THE HISTORICAL VALUE OF DISASTER-RESISTANT BUILDING DISTRICTS AND PATHWAYS TO REGIONAL REVITALIZATION: CHALLENGES FACING THE "HONICHI BUILDING" IN THE YOSHIWARA HONCHO SHOPPING DISTRICT/

Tsuyoshi Date - *Tokoha University, Japan*

date_archi@ybb.ne.jp

Abstract. The Yoshiwara Honcho shopping district in Fuji city, Shizuoka prefecture, originated from "Yoshiwara-juku," which was one of the 53 stations along the Tōkaidō road. The Honichi building, completed in 1961, stands at the eastern end of the shopping district, and is an extremely important structure in Yoshiwara's history.

Its exterior features a light and airy design that emphasizes horizontal lines—a hallmark of Showa modernism. The approximately 95-meter-long facade has retained its original design. Designed by Mimura-Nousu Collaborative Architects Office, the building's modern aesthetic has made it a landmark in the shopping district.

Construction of the Honichi building was closely tied to postwar urban fireproofing policies realized under the collective defense concept to improve urban structures' vulnerability to fire. As a joint construction by multiple landowners, the building's structure is complex. The original land ownership divisions persist as an "uneven rhythm" in the internal frontage spans and spatial composition. The mixed-use building has shops on the first floor and offices and residences on the second and third floors. This valuable spatial arrangement carries the traditional lifestyle culture of the shopping district into the modern era.

Despite the challenges including aging and stagnant management posed by its multiple owners, the Honichi building is a valuable community resource from the postwar reconstruction period with high potential. The most crucial strategy for regional revitalization and the future of the Yoshiwara shopping district is to promote its preservation and utilization through unified efforts by the owners, community, and administration. Regenerating the Honichi building is paramount because it will serve as a "living asset," connecting the Yoshiwara shopping district's past, present, and future while forming the core of regional revitalization efforts.

Introduction/ History Nurtured by the Post Towns Along the Tōkaidō Road and the Beginning of Modernization. Located in the heart of Fuji city, Shizuoka prefecture, Yoshiwara Honcho shopping district has long flourished as a commercial hub between Tokyo and Osaka. It is known for its history as "Yoshiwara-juku," one of the fifty-three stations along the Tōkaidō road during the Edo period. As a post town, Yoshiwara-juku supported the flow of diverse travelers on the main road connecting Edo and Kyoto. Following the Meiji era, the opening of railways and changes in industrial structure transformed the area into a core commercial district for the region. Today, the shopping street stretches approximately 500 meters from east to west. While retaining faint traces of its former character as a post town, the street blends long-established shops dating back to before the war with new businesses, creating an urban landscape where past and present overlap.

At the eastern end of this historic axis, in a location that could be the "face" of Yoshiwara, stands the Honichi building, the subject of this investigation. Completed in 1961 (Showa 36), the building holds significant historical value in the shopping district. It was the first fireproof building constructed in the densely populated, wooden neighborhood, which was constantly threatened by fire during an era when such buildings were rare. The Honichi building exemplifies postwar urban disaster prevention and modernization ideals. Its construction marked the beginning of a disaster-resistant building district in Yoshiwara, and the building became a landmark that shaped the city's subsequent development.

The building's exterior features a unified white finish with tiles or spray-applied texture. A rhythmic sequence of horizontal windows accentuates the building's horizontal lines, giving the facade a light and airy appearance. The long facade stretching approximately 95 meters along the street, the horizontal lines and the rhythm of the windows evoke the refined aesthetic of Showa modernist architecture. Its appearance has remained largely unchanged to this day, firmly establishing it as an integral part of the Yoshiwara shopping district's historical landscape.

However, the building currently faces challenges regarding future maintenance and management, including aging structures and complex property rights. This paper examines utilization strategies of the Honichi building for the community's future, considering its historical context and the results of a recent survey.

I. Historical Context of Construction: The Spirit of the Disaster Prevention Building Blocks Construction Act

1.Postwar Reconstruction and Urban Fireproofing Policy. The construction of the Honichi building is closely tied to urban disaster prevention policies during Japan's recovery from postwar chaos and transformation into a modern nation. Immediately after the war, cities were extremely vulnerable to fire due to war-damaged ruins and the disorderly densification of wooden buildings that accompanied rapid population growth. Commercial districts and shopping streets, in particular, were constantly at risk of nighttime fires destroying the local economic base. The Yoshiwara shopping district was no exception and was perpetually at risk of a major conflagration.

