



ICCAUA Proceedings Journal

Proceedings of the international conference of contemporary affairs in architecture and urbanism-ICCAUA
Volume 9 (December 2026), 2610308

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

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

DOI: <https://doi.org/10.38027/ICCAUA2026EN0308>

Exploring the Effects of Flexibility in Mass Housing on Urban Design

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Abstract

Received: 18.04.2026
Revised: 20.06.2026
Accepted: 01.07.2026
Available online: 10.07.2026

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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 explore how the ideas of flexibility in mass housing are reflected at the urban design scale rather than being limited to the interior organization of dwelling units. Focusing on selected early and later mass housing settlements in Batıkent, Ankara, the research examines how different interpretations of flexibility shape the relationship between mass housing and urban spaces. This study is structured around three analytical steps: (1) establishing a conceptual framework that approaches flexibility as a socio-spatial notion linked to urban design; (2) introducing Batıkent as a case study through its development process and spatial organization, with particular attention to flexibility ideas; and (3) interpreting how varying flexibility approaches correspond to changing housing ideals and urban life scenarios. By comparing representative settlements from different periods, this study has shown that urban-scale reading of flexibility in mass housing played a role in shaping collective living environments rather than solely adaptable dwelling units.

Keywords: Flexibility; Mass housing; Urban design; Everyday practices; Batıkent.

1. Introduction

The discussion of mass housing frequently includes dwelling typologies, production models, and standardized design approaches. However, the relationship between mass housing and urban design also shapes everyday life, social interaction, and living environments. This paper examines flexibility in mass housing as a feature of dwelling units and as a socio-spatial condition produced through settlement layout, open spaces, ground relations, and public-private transitions. Focusing on İlk yerleşim and Yeni Batı Neighborhoods in Batıkent, Ankara, the study compares early and later residential environments to discuss how different spatial organizations enable or restrict everyday forms of collective life. In the literature, there are studies on the relationship between mass housing and urban design (Dinçer et al., 2014; Eren and Dostoglu, 2017; Zerouati and Bellal, 2020). The transformation process of housing structures is also emphasized in the literature. For instance, Eren and Dostoglu (2017, p. 196) indicated a transformation from the areas occupied by traditional housing to the areas defined by residences, apartments, or detached dwellings. In the second half of the twentieth century, new housing environments, such as squatter housing and mass cooperative housing, as well as apartments, appeared due to rising housing demands, while the understanding of neighborhoods transformed into housing areas with defined boundaries, which led to dramatic changes in social, cultural, and urban structures (Eren and Dostoglu, 2017, pp. 198, 199; Amen et al., 2023). A wide range of social facilities, such as areas and spaces for sports, shopping, and entertainment, are involved in the areas allocated for high-rise apartment blocks, which leads to the isolation of people from cities and a decline in the use of urban spaces (Eren and Dostoglu, 2017, p. 199). The residential sites make the economic and social differences among various occupants, such as dwellers and workers visible, while the spread of changing living standards and being alone also led to the spread of minimalist house typologies (Eren and Dostoglu, 2017, pp. 200, 201). Time devoted to living at home and collective living sensibility have decreased and lost, which also influenced the understanding of dwelling, family, and home culture as well as the necessity for large living and kitchen areas (Eren and Dostoglu, 2017, p. 201).

One of the reasons behind the construction of apartment blocks in the periphery of cities is related to meeting the necessity for housing for increasing population, which may also result in problems in the connections of residences with cities' facilities (Zerouati and Bellal, 2020, pp. 35, 43; Aziz Amen & Ali, 2025). At this point, the loss of urban trees also appears as a problem in cities. In this manner, Pedley et al.'s study (2026) indicated the urban pressures on urban trees while accommodating housing for people in cities and highlighted the importance of urban trees in developing sustainable approaches while explaining reasons behind the saving and the loss of them. And today, housing design is also a common practice in the architectural milieu. For this reason, current studies also highlighted several problematics in their design

