



ICCAUA Proceedings Journal

Proceedings of the international conference of contemporary affairs in architecture and urbanism-ICCAUA
Volume 9 (December 2026), 2610432

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

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

DOI: <https://doi.org/10.38027/ICCAUA2026EN0432>

Evaluating the Contributions of Adaptive Reuse to Urban Design

* ¹ Saliha Aslan, ² Alper Gönül

^{1,2}, Department of Architecture, Faculty of Architecture and Design, Bursa Technical University, Bursa, Türkiye

¹ E-mail: saliha.aslan@btu.edu.tr, ² E-mail: alper.gonul@btu.edu.tr

Abstract

Received: 01.05.2026
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 License (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.

This study aims to examine the integration of a reused building with the city. To this aim, this study evaluates adaptive reuse ideas in a chosen historical building, Şehbenderler Mansion Library, in İbrahimpasha Neighborhood, Bursa. This study is based on case study analysis and evaluation methodology by scrutinizing reused architectural spaces with respect to their relationship to the built environment. Drawing upon relevant literature, evaluation parameters are developed in a local framework to explore how adaptive reuse can contribute to the city. This study covers two stages: (1) constructing the theoretical background based on the relationships between adaptive reuse and urban design; and (2) evaluating the chosen building to understand their adaptive reuse principles with respect to their contributions to the city. This study demonstrated that adaptive reuse of the chosen building contributed to the city, regarding the atmosphere of urban spaces, accessibility, and sustainability of cultural, historical, and architectural aspects.

Keywords: Adaptive reuse; Urban design; Reused buildings; Şehbenderler Mansion Library; Bursa.

1. Introduction

The architectural fabric of the urban environment serves as a physical manifestation of its society and culture. Thus, the preservation of these structures for future generations must transcend mere documentation; it must encompass the intrinsic values of urban culture (ICOMOS, 1987). Conserving this architectural heritage functions as a critical mechanism for the continuity of sociocultural values. The preservation of architectural integrity and the maintenance of structural viability are often most effectively realized through the strategic assignment of contemporary functions. In this context, the paradigm of adaptive reuse, which aims to reconfigure of extant buildings to serve evolving societal needs while diversifying from their original design intent, assumes a central role (Douglas, 2006; Bullen and Love, 2011; Plevoets and Van Cleempoel, 2019). The adaptive reuse is a comprehensive and multi-dimensional process with the contribution of various actors to the decision-making about the sustainability of the historical building or area.

Arfa et al. (2024) addressed the need for two research on adaptive reuse, which are first the systematization and confirmation of models for the process of adaptive reuse and second the analysis of the connection between the adaptive reuse process and its efficiency. By focusing on the chosen cases in the Netherlands and referring to the jury reports, the study by Arfa et al. (2024) defined specific criteria to comprehend the efficiency of adaptive reuse projects, and these criteria are based on promoting social and economic values, strengthening architectural ideas and cultural aspects, providing “environmental sustainability,” and presenting innovative ideas. Ghida (2024) also concentrated on the case of adaptive reuse of the extant viaduct, “Viaduc des arts” and explored six main themes with ten lessons for adaptive reuse and placemaking while analyzing the impacts of this case on the city’s identity. The focus of their themes revolved around recovery-oriented ideas and identity construction while considering environmental, economic, and local issues (Ghida, 2024).

Nasser (2003) highlighted the tension between historic towns and processes of change through the perspectives of tourism and commercialization and advocated for a community- and culture-oriented approach to heritage preservation management. Shipley et al. (2006) emphasized the economic and investment-related outcomes of adaptive reuse works and sought to delineate the factors that facilitate the successful enhancement of heritage value.

Medici et al. (2020) investigated the effectiveness of adaptive reuse projects at architectural and urban scales. In their study, using an expert survey methodology, two separate adaptive reuse interventions in Syracuse’s historic core were assessed through sub-indicators associated with use/attractiveness, economic/real estate, heritage conservation, and social wellbeing/safety. The study by Wang and Liu (2021) developed an adaptability evaluation index with a multifaceted set of criteria, encompassing architectural integrity and function, spatial attributes, psychological factors such as emotional identification, and broader socio-economic considerations.

The study by Alhojaly et al. (2022) proposes an analytical framework for quantifying the integrity and authenticity of historic buildings. The model employed criteria-based assessment involving new functionality and architectural and interior design, with data gathered through expert consultation based on these categorical frameworks. Takva et al. (2023) evaluated the integration of contemporary interventions within historic structures through the lens of adaptive reuse, specifically analyzing the interplay between functional changes, structural integrity, and material compatibility.

