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Improving Accessibility in Historic Buildings: Comparative Spatial Observations and Design Proposals

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Abstract

This study aims to address the fundamental challenges encountered in ensuring accessibility in historical buildings within the framework of universal design principles. Historical buildings, due to the lack of accessibility standards in place at the time of their construction, currently present various physical and spatial barriers. This situation significantly restricts disabled individuals' access to cultural heritage sites.

The study is based on a literature review, along with spatial observations and photo-based analyses conducted in selected historical buildings and their surroundings in Edirne (Turkey), Xanthi (Greece), and Kosovo. Instead of examining a single case study, this approach identifies recurring accessibility problems across different contexts and develops feasible, adaptable design proposals to address them.

The findings show that accessibility problems in historical buildings have not only a physical dimension but also a conceptual dimension stemming from the tension between preservation and use. The study reveals that small-scale, reversible, and low-cost interventions, such as ramp systems, threshold solutions, and interior design arrangements, can significantly improve accessibility without compromising the historical building's original value.

Keywords: accessibility, historical buildings, universal design, architecture, inclusive design

Introduction

Accessibility is a fundamental requirement for creating inclusive spaces and is directly related to universal design, which aims to ensure that all individuals can use spaces regardless of their physical capabilities (Mace, 1997). The universal design approach

aims to improve the spatial experience of all individuals, including those with disabilities, the elderly, children, and users with temporary mobility limitations.

However, historic buildings present unique accessibility challenges. These structures were largely built before the emergence of modern accessibility standards and contain physical barriers such as entrance level differences, thresholds, narrow circulation areas, and uneven surfaces (Ruiz-Rodrigo et al., 2024). This situation severely limits the access of individuals with limited mobility to cultural heritage sites.

Recent studies emphasize that accessibility in historical buildings is not only a matter of technical arrangement but also a social and ethical responsibility. Since cultural heritage represents the collective memory and identity of societies, these areas must be accessible to all individuals (del Bosque et al., 2025). However, at this point, a significant tension arises between conservation principles and accessibility requirements. While the conservation approach aims to preserve the structure's originality and material integrity, accessibility often requires physical interventions (Chidiac et al., 2025).

Various approaches have been developed in the literature to strike a balance between these two. Studies, particularly on museum buildings, show that accessibility can be achieved without damaging historical values through appropriate spatial organization and material selection (Filová et al., 2022). Similarly, it is stated that accessibility problems are mostly related to vertical circulation elements and entrance conditions. Steps, thresholds, and sloping surfaces are among the most frequently encountered access barriers in historical buildings (Chidiac et al., 2025).

On the other hand, accessibility is not limited only to physical barriers. Current studies reveal the necessity of a multidimensional understanding of accessibility that also includes visual, auditory, and cognitive differences (Ruiz-Rodrigo et al., 2024). In this context, the concept of accessibility has become an interdisciplinary field developing at the intersection of architecture, social inclusion, and sustainability (del Bosque et al., 2025).

This study aims to address accessibility problems in historical buildings not by focusing on a single example, but by examining common problems across different geographical and spatial contexts. Through spatial observations and photo-based analyses of historical buildings in Edirne (Turkey), Xanthi (Greece), and Kosovo, recurring accessibility problems are identified, and feasible design proposals to address them are developed.

Literature Review

Accessibility in historic buildings has increasingly become a significant research topic at the intersection of architecture, heritage conservation, and social inclusion. While early studies primarily focused on identifying physical barriers, recent research emphasizes the need for integrative and solution-oriented approaches that reconcile accessibility requirements with conservation principles (Pereira Roders & van Oers, 2014).

Universal design provides a conceptual framework for addressing accessibility challenges by promoting environments that are usable by all individuals regardless of age or ability (Mace, 1997). However, the application of universal design in historic contexts requires careful adaptation, as direct interventions may conflict with the preservation of original materials and spatial characteristics (Imrie & Hall, 2001).

Previous studies have shown that the most critical accessibility barriers in historic buildings are related to vertical circulation elements such as steps, thresholds, and uneven ground conditions

(Chidiac et al., 2025). These elements are particularly problematic in religious buildings and heritage sites where spatial hierarchies and symbolic thresholds are integral to the architectural composition.

