University of Baghdad
College of Engineering
JE
JOURNAL OF ENGINEERING

Journal of Engineering

journal homepage: www.jcoeng.edu.iq

Volume 31 Number 7 July 2025

Balancing Modernity and Tradition in Neighborhood Attachment and Improvement Preference- Sulaimani Heights in Iraq as a Case Study

Rebaz Jalil Abdullah

City planning Engineering, Technical College of Engineering, Sulaimani Polytechnic University, Sulaimani, Iraq

ABSTRACT

This study examines residents' perceptions, attachments, and preferences for neighborhood improvements in Sulaimani, Iraq, a city undergoing rapid urban transformation. The research aims to address two key objectives: (1) To investigate how residents perceive and attach to their old and current neighborhoods; (2) To explore what are their priorities for neighborhood improvements. Using the TwoStep Cluster model in IBM SPSS Modeler, residents were grouped based on their satisfaction with their neighborhoods and their priorities for architectural and infrastructure enhancements. The findings indicate a dual focus: while residents appreciate modern amenities, such as energy-efficient designs and improved public spaces, they also place high value on cultural heritage and social connections. The study further highlights variations in preferences for mixed-use developments and specific infrastructure improvements. These insights emphasize the challenge of balancing modernization with preserving traditional neighborhood identities. The results provide practical recommendations for urban planners and policymakers in shaping sustainable and culturally responsive urban development in Sulaimani and similar contexts.

Keywords: Neighborhood attachment, Urban clustering, Neighborhood improvements, Sulaimani Iraq, Urban transformation

1. INTRODUCTION

Urban neighborhoods are integral to shaping residents' daily lives, influencing their sense of belonging, quality of life, and overall satisfaction. In rapidly urbanizing cities like Sulaimani, Iraq, understanding how residents perceive and interact with their neighborhoods is essential for guiding sustainable urban development. In recent decades, Sulaymaniyah has undergone significant transformations, particularly with rapid urban expansion beyond its

*Corresponding author
Peer review under the responsibility of University of Baghdad.
https://doi.org/10.31026/j.eng.2025.07.08

Article received: 05/01/2025
Article revised: 16/03/2025
Article accepted: 08/04/2025
Article published: 01/07/2025

traditional boundaries. This growth has led to challenges such as urban sprawl, increased property values, and unequal distribution of public amenities **(Jarah et al., 2019)**. As older neighborhoods face challenges such as outdated infrastructure, insufficient amenities, and declining livability, newer developments often promise improved conditions. However, these transitions can disrupt the social and cultural fabric of communities, creating a complex interplay between modernity and tradition in residents' preferences and attachments **(Sýkora et al., 2023; Tilaki and Farhad, 2024)**.

While the concept of neighborhood attachment and preferences has been widely studied in Western and Asian contexts **(Greif, 2009; Khosravi et al., 2020; Górny and Toruńczyk-Ruiz, 2014; Zhang et al., 2015)**, limited research has focused on Middle Eastern cities like Sulaimani. This gap is significant given the unique socio-cultural and urban dynamics of the region. In Iraq, rapid urbanization often outpaces the ability of planners to address residents' needs, leading to fragmented developments that fail to balance functional improvements with the preservation of cultural and social identities. While international studies so far have concentrated on energy efficiency, mixed-use development, and community involvement, the specific priorities of the residents of Sulaimani are less thoroughly investigated. This paper fills that gap by studying both the emotional and functional dimensions of neighborhood attachment and improvement priorities in Sulaimani.

Sulaimani—a city with a very rich history, nimble culture, and fast growth during the last two decades—modern infrastructure and modern houses have presented new problems associated with sprawl, lost green spaces, and inadequate public amenities. Frequently, old or poor infrastructure, along with a lack of maintenance, appears in older areas, while oftentimes, cultural and historical elements highly esteemed by the citizens find no place within new developments. Now, such things create conflicts between modernity and tradition, requiring citizens to bear the burden of changing or being obliged to choose a trade-off between functional upgrade versus social and cultural continuity provided through older neighborhoods. Understanding these dynamics is critical if the city is to become responsive to resident needs and mindful of preserving what makes this place special.