Against this backdrop, the national government promoted the establishment of fireproof building belts to improve urban safety fundamentally. The Disaster Prevention Building Blocks Construction Act, enacted in 1961, provided the legal foundation for this policy. The goal was to prevent the

spread of fires and construct disaster-resistant urban structures by replacing dilapidated wooden houses with fire-resistant buildings and ensuring critical urban areas were non-combustible.

As the area's first fire-resistant building, the Honichi building exemplified the spirit of the Disaster Prevention Building Blocks Construction Act by mitigating fire hazards in the densely populated, wooden cityscape of the time. The building became a catalyst for postwar urban disaster prevention and modernization. The Honichi building was constructed as a pioneer of fireproof building belts under this law, based on the concept of community-based mutual defense. Because of its status as a prime example of communal disaster prevention architecture, the Honichi building's construction history and structure are considered an important case study in the history of postwar Japanese urban reconstruction.

2.Design Philosophy and Modernization Vision. The Honichi building was designed by the Mimura-Nousu Collaborative Architects Office, and the design drawings date back to September 1960. This suggests that the Yoshiwara shopping district planned to modernize with fire-resistant buildings in the early 1960s. Considering the architectural technology and economic conditions of the time, constructing such an extensive fireproof structure was a groundbreaking undertaking for a regional city.

In terms of design, the building clearly reflects the influence of modernist architecture, a global trend at the time. It features a functional, light design that emphasizes horizontality and eschews ornamentation. Its modern exterior brought contemporary sensibilities and urban sophistication to the shopping district, which previously consisted of traditional wooden buildings. Thus, the Honichi building played a crucial role in enhancing fire resistance and revitalizing the shopping district's image through modernization.

II. Detailed Architectural Features: Shared Building Structure and Spatial Composition

1.Structural Analysis of the "Uneven Rhythm" Created by Diversity. The Honichi building's most intriguing architectural feature is its joint construction by multiple landowners, which makes it structurally complex. Although the design is unified, the frontage spans of the individual sections were set according to the original land ownership.

Analysis of the drawings reveals that this span setting lacks uniformity. Narrow and wide spans are arranged irregularly due to historical land-parceling constraints that were incorporated into the modern fireproof structure. This non-uniformity results in variations in depth, column positions, stairwell placement, and floor plan configurations. Examples include discontinuous stairwells and complex shared corridors arising from differing building depths. These variations are a product of the practical constraints and compromises inherent in constructing shared buildings at that time. The goal was to "maintain land ownership while achieving common disaster prevention objectives." The building's structure exemplifies the challenges of adjusting rights during the urban redevelopment of the mid-Showa period.

2.Mixed-Use Composition of Work and Residence and Its Unique Lifestyle Culture. The design of the Honichi building reflects the lifestyle culture and economic activities of the commercial district at that time.

The first floor is a retail space with units that face the shopping street. These units serve as shops and contribute to the area's vibrancy. This floor houses a mix of units occupied by the company's own stores and those leased to third parties. Since the building's opening, these units have supported a variety of commercial activities. The first floor acts as the building's "face," symbolizing the commercial vitality of Yoshiwara.

The second floor contains offices, residences, and leased office space. The third floor combines private residences, apartments, and offices, creating a space where work and life coexist. This layout preserves the traditional lifestyle of Japanese shopping districts, where shop owners kept their stores and residences in the same building. This valuable spatial configuration captures the essence of mid-Showa-period shopping districts where living and working spaces were in close proximity, fostering strong local communities.

The easternmost span is the only four-story section, which is significant in terms of both design and landmark status. This protruding section increases the building's visibility from a distance and adds an accent to its overall silhouette, which is characterized by long horizontal lines. This section also plays a key role in establishing the building's identity.

III. Current Situation Survey and Complex Challenges: Aging and Management Difficulties

1.Survey Methods and the Reality of Deterioration. The survey used a multifaceted approach combining drawing analysis, a literature review, an on-site inspection, and interviews with owners and users. The on-site inspection confirmed the expected deterioration in buildings over 60 years old.

