and encourages walking after dark.
- The modification of existing light poles with rounded plates reduces glare and light pollution, enhancing overall lighting quality.
- A new commercial complex along the bypass helps absorb commercial activity, reducing pressure on residential nodes.

4.1.6 Improved Waste Management Systems

- The proposed secondary transfer mechanism supports a cleaner urban environment and reduces strain on existing municipal infrastructure.

4.1.7 Better Access to Social and Community Services

- New schools, daycares, and primary education facilities respond directly to local demand, reducing travel distances for families.
- The prototype residential block offers a thoughtfully organized housing model with integrated recreational spaces, contributing to a more complete and community-oriented living environment.

4.2 Comparison with Previous Studies:

4.2.1 Vodra Mor



Figure 13. Comparison with Previous Vodra.

4.2.2 Kacha Bazar:

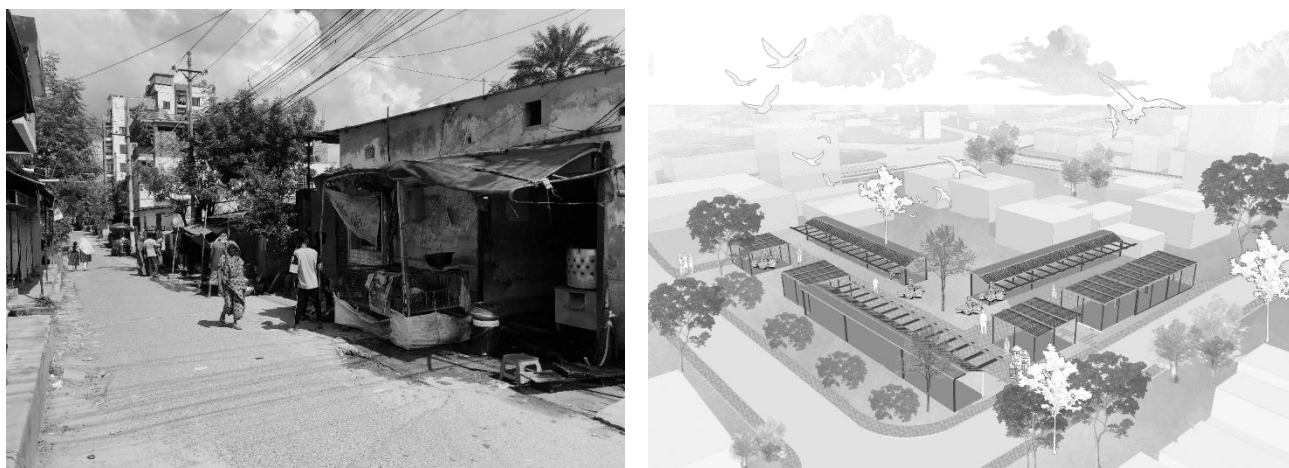


Figure 14. Comparison with Previous Kacha Bazar.

4.2.3 Hozor Mor



Figure 15. Comparison with Previous Hozor Mor.

4.2.4 Baro Rastar Mor:



Figure 16. Comparison with Previous Baro Rastar Mor.

4.3 Strengths and Limitations

4.3.1 Strengths

One of the major strengths of this project lies in its context-sensitive and human-centered planning approach, which combines walkability, accessibility, social interaction, and climate-responsive urban design within a rapidly

developing residential area of Rajshahi. The proposal emphasizes everyday accessibility, mixed-use integration, and community-oriented public spaces rather than prioritize vehicular movement. The project also demonstrates practical feasibility through incremental interventions that can be implemented gradually within the existing urban fabric.

4.3.2 Limitations

The project has several limitations. The study is primarily conceptual and design-based, with limited quantitative evaluation regarding traffic performance, economic feasibility, and long-term environmental impact. Implementation may also face challenges related to land ownership, policy coordination, funding, and stakeholder participation. Furthermore, the population projections and service distribution strategies are based on limited available data and assumptions. Since the research focuses specifically on the Padma-Chandrima-Mahananda residential belt, direct application in different urban contexts may require further adaptation and localized analysis.

4.4 Implications and Future Directions:

The findings of this study highlight the potential of people-centered and walkability-based planning approaches in transforming rapidly developing residential areas into more sustainable, socially connected, and livable urban environments. The research also contributes to the growing discussion on the applicability of the 10-Minute City concept within the context of Bangladesh and other South Asian cities.

In the future, the proposal may be further developed through detailed transportation analysis, environmental performance evaluation, economic feasibility studies, and participatory community engagement processes. Advanced technological integration, smart mobility systems, and climate-adaptive infrastructure can also be incorporated to strengthen long-term urban resilience. Moreover, the framework offers a replicable model for future residential developments in Bangladesh and similar South Asian urban contexts.

5. Conclusion

This study aimed to explore the possible scope of implementing the concept of 10-Minute City in the neighborhoods of Padma, Mahananda, Chandrima and the surrounding areas of Rajshahi to overcome the problems that arise with rapid urbanization such as the lack of continuity in open space, limited walkability, dependence on automobiles and weak social connectivity. The results show that there are substantial potentials for re-imagining the current cityscape, in combining mixed-use development, accessible public facilities, pedestrian streets, connected open spaces and community public spaces. The analysis shows that strategic spatial interventions can improve the access to everyday needs and increase social interaction and neighbourhood identity (Nilufar, 1999; Logan et al., 2022; Álvarez & Müller-Eie, 2017).