The emphases of this study are on two major areas. First, to understand residents' perceptions and attachment to the old and current neighborhoods, given factors influencing satisfaction and willingness to return to the older neighborhood if improved. Herein, emotional attributes related to nostalgia for community ties and cultural heritage will be considered in comparison with functional attributes, such as infrastructural and housing quality. The second objective looks into residents' preferences regarding improvements to the neighborhoods, including the architectural features, improvement of public infrastructure, and urban planning strategies. Among the themes considered are energy-efficient designs, child-friendly spaces, and better amenities, reflecting the diverse needs and expectations of residents. It also gauges attitudes related to the preservation of the old building and the introduction of mixed-use development for possible messages about how far residents would prefer balancing between modernization and heritage conservation.

This paper is organized as follows: Literature the perceptions of residents with regard to neighborhoods and attachment, along with priorities for neighborhood improvements, have been identified. The review identifies the main themes and lacunae in knowledge that this research will try to fill and set the study within the wider academic context. The methodology represents the process for data collection, and a two-step cluster analysis is applied to recognize the distinct groups of residents. The results present the characteristics of each cluster and implications for neighborhood satisfaction and improvement priorities.

Comparing the findings with the existing literature discusses implications for urban planning in Sulaimani where rapid urbanization is or might become a fact **(Jarah et al., 2019)**.

Finally, actionable insights for urban planners and policy makers-seek balance between modernization and cultural preservation. While the existing literature provides a comprehensive understanding of neighborhood attachment and preferences, there are notable gaps that this study addresses. First, much of the research on neighborhood attachment has been conducted in Western contexts, with limited studies focusing on Middle Eastern cities like Sulaimani. This study contributes to filling this gap by examining the unique socio-cultural and urban dynamics of the region. Second, while global studies often emphasize either functional or emotional aspects of neighborhood preferences, this study highlights the interplay between these dimensions, showing how residents balance practical needs with cultural and emotional connections.

Additionally, the use of the two step Cluster model in this study provides a methodological contribution, demonstrating its effectiveness in uncovering nuanced patterns in resident preferences and attachments. By identifying distinct clusters of residents, this study offers insights that can inform localized urban planning strategies.

Addressing these objectives and gaps, this paper provides actionable insights regarding neighborhood attachment and improvement preferences in Sulaimani. It provides practical guidance on designing urban environments to meet residents' functional needs while respecting their cultural values. These findings are important in areas where modern development threatens traditional neighborhood identities.

2. EXPLORING NEIGHBORHOOD PERCEPTIONS AND IMPROVEMENT PREFERENCES

This research will have two major thrusts: one, looking at the perceived and emotional relationship of residents with former and current neighborhoods, and two, the preferred improvement in neighborhoods. A review of relevant literature in these areas of inquiry will emphasize the emergence of main themes, the identification of gaps, and provide insights that may help inform the research approach.

2.1 Residents' Perceptions and Attachment to Neighborhoods

Neighborhood attachment has been one of the concepts that has received extensive attention with regard to urban studies, particularly residents' emotional and functional attachment to residential settings. According to (**Lewicka, 2011)**, place attachment is an emotional connection with specific places, developed under social ties, cultural identity, and physical character of the environment. Studies have identified that strong neighborhood attachment leads to greater satisfaction, community involvement, and stability **(Chan and Li, 2022; Hipp, 2010)**.

Attachment is a multidimensional concept, meaning different things in various settings, which makes it clear that in developed countries, community cohesion, access to green spaces, and safety are discussed the most. For example, **(Fornara et al., 2018; Hipp and Perrin, 2006; Sen and Guchhait, 2023)** have discussed it in developed contexts. Yet, it gets complemented with poor infrastructure, housing conditions, and socioeconomic disparities in developing countries, as brought forth by the studies of **(Bay and Şentürk, 2024; Tilaki and Farhad, 2024)**. This paper joins the debate and explores how such elements interrelate

in the particular case of Sulaimani, Iraq, where fast urban growth and socio-political processes singularly shape neighborhood experiences.

A repeated theme is the way in which nostalgia can act to frame perceptions of old neighborhoods. For instance, **(Lewicka, 2011)** emphasized how memories from past environments can impact residents' satisfaction with current neighborhoods. This becomes most real in the cases of areas experiencing an urban transition—that is, where the neighborhood has been replaced by modern development. (**Lewicka, 2011)** assumes that memories associated with historical environments affect the level of residents' satisfaction with the current neighborhood, and this effect is stronger in the areas of urban transition from traditional to modern neighborhoods.