In addition, research on museum environments demonstrates that accessibility can be enhanced through reversible and non-invasive interventions, such as temporary ramps, tactile surfaces, and alternative circulation paths (Filová et al., 2022). These approaches highlight the importance of designing solutions that are both functional and respectful of historical authenticity.

Another key aspect discussed in the literature is the multidimensional nature of accessibility. Beyond physical access, accessibility encompasses sensory and cognitive dimensions, including visual guidance systems, auditory support, and spatial legibility (Ruiz-Rodrigo et al., 2024). This broader understanding is particularly relevant in historic environments, where complex spatial configurations may create additional challenges for users.

Furthermore, recent studies underline that accessibility in cultural heritage is closely linked to sustainability and social equity. Ensuring inclusive access to heritage sites contributes not only to individual well-being but also to the long-term preservation and societal relevance of these environments (del Bosque et al., 2025).

Despite these advancements, a significant gap remains in the development of practical, scalable, and context-sensitive design strategies. Most studies focus on theoretical discussions or single-case analyses, while fewer studies provide comparative insights across different geographic and cultural contexts. This study addresses this gap by examining multiple historic environments and proposing adaptable design solutions.

Accessibility, Heritage, and Design Conflicts

The relationship between accessibility and heritage conservation is often framed as a conflict between two competing priorities: preserving the authenticity of historic environments and ensuring inclusive access for all users. However, recent studies suggest that this conflict is not absolute but rather a matter of design approach and intervention strategy (Pereira Roders & van Oers, 2014).

Conservation practices traditionally emphasize minimal intervention, reversibility, and respect for original materials. These principles are essential for maintaining the historical value of buildings but may limit the implementation of accessibility measures such as ramps, lifts, or structural modifications. On the other hand, accessibility frameworks prioritize usability, independence, and equality, often requiring physical changes to existing structures (Imrie & Hall, 2001).

This apparent contradiction has led to the development of alternative approaches that aim to integrate accessibility within conservation strategies. One of the most widely accepted concepts is “reversible intervention”, which allows modifications to be removed without causing permanent damage to the historic fabric. This approach is particularly relevant for ramp systems and temporary accessibility solutions.

In addition, the concept of “least intervention” has been reinterpreted in recent literature to include accessibility as part of conservation rather than as an external requirement. This shift reflects a broader understanding of heritage as a living environment rather than a static object (Steinfeld & Maisel, 2012).

Accessibility as a Multi-Scalar Issue

Accessibility in historic environments should not be limited to the building scale. Instead, it must be understood as a multi-scalar issue, encompassing urban, architectural, and interior dimensions.

At the urban level, accessibility is influenced by factors such as transportation systems, pedestrian infrastructure, and street design. Historic centers often have narrow streets, uneven pavements, and high pedestrian density, which create additional challenges for accessibility.

At the building level, entrance conditions, level differences, and spatial organization play a crucial role. As identified in previous studies, entrance accessibility is often the most critical barrier in historic buildings (Chidiac et al., 2025).

At the interior level, circulation paths, material choices, and sensory guidance systems determine the usability of spaces. Tactile surfaces, visual contrast, and acoustic support can significantly improve accessibility for users with sensory impairments (Ruiz-Rodrigo et al., 2024).

This multi-scalar perspective highlights the need for integrated design strategies that address accessibility at all levels simultaneously.

Social Inclusion and Cultural Rights

Accessibility in heritage environments is closely linked to social inclusion and cultural rights. According to the United Nations Convention on the Rights of Persons with Disabilities (2006), access to cultural life is a fundamental human right.

Excluding individuals with disabilities from historic environments not only limits their physical access but also restricts their participation in cultural and social life. This raises important ethical questions about the role of heritage in contemporary society.

Recent studies argue that accessibility should be considered as part of the social sustainability of heritage environments. Inclusive design not only benefits individuals with disabilities but also enhances the overall usability and attractiveness of historic sites (del Bosque et al., 2025).

Methodology

This study adopts a qualitative and observation-based research approach. Rather than focusing on a single case, the research examines multiple historic environments to identify recurring accessibility problems and develop adaptable design strategies.