Specifically, deterioration was observed in exterior finishes and structural elements. Frequent observations included cracks and peeling paint on aging concrete and mortar exterior walls, as well as localized water leakage. These issues raise concerns about the buildings' waterproofing performance and structural integrity. Additionally, corrosion of the metal handrails and deterioration around the window frames were noted. Equipment aging was also confirmed. Much of the building's internal electrical, water supply, and drainage systems are outdated. From the perspective of modern safety and convenience standards, replacing these systems is necessary.

Around 1981, a multi-level parking structure was added behind the three spans at the west end. This repurposed the interior of the building as an access route to the parking structure, resulting in changes to the spatial configuration. Except this addition of the multistory parking lot, there have been almost no major renovations to the exterior or structural framework due to continued use by multiple owners. Therefore, the original design and structural form are exceptionally well-preserved from the time of completion. That should be highly valued from an architectural history perspective, underscoring the importance of preservation

2.Structural and Economic Challenges of Multiple Ownership. Beyond deterioration, the greatest challenge in maintaining the Honichi building is its management and operation. This is difficult due to the building's multiple owners. These owners are independent shop proprietors or residential property owners, and have different economic circumstances, management philosophies, and visions for the future. This diversity makes reaching a consensus on major decisions concerning the entire building—such as repairs, reinforcement, or rebuilding—extremely difficult. Interviews revealed concerns about delays in decision-making, including "difficulty reaching agreement on repairs" and "time-consuming negotiations over cost-sharing."

In earthquake-prone Japan, retrofitting older buildings to withstand earthquakes is an urgent priority. However, retrofitting requires building-wide policies and plans, which makes it difficult to accommodate each owner's individual circumstances. The coordination challenges unique to multi-owner buildings pose a significant barrier to addressing the most critical issue: ensuring safety. The prevailing view that rebuilding is "unrealistic" stems from economic and legal factors, such as the complexity of rights conversion and the inability to reach an agreement on the enormous cost burden.

3.Changes in Shopping District Environments and the Evolving Role of the Building. The future of the Honichi building is influenced by changes in the urban environment surrounding the Yoshiwara shopping district. External factors such as population decline in central Fuji city, changing consumption patterns, and the growth of e-commerce are transforming shopping districts into "places of experience and interaction" rather than traditional "places of consumption."

Recently, there has been an increase in tenant turnover and vacant storefronts in the shopping district. The Honichi building has not been spared from this impact. While events draw crowds, the number of visitors during regular hours is declining. This necessitates creating new appeal for the entire shopping district. The utilization of the Honichi building is no longer merely a building management issue. It must be addressed as part of the Yoshiwara shopping district's urban regeneration strategy.

IV. Possibilities for Regeneration and Proposals for a Sustainable Legacy

1.Reevaluating Historical Value and Repurposing as a Cultural and Creative Hub. The Honichi building's greatest assets are its historical and architectural value. Maximizing the potential of its iconic Showa Modernist features — such as the continuous windows and elongated horizontal lines — and renovating the interior to be more flexible will enable the building to become a cultural and creative hub that contributes to contemporary urban life.

Specific proposals include reevaluating the building's outdated internal functions and repurposing it to foster new industries and culture. Examples include galleries, workspaces for local creators, and incubation offices. Drawing on its history of live-work integration, the building could be converted into a mixed-use space combining residences and SOHO units adapted to modern lifestyles. Successful examples in neighboring areas demonstrate that buildings constructed around the same time have been revitalized as community gathering spaces and experiential commercial facilities, thereby driving local vitality. By leveraging its imposing presence and historical narrative, the Honichi building could similarly revitalize the Yoshiwara shopping district.

2.Strengthening Disaster Prevention and Safety Functions as a Return to Its Roots. The Honichi building should reaffirm its historical mission as the originator of disaster-resistant building blocks and enhance its role as a disaster response hub. The most effective way to overcome its challenges is to improve regional safety.

Specifically, the Honichi building should undergo comprehensive seismic retrofitting to ensure its own safety and establish itself as a core hub for regional evacuation guidance and support activities. This includes installing emergency power supplies, communication equipment, and storage facilities that can respond to disasters. This initiative preserves history and fulfills our responsibility to the future. Coordinating with the shopping district's disaster prevention plan will make local residents feel more secure.