Moreover, this accords with findings voicing the argument that participatory urban regeneration may help meet resident desires where, in fact, some are even willing to consider returning to old neighborhoods once improvements are made. It agrees with findings by (**Kyttä et al., 2013)** that residents had a sense of place.

Improvement implemented was also reflected in this research, which points out the tendency of residents to go back to previously lived neighborhoods; this is supportive of (**Kyttä et al., 2013)** in that participative urban regeneration has been considered effective for the realization of residents' aspirations. Practical issues related to the quality and serviceability of dwellings also impact attachment. For instance, (**Van Ham et al., 2011)** found that in the absence of basic infrastructure, residents may pay more attention to functional upgrades rather than place attachments. Their observation can be confirmed in this study because many residents in Sulaimani prefer modern facilities and better infrastructure even though they are in a position to claim a nostalgic ideal of old neighborhoods and their previous social and cultural life.

2.2 Preferences for Neighborhood Improvements

The second aim of the research is to capture residents' preferences for neighborhood improvement in terms of desired architectural features of new developments, public infrastructure investment, and urban planning strategies. In this direction, the present paper contributes to wider international debates on sustainable urban development and livability.

2.3 Architectural Preferences and Livability

Architectural design significantly decides the livability of the neighborhoods. According to a study conducted by **(Shareef and Altan, 2021)**, people in urban areas, especially those in fast-developing regions, prefer energy-efficient and modern designs. This view was shared by respondents in the present study who preferred energy-efficient designs and modern aesthetic appeal of buildings. The same findings firmly point to the previous aspect, which is to approach the local culture respectfully in architectural intervention. As has been focused on in this paper, for instance, maintaining old buildings is in tune with the global trend of heritage conservation found in **(Karabeyeser Bakan et al., 2024; Wang and Aoki, 2019)**.

The most created architecture is residential; it's considered the main areas where daily lives take place. They may appear as single-family homes, apartments, or condominiums and are for people and families **(Abdullah and Ali Qaradaghi, 2021)**.

Research emanating from the expanding cities underscores the call for inclusive design to accommodate diverse demographic segments. For example, (**Brown et al., 2009)** contend that designed features should enhance social interaction and access, especially to families

and people at risk. Results of the current research about space for children and better accessibility in Sulaimani echo these values and thus intimate that inclusive design is key in urban planning. Livability relates to the relationship between people and their environment, more specifically to how well a city built environment and services can respond to the needs and expectations of residents **(Kovacs-Györi et al., 2019)**.

2.4 Public Infrastructure and Urban Livability

Improvement of public infrastructure is always a common variable in determining better neighborhood livability. Indeed, several studies mentioned that bad infrastructure includes lack of good roadways and proper drainage systems, which is considered one of the major impediments to urban development in most of the developing world. **(Suchorab and Kowalski, 2021)** affirm this issue, since most top priorities in Sulaimani were towards improving sidewalks and drainage and toward having more open spaces provided for the public. These outcomes can be benchmarked to find resonance with an international campaign for pedestrian-friendly infrastructures proposed by existing research and call for well-maintained public facilities.

Interestingly, while infrastructure improvements are universally appreciated, their prioritization often depends on the context. For instance, many studies from North America have frequently pointed out that infrastructure is best integrated with mixed-use developments combining residential, commercial, and community spaces **(Blount et al., 2021)**. This study found mixed responses to such developments in Sulaimani: some residents supported these developments, while others were resistant to them. These differences point to the need for mixed-use projects to be designed with consideration for local preferences and cultural contexts.

2.5 Sustainability and Energy Efficiency

In urban planning, sustainability is a growing concept and energy efficiency and green design are at the center of attention of this concept. In rapidly urbanized cities, the energy efficient buildings is a priority and this is due to the environmental concerns and economic benefits **(Bartfay, 2019; Becqué et al., 2016; Cheshmehzangi and Tang, 2024)**. The findings of the current study are in line with this trend, as Sulaimani's residents expressed their interest in living in more energy-efficient buildings. However, the sustainability focus of this is supplemented by a strong desire to maintain cultural and historical identity. This reflects the twofold importance of modernity and heritage preservation.