The selected examples include Edirne Old Mosque in Türkiye, the Xanthi Folklore Museum in Greece, and the Kosovo National Museum. These cases were chosen to represent different spatial configurations, cultural contexts, and levels of accessibility challenges.

The methodology is based on three main components:

- On-site observations, focusing on entrance conditions, level differences, circulation paths, and surface characteristics
- Photographic documentation, used to record existing conditions and support spatial analysis
- Comparative evaluation, identifying common accessibility barriers and assessing potential design interventions

This approach allows the study to move beyond a single case and instead develop generalized insights applicable to a broader range of historic environments.

Accessibility Problems in Historic Buildings

Based on both the literature and field observations, accessibility problems in historic buildings can be categorized into several key groups. These issues are often interconnected and can significantly hinder individuals with varying mobility and perceptual needs. The most common issue encountered is level differences at entrances, which often manifest as steps without alternative access options, such as ramps or lifts. These barriers markedly limit the ability of individuals with mobility impairments to access buildings independently, reducing their autonomy and inclusivity (Chidiac et al., 2025). Additionally, high thresholds are a prevalent problem; they create additional obstacles even when the entrance width itself is adequate for wheelchair access or other assistive devices. Inside the buildings, the limitations continue with restricted maneuvering space, especially in narrow corridors or densely organized interior layouts, which further hampers ease of movement for all users. Surface conditions also significantly influence accessibility. Slippery, uneven, or visually indistinct surfaces pose safety risks, particularly for elderly users and those with visual impairments, potentially leading to accidents and injuries (Ruiz-Rodrigo et al., 2024).

Furthermore, the lack of guidance systems—such as tactile paving, audible signals, or clear signage—diminishes the ease of navigation for individuals with sensory disabilities, underscoring the importance of addressing both physical and perceptual accessibility. Beyond the scope of individual buildings, broader urban context issues often exacerbate accessibility challenges. These include inadequate pedestrian infrastructure—such as poorly maintained sidewalks, lack of curb ramps, and insufficient crossings—traffic conflicts that create unsafe crossing conditions, and limited public transportation options that fail to connect users effectively to accessible routes. Addressing these layered issues requires comprehensive planning that considers both the micro-level architectural features and the macro-level urban environment, ensuring that historic buildings and their surrounding contexts are accessible and welcoming to everyone.



Figure 1. Edirne Old Mosque (15th century) and its surrounding urban access conditions. Source: Authors.

Spatial Observations and Design Proposals

Ramp Systems as Primary Solutions

Ramps are among the most effective and commonly used solutions for overcoming level differences in built environments. According to universal design principles, ramps should offer safe, continuous, and accessible access for all users (Mace, 1997).

In historic environments, where preservation of character and integrity is paramount, ramp design must be approached with particular sensitivity to ensure that interventions do not

compromise the site's original aesthetics. Such interventions should be carefully planned to be reversible, minimally invasive, and compatible with the existing materials and the spatial character of the environment, thus maintaining the site's historic significance while providing accessible solutions (Imrie & Hall, 2001).



Figure 2. Proposed ramp solution for the main entrance of Kuyumcuoğlu Mansion (Xanthi Folklore Museum), Greece. Source: Authors.

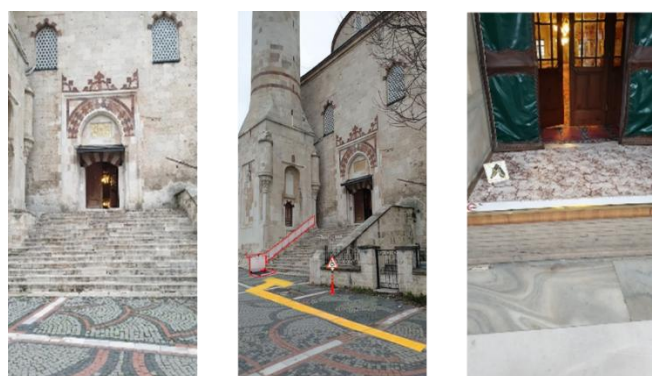


Figure 3. Turkey, Edirne Old Mosque back entrance and proposed solution, upper entrance of the building at the third photo. Source: Authors.