Kutlu et al. (2024) conducted a post-occupancy investigation to assess the long-term sustainability performance of reused historic structures. To achieve this, their study established a comprehensive sustainability framework categorized into environmental, technical, functional, and aesthetic dimensions and employed this framework to collect data from experts and users through survey-based assessments. In response to the pressures exerted by urban densification, Ding et al. (2025) developed a multidimensional assessment framework to guide the adaptive reuse of industrial heritage. Their framework coincides with holistic sustainability principles by synthesizing diverse criteria, including physical structures of buildings, environmental impacts, economic factors, and social and governance dimensions.

Lotfi and Aly (2025) explored the longitudinal efficacy of adaptive reuse practices in heritage sites through the perspectives of design, management, and community engagement, examining a historic square in Cairo as a case study. The empirical analyses are conducted in their study by incorporating field observations, behavioral mapping, and interviews to specifically examine the site's spatial attributes, socio-cultural significance, and physical environmental quality.

Gravagnuolo et al. (2024) presented multi-dimensional and multi-criteria evaluation for adaptive reuse and aimed at evaluating the solutions for adaptive reuse of four derelict historical buildings. Their study also developed solutions which based on the interactions with local users. Their study produced specific criteria with the basis of defined objectives while presenting the indicators of each criterion, and these criteria and objectives are organized under three dimensions, namely, “regenerative,” “generative,” and “symbiotic” (Gravagnuolo et al., 2024). These dimensions establish a framework aiming at achieving positive impacts, preserving and renewing resources, and strengthening humans’ health and well-being (Gravagnuolo et al., 2024). Maselli et al. (2024) also concentrated on the efficient strategies for sustainable approach developed for adaptive reuse of historical buildings, and they consider this methodology as an efficient instrument by using socio-cultural and economic reference parameters which are also compatible with sustainability and quality parameters of international councils and institutions.

Table 1: The principal concepts and sub-parameters employed in the literature addressing adaptive reuse.

Main Category	Sub-Indicator	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Architectural	Structural Integrity		✓	✓		✓	✓					✓	✓			✓
	Spatial Flexibility		✓	✓		✓		✓			✓	✓				✓
	Building Condition		✓		✓	✓	✓	✓				✓	✓			✓
	Functional Suitability		✓			✓	✓	✓	✓		✓	✓				✓
Economic	Renovation Cost		✓			✓			✓	✓	✓				✓	✓
	Market Demand	✓	✓						✓		✓	✓	✓	✓	✓	✓
	Operational Costs	✓				✓			✓	✓						
	Property Value												✓		✓	✓
Social / Environmental	Public Accessibility		✓			✓		✓	✓		✓	✓				✓
	Community Identity	✓	✓	✓		✓						✓	✓			✓
	Social Inclusion	✓	✓		✓				✓		✓	✓				✓
	Public Perception	✓		✓		✓				✓		✓	✓			✓
Heritage	Historical Significance	✓	✓			✓					✓	✓	✓	✓		✓
	Architectural Integrity	✓	✓	✓		✓		✓	✓		✓	✓	✓			✓
	Authenticity	✓	✓	✓				✓				✓		✓		✓
	Aesthetic Value					✓		✓				✓	✓			✓
Regulatory	Safety Compliance / Building Codes		✓							✓						✓
	Zoning / Land Use										✓					✓
	Conservation Policy		✓	✓							✓					✓

- [1] Ghida (2024); [2] Alhojaly et al. (2022); [3] Ding et al. (2025); [4] Arfa et al. (2024); [5] Wang and Liu (2021); [6] Takva et al. (2023); [7] Kutlu et al. (2024); [8] Gravagnuolo et al. (2024); [9] Pintossi et al. (2023); [10] Maselli et al. (2024); [11] Lotfi and Aly (2025); [12] Medici et al. (2020); [13] Nasser (2003); [14] Shipley et al. (2006); [15] Vafaie et al. (2023).

Pintossi et al. (2023) also paid attention to the importance of adaptive reuse in respect of eliminating resource consumption and waste output and ensuring not only the longevity of buildings but also economic and sustainable contributions. They further focus on the challenges that designers may encounter during the process of adaptive reuse of buildings. Taking three cases, Amsterdam, Rijeka, and Salerno, Pintossi et al. (2023) put challenges, some of which are related with financial

and managerial deficiencies as well as inadequacies in awareness and knowledge. Academic discourse regarding the efficiency of adaptive reuse has reached a consensus through the establishment of parameters and the implementation of evaluative frameworks grounded in these criteria (Table 1). Existing literature regarding the efficacy of adaptive reuse in historic contexts identifies evaluation indicators that may be broadly synthesized into five primary dimensions: architectural, economic, socio-environmental, heritage, and regulatory. While the specific selection and weighting of these metrics are contingent upon the research objectives and theoretical orientation of individual studies, Table 1 provides a consolidated overview of prevalent sub-criteria derived from the scholarly discourse.