process. For instance, the study by Dinçer et al. (2014) indicated the importance of the achievement of being unique through the design of mass housing instead of designing them in a standardized and similar manner. Zerouati and Bellal (2020, p. 35) also indicated the problematic such as identity and spirit loss brought by the recurring silhouette design of mass housing with standard approaches while not considering spatial, social, and environmental parameters. To this aim, Dinçer et al.'s (2014) study also paid attention to the computational design tools to make decision-making process effective and achieve unique designs while accompanying the users' necessities. Their study has shown that the decision-making process can be well designed and managed via computational models while complex designs, spatial organizations and relations, circulation and core space solutions, façade designs, and site plan solutions as well as various floor plan solutions can be effectively advanced (Dinçer et al., 2014, pp. 272-76). This process will also result in time saving, ideal solutions, effective management of the design process, the success in various and flexible design configurations, and the users' satisfaction (Dinçer et al., 2014, p. 279).

Discussions about the relationship between flexibility and urban design in mass housing could be useful, especially in relation to everyday use and collective living environments. Thus, in addition to design parameters, the use of open spaces in mass housing is another issue handled in the literature. The exterior open spaces are considered as transition spaces and in-between spaces of buildings, which generate social interactions and activities (Gehl, 1996; as cited in Zerouati and Bellal, 2020, p. 36). Based on the studied literature on housing environments, this study aims to compare different housing environments, especially regarding spatial uses and social dimensions.

Besides, Abd Elrahman and Asaad (2021) emphasized the importance of bridging the gap between theory and practice, as well as between urban planning and design. This study also approaches mass housing not merely from an architectural perspective, but rather as a significant component of urban fabric that integrates architectural and urban scales.

In the literature, there are also studies dealing with critical phases of housing policies in Türkiye (Bilgin, 2004) and mass housing processes (Bican, 2019). In this sense, Bican (2019) indicated the importance of various participants in producing solutions for sustaining and preserving values of the built environment. Azlan et al. (2025) also searched for housing policies and their roles in social sustainability. Thus, to achieve the efficient mass housing design in the future, comprehensive and systematic approaches and research should be developed while allowing collaborations of various actors.

Recent literature also witnesses a significant concentration on mass housing research, indicating the resilience process of mass housing environments (Huang et al., 2025) as well as their adaptability to environmental changes and challenges (Afolabi and Adedire, 2023; Lee and Ng, 2026). Such studies also shed light on the concept of flexibility; however, the case study in this research was not evaluated from this specific perspective. Future research may further investigate Batikent through the lens of adaptability especially to challenging situations and evaluate the resilience of the case.

1.1 The Concept Of Flexibility

Considering the design of mass housing, the concept of flexibility has been handled both at urban (Sanei et al., 2018) and architectural scales (Estalji, 2017; De Paris and Lopes, 2018) in the literature. For instance, by defining flexibility as a capacity of a building for adaptability and reconfiguration process in the case of changing conditions, Estalji (2017) is interested in housing design while especially analysing the concepts of flexibility and adaptability in this process. De Paris and Lopes (2018) also aimed at analysing flexibility in housing context with reference to the changing family structures and new forms of lifestyles. This expands the understanding of flexibility as a response to changing social and cultural circumstances (De Paris & Lopes, 2018). The flexibility in houses at architectural scale can be provided by reconsidering forms, scale, and façade design as well as spatial, geometrical, constructional, and infrastructural details (De Paris and Lopes, 2018, p. 91). In the same way, flexibility has been linked to the ability of housing to adapt to changing household needs and usage patterns over time (Elkady et al., 2018). At urban scale, the concept of flexibility refers to the capability of urban spaces in adapting to changing conditions and producing solutions while efficiently utilizing existing resources for people to accommodate their future necessities (Sanei et al., 2018, p. 40). In this manner, Sanei et al. (2018) focused on the role of flexibility in encouraging social and spatial dynamics and increasing spatial quality in urban spaces while offering design ideas and methods to achieve flexibility in urban spaces. By emphasizing the role of urban spaces in the health of people, the study by Sanei et al. (2018, p. 42) searched for ways of providing flexibility of urban spaces with respect to vitality of urban spaces and social encounters. This mentioned study put flexible design parameters for urban spaces, some of which are related to the providing of an increase in the porosity of spaces and the accessibility, the analysis of spatial behaviours, and the providing of the flexibility of spaces as well as the consideration of social and urban activities, permanent and temporary elements, urban furniture, façade design, public engagement, and green spaces (Sanei et al., 2018, pp. 41-42). Recent studies have broadened the notion of housing flexibility to consider not only dwelling units but also housing environments. These environments are seen as adaptive socio-spatial systems and they are simultaneously interacting with changing social, economic, and environmental conditions, as well as changing user needs and everyday practices (Chan et al., 2026; Mottelson et al., 2026). From this perspective, flexibility is defined not only as the adaptability of housing units, but also as the ability of housing environments to adapt to changing patterns of daily life and collective living.