For instance, the Old Mosque in Edirne is located on sloping terrain and has multiple entrance levels. While the lower entrance requires climbing a significant number of steps, the upper entrance involves navigating a long and uneven path. In addition, the shared

use of pedestrian and vehicular circulation further complicates access conditions. These factors demonstrate the necessity of carefully designed ramp systems that respond to both topographical and urban constraints.

Threshold Adjustments and Micro-Interventions

Small-scale interventions can be highly effective in improving accessibility without compromising the integrity of historic structures.



Figure 4. Garden entrance and proposed micro-ramp solution, Xanthi Folklore Museum. Source: Authors.

Micro-ramps and threshold adjustments provide practical solutions for overcoming minor level differences at entrances. These interventions are particularly valuable in conservation contexts because they do not require permanent alterations to original materials (Filová et al., 2022).

Interior Spatial Organization

Interior accessibility can be enhanced through relatively minor spatial adjustments, such as reorganizing circulation pathways and incorporating additional supportive design features to ensure greater ease of movement and usability throughout the space.

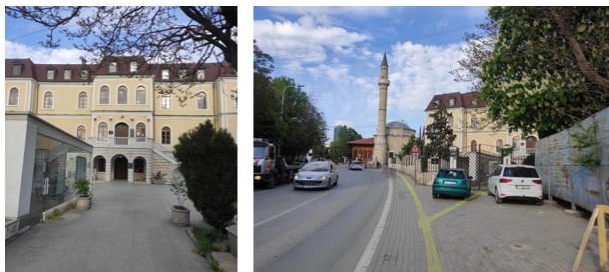


Figure 5. Interior accessibility proposals: tactile surfaces and ramp solutions in Xanthi Museum and Edirne Old Mosque. Source: Authors.

Studies indicate that even limited modifications can significantly enhance user experience in historic buildings, particularly when combined with clear spatial guidance (Ruiz-Rodrigo et al., 2024).

Surface and Safety Enhancements

Surface treatments play a crucial role in ensuring safe and efficient movement within historic environments. They are indispensable for preserving the integrity of these environments while allowing people to navigate freely and safely. By applying appropriate surface treatments, we can mitigate hazards, improve traction, and



accommodate the unique characteristics of historic surfaces, which often require gentle and carefully considered interventions to prevent damage. Such treatments not only enhance safety but also contribute to the preservation and longevity of the historic environment, ensuring that it remains accessible and safe for future generations. The selection and application of these surface treatments must be carried out with a deep understanding of both the material properties of the surfaces involved and the specific safety needs of visitors and users, making them an integral part of conservation and safety strategies in heritage sites.



Figure 6. Surface conditions and proposed accessibility improvements for visually impaired users, Kosovo National Museum. Source: Authors.

The use of non-slip materials, tactile surfaces, and visual contrast can improve accessibility for a wide range of users, including elderly individuals and those with visual impairments (del Bosque et al., 2025).

Discussion

The findings of this study demonstrate that accessibility improvements in historic buildings can be achieved through small-scale, context-sensitive, and reversible interventions. Rather than requiring large structural modifications, the proposed solutions emphasize minimal intervention strategies that respect the architectural integrity of heritage environments.

One of the most significant outcomes is that accessibility should not be perceived solely as a technical requirement but as a multidimensional design issue. The integration of physical, sensory, and spatial accessibility is essential to ensure inclusive use of historic environments (Ruiz-Rodrigo et al., 2024). In this context, ramps, tactile surfaces, and spatial reorganization should be considered as interconnected elements rather than isolated solutions.

The study also highlights the importance of balancing accessibility with conservation principles. While preservation policies often prioritize the protection of original materials and spatial configurations, accessibility interventions require modifications that may alter these characteristics. However, recent research suggests that this apparent conflict can be mitigated through reversible and adaptive design strategies (Pereira Roders & van Oers, 2014).

Another important finding is the role of urban context in shaping accessibility. Access to historic buildings is not limited to the building itself but extends to surrounding streets, transportation systems, and public spaces. Therefore, accessibility should be addressed as a multi-scalar issue, encompassing both building and urban levels.

Furthermore, the comparative nature of this study reveals that similar accessibility problems occur across different geographic and cultural contexts. This suggests that while each historic environment is unique, common patterns can be identified,

allowing for the development of adaptable and transferable design strategies.

Design Implications

The results of this study provide several important implications for architectural design and conservation practice.