Based on this context, this study intends to explore the connection between adaptive reuse of buildings and urban design. To this aim, a case study analysis is utilized to empirically evaluate the proposed framework. The literature review on the evaluation of reused buildings provides evaluation parameters. This study takes nine parameters, especially regarding the relationship between reused buildings and the city. The parameters affecting the architectural and urban scale are investigated in detail. The case of Şehbenderler Mansion Library is evaluated with reference to these parameters. This study presents the sections of the introduction, materials and methods, results, and conclusions.

2. Materials and Methods

Data includes surveying, restitution, and restoration reports, restoration drawings, and site maps derived from the Bursa Metropolitan Municipality as well as photographs taken during *in situ* observations. The methodology of this study is based on a comprehensive literature review to derive and explore the qualitative evaluation parameters. A single case study analysis of Şehbenderler Mansion Library is provided. The analysis covers the historical background of the chosen reused building, design ideas behind adaptive reuse projects, and evaluation of adaptive reuse ideas at architectural and urban scales. The evaluation of the reuse principles of the old mansion and new library building is based on *in situ* observations under the guidance of literature parameters.

2.1 Case Study: Şehbenderler Mansion Library as a Reused Building

Şehbenderler Mansion Library is located on Akbıyık Street in İbrahimpaşa Neighborhood. *In situ* observations show that the main building consists of the basement, ground, and the first floor. Estimated to be an outbuilding, the annex building was also later built using traditional timber frame construction (Bursa Metropolitan Municipality, n.d.).

Based on the surveying report (Bursa Metropolitan Municipality, n.d.), the spatial organization of the main building consists of traditional and characteristic Turkish housing functions such as *sofa*, *cumba* (bay window), *taşlık* (entrance hall), *başoda* (the main room), and iwans. As stated in this report, the structural feature of the main building is characterized by a masonry base and a timber frame structure, while the circulation between floors is provided by a timber winding staircase. Additionally, as mentioned in this report, timber flooring and ceilings also characterized interior spaces, while the upper floor with higher ceilings and its windows provide visual connection to the street. As observed during site visits, the façades are featured by the rhythmic form and sizes of windows, bay window, building materials, and doors. As also documented in the surveying report, the front façade is characterized by a timber door and rhythmic windows, while small circular vents are also used at the basement floor level. Besides, the projections on the façade also contribute to the street silhouette. Additionally, a large double-winged timber door with a timber eave provides a transition from the street as a public space to the garden.

The restitution report was also prepared for Şehbenderler Mansion in July 2006. According to this report (Bursa Metropolitan Municipality, 2006), although the building has survived its unique architectural characteristics, archival documents were also analyzed to support the data derived from the building itself. According to the analysis of historical maps in the restitution report (Bursa Metropolitan Municipality, 2006), the main building and outbuilding were constructed in the years between 1909 and 1938 because the buildings cannot be observed in the Suphi Bey Map of 1862 as well as historical maps of 1880 and 1909. However, as mentioned in this report, the buildings appear in their current form in the 1938 aerial photographs.

According to the restoration report (Bursa Metropolitan Municipality, 2006), some fundamental restoration strategies can be summarized as follows: the use of the main building as a restaurant, the use of the outbuilding as a cafeteria, the ground floor lowering to achieve a clear height of 2.70 inside, the renewal of timber constructional details, the reconstruction of the outbuilding, the removal of the later concrete additions, and the construction of a new building to functionally and spatially connect the existing two buildings. Besides, according to the same report, the new building will serve as storage for the kitchen and as a connecting service and circulation bridge at the ground and the first floor. Furthermore, according to the report, a natural gas heating system will also be adapted, and a mechanical room for operating the system will be located at the basement floor of the outbuilding. Additionally, according to restoration report (Bursa Metropolitan Municipality, 2006), ornamental details and characteristic features of old buildings will be reused in the newly constructed building. These details explained in the restoration report are determinants in the spatial formation of the mansion today. However, the building is functionally now reused as a library.

3. Results

The adaptive reuse of buildings contributed to the city in terms of increasing sociality, bringing cultural and historical awareness, and sustaining existing cultural and historical values. Based on a comprehensive literature review, we have developed nine parameters regarding architectural and urban scales (Table 2).

Table 2: The parameters evaluating reused buildings based on literature (Authors, 2026).