In the literature, numerous studies have also concentrated on open social spaces. Dragutinovic et al. (2023) focused on the spatial configuration of open spaces in mass housing, particularly in the context of their contribution to social life and spatial experiences. Another study by Wu and Ge (2020) also searched for communal spaces and design strategies for the development of open spaces with reference to sustainable development. This contemporary literature highlights the quality and utilization of open spaces, all of which ultimately provide flexibility for the users. Moreover, this flexibility can be interpreted as spatial adaptability, allowing users to appropriate the space for diverse activities ranging from spatial experiences to socialization and interaction with each other.

2. Materials and Methods

In this study, the analysis covers the historical background of the selected early and later settlements, the design ideas behind mass housing projects, and the relationship between mass housing and urban design in the context of flexibility. The study employs a qualitative comparative spatial analysis of two residential areas in Batıkent: the İlkyerleşim Neighborhood (IYN) and the Yeni Batı Neighborhood (YBN). Data include secondary literature on Batıkent's planning and cooperative housing development, Google Earth Pro satellite images, and photographs taken by the authors that illustrate settlement patterns and usage. The analysis focuses on spatial organization, density, scale, the structure of open spaces, the integration of green spaces, ground relations, transitions between public and private spaces, and the potential for everyday social interaction. Since available literature provides more detailed information on Batıkent's initial planning and cooperative stages than on later neighborhoods, such as YBN, this comparison does not claim to provide an exhaustive historical account of both cases. Instead, the study uses the two selected residential areas as contrasting examples to discuss flexibility as a socio-spatial condition at the urban scale. Due to the limited availability of case-specific scholarly sources on the Yeni Batı neighborhood, the analysis relies primarily on spatial and visual observations via Google Earth Pro satellite images and photographs, as well as comparisons with the documented planning principles of early Batıkent.

3. Results

Batıkent was selected as the case study because it represents one of Ankara's most significant planned mass housing developments and provides a productive ground for discussing the relationship between mass housing, collective living, and urban design.



Figure 1. (a) Satellite image of İlkyerleşim Neighborhood (IYN) in Batıkent (Google Earth Pro, Image © 2026 Airbus, Imagery date: October 3, 2025)
(b) Satellite image of Yeni Batı Neighborhood (YBN) in Batıkent (Google Earth Pro, Image © 2026 Airbus, Imagery date: October 3, 2025).

After reviewing the case of Batıkent, this study will first introduce İlkyerleşim Neighborhood (IYN) and then Yeni Batı Neighborhood (YBN). The approximate boundaries of neighborhoods are shown in Figure 1 based on data derived from Google Earth. These cases are not treated as exhaustive representations of Batıkent as a whole. Rather, they are used as contrasting examples for discussing different phases and spatial logics of mass housing development in the district. İlkyerleşim Neighborhood is approached as an early development associated with the initial neighborhood-oriented and cooperative-based planning principles of Batıkent, while Yeni Batı Neighborhood is examined as a later residential environment shaped by more recent patterns of higher-density housing and more defined forms of open space and residential management. The comparison allows the study to investigate how changing housing ideals are reflected in spatial organization, open space use, public-private relations, and the everyday conditions of collective life.