First, accessibility should be integrated into the early stages of design thinking rather than being treated as an afterthought. Even in historic environments, it is possible to develop solutions that respect existing structures while improving usability.

Second, the use of modular and adaptable design elements—such as removable ramps and temporary surfaces—offers a flexible approach to accessibility. These solutions can be adjusted according to user needs and conservation requirements.

Third, the findings emphasize the importance of context-sensitive design. Each historic environment has unique spatial and cultural characteristics, and therefore accessibility solutions should be tailored to specific conditions rather than applied uniformly.

Limitations of the Study

This study is primarily based on qualitative observations, and it does not include quantitative measurements or user surveys. While this approach offers certain advantages, such as flexibility in analysis and the ability to conduct comparative assessments, it may also limit the overall generalizability of the findings across broader populations. To address this limitation, future research could incorporate additional methods, such as user-based evaluations, including surveys, behavioral observations, or other forms of user feedback. These methods would help provide a more comprehensive understanding of the impact of accessibility interventions on various user groups, thereby strengthening the validity and applicability of the research outcomes.

Conclusion

This study explored accessibility challenges in historic buildings through a combination of a literature review, spatial observations, and design proposals informed by multiple examples.

The findings indicate that:

- Accessibility barriers in historic environments are widespread and multifaceted

- The most critical issues are related to level differences, thresholds, and circulation constraints
- Small-scale, reversible interventions such as ramps and surface modifications can significantly improve accessibility
- Accessibility should be addressed as a holistic concept, including physical, sensory, and urban dimensions

10. Steinfeld, E., & Maisel, J. (2012). *Universal design: Creating inclusive environments*. Wiley.
11. United Nations. (2006). *Convention on the Rights of Persons with Disabilities (CRPD)*.
12. ICOMOS. (2013). *The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance*.

The study contributes to the field by proposing a comparative and design-oriented perspective, moving beyond single-case analyses and offering adaptable solutions for different historic contexts.

In addition, the results emphasize that accessibility interventions should be integrated into conservation practices rather than treated as external additions. This integrated approach is essential for creating inclusive heritage environments that are both accessible and respectful of their historical value.

Future research should focus on developing interdisciplinary approaches that combine architectural design, social sciences, and digital technologies.

For example, digital simulation tools and virtual reality environments could be used to test accessibility scenarios before implementing physical interventions. Similarly, participatory design approaches that involve users with disabilities could provide valuable insights to improve accessibility in historic environments.

References

1. Chidiac, S., Hussein, M., & Zaher, H. (2025). True accessibility barriers of heritage buildings: A comprehensive analysis. *Buildings*, 15(9), 1528. <https://doi.org/10.3390/buildings15091528>
2. Darcy, S., & Buhalis, D. (2011). Accessible tourism: Concepts and issues. *Channel View Publications*.
3. del Bosque, A., García, M., & López, R. (2025). Universal accessibility to cultural heritage: A multidisciplinary approach. *Buildings*, 15(9), 1563. <https://doi.org/10.3390/buildings15091563>
4. Filová, N., Kročová, Š., & Dvořák, P. (2022). Universal design principles applied in museums' historic buildings. *Prostor*, 30(1), 150–163. [https://doi.org/10.31522/p.30.1\(63\).9](https://doi.org/10.31522/p.30.1(63).9)
5. Goodall, B., & Pottinger, G. (2012). Heritage and accessibility. *Tourism Management*, 33(5), 1024–1032. <https://doi.org/10.1016/j.tourman.2011.11.011>
6. Imrie, R., & Hall, P. (2001). *Inclusive design: Designing and developing accessible environments*. Spon Press.
7. Mace, R. (1997). *Universal design: Barrier-free environments for everyone*. Center for Universal Design.
8. Pereira Roders, A., & van Oers, R. (2014). World heritage cities management. *Facilities*, 32(3/4), 200–213. <https://doi.org/10.1108/F-10-2012-0073>
9. Ruiz-Rodrigo, A., Molina-Hoyo, M., & Andújar-Montoya, M. D. (2024). Experiencing accessibility of historical heritage places: A user-centered approach. *Sustainability*, 16(5), 2012. <https://doi.org/10.3390/su16052012>