Architectural and Urban Scale	
Literature parameter	With Reference to
Building use	Nocca (2017); Medici et al. (2020)
New additions	Takva et al. (2023); Munshed and Ashour (2024); Tabrizi and Abdelmonem (2024)
Natural light & indoor air quality	Prihatmanti and Susan (2016); Al-Obaidi et al. (2017); Chai et al. (2022)
User-friendly circulation and access	Plevoets and Van Cleempoel (2019); Foster (2020)
Access to the building	Güvenbaş and Polay (2020); Mohamed and Marzouk (2025); Gaspari et al. (2020)
Façade configuration	Alhojaly et al. (2022); Tsilika and Vardopoulos (2022); Ding et al. (2025)
Aesthetic contribution to the street	Vafaie et al. (2023); Lotfi and Aly (2025); Aigwi et al. (2020)
Place attachment/Sense of place	Yung and Chan (2012); Plevoets and Van Cleempoel (2019), Ding et al. (2025)
Development and enrichment of the street	Bassal and Khalifa (2022); Zou et al. (2023); Szopińska-Mularz et al. (2025)

3.1 Adaptive Reuse Assessment: Formulating Criteria and Case Building Evaluation

Informed by the relevant body of literature, this section offers a detailed investigation of the parameters adopted for assessing adaptive reuse. These evaluative parameters are subsequently applied within the case study through systematic *in situ* observation, and the findings are synthesized in Tables 3–10.

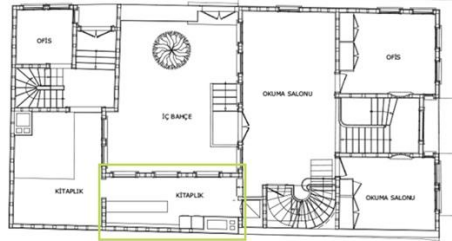
Within the framework of adaptive reuse, “building use” serves as a metric for the degree of effectiveness with which various users opt to use a building following its functional transformation. Building use is identified through various assessments aimed at evaluating the performance and suitability of the new function, including the rates of vacancy spaces, occupant density, number of visitors, presence of new cultural initiatives, and participation rates in cultural events (Nocca, 2017; Medici et al., 2020). Consistent with current academic discourse, the utilization performance of the sample building was aimed to be assessed on a local level through metrics such as daily and annual user counts, the availability of events, and the density of event attendance. However, due to the limited data in this respect, the evaluation is limited to *in situ* observations. The old mansion building is reused as a library and used by students studying at primary and high schools. The frequency of library use increases especially after the time when students leave the schools. Due to the small scale of the chosen building, visitor attendance is not high (Table 3).

Table 3: The evaluation of the sample building in terms of "building use" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: Building use
	The previous function of the sample building was a mansion, whereas the new function of this building is a library. The use of the building by the primary and high schools nearby can be seen on the map.

The “new additions” refer to the integration of a new volume, structure, furniture, or technology into an existing building or heritage site. Such additions encompass the expansion of spaces and fundamental intervention strategies employed to extend the building's projected lifespan and accommodate contemporary functions. This criterion entails a comprehensive evaluation of the interaction between the new intervention and the existing building from both design and performance perspectives (Takva et al., 2023; Munshed and Ashour, 2024). In the case of the sample building, a new building was added to connect the main building and outbuilding. The new addition within the localized sample was assessed based on its influence on spatial use, its alignment with the repurposed function, and its implications for architectural authenticity. The courtyard, which contributes to the quality of the authenticity of the building, is narrowed due to this addition, which is evaluated as a negative result. Although it seems this addition is designed to provide circulation between existing buildings, this building is mainly used as the storage of books. Although this addition seems designed considering the unique architectural features, this building narrowed the courtyard and reduced the potential use of the courtyard as a social open space. At the architectural scale, several furniture items, such as bookcases, tables, chairs, portative air conditioners, automated people counters, garbage cans, heating units, and roller shades, are also added to interior spaces. However, these additions are not integrated into interior design and are not compatible with the architectural unique characteristics of spaces (Table 4).

Table 4: The evaluation of the sample building in terms of "new additions" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: New additions
 	Mass composition: A new rectangular mass is added to connect two different buildings. This new addition narrowed the courtyard.
 	Furniture: The mechanical additions, bookcases, and lightening additions can be observed at the architectural scale. The integration of new additions can be reconsidered.

Drawing: Bursa Metropolitan Municipality (marked by the authors, 2026). Photographs taken and marked by the authors, 2026.

The indicators of “natural light and indoor air quality” constitute vital criteria for assessing a structure's sustainability and livability. This approach questions how effectively visual comfort, daylighting, and ventilation requirements are fulfilled in alignment with new functional demands while simultaneously conserving the original and unique character and integrity of the historic building (Prihatmanti and Susan, 2016; Al-Obaidi et al., 2017). For the selected mansion within its local context, various rooms were qualitatively evaluated based on observational criteria, including window-to-wall ratios for daylighting, light intensity, and natural air circulation levels. Although the window-to-wall ratios are not considered large openings in historical buildings, the proportions of windows and the existence of the courtyard provided a quality and capacity of taking daylight and air circulation at a considerable level. However, the bookcases included in the reading rooms, which previously served as iwans, negatively affect the quality and penetration of daylight (Table 5).