In the literature, the studies by Küreli Gülpınar (2021) and Küreli Gülpınar and Balamir (2022) elaborated on early housing alternatives in Batıkent and the process of housing “collection.” By evaluating the recurring and similar formulation of today’s apartment blocks as “generic,” these studies also indicate that these apartment blocks are deprived of constructing space and place aspects (Küreli Gülpınar and Balamir, 2022, pp. 1171, 1191, 1192). Thus, the fundamental arguments of Küreli Gülpınar and Balamir (2022), which criticized today’s housing environments, are significant for this study in terms of opening a path for a comparative look at the case of early and later formations in Batıkent. In this sense, Eren and Dostoglu's (2017) study also offers useful insights for this study by providing a comparative interpretation of changing housing environments. Besides, another group of studies (Karayalçın, 1987; Bayraktar & Girgin, 2010) delving into the case of Batıkent became beneficial for this study in terms of understanding the formation process of Batıkent. The study by (Özcan, 2007) also helped develop an understanding of the spatial environment of Batıkent as well as the urban fabric. By utilizing these studies to understand the formation process, changing situations, and a variety of housing patterns in Batıkent, this study also aims to compare the early and later developments; however, it operates primarily within the context of the concept of flexibility understanding in the chosen cases.

3.1 Early Developments: İlk yerleşim Neighborhood

İlk yerleşim Neighborhood is examined in this study as an early residential fragment of Batıkent, in relation to the original planning principles of the project. Although the available literature does not provide a detailed architectural dataset on İlk yerleşim Neighborhood itself, the broader literature on Batıkent's early development helps situate it within the initial spatial and social logic of the settlement. Batıkent was planned as a mass housing project for low- to middle-income households, while its development generally relied on cooperative organizations, such as Kent-Koop and other unions (Karayalçın, 1987, pp. 294, 296; Bayraktar & Girgin, 2010). Additionally, Batıkent was not only planned for the development of housing projects but also considered within a "strategic urban growth" of the city (Kürelî Gölpinar, 2021, p. 228; Kürelî Gölpinar and Balamir, 2022, pp. 1189).

This cooperative model was not limited to the production of dwelling units; it also organized social and spatial environments through accessible daily services, common areas, neighborhood facilities, and playgrounds. The initial planning framework of Batıkent was planned across a hierarchy of scales, starting from cooperatives as the smallest units to larger neighborhood, district, and Batıkent-wide centres (Karayalçın, 1987; Bayraktar and Girgin, 2010). The planning understanding intends to include social, commercial, educational, and health services as well as green and playing areas as a part of everyday living within accessible walking distance (Karayalçın, 1987; Bayraktar & Girgin, 2010). This spatial layout can be interpreted as facilitating a type of urban flexibility that is based on informal encounters, everyday accessibility, and potential collective use. Moreover, this suggests that the early Batıkent project integrated housing with broader urban design concerns such as accessibility, open space provision, and social infrastructure. In this context, İlk yerleşim Neighborhood can be read through the early ideals of Batıkent as a settlement where the relationship between dwelling, open space, and neighborhood life was prioritized.

This planning logic is important for the present study because it demonstrates that Batıkent was conceived as more than just an accumulation of housing units; it was designed as a planned residential environment organized around daily needs, social facilities, open spaces, and neighborhood relations. Therefore, Batıkent offers different spatial configurations through which flexibility can be examined at various scales, including the dwelling unit, open space organization, settlement layout, ground relations, and everyday patterns of collective use. Besides, the integration of housing environments with transportation systems of cities is also a significant issue in the literature (Tutal and Koç, 2024). Ghumare et al. (2025) focused on the quality of life in high-rise housing environments and searched for the ways of developing this quality, while also considering the access to facilities. In this context, the connection of both neighborhoods with the city is provided via transport nodes. This also provides people flexibility in accessing the city and its facilities when people would like to integrate with the city.

The flexibility in İlk yerleşim Neighborhood should not be understood primarily as the physical transformation of dwelling interiors. Rather, flexibility emerges as a socio-spatial capacity of settlement, meaning the ability of open spaces, neighborhood facilities, pedestrian relations, and ground-level interactions to accommodate everyday practices over time. In this sense, the neighborhood represents an early housing ideal in Batıkent, where collective living, neighborhood proximity, and daily accessibility were embedded in urban design.

