

*Editorial Article*

# Built Environment Innovation Across Place, Resilience, Circularity, and Mobility

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## Abstract

This editorial introduces Volume 2, Number 1 of Built Environment Innovations (BEI), which brings together five papers on urban public space, vernacular heritage, coastal disaster resilience, freight emissions, and circular construction waste management. The edition demonstrates that built environment innovation is not limited to new technologies, but also includes evidence-based design, culturally grounded adaptation, spatial risk reduction, resource circularity, and planning for social-environmental well-being. The published papers examine visitor interest in Bustanussalatin Park, adaptive reuse of Rumoh Aceh as cafes, integrated mitigation in a coastal settlement, geospatial estimation of freight-related emissions in Java, and circular economy pathways for construction and demolition waste. Together, they show that the built environment is a multidimensional system connecting place quality, cultural continuity, infrastructure performance, and environmental responsibility. This editorial synthesizes the issue by highlighting the main contribution of each article and drawing cross-cutting implications for research and practice. It argues that future built environment scholarship should strengthen interdisciplinary evidence, locally responsive implementation, and closer alignment between planning decisions and social-environmental outcomes.

**Keywords:** Built environment innovation; Circular economy; Heritage conservation; Mobility; Resilience.

## Introduction

The built environment is now expected to address several pressures simultaneously: urban growth, ecological degradation, disaster exposure, cultural heritage loss, infrastructure emissions, and material waste. Volume 2, Number 1 of Built Environment Innovations (BEI) responds to these concerns through five papers that span architecture, urban planning, disaster mitigation, transportation, and construction management [1-5]. Although the articles differ in scale and method, they share a common premise: built environment research must move beyond description toward evidence that can guide design, policy, management, and community well-being.

## Article History

Received: 1 July, 2026; Revised: 8 July, 2026;

Accepted: 14 July, 2026; Published: 19 July, 2026



This edition is also significant because it foregrounds Indonesian and Southeast Asian contexts while contributing to wider international debates. Banda Aceh appears as a key empirical setting for studies on public space, vernacular heritage, and coastal risk [1-3], while Java Island provides the spatial context for freight and emissions analysis [4]. The systematic review on construction and demolition waste expands the issue by connecting local built environment concerns with global circular economy transitions [5]. This editorial therefore provides a concise synthesis of the published papers and identifies shared lessons for future built environment innovation.

## Overview of the Published Papers

The first three papers focus on place, culture, and resilience in Aceh. Qathrunnada et al. examine Bustanussalatin Park and show, through a survey of 200 visitors and Partial Least Squares Structural Equation Modeling, that architectural elements and supporting infrastructure significantly influence visitor interest, while landscape elements and accessibility are not significant in the tested model [1]. The finding is important for public-space management because it emphasizes the direct role of comfort-related facilities and usable physical features in shaping visitation. Salsabilla et al. then shift attention from public space to vernacular heritage by investigating the adaptive reuse of Rumoh Aceh into cafes [2]. Their diachronic-synchronic morphological analysis shows that major structural layers, including stilt foundations, timber posts, and roof frames, can be retained while more flexible layers such as services, furniture, and spatial arrangements are adapted to contemporary use [2]. Rizky et al. extend the issue to coastal risk by analyzing Gampong Deah Raya, a settlement exposed to earthquakes, tsunamis, and liquefaction [3]. Their study identifies a gap between relatively high-risk awareness and only moderate structural and non-structural preparedness, leading to an integrated mitigation framework that combines community-based preparedness, evacuation planning, early warning systems, vertical evacuation, ground improvement, and coastal greenbelt protection [3].

The remaining two papers broaden the issue toward mobility and circularity. Ahlan et al. use geospatial analysis to estimate rice distribution patterns and related CO<sub>2</sub> emissions on Java Island in a context where comprehensive freight origin-destination data are not publicly available [4]. Their results indicate that using toll road infrastructure could reduce annual CO<sub>2</sub> emissions from rice transportation between Jakarta and East Java by up to 11,772.5 tonnes, demonstrating the value of geospatial methods for preliminary low-carbon freight planning [4]. Putera et al. synthesize circular economy strategies for construction and demolition waste management and argue that the sector must move beyond end-of-pipe recycling toward lifecycle-oriented practices such as waste prevention, design for disassembly, selective demolition, component reuse, recycled-content procurement, and high-quality material recovery [5]. Taken together, these papers illustrate how built environment scholarship can connect spatial evidence with practical agendas for low-carbon mobility and circular resource governance.