3.Management Strategy for Overcoming Multi-Ownership Issues. A management strategy based on specialized expertise is essential for addressing the structural challenges of buildings with multiple owners. A "Regeneration Committee" composed of professionals, such as lawyers, architects, and facility managers, should be formed to facilitate the neutral coordination of owner opinions and address legal and technical issues. Additionally, a long-term repair and maintenance plan should be developed for the next 30 to 50 years, based on detailed diagnostics of building deterioration. Owners should accumulate funds according to this plan to make future costs more predictable. Furthermore, a program should be developed to maximize the use of national subsidy programs and local government grants for seismic retrofitting and historic building preservation to reduce the financial burden on individual owners. Lastly, administrative support for consensus-building for revitalization should be considered.

Conclusion: The Potential of Historic Landmark and Responsibility for the Future. The Honichi building exemplifies the complex challenges of contemporary urban regeneration. These challenges include aging infrastructure, stagnant management due to multiple ownerships, and changes to the environment of the shopping district. However, the building's historical and architectural significance is invaluable. It played a significant role in postwar urban reconstruction, Japan's modernization, and the development of disaster-resistant building techniques. The Honichi building has exceptional potential as a community development resource.

The building is over 60 years old, with age-related cracks and deteriorating facilities. However, the greatest challenge stems from management and operational difficulties due to its multiple owners. Their differing financial situations and visions make it difficult to reach a consensus on critical decisions affecting the entire building, such as seismic retrofitting or major renovations. Furthermore, as the population of Fuji city declines and consumption patterns shift, shopping districts are evolving from "places of consumption" to "places of experience and interaction." Consequently,

the Honichi building is expected to contribute to the urban regeneration strategy for Yoshiwara shopping district.

Reevaluating the building's historical and architectural value is crucial for its regeneration. The economic and legal challenges related to demolition and reconstruction have contributed to preserving the building's historical value. With professional support and a shared vision, the Honichi building's owners, local residents, and the administration can transform this old structure into a "living asset" that connects the Yoshiwara shopping district's past, present, and future. Preserving and utilizing this symbolic building is essential to the continued development of the district as a hub for the local economy and culture. While its use as a cultural asset is under consideration, revitalizing the Honichi building could demonstrate a path to regional revitalization and cultural continuity.

Acknowledgments. We would like to express our gratitude to Shoichi Sano, representative director of NPO Tōkaidō Yoshiwara-juku and Fujisan Area Management Company, for providing us with the opportunity to conduct this research.

References.

1. Fuji-shi Hensan Iinkai. (1978). *Yoshiwara shishi: Gekan* [History of Yoshiwara City: Volume 3]. Fuji-shi. [In Japanese].
2. Fujioka, Y. (2020). *Yokohama bōka kenchikutai o yomitoku* [Understanding the Yokohama Fire-Resistant Building Zone]. Kadensha. [In Japanese].
3. Matsumoto, S. (2022). *Heritage management: Chiiki o kaeru bunkaiisan no ikashikata* [Heritage management: How to utilize cultural assets that change the region]. Gakugei Shuppan. [In Japanese].

Figures.

FIGURE 1 - Honichi Building location map.
FIGURE 2 - Honichi Building Elevation Design | Photo by Tsuyoshi Date.
FIGURE 3 - Honichi Building Elevation Design | Photo by Tsuyoshi Date.
FIGURE 4 - Scene of the shopping street | Photo by Tsuyoshi Date.
FIGURE 5 - Example of a store | Photo by Tsuyoshi Date.
FIGURE 6 - Honichi Building Floor Plan | Created by Tsuyoshi Date.