3.2 Later Developments: Yeni Batı Neighborhood

Özcan (2007) examines several housing cooperative sites in Batıkent and discusses residents' evaluations of open and green areas, building density, neighborhood relations, and daily shopping practices. While Özcan's selected cooperatives are not identical to those chosen for this study, this study is useful for understanding the characteristics of cooperative housing in Batıkent, such as plan layouts, topographical relations, environmental issues, and social and infrastructural proposals. Özcan (2007) compares the advantages and disadvantages of organic and grid-iron planning design approaches. For example, organic settlements are more compatible with the natural formation of topography and settlements, but less compatible with the increasing pace of life over time. Additionally, Bayraktar and Girgin (2010) stated that the first, second, and third stages of housing in Batıkent were completed by 1994, and the fourth stage was completed by 2004. They also illustrate that Batıkent consists of different types of housing, such as single-family homes and multi-story residential areas. Unlike the housing environments in İlk yerleşim Neighborhood, which were shaped only by low-rise houses with gardens, Batıkent's housing environments were shaped by various types of housing. Following various previous types of housing formations and organizational layouts, Batıkent is continuously being formed today by new high-rise residential complexes with landscaping and residence services.

The Yeni Batı Neighborhood is examined as a later residential environment within Batıkent. It represents a different phase of mass housing development compared to the early, cooperative-based logic of the settlement. While the sources used in this study provide substantial information on Batıkent's initial planning, cooperative production, and staged development until the early 2000s, they offer limited direct information on Yeni Batı as a specific neighborhood. Therefore, the Yeni Batı Neighborhood is examined through a qualitative spatial analysis based on its position as a later development in Batıkent, its observable settlement patterns, and its differences with earlier planning principles documented in the literature.

Within the framework of the present study, Yeni Batı reflects a more recent urban residential logic in Batıkent. This logic is characterized by higher density development, more defined open spaces, and a stronger separation between residential complexes and the surrounding urban fabric. Unlike the early planning ideal that emphasized gradual neighborhood development, walking-distance facilities, and everyday common areas, later residential environments tend to organize collective life through more clearly programmed and managed spaces. This does not mean that collective spaces disappear, but rather that their character changes. Social facilities, green areas, playgrounds, and circulation spaces are provided as part of residential services, and their use is more closely shaped by management practices and defined spatial boundaries.

The contrast between the use of early and later residential environments can be discussed through the changing relationship between housing and public space. In the early cooperative-based logic of Batıkent, everyday facilities and open spaces were planned as part of the neighborhood structure. In later environments, such as Yeni Batı, the relationship between housing and urban space appears more mediated through defined site boundaries, managed landscapes, and organized amenities. This condition corresponds to broader transformations in Turkish urban housing culture, where multi-story residential compounds and site-based living environments have increasingly reshaped public-private relations, open space use, and forms of collective life.

Accordingly, although flexibility is present in Yeni Batı, it operates differently. Instead of being associated with informal appropriation, gradual transitions, or every day, user-driven modifications of open spaces, it is mediated through planned and managed spatial arrangements. Instead, flexibility is facilitated by planned and managed spatial arrangements, which include designated playgrounds, green spaces, structured circulation routes, and communal facilities. This presents a different form of flexibility, providing a lifestyle that people need due to changing working and living standards. In this sense, everyday use appears more regulated and less open-ended than in the earlier, neighborhood-oriented model. Thus, Yeni Batı can be interpreted as representing a later housing ideal in which comfort, security, and managed collective life are more important than spontaneous neighborhood interaction.

4. Analysis: Comparative spatial reading of selected examples

As shown in Table 1, flexibility operates differently in these two cases. In İYN, flexibility is associated with informal use, gradual transitions, and everyday appropriation of open spaces. In İYN, flexibility is related to the informal use of open spaces, gradual transitions, and everyday appropriation. In YBN, however, flexibility is mediated through planned facilities and regulated common areas, signifying a more controlled form of collective life. Therefore, the comparison suggests a shift from an emphasis on user-driven flexibility to informal appropriation to planned, managed, and regulated collective use.