Table 5: The evaluation of the sample building in terms of "Natural light & indoor air quality" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: Natural light & indoor air quality
 	Despite the proportions of windows, the quality of light and air inside is sufficient. The existence of the courtyard also increases the quality of light and air. However, bookcases in reading rooms negatively affect the light and air quality.

Photographs taken by the authors, 2026.

The attribute of “user-friendly circulation and access” serves as a metric to evaluate the ease and safety with which users navigate a repurposed heritage building and its interiors. The evaluation framework for this criterion is defined by factors such as openness to the community, the user's internalization of access and circulation patterns, the degree to which the circulation supports the new functional alternative, and the inclusivity of access, including universal design for individuals with disabilities (Plevoets and Van Cleempoel, 2019; Foster, 2020). In the case of sample building, being open to the public and appealing to broad users are significant. However, in terms of universal accessibility considerations, the different levels of the building and the winding stairs lead to a challenge, especially for disabled and older people (Table 6).

Table 6: The evaluation of the sample building in terms of "User-friendly circulation and access" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: User-friendly circulation and access
	The building is open to the public. The interior spaces are not suitable for disabled and older people due to the level differences and winding stairs.
Photographs taken by the authors, 2026.	

Furthermore, “accessibility” in urban public realms is inherently linked to the determinants of navigational quality; these include multi-modal transport options for all user groups, safety of movement, spatial legibility, and environmental comfort (Güvenbaş and Polay, 2020). The building is located near Atatürk Street, which is accessible from every region of the city via different transportation alternatives. The street includes bus stops, cabstands, tram stations, and pedestrian routes. The frequently used pedestrian routes are also marked on the map in Table 7. The easy access to the building increases the potential use of the building. On the other hand, the pavements on the way to the building are disrupted, which negatively affects walkability, resulting in accessibility problems.

Table 7: The evaluation of the sample building in terms of "Accessibility" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: Access to the building
	The building is near Atatürk Street, where people from every region of Bursa can easily access. The easy access to Atatürk Street increases the use of the building; however, the deformations on the pavements on the road to the building may negatively affect walkability and accessibility.
Base map: Bursa Metropolitan Municipality (marked by the authors, 2026).	

Table 8: The evaluation of the sample building in terms of "Façade configurations" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: Façade configurations
	The proportions of windows are preserved, and its rhythmic composition contributes to the street silhouette.
Photographs taken by the authors, 2026.	

In the evaluation of historical buildings through the lens of adaptive reuse, building façades function as both the primary reflectors of cultural heritage value and critical structural elements that dictate technical inputs such as light, ventilation, and energy. Various studies in the literature examine façade configuration through parameters such as openings, window-to-wall ratios, materials, added volumes, the degree of preservation or change, and stylistic harmony (Alhojaly et al., 2022; Ding et al., 2025). The preservation of the original fenestration proportions ensures that the case building’s luminous environment and natural ventilation quality remain largely unaltered (Table 8).

From an adaptive reuse perspective, “aesthetic contribution to the street” signifies not only the internal attributes of a repurposed historical building but also the extent to which it reinforces and enhances the overall streetscape. Within the existing literature, this concept is examined through components such as visual harmony, historical expression, and perceived street quality, framed by authenticity, heritage value, and visual spatial quality (Vafaie et al., 2023; Lotfi and Aly, 2025). When analyzed in depth, “aesthetic contribution to the street” encompasses evaluations of façade compatibility with adjacent historical structures, color and material consistency, the continuity of the street wall, height–width ratios, enclosure and openness, and scenic beauty (Aigwi et al., 2020). The building is compatible with the other historical buildings located on the same street in terms of architectural characteristics, scale, and height. However, the new buildings constructed in later periods are not compatible with the existing historical buildings because they do not consider the historical urban fabric and street silhouette (Table 9).

According to the literature, “sense of place” in adaptive reuse represents the degree to which individuals can associate their emotions, memories, and identities with repurposed historical structures. Buildings revitalized through appropriate functions and interventions can enhance local cultural identity, place attachment, the sustainability of heritage impact, and visitor experience trends. This phenomenon is evaluated through diverse factors such as materiality, scale, diversity of use, social interaction, symbolism, and collective memory (Yung and Chan, 2012; Plevoeets and Van Cleempoel, 2019; Ding et al., 2025). The active use of the building preserves collective memory. The users can perceive the whole urban fabric due to the existence of historical buildings with similar scales and characteristics especially in İbrahimpaşa Neighborhood. This also positively affects social interaction while also conserving the historical and poetic atmosphere of the street. However, the masonry base of the building, solid walls, and door at the front façade can also be perceived by people as an uninviting entrance (Table 9).