2.6 The Balance Between Modernization and Preservation

In urban studies, the conflict between modernization and preservation is a constant issue. There is an argument that successful urban regeneration needs a balance between these two aims (**Plevoets and Van Cleempoel, 2011)**. This makes sure that modern developments do not remove cultural heritage. In this study, this balance in the context of Sulaimani, where residents simultaneously appreciate modern architectural features and the restoration of old buildings is emphasized. This focus stresses the necessity for urban planning strategies that incorporate contemporary designs with efforts to keep historical identity.

In historic cities like Sulaimani, the equilibrium between modernization and preservation remains a significant concern in urban development. To maintain architectural heritage and advance cultural identity, preservation efforts are necessary. However, ongoing restoration

practices frequently disrupt traditional designs. For example, it is highlighted in the literature how traditional Kurdish countryrad houses are increasingly replaced with modern buildings inconsistent with local identity (**Abdullah and Abdullah, 2024)**. These courtyard houses reflect sociocultural values and this type of activity leads to a loss of architectural genotype. Also, in the literature, it is stressed that there is an insufficient preservation policy and this worsens the weakening of Kurdish architectural heritage (**Muhealddin and Ali, 2019)**. To avoid this, it is crucial to incorporate strategies to maintain cultural and spatial traits. From an international perspective, balancing heritage with modern needs can be achieved through adaptive reuse and partial conservation (**Plevoets and Van Cleempoel, 2011)**. This offers a model to harmonize the modernization efforts with the preservation of Sulaimani's unique architectural legacy. In order to encourage sustainable development while preserving the city's historical spirit, there is a need for contextually adapted plans that incorporate modern urban planning tools, such as space syntax analysis

3. METHODOLOGIES

3.1 Case study

Sulaimani Heights is a large gated residential complex located in the northeast of Sulaimani, City, in front of Azmer Mountain, close to Peshraw Tunnel. It is fenced by a concrete wall, separating it from the surrounding area, and access is only possible through three main gates. The complex consists of two types of residential houses, vertical and high-rise buildings, and includes various entertainment elements such as green areas, water bodies, a sports complex, and restaurants with cafes.

The residents' economic levels range from medium to high, and the city is provided with electricity 24/7. The skyline of the area features low-rising buildings to high-rise apartments of up to 12 floors. Sulaimani Heights is made up of a total of 2,707 units including apartments and villas shown in **Fig.1**.

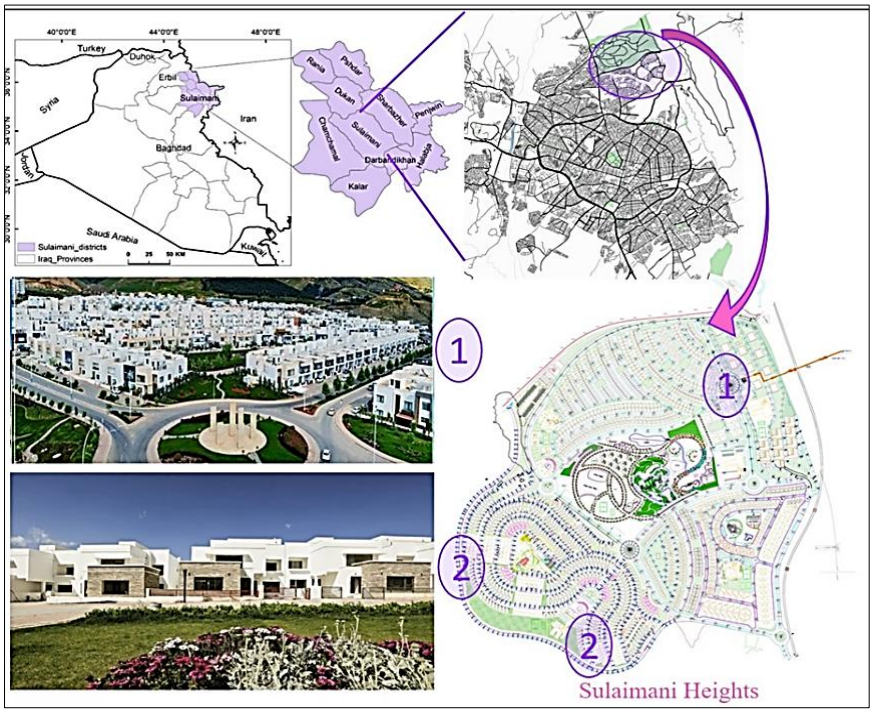

Figure 1. Map of Sulaimani Heights

The selection of Sulaimani Heights as a case study provides a comprehensive framework for analyzing urban expansion, residential planning, and socio-economic diversity within a controlled, gated environment. Its mixed housing typology, strategic location, and well-defined boundaries make it an ideal subject for studying morphological changes, land use dynamics, and infrastructure development, **Fig. 2** illustrates the changes and developments in the study area over the past ten years.