## Synthesis and Implications

Three cross-cutting lessons emerge from this issue. First, innovation in the built environment is relational. Public space quality depends not only on the presence of open space but also on facilities that support comfort and activity [1]. Heritage conservation depends not only on preserving objects but also on managing appropriate degrees of intervention across building layers [2]. Coastal resilience depends not only on hazard awareness but also on the translation of awareness into spatial, structural, and community-based preparedness [3]. Likewise, low-

carbon freight planning and circular construction require the alignment of infrastructure, data, governance, and environmental outcomes [4,5].

Second, the issue demonstrates the value of methodological plurality. The articles employ statistical modelling, morphological analysis, spatial interpretation, household survey assessment, geospatial estimation, and systematic literature review [1-5]. These methods generate different kinds of evidence, yet they converge on a shared need for context-sensitive implementation. For BEI, this is an important editorial direction: robust built environment research should combine analytical rigor with applicability to real planning and design decisions, particularly in settings where data remain fragmented and development pressures are uneven.

Third, the papers collectively argue for stronger integration between physical planning and social-environmental outcomes. Improving an urban park is not merely a beautification project; it is a strategy to increase inclusive use of public space [1]. Reusing a traditional house is not merely a commercial conversion; it is a means of extending cultural life and reducing unnecessary replacement [2]. Disaster mitigation is not only a technical matter; it is a governance process linking risk communication, infrastructure, and community capacity [3]. Similarly, transportation routes and construction material flows should be treated as planning domains with measurable environmental and social implications [4,5].

Future research should build on these contributions through longitudinal evaluation, comparative case studies, and stronger data integration. Public-space studies should examine maintenance, accessibility, and inclusivity over time. Heritage studies should develop clearer design guidance for adaptive reuse. Disaster research should evaluate the performance of mitigation systems under changing coastal conditions. Freight and circular economy research should improve data transparency and test digital tools in real projects.

## Conclusion

Volume 2, Number 1 of Built Environment Innovations (BEI) presents a coherent contribution to contemporary built environment discourse. The five papers show that sustainable innovation must connect spatial quality, cultural continuity, disaster resilience, emissions reduction, and circular resource management [1-5]. The edition also affirms that locally grounded research can contribute to broader debates when it is methodologically clear, empirically specific, and oriented toward implementation. For researchers, the issue encourages interdisciplinary methods and closer engagement with place-based evidence. For practitioners and policymakers, it offers practical insights into improving public spaces, conserving vernacular heritage, strengthening coastal settlements, planning lower-emission freight routes, and advancing circular construction. The editorial message is therefore direct: the future built environment must be designed, managed, and governed as a connected system serving both ecological responsibility and human well-being.

## Acknowledgments

The editorial board acknowledges the authors, reviewers, and editorial staff who contributed to the publication of Volume 2, Number 1 of Built Environment Innovations (BEI).

## Conflict of Interest

The editorial board declares no conflicts of interest.

## Author Contribution Statement

**Evalina Zuraiddi:** Writing-Original draft preparation. **Siti Zahrina Fakhrana:** Writing-Reviewing and Editing.

## Data Availability Statement

The data used to support this editorial synthesis are included in the published papers in this issue.

## Ethics Approval

Not required.

## References

- [1]. S. Qathrunnada, A. Achmad, and S. Agustina, "Effects of Physical Elements of an Urban Park on Visitor Interest: The Case of Bustanussalatin Park, Banda Aceh," *Built Environment Innovations (BEI)*, vol. 2, no. 1, pp. 1-16, 2026.
- [2]. A. Salsabilla, D. E. Idawati, and Izziah, "Adaptive Reuse of Acehese Traditional Houses into Cafes: Sustainable Vernacular Conservation Strategies," *Built Environment Innovations (BEI)*, vol. 2, no. 1, pp. 17-34, 2026.
- [3]. M. Rizky, D. E. Idawati, M. Irwansyah, and A. M. Ressang, "Integrated Disaster Vulnerability and Mitigation Strategies for Gampong Deah Raya Coastal Settlement, Banda Aceh, Indonesia," *Built Environment Innovations (BEI)*, vol. 2, no. 1, pp. 35-49, 2026.
- [4]. M. Ahlan, I. Arfita, M. R. Zishan, and S. A. Harahap, "Geospatial Analysis of Freight Transportation and Related Emissions: A Case Study in Java Island," *Built Environment Innovations (BEI)*, vol. 2, no. 1, pp. 50-58, 2026.
- [5]. M. Putera, Newton, Zulfan, H. S. Wiguna, N. S. Rangkuti, and B. Vongphuthone, "Circular Economy Strategies for Construction and Demolition Waste Management: A Systematic Review of Barriers, Technologies, and Implementation Pathways," *Built Environment Innovations (BEI)*, vol. 2, no. 1, pp. 59-77, 2026.