Table 9: The evaluation of the sample building in terms of "Aesthetic contribution to the street and sense of place" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: Aesthetic contribution to the street and sense of place
	The traditional character of the street.
	The building and interior spaces are on a human scale.
	The atmosphere is sustained by keeping memory and architectural aspects.

Photographs taken by the authors, 2026.

Table 10: The evaluation of the sample building in terms of "Development and enrichment of the street" parameter (Authors, 2026).

Photograph or drawing of the building associated with the parameter	Evaluation parameter: Development and enrichment of the street
	The building was a derelict building; however, today, it contributes to the street with its architectural aspects.

Photographs taken by the authors, 2026.

The concept of “development and enrichment of the street” generally denotes how an adaptive reuse initiative contributes to the revitalization of its surrounding streetscape. Such interventions aim to enhance not only the structure itself but also the vitality, livability, socioeconomic activities, and spatial quality of its environment. A proficient adaptive reuse intervention is anticipated to enhance the urban livability of historical districts by reducing derelict areas, strengthening human-environment relationships, and fostering social cohesion, which in turn diminishes crime rates (Bassal and Khalifa, 2022; Zou et al., 2023). Furthermore, it should facilitate the improvement of street networks, public spaces, and social amenities. The conclusion that an adaptive reuse project develops and enriches the street is drawn when the repurposed building possesses a façade that supports street-level activity, maintains continuity with adjacent structures, integrates into a cohesive street network, and adopts cultural, social, or commercial functions that engage with the public realm while reducing vandalism and crime (Bassal and Khalifa, 2022; Zou et al., 2023). The previous appearance of the sample building with its physical deterioration, especially on its façades, demonstrates that it was a derelict building with a dysfunctional profile, which may lead to an unsettling street and insecurity (Table 10).

4. Conclusions

This study evaluated the adaptive reuse of the sample building located in İbrahimpaşa Neighborhood with respect to understanding its contribution to urban design. This study has shown that the reuse and conservation of buildings contribute to the city in terms of sustaining their architectural and historical values, preserving streets from being derelict areas, advancing the dynamic life of streets, and facilitating social life for people. In the case of Şehbenderler Mansion Library, due to its strategic location, young people prefer to use it while the street appearance and its continued use maintain its value.

Adaptive reuse of buildings may become a way of integrating architecture with urban dynamics, ensuring that historical buildings remain significant components of contemporary urban fabric. In this context, this research offers significant utility by establishing empirical criteria for adaptive reuse at a local level, derived from a representative case study. Furthermore, by integrating urban design considerations into the evaluation of adaptive reuse, this research provides a multidimensional perspective that bridges architectural and urban dimensions. The findings demonstrate that when determining new programs for historic structures, a comprehensive urban-scale assessment is essential alongside building-specific criteria.

The study is limited into the qualitative evaluation of a reused building according to *in situ* observations, literature, and archival materials. In further studies, researchers may develop a quantitative methodology to evaluate buildings, which may also confirm making-decision processes.

Acknowledgements

The authors thank the Bursa Metropolitan Municipality for sharing survey, restitution, and restoration reports as well as architectural drawings.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflicts of Interest

The authors declare no conflict of interest.

Data Availability Statement

All data generated or analysed during this study are included in this published article and its supplementary files.

Institutional Review Board Statement

Not applicable.

CRedit Author Statement

Conceptualisation: S.A., A.G.; Data curation: S.A., A.G.; Investigation: S.A., A.G.; Methodology: S.A., A.G.; Writing – original draft: S.A., A.G.; Writing – review & editing: S.A., A.G.; Visualisation: S.A., A.G. All authors have read and approved the final version of the manuscript.