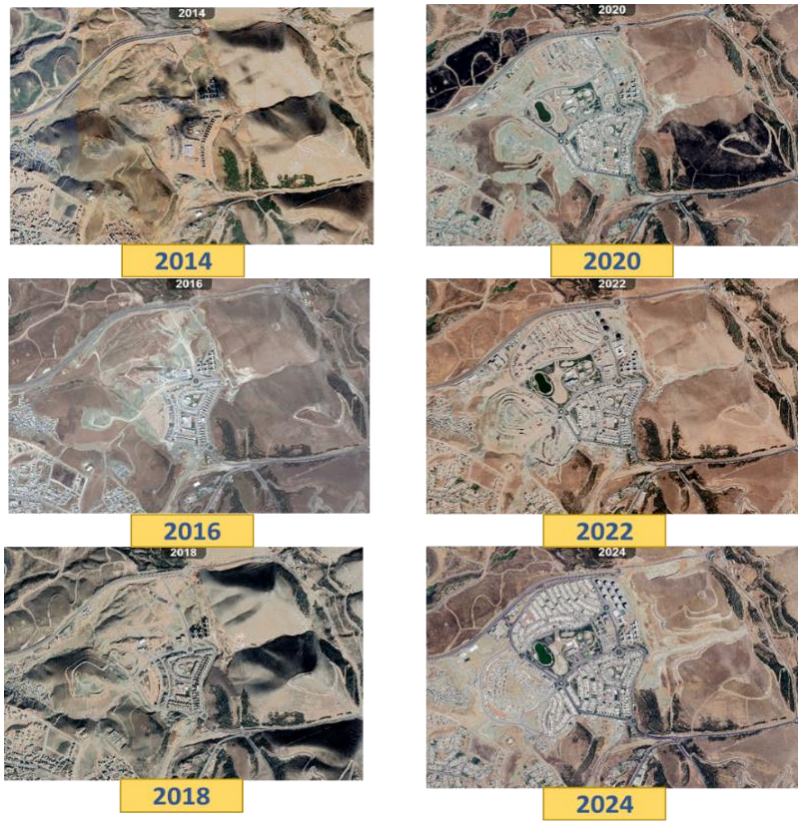

Figure 2. Map of changes and developments in Sulaimani Heights

3.2 Data Collection

The data for this study were collected from a specific neighborhood (Sulaimani Heights), in Sulaimani, Iraq, focusing on residents who met the inclusion criteria of age (older than 18 years old) and willingness to participate. This neighborhood was selected as it represents one of the most attractive and luxurious developments built in recent years, making it a suitable case for exploring the study objectives.

A random sampling approach was employed to ensure that the sample was representative of the population. The author assigned a unique number to each housing unit. Then, a random selection method was used to select the housing units. Data were collected from 413 respondents. This provides a wide range of understandings of the residents' perceptions and presentations. It also should be noted that the data were collected using a face-to-face questionnaire. The questionnaire included several questions about demographic characteristics, housing preferences, perceptions of neighborhood improvements, and attachment to old and current neighborhoods.

The data were collected over three months starting in June 2024. The questionnaire was tested for reliability and validity using a pilot test. The author carefully reviewed the

responses for completeness and consistency. The author excluded Incomplete or inconsistent responses from the final survey instrument to maintain the validity of the analysis.

Considering the unique socio-cultural and urban context of the study area, this study's rigorous and systematic data collection approach offered a rich and reliable dataset. This enables this study for a comprehensive analysis of residents' neighborhood preferences and attachments.