The findings directly contribute to the research goals as they show the potential for proximity-based planning to enhance walkability, incentivize active transportation, decrease private vehicle use, and create more inclusive and resilient communities. The suggested “Life Within Reach” framework demonstrates how mobility networks can not only serve as corridors of movement and interaction but also as places of social and cultural interaction that is important for community well-being. Moreover, the study emphasizes that interventions on a smaller scale and for local communities, rather than comprehensive redevelopment, can achieve the goals of enhancing the urban liveability without sacrificing local character and reducing the economic impact (Shoina et al., 2024; Álvarez & Müller-Eie, 2017).

This study adds to the existing literature on proximity based urbanism, placemaking, and human-centred city planning by offering a context-specific implementation of the 10-Minute City model in a fast-growing secondary city in Bangladesh. Previous research has tended to be on the metropolitan level, in the Global North; this study illustrates how these ideas can be transferred to the socio-cultural and environmental circumstances of South Asian residential neighbourhoods. The framework is proposed as a useful reference to guide planners, designers and policy makers with their plans, designs and policies towards sustainable, climate responsive and socially inclusive urban development. In the end, the study confirms that walkable neighborhood planning can be an effective tool for building a healthier, connected, and environment-friendly community in the city of Rajshahi and other emerging cities in Bangladesh (Hameem et al., 2023; Asaduzzaman & Hameem, 2021; Elshater, 2016).

Acknowledgements

The authors would like to thank the Department of Architecture, Rajshahi University of Engineering & Technology (RUET) for the academic guidance and institutional support throughout the research. Special thanks to the local residents of the Padma Residential area, Mahananda Residential area and Chandrima Residential area in respect of co-operation during the field survey. The authors would also like to extend their thanks to the City Corporation of Rajshahi for providing information and site data related to planning.

Funding, Conflicts Of Interest

This research received no external funding.

The authors declare no conflict of interest regarding the publication of this paper.

Data Availability Statement

All the data underlying the conclusions of this study are included in the manuscript and available from the corresponding author upon reasonable request. This data comprises of field survey records, spatial analysis layers and planning documents for research purposes.

Institutional Review Board Statement

This research work has not involved clinical trials or experiments on human beings which requires formal ethical approval. Observations and surveys were carried out in the field according to the general guidelines of academic research and with the voluntary participation of researchers.

Credit Author Statement

Conceptualization: Samanta Rahman Aorin, Istiyak Ahmed Mahi, Fardeen Reza Khan, MD Abdullah Shahriar, Rifah Tamanna Haque, Subrin Shirmin Ritu

Methodology: All authors

Site Analysis and Data Collection: Samanta Rahman Aorin, Istiyak Ahmed Mahi, Fardeen Reza Khan, MD Abdullah Shahriar, Rifah Tamanna Haque, Subrin Shirmin Ritu

Formal Analysis: All authors

Visualization and Design Development: Samanta Rahman Aorin, Istiyak Ahmed Mahi, Fardeen Reza Khan, MD Abdullah Shahriar, Rifah Tamanna Haque, Subrin Shirmin Ritu

Writing – Original Draft: Samanta Rahman Aorin, Istiyak Ahmed Mahi, Fardeen Reza Khan, MD Abdullah Shahriar, Rifah Tamanna Haque, Subrin Shirmin Ritu