References

- Aigwi, I. E., Ingham, J., Phipps, R., & Filippova, O. (2020). Identifying parameters for a performance-based framework: Towards prioritising underutilised historical buildings for adaptive reuse in New Zealand. *Cities*, 102, 102756. <https://doi.org/10.1016/j.cities.2020.102756>
- Alhojaly, R. A., Alawad, A. A., & Ghabra, N. A. (2022). A Proposed Model of Assessing the Adaptive Reuse of Heritage Buildings in Historic Jeddah. *Buildings*, 12(4), 406. <https://doi.org/10.3390/buildings12040406>
- Al-Obaidi, K. M., Wei, S. L., Ismail, M. A., & Kam, K. J. (2017). Sustainable Building Assessment of Colonial Shophouses after Adaptive Reuse in Kuala Lumpur. *Buildings*, 7(4), 87. <https://doi.org/10.3390/buildings7040087>
- Arfa, F. H., Lubelli, B., Quist, W., and Zijlstra, H. (2024). A model of the adaptive reuse process of heritage buildings: Validation on four cases in the Netherlands. *Design Studies*, 91–92. <https://doi.org/10.1016/j.destud.2024.101252>

- Bassal, C., & Khalifa, M. (2022). Adaptive reuse of abandoned buildings as a means of improving livability. *Architecture and Planning Journal*. <https://doi.org/10.54729/zxzp6273>
- Bullen, P. A., & Love, P. E. (2011). Adaptive reuse of heritage buildings. *Structural Survey*, 29(5), 411–421. <https://doi.org/10.1108/02630801111182439>
- Bursa Metropolitan Municipality (July 2006). *Restitution Report of Şehbenderler Mansion Library*. Directorate of Survey and Projects.
- Bursa Metropolitan Municipality (September 2006). *Restoration Report of Şehbenderler Mansion Library*. Directorate of Survey and Projects.
- Bursa Metropolitan Municipality (n.d.). *Surveying Report of Şehbenderler Mansion Library*. Directorate of Survey and Projects.
- Chai, Q., Li, H., Tian, W., Zhang, Y., & Wang, L. (2022). A framework for assessing the performance of adaptively reused buildings from users' perspective: a case study of school building. *Advances in Civil Engineering*, 2022(1), 1339133. <https://doi.org/10.1155/2022/1339133>
- De Medici, S., De Toro, P., & Nocca, F. (2020). Cultural Heritage and Sustainable Development: Impact Assessment of Two Adaptive Reuse Projects in Siracusa, Sicily. *Sustainability*, 12(1), 311. <https://doi.org/10.3390/su12010311>
- Ding, X., Shao, Y., & Feng, B. (2025). Rethinking the Sustainability of Industrial Buildings in High-Density Urban Areas: Balancing Adaptability and Public Satisfaction. *Buildings*, 15(5), 747. <https://doi.org/10.3390/buildings15050747>
- Douglas, J. (2006). *Building adaptation* (2nd ed.). London: Routledge.
- Foster, G. (2020). Circular economy strategies for adaptive reuse of cultural heritage buildings to reduce environmental impacts. *Resources, Conservation and Recycling*, 152. <https://doi.org/10.1016/j.resconrec.2019.104507>
- Gaspari, J., Gianfrate, V., Ginocchini, G., & Bigi, M. (2020). Accessibility as design tool: a comfortable environment through the public space. *TECHNE*, 19, 223–231. <https://dx.doi.org/10.13128/techne-7786>
- Ghida, D. B. (2024). Revitalizing urban spaces: Ten key lessons from the “Viaduc des arts” adaptive reuse and placemaking. *Frontiers of Architectural Research*, 13(5), pp. 1095–1112. <https://doi.org/10.1016/j.foar.2024.03.011>
- Gravagnuolo, A., Angrisano, M., Bosone, M., Buglione, F., De Toro, P., & Fusco Girard, L. (2024). Participatory evaluation of cultural heritage adaptive reuse interventions in the circular economy perspective: A case study of historic buildings in Salerno (Italy). *Journal of Urban Management*, 13(1), pp. 107–139. <https://doi.org/10.1016/j.jum.2023.12.002>
- Güvenbaş, G., & Polay, M. (2021). Post-occupancy evaluation: A diagnostic tool to establish and sustain inclusive access in Kyrenia Town Centre. *Indoor and Built Environment*, 30(10), 1620–1642. <https://doi.org/10.1177/1420326X2095124>
- ICOMOS (1987). *Charter for the Conservation of Historic Towns and Urban Areas (Washington Charter 1987)*. https://civvihi.comos.org/wp-content/uploads/2022/03/Charter-of-Washington_10_1987.pdf
- Kutlu, I., Bekar, İ., & Ergün, R. (2025). Post-occupancy evaluation: an expert-user-oriented model proposal based on key sustainability indicators. *Open House International*, 50(3), 489–506. <https://doi.org/10.1108/OHI-04-2024-0135>
- Lotfi, Y. A., & Aly, T. F. (2025). Evaluating the long-term impact of adaptive reuse on heritage spaces: a case study of Aslam square in Cairo, Egypt. *Built Heritage*, 9(1), 20. <https://doi.org/10.1186/s43238-025-00186-z>
- Afara, A., Amen, M. A., Ayoubi, M. El, Ramadhan, D., & Alani, J. (2024). Arguing Faux Biophilia Concepts in F&B Interior Design: A Case Study Applied in Duhok City. *Civil Engineering and Architecture*, 12(2), 1091–1103. <https://doi.org/10.13189/cea.2024.120231>
- Maselli, G., Cucco, P., Nesticò, A., and Ribera, F. (2024). Historical heritage–MultiCriteria Decision Method (H-MCDM) to prioritize intervention strategies for the adaptive reuse of valuable architectural assets. *MethodsX*, 12. <https://doi.org/10.1016/j.mex.2023.102487>
- Mohamed, B., & Marzouk, M. (2025). Post-adaptive reuse evaluation of heritage buildings using multi-criteria decision-making techniques. *Journal of Building Engineering*, 99, 111485. <https://doi.org/10.1016/j.jobe.2024.111485>
- Munshed, Z., & Ashour, A. (2024). Adaptive Reuse (AR) of Historical and Heritage Buildings Through Concepts of Addition and Expansion. *BIO Web of Conferences*. <https://doi.org/10.1051/bioconf/20249700104>
- Nasser, N. (2003). Planning for urban heritage places: Reconciling conservation, tourism, and sustainable development. *Journal of Planning Literature*, 17(4), 467–479. <https://doi.org/10.1177/0885412203017004001>
- Nocca, F. (2017). The role of cultural heritage in sustainable development: Multidimensional indicators as decision-making tool. *Sustainability*, 9(10), 1882. <https://doi.org/10.3390/su9101882>
- Plevoets, B., & Van Cleempoel, K. (2019). *Adaptive Reuse of the Built Heritage: Concepts and Cases of an Emerging Discipline*. Routledge
- Prihatmanti, R., & Susan, M. Y. (2017). Adaptive reuse of heritage building and the impact to the visual comfort: Assessed by the lighting quality. *IPTEK Journal of Proceedings Series*. <https://doi.org/10.12962/j23546026.y2017i3.2443>
- Pintossi, N., Ikiz Kaya, D., Van Wesemael, P., and Roders, A. P. (2023). *ma Habitat International*, 136. <https://doi.org/10.1016/j.habitatint.2023.102807>
- Shipley, R., Utz, S., & Parsons, M. (2006). Does adaptive reuse pay? A study of the business of building renovation in Ontario, Canada. *International Journal of Heritage Studies*, 12(6), 505–520. <https://doi.org/10.1080/13527250600940181>
- Szopińska-Mularz, M., Prokop, A., Wikiera, M., Bukowy, W., Forsman, F., & Vikström, S. (2025). Adaptive reuse of urban structures as a driver of sustainable development goals: A systematic literature review. *Sustainability*, 17(11), 4963. <https://doi.org/10.3390/su17114963>