3.3 Data Analysis

To analyze the data, this study employed the IBM SPSS Modeler and TwoStep Clustering model. This is a robust model for revealing natural groupings in the data without requiring earlier knowledge of the number of clusters. The author selects this method due to its capability to process mixed data types effectively, process large datasets, and experiment with several cluster solutions to decide the optimal number of clusters.

The TwoStep Cluster model is a two-stage model. In the first stage, the model pre-clusters samples and reduces the raw input data into a practicable number of sub-clusters in a single pass through the dataset. This method is able to preserve the integrity of the clustering model while substantially decreasing the computational burden. In the second stage, larger clusters are progressively created by applying a hierarchical clustering method that iteratively merges the subclusters into larger clusters. Without the need to a predetermined number of clusters, this hierarchical method grants the model to find the optimal cluster solution.

The author carefully picked the input fields based on the relevance to the study purposes for developing the TwoStep Cluster model **(SPSS, 2001)**. Samples with missing values were removed from the dataset since the model cannot handle blanks in input fields. In order to stop extremely uncommon cases from contaminating the clustering results, outlier elimination was allowed.

One of the strengths of the TwoStep Cluster model involves handling datasets of mixed data types; hence, it was befitting for the current study based on both categorical and numerical variables. Efficiency in handling large volumes of data and the capability to automatically compute an optimum number of clusters were very important features that ensured the reliability and validity of the clustering results. Using the method, different groupings of residents were identified, with valuable insight into the patterns of neighborhood preference and attachment **(SPSS, 2001)** .

4. RESULTS AND DISCUSSIONS

4.1 Respondent Profiles

The total population of the selected neighborhoods was 7,500 (compiled by the author and based on the reports from the communities' management). Based on a 95% confidence level and a 5% margin of error, the minimum required sample size was 366 **(Georgiev, 2020)**. However, by the end of data collection, we successfully gathered 413 responses, exceeding the minimum sample requirement. These respondents were involved in this face-to-face interview survey. This survey targeted the study of preferences and perceptions concerning improvements and attachments in neighborhoods. Other demographic information about the respondents places the interpretation of the findings in good perspective, as can be seen from **Table 1.**

The rationale for selecting this number of respondents was to control the sample size. Additionally, data were collected from the Sulaimani Heights neighborhood in Zones 1, 2, 3, and 4. All respondents previously lived in heritage areas of Sulaimani, such as Sarshakam, Sabunkaran, Twe Malik, and Chwarbax. The distribution by sex is not perfectly symmetrical because there are 63.68% women and 36.32% men. Therefore, there is some balance within the genders represented; however, female respondents make up the higher number.

The ages of respondents ranged between 25 and 64 years, with the leading proportion in the age group 35-44 years: 58.60%. The second largest proportion made up 18.40% and comprised people between 25 and 34 years old. Further age groups represented 13.80% between 45-54 years and 9.20% between 55-64 years. This covers almost all stages of life and experience, and hence, there is a great variation in perspectives on neighborhood preferences. Among all respondents interviewed, 12% lived in high-rise buildings, while 88% lived in houses.

Education level of the respondents: Most of them had higher education; a majority claimed to have a Master's degree. This, therefore, implies that the level of educational attainment is highly enlightened, and thus the respondent is able to give their most informed and reasoned view about the living environment.

This brief demographic overview provides a background against which several types of perspectives are captured through this survey prerequisite for clustering and analysis of preferences and perceptions. Shopping habits differ significantly between modern and traditional neighborhoods due to factors like convenience, social interactions, cultural influence, and economic impact. Modern shopping is convenient, fast, and brand-focused, while traditional shopping is personal, culturally rich, and community-driven. People with strong connections to heritage may prefer traditional shopping, while those seeking efficiency and variety may lean toward modern retail options.

Table 1. Respondents' demographic profiles

Variable	Category	Frequency (N)	Percentage (%)
Age	35-44	242	58.6
	25-34	76	18.4
	45-54	57	13.8
	55-64	38	9.2
Gender	Female	263	63.68
	Male	150	36.32
Education level	Masters' degree	210	50.85
	Bachelor's degree	86	20.82
	Doctorate/Ph.D.	51	12.35
	High school	27	6.54
	Vocational	21	5.08
	others	18	4.36
Occupation	Employed full-time	337	81.6
	Unemployed	23	5.57
	Retired	22	5.33
	Employed part-time	17	4.12
	Homemaker	11	2.66
	self-employed	3	0.73