Table 1: Comparative spatial characteristics (Authors, 2026).

Analysis dimensions	İLKİYERLEŞİM NEIGHBORHOOD (İYN)	YENİ BATI NEIGHBORHOOD (YBN)
Development phase	Early development	Later development
House pattern	Lower-density, neighborhood-oriented	Higher-density, complex/site-oriented
Ground relation	Direct and continuous	More controlled
Open space	Informal, everyday use	Programmed
Green Integration	Neighborhood scale, users' shaping, public parks	Predetermined and standardized landscapes
Public-private relation	Gradual relations	Clearer boundaries
Social interaction	Spontaneous encounters	Organized and common facilities
Accessibility	Open-ended	Defined boundaries of the site
Flexibility	User-driven everyday flexibility	Predefined and regulated

Tables 2-7 shows the flexibility potential of the İlkyerleşim and Yeni Batı Neighborhoods. This suggests that flexibility plays a different role in the two selected residential environments. In İlkyerleşim Neighborhood, flexibility is associated with ground-level relations, gradual public-private transitions, informal use of open spaces, and neighborhood-based accessibility. In contrast, the Yeni Batı neighborhood emphasizes planned facilities, organized landscapes, restricted access, and communal spaces. Therefore, the comparison suggests a shift from autonomy to more regulated, communal spatial arrangements.

Table 2: Comparative assessment of flexibility potentials in terms of house pattern (Authors, 2026).

Table 27. Comparative assessment of flexibility potentials in terms of house pattern (Authors, 2026).	
Photograph (taken by the authors, 2026)	Comparative reading of flexibility potentials
İLKİYERLEŞİM NEIGHBORHOOD	House pattern
	• İYN is characterized by low-rise, horizontally organized housing, which fosters closer relationships between dwelling units, streets, gardens, and outdoor spaces for everyday use. • In contrast, YBN features a higher-density, more vertical residential pattern, where communal life tends to be organized through shared facilities and managed common areas. • These differences indicate a shift from ground-related neighborhood patterns to more compact, regulated residential environments.
YENİ BATI NEIGHBORHOOD	
	

Table 3: Comparative assessment of flexibility potentials in terms of ground relation (Authors, 2026).

Photograph (taken by the authors, 2026)	Comparative reading of flexibility potentials
IYN	Ground relation
	- In IYN, the relationship between housing and the ground is more directly engaged, allowing gardens, thresholds, and streets to be engaged with as extensions of domestic life by residents. - In YBN, the connection to the ground is more mediated by entrances, circulation systems, and designated outdoor spaces. - Thus, flexibility in IYN emerges through the everyday appropriation of ground-level spaces, whereas in YBN, it is shaped by pre-planned spatial arrangements.
YBN	
	

Table 4: Comparative assessment of flexibility potentials in terms of green integration (Authors, 2026).

Photograph (taken by the authors, 2026)	Comparative reading of flexibility potentials
IYN	Green integration
	- In IYN, green areas appear more closely integrated with dwellings and everyday residential use. This allows residents to participate in shaping and maintaining their immediate environment. - In YBN, green areas are more formally designed, standardized, and managed as part of the residential complex. - This suggests a shift from green spaces that are gradually appropriated by residents to planned landscape elements that support collective use in a more regulated manner.
YBN	
	

Table 5: Comparative assessment of flexibility potentials in terms of public-private relation (Authors, 2026).