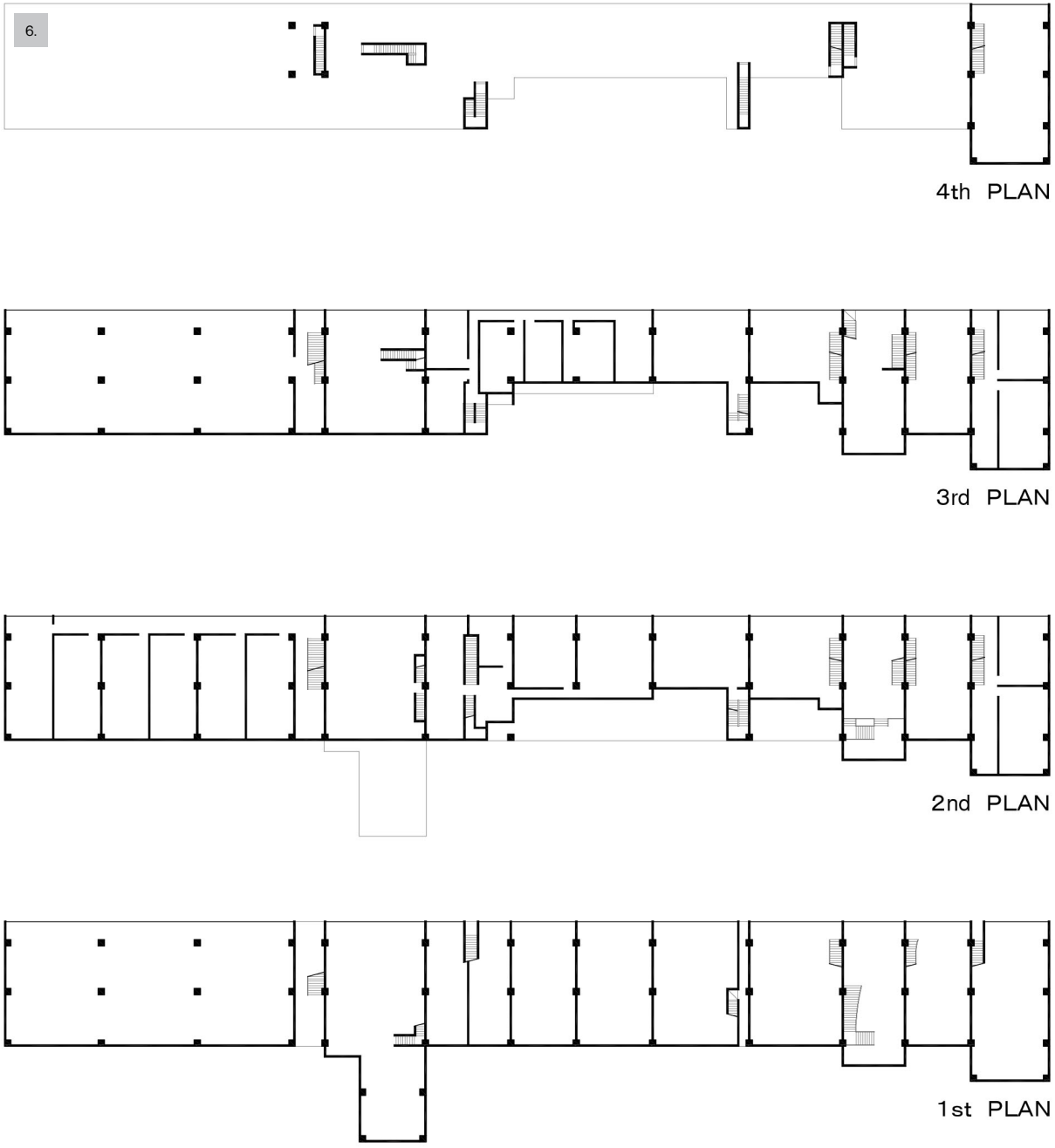
1.


2.
鈴木薬店
INTERNATIONAL


3.
ノジマカメラ


4.
スズキ薬店
鈴木薬店
千電創研


5.


6.
4th PLAN
3rd PLAN
2nd PLAN
1st PLAN
0 5 10 20m

DECARBONISING THE BUILT ENVIRONMENT: RETROFIT STRATEGIES AND WHOLE LIFE CARBON ASSESSMENT IN EARLY 20TH-CENTURY MULTI-FAMILY HOUSES/