Writing – Review & Editing: All authors

Supervision: Z H M Monjur Murshed, Sheikh Hameem

Reference

- (Siddique, Asaduzzaman, & Hameem, Assessing the walkability and pedestrian facilities at major intersections in Rajshahi City, Bangladesh. , 2024) *Jordan Journal of Civil Engineering*, 18(3), 377–385. <https://doi.org/10.14525/JJCE.v18i3.02>
- (Moreno, 2021) Introducing the "15-Minute City": Sustainability, resilience and place identity in future post-pandemic cities. *Smart Cities* <https://doi.org/10.3390/smartcities4010006>
- (Baobeid, 2021) Walkability and its relationships with health, sustainability and livability: Elements of physical environment and evaluation frameworks. *Frontiers in Built Environment* <https://doi.org/10.3389/fbuil.2021.721218>
- (Pozoukidou, 2021) 15-Minute City: Decomposing the new urban planning eutopia. *Sustainability*, 13(2), 928. <https://doi.org/10.3390/su13020928>
- (Khavarian-Garmsir, 2023) Are 15-minute cities the solution for post-COVID urban development? *Cities*, 132, 104101. <https://doi.org/10.1016/j.cities.2022.104101>
- (Sharifi, 2023) Resilience of urban social-ecological-technological systems (SETS): A review. *Sustainable Cities and Society*, 99, 104910. <https://doi.org/10.1016/j.scs.2023.104910>
- (Shuaib, 2021) Questing a walkable city: A case of urban neighbourhood walkability environment in Bangladesh. *Journal of Place Management and Development*, 15(4), 374–395. <https://doi.org/10.1108/JPMD-11-2020-0108>
- (Khan, 2022) Extremes of mixed-use architecture: A spatial analysis of vertical functional mix in Dhaka. *City, Territory and Architecture*, 9, 31. <https://doi.org/10.1186/s40410-022-00177-y>
- (Ahsan, 2022) Assessment of Thermal Comfort in Urban Public Space in a Tropical City: A Study of Rajshahi, Bangladesh. *Khulna University Studies*. <https://doi.org/10.53808/KUS.2022.ICSTEM4IR.0111-se>
- (Nipun, 2025) Spatial Development, Density Trends and Livability Aspects for Metropolitan Planning: Implications for Rajshahi City. *National Defence College E-Journal*.
- (Kobir, 2024) Urban Planning and Development: An Analysis of People's Perception Regarding Rajshahi Development Authority's Initiatives. <https://doi.org/10.58355/dirosat.v3i2.134>
- (Mouri, 2025) From Connectivity to Liveability: Enhancing Urban Waterbody Accessibility through Space Syntax in Dhaka. *Journal of Contemporary Urban Affairs*, 9(2). <https://doi.org/10.25034/ijcua.2025.v9n2-3>
- (Hasan, 2022) Assessing the urban design qualities of the urban street: A case study of Sylhet, Bangladesh. *Architecture Papers of the Faculty of Architecture and Design STU*, 27(2), 3–10. <https://doi.org/10.2478/alfa-2022-0008>
- (Siddiqua, 2017) Assessing Walkability of Planned and Historical Streetscape of Urban Dhaka. *AIUB Journal of Science and Engineering*, 16(1), 19–28. <https://doi.org/10.53799/ajse.v16i1.28>

- (Biswas, 2023) Measuring Objective Walkability from Pedestrian-Level Visual Perception Using Machine Learning and GSV in Khulna, Bangladesh. *Geomatics and Environmental Engineering*, 17(6). <https://doi.org/10.7494/geom.2023.17.6.5>
- Amen, M. A., & Ali, F. A. (2025). Analyzing the impact of spatial centrality and courtyard diversity on tourist attractions in the walled city of Lefkoşa. *PLOS One*, 20(8), e0330956. <https://doi.org/10.1371/journal.pone.0330956>
- Amen, M. A., Afara, A., & Nia, H. A. (2023). Exploring the Link between Street Layout Centrality and Walkability for Sustainable Tourism in Historical Urban Areas. *Urban Science*, 7(2), 67. <https://doi.org/10.3390/urbansci7020067>
- (Kobir, Urban Planning and Development: An Analysis of People's Perception Regarding Rajshahi Development Authority's Initiatives., 2024) *Journal of Education, Social Sciences & Humanities* <https://doi.org/10.58355/dirosat.v3i2.134>
- (Mouratidis, 2022) COVID-19 and urban planning: Built environment, health, and well-being in Greek cities. *Cities*, 121, 103491. <https://doi.org/10.1016/j.cities.2021.103491>
- (Loo, 2022) Decoupling transport from economic growth: Extending the debate to include environmental and social externalities. *Sustainable Cities and Society*, 86, 104146. <https://doi.org/10.1016/j.scs.2022.104146>
- (Hackenbroch, 2011) Urban Informality and Negotiated Space: Negotiations of Access to Public Space in Dhaka, Bangladesh. *disP - The Planning Review*, 47(187), 59–69. <https://doi.org/10.1080/02513625.2011.10654019>
- (Arefin, 2022) Exploring the Choice of Bicycling and Walking in Rajshahi, Bangladesh: An Application of Integrated Choice and Latent Variable (ICLV) Models. *Sustainability*, 14(22), 14784. <https://doi.org/10.3390/su142214784>
- (Salan, 2016) Dynamics of Land Price with Respect to Land Use Change: A Study of Selected Wards of Rajshahi City Corporation. *Journal of Bangladesh Institute of Planners*. <https://doi.org/10.3329/jbip.v9i1.7735>
- (Safitri, 2019) Evaluation of pedestrian facilities to improve the pedestrian environment in the central market of Pangkalpinang. *IOP Conference Series: Earth and Environmental Science* <https://doi.org/10.1088/1755-1315/353/1/012034>
- (Nilufar, 1999) Urban life and use of Public Space: Study of responsive public open spaces for supporting urban life in Dhaka City. *Technical Report, Asiatic Society of Bangladesh*. [10.13140/RG.2.2.28375.96169](https://doi.org/10.13140/RG.2.2.28375.96169)
- (Ilme, 2014) People's Perception Regarding the Development of Community Facilities: A Case Study of Rajshahi City Corporation. *Journal of Bangladesh Institute of Planners*, 7(1). <https://doi.org/10.3329/jbip.v7i1.76772>
- (Kashem, 2010) Quantifying Urban Form: A Case Study of Rajshahi City. *Journal of Bangladesh Institute of Planners*. <https://doi.org/10.3329/jbip.v2i0.9555>