4.1 Cluster Analysis

4.2.1 Clustering Residents Based on Their Perceptions

As shown in **Table 2**, a model with an optimal value of three regular clusters and one outlier cluster was created. The model utilized adaptive feature selection, focusing on the most relevant variables, with feature importance assessed using the Akaike Information Criterion (AIC). Clusters were defined using the Log-Likelihood distance measure to account for categorical and mixed data types. Input variables included demographic and perceptual attributes such as age, gender, duration of residence in the current neighborhood, previous residency in older neighborhoods, motivations for relocating, perceived willingness to move back if improvements were made to old neighborhoods, comparisons of serviceability and livability between old and current neighborhoods, and aspects of old neighborhoods that residents miss. This approach provided a structured framework for understanding distinct resident groupings and their neighborhood attachment dynamics.

Table 2. Objective 1's model specification

Aspect	Details
Clustering Objective	To cluster residents based on their perceptions of and attachment to their old and current neighborhoods.
Optimal Number of Regular Clusters	3
Number of Outlier Clusters	1
Adaptive Feature Selection	Enabled
Feature Importance Method	Information Criterion
Information Criterion	Akaike Information Criterion (AIC)
Distance Measure	Log Likelihood
Input Variables	Age, gender, duration of residence in the current neighborhood, previous residency in older neighborhoods, motivations for relocating, willingness to move back if improvements were made to old neighborhoods, comparisons of serviceability and livability between old and current neighborhoods, and aspects of old neighborhoods that residents miss.

The aim of this analysis is to determine clusters of respondents based on their perceptions and attachment to previous and current neighbourhoods and also use a "across-cluster feature importance" to determine the relative importance of each variable For objective 1' across cluster feature importance, as shown in **Fig. 3**. The most critical variable was the "duration of residence in the current neighborhood" (1.00), underscoring its central role in shaping perceptions and attachment. This was followed by "motivation to move" (0.91), and comparisons of serviceability (0.80) and livability (0.80) between neighborhoods, indicating that practical and quality-of-life factors are pivotal in distinguishing resident clusters. Emotional aspects, such as missing features of old neighborhoods (0.69), and considerations for returning under improved conditions (0.35), were moderately important. Demographic factors like prior residency in older neighborhoods (0.27), age (0.24), and gender (0.23) contributed less, emphasizing that perceptions and behavioral motivations are more influential in clustering than demographic attributes. This analysis provides a nuanced understanding of resident segmentation based on neighborhood attachment and perceptions.