Federica Gallina - *Polytechnic University of Turin, Italy*
Jacopo Andreotti - *Polytechnic University of Turin, Italy*
Roberto Giordano - *Polytechnic University of Turin, Italy*
Marco Savino Piscitelli - *Polytechnic University of Turin, Italy*

federica.gallina@polito.it

Abstract. Considering the climate urgency and the European Union's (EU) decarbonisation goals, the construction sector is one of the main contributors to greenhouse gas emissions. According to the European Commission, buildings account for approximately 40 per cent of the EU's final energy consumption and over a third of its energy-related greenhouse gas emissions. Such impact affects the lifecycle of buildings, from material production and construction to use, maintenance, and decommissioning. The International Energy Agency's forecasts estimate that over 85 per cent of existing buildings will still be in use by 2050, while the annual renewal rate of the European building stock is only about 1 per cent. In this scenario, renovating the existing buildings is key to achieving climate neutrality and avoiding new CO2eq emissions. The main purpose of the study, carried out by the Department of Architecture and Design (DAD) and Department of Energy (DENERG) at Politecnico di Torino, was to develop a simplified Whole Life Carbon (WLC) assessment over 19 case studies of multi-family houses built in Turin (Climate zone E) between the 1940s and 1970s. The study was divided into an analysis of climate parameters, building orientation, energy requirements, and building typologies. Then, some energy efficiency solutions were developed, including renovations of the building envelope, the addition of solar shading, and replacement services (primarily mechanical and electrical). The WLC assessment considered both Embodied Carbon (EC) and Operational Carbon (OC) emissions over a 50-year period. Consistent with UNI EN 15978 and RICS guidelines, the adopted methodology is based on the framework proposed within the #BuildingLife project led by Green Building Council Italia. A comparative analysis of advanced retrofit strategies demonstrates the potential of innovative, low-carbon renovations to support the decarbonisation of the building stock.

Introduction. Unlike many European cities, which are characterised by relatively recent buildings, Italian cities have developed in layers, giving rise to a highly heterogeneous and recognisable architectural landscape (BPIE, 2011). It is home to compact historic districts, 19th-century neighbourhoods, and a vast post-World War II residential heritage, the latter often energy inefficient (ENEA, 2023) but now fully integrated into the urban identity. Today, it represents one of the most significant challenges for Italy's ecological transition. The redevelopment of these buildings is therefore not a simple technical intervention, but an action with profound repercussions on urban quality, the future of the built environment, and the ability to achieve national and European energy targets (Ruggieri et al., 2023).

EU policies emphasise this urgency: the European Green Deal (European Commission, 2019) and the subsequent revision of the Energy Performance of Buildings Directive - EPBD (European Commission, 2024) recognise the key role of existing buildings in the decarbonisation process, promoting the integration of Whole Life Carbon (WLC) into the design process to encourage the construction of zero-emission buildings and the spread of renovation passports (European Commission, 2024, Art. 12). In addition, the Renovation Wave strategy (European Commission, 2020) reiterates the need for profound and systematic interventions on existing buildings, supporting the process of building renovation, which in Europe currently stands at around 1% per year (IEA, 2021). In the national context, the PNIEC 2024 (MASE, 2024) identifies the energy upgrading of the building stock as an essential component of the climate strategy, while MASE emphasises that the transformation of the existing building stock requires advanced analysis tools and a progressive integration of energy performance, environmental impacts, and architectural quality. At the same time, evidence from the International Energy Agency indicates that over 85% of current buildings will still be in use in 2050 (IEA, 2021), underscoring the need to intervene in existing buildings rather than relying solely on new construction. International studies show that embodied emissions can account for 50-60% of the total in high-performance buildings (BPIE and KU Leuven, 2023; Röck et al., 2024), making a WLC assessment-oriented approach essential. In line with these considerations is the work carried out by the Department of Architecture and Design (DAD) of the Polytechnic University of Turin in collaboration with the Green Building Council (GBC) Italia (Giordano & Andreotti, 2024), which proposes a methodological framework for assessing and reducing emissions throughout the life cycle of buildings.

This paper expands upon the growing body of research on WLC assessment, analysing a sample of 19 multi-family buildings, both tower blocks and terraced houses, built in Turin (climate zone E) between the 1950s and 1970s to define a set of possible low-carbon retrofit scenarios. The research, conducted by the Department of Architecture and Design (DAD) and the Department of Energy (DENERG) of the Polytechnic University of Turin, aims to:

- assess the effects of redevelopment strategies on embodied and operational emissions;
- compare advanced technological scenarios, including photovoltaic systems and storage batteries;
- analyse the impact of different end-of-life strategies for materials;
- identify the factors that most influence the effectiveness of decarbonisation in existing buildings.

This study advances current WLC research in three main ways. First, it applies a consistent WLC framework to a statistically derived series of 19 real multi-family archetypes, enabling cross-case comparison and identification