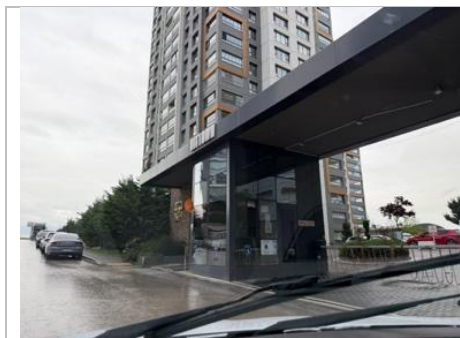
Photograph (taken by the authors, 2026)	Comparative reading of flexibility potentials
IYN	Public-private relation
	• More gradual transitions between private, semi-private, and public spaces are presented by IYN through gardens, thresholds, and neighborhood streets. These transitional spaces encourage informal interactions and flexible, everyday use. • In YBN, public-private relations are more clearly defined by site boundaries, controlled entrances, and organized common areas. • Consequently, flexibility shifts from open-ended neighborhood interaction to more controlled forms of collective use.
YBN	
	

Table 6: Comparative assessment of flexibility potentials in terms of social interaction and open space (Authors, 2026).

Photograph (taken by the authors, 2026)	Comparative reading of flexibility potentials
IYN	Social interaction + open space
	• In IYN, the existence of open spaces, gardens, and streets provides opportunities for spontaneous social interaction and informal collective activities. • In YBN, designated open spaces, recreational areas, and communal facilities support social interaction, yet these spaces are more programmed and managed. • This indicates a shift from an informal, user-driven collective life to an organized, facility-based social interaction.
YBN	
	

Table 7: Comparative assessment of flexibility potentials in terms of accessibility (Authors, 2026).

Photograph (taken by the authors, 2026)	Comparative reading of flexibility potentials
IYN	Accessibility
	• In IYN, accessibility is supported through a neighborhood-scale organization in which daily services, open spaces, and residential areas are closely related. This spatial structure encourages walking and everyday encounters within the neighborhood.
YBN	



- In YBN, accessibility is also provided through nearby amenities, which are more frequently found within residential complexes.
- Thus, accessibility shifts from an open, neighborhood-based pattern to a more internally organized, service-based model.

5. Discussion

A comparison of the İlkyerleşim and Yeni Batı Neighborhoods reveals that flexibility in mass housing operates differently in early versus later residential environments. Flexibility is not limited to the interior organization of dwelling units; it can also be understood as a socio-spatial condition shaped by settlement layout, open space organization, ground relations, and public-private transitions.

From a comparative perspective, the two neighborhoods represent differences and diversity. The findings based on situ-observations are presented below:

- The concept of belonging is observed differently in the two cases. In IYN, it seems that belonging is supported by living in the same place for a long time and having stronger daily relationships with the local community. In YBN, this sense of belonging seems more limited, mediated by transient residence and managed residential complexes.
- Housing types also suggest different everyday living patterns in the two neighborhoods. Type 1+1 houses are found in YBN residences, whereas multi-room houses are found in the IYN context. IYN supports closer relationships among family life, gardens, and neighborhood interaction, while YBN provides alternative spaces for socialization through ground-floor cafés, shared facilities, and managed common areas.
- The perception and meaning of safety are also different in both cases. In IYN, safety appears to be supported through everyday familiarity. It is also supported through visibility and informal neighborhood control. In contrast, YBN's safety is more explicitly organized through security services, camera systems, controlled entrances, and site management.
- The organization of the landscape is driven by various spatial logics. In IYN, residents are more directly involved in shaping their immediate environment. They do this through activities such as gardening, planting, and everyday maintenance. In YBN, the landscape is standardized and defined by the rules and norms in residences in YBN.
- In the two cases, streets perform different roles. In IYN, streets operate as circulation routes and everyday spaces for play, informal encounters, and temporary collective activities, such as street bazaars. In YBN, streets are more commonly organized as wider vehicular routes or boundaries around residential complexes.
- Children's outdoor activities are organized in different spatial ways. In IYN, the continuity between houses, gardens, and streets allows children to play in more informal outdoor settings. In YBN, children are more likely to play in designated playgrounds, kindergarten areas, or recreational spaces managed through residential dues. At this juncture, future designs also should consider the strong link between design parameters and socio-cultural and psychological dimensions, as underscored in the literature (Gkoumas et al., 2025).
- Daily services and shopping facilities are organized through different accessibility models. The early developments are designed on a traditional neighborhood scale. Walking and socializing are common practices in these neighborhoods where low-rise houses are located. In IYN, contributing to sustainable urban design means providing people with access to small-scale shopping units, such as stores and butchers, as well as green areas, in proximity. In later developments, a variety of social facilities are also provided within the boundaries of residences, also at a close distance, although the apartments are designed as high-rise blocks within site organizations.
- YBN explicitly defines everyday rules and maintenance routines. For instance, waste disposal, landscape maintenance, and shared facility use are more likely to be organized through site management rules. In IYN, everyday routines appear to be less formally regulated and more dependent on residents' individual or collective practices. Rather than simply defining this as "time flexibility," it can be understood as the difference between informally organized and formally managed residential routines.
- The use of street furniture can be flexibly designed and located by people in IYN. Small-scale outdoor elements in IYN appear more open to everyday appropriation. In contrast, street furniture and common outdoor elements in YBN are generally planned and managed as part of the residential complex.