- Tabrizi, S. K., & Abdelmonem, M. G. (2024). Contemporary construction in historical sites: The missing factors. *Frontiers of Architectural Research*, 13(3), 487-504. <https://doi.org/10.1016/j.foar.2024.01.002>
- Takva, Y., Takva, Ç., & İlerisoy, Z. (2023). Sustainable Adaptive Reuse Strategy Evaluation for Cultural Heritage Buildings. *International Journal of Built Environment and Sustainability*. <https://doi.org/10.11113/ijbes.v10.n2.1060>
- Tsilika, E., & Vardopoulos, I. (2022). The FIX-up mix-up; undue façadism or adaptive reuse? Examining the former FIX brewery transformation into the National Museum of Contemporary Art in Athens. *Archnet-IJAR: International Journal of Architectural Research*, 16(3), 688-709. <https://doi.org/10.1108/ARCH-09-2021-0255>
- Yung, H. K. E., & Chan, H. W. E. (2012). Critical social sustainability factors in urban conservation: The case of the central police station compound in Hong Kong. *Facilities*, 30(9-10), 396-416. <https://doi.org/10.1108/02632771211235224>
- Vafaie, F., Remøy, H., and Gruis, V. (2023). Adaptive reuse of heritage buildings; a systematic literature review of success factors. *Habitat International*, 142. <https://doi.org/10.1016/j.habitatint.2023.102926>
- Wang, G., & Liu, S. (2021). Adaptability evaluation of historic buildings as an approach to propose adaptive reuse strategies based on complex adaptive system theory. *Journal of Cultural Heritage*, 52, 134-145. <https://doi.org/10.1016/j.culher.2021.09.009>
- Zou, H., Liu, R., Cheng, W., Lei, J., & Ge, J. (2023). The Association between Street Built Environment and Street Vitality Based on Quantitative Analysis in Historic Areas: A Case Study of Wuhan, China. *Sustainability*. <https://doi.org/10.3390/su15021732>