- The connection with the ground, green areas, and social life is more direct in IYN. Outdoor space and informal collective life are supported by everyday contact with low-rise houses, gardens, and neighborhood streets. There have been similar findings regarding the role of housing environments in fostering connections to the external environment, social interaction, and daily well-being (Masoudinejad, 2025). In YBN, this connection is mediated by high-rise buildings, controlled entrances, managed open spaces, and planned communal facilities. Recent mixed-use development patterns in Turkish metropolitan areas have been tied to similar forms of managed and functionally integrated residential environments (Yılmaz Bakır, 2020). This does not eliminate social life but rather reorganizes it through more regulated and programmed spatial settings.
- The way car parking is organized differs in the two cases. In YBN, parking is more clearly planned as part of the residential complex. In IYN, streets are more directly used for parking. However, both models may create spatial pressures: in YBN, due to the number of cars and the scale of the development; and in IYN, due to the limited width of the streets and their everyday use.

Overall, the comparison suggests a shift. The shift is from informal and user-driven spatial appropriation toward more programmed, managed, and regulated patterns of collective use. The results demonstrate how distinct settlement patterns also suggest different opportunities for daily use, public-private shift, and collective life. In IYN, flexibility emerges through the everyday appropriation of streets, gardens, thresholds, and open spaces. In YBN, flexibility is structured through planned amenities, controlled access, standardized landscapes, and regulated common areas. Consequently, flexibility in mass housing extends beyond the adaptability of residential units. Rather, in line with the literature (Chan et al., 2026; Mottelson et al., 2026), it appears that the ability of urban design should be considered to encourage, generate, and facilitate everyday activities and social life. This interpretation aligns with studies emphasizing that housing environments are formed by the relationship between sociocultural dynamics and spatial organization (Fallah Tafti et al., 2026) and that spatial design decisions significantly influence social consequences, including participation, belonging, and quality of life (Aly et al., 2026).

6. Conclusions

This study examined flexibility in mass housing at the urban scale through a comparative reading of İlkyerleşim and Yeni Batı Neighborhoods in Batıkent, Ankara. The comparison shows that flexibility operates differently across early and later residential environments. In İlkyerleşim, flexibility is related to informal open space use, direct ground relations, gradual public-private transitions, and everyday appropriation. In Yeni Batı, it is shaped by planned facilities, managed landscapes, and more controlled forms of collective use.

It is argued in the study that flexibility in mass housing should be expanded beyond the interior organization of dwelling units and understood as a socio-spatial condition embedded in urban design. In this sense, the layout of settlements, open spaces, green areas, accessibility, and public-private relations become central to understanding how flexibility operates in everyday residential environments.

By comparing two residential areas from different phases of Batıkent's development, the paper highlights a shift from neighborhood- and user-driven spatial appropriation to more regulated, managed, and service-oriented residential environments. It indicates a shift in housing ideals from collective neighborhood life to organized collective living. This shift can also be seen as part of the larger typological and morphological changes that have influenced Ankara's residential development over time (Çalışkan et al., 2023). To conclude, each sample provides distinct dimensions of flexibility; while one sample fosters natural and spontaneous interactions, the other sample provides different choices and represents changing today's life conditions. Batıkent thus offers a valuable case study for examining how evolving housing ideals are realized through urban design decisions in mass housing environments.

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

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