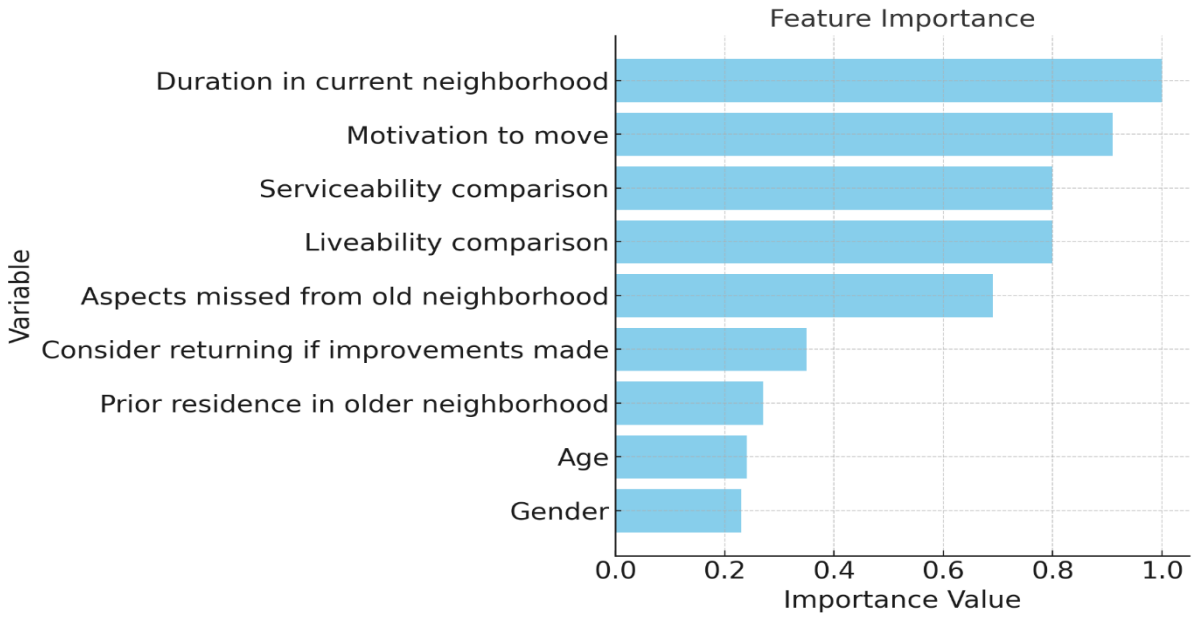

Figure 3. Objective 1' Across cluster feature importance

4.2.2 Cluster Profiles

Cluster 1: "Service-Oriented Movers"
Residents in this cluster, predominantly males aged 35-44, have lived in their current neighborhoods for 1-5 years. They moved primarily for better housing conditions, such as improved services and heating/cooling systems. They perceive both serviceability and livability in their new neighborhoods as significantly better compared to their old ones, highlighting their preference for modern infrastructure and enhanced quality of life. Despite their satisfaction with the new neighborhood, they strongly value the sense of community connection in their old neighborhoods and would definitely consider moving back if significant improvements were made to modernize the infrastructure and amenities.

Cluster 2: "Cultural Heritage Preservers"
This cluster is predominantly composed of females aged 35-44 who have lived in their current neighborhoods for 6-10 years. Like Cluster 1, they moved for better housing conditions and perceive their current neighborhoods as offering much better serviceability and livability. However, their attachment to the cultural heritage of their old neighborhoods is a distinguishing feature. Respondents are happy with their present buildings. However, they express a strong eagerness to return to their previous neighbourhoods if they undergo extensive enhancements, especially in terms of infrastructure and amenities. This implies a balance between practicality and cultural appreciation.

Cluster 3: "Ambivalent Movers"
This cluster primarily consists of females aged 35-44 who have resided in their present neighborhoods for 1 to 5 years. In contrast with other clusters, the respondents in this cluster do not differentiate serviceability or livability between previous and present neighbourhoods. They have different reasons for moving and typically labaled as "other". This shows respodnets' unique or personal reasons to move. The respondents in this cluster still have a connection to their previous living arrangements. However, if their old

neighbourhoods undergo an extensive ehanacements they may have a willingness to return to their old nighbourhood. This cluster shows a mix of feelings that values both stability and possible cultural conncetions **(Georgiev, 2020).**

In each cluster, there are different characteristics. However, some significant similarities are available among these clusters. This shows common views and motiviations among residents as follow:

- **Demographic commonalities** - All clusters mainly consist of residents aged 35 to 44, which aligns with the general age trend of respondents in this study (see **Table 1**). This indicates that this age group is especially involved in making housing decisions shaped by both practical and emotional considerations. Furthermore, every cluster features individuals who have lived in older neighborhoods before. This highlights common experiences in moving from traditional to modern settings.
- **Motivations for moving** - A common reason for relocating across all groups is the desire for enhanced residential settings, especially regarding their services such as heating and cooling. This emphasizes the significance of having functional and modern amenities as a major factor influencing relocation choices.
- **Attachment to old neighborhoods** - The specific aspects they overlook may differ, such as a sense of community or cultural heritage. However all groups show some level of emotional connection to their former neighborhoods. This shared sense of nostalgia or value placed on specific features of their former communities underscores the importance of cultural and social factors in residential satisfaction.
- **Positive perception of new neighborhoods** - Clusters 1 and 2 consistently rate the serviceability and liveability of their new neighborhoods as "much better" than their old ones, while Cluster 3 perceives them as "about the same." Despite slight variations, this indicates a general acknowledgement of at least equivalent, if not superior, quality of life in their current residences.
- **Willingness to return** - All clusters exhibit a willingness to return to their old neighborhoods under specific conditions, primarily if significant improvements are made. This shared sentiment highlights the potential for revitalization projects to attract former residents, provided these efforts align with their priorities (e.g., infrastructure modernization and preservation of cultural heritage).

These similarities suggest that, while there are differences in specific priorities and levels of satisfaction, residents share common underlying themes of valuing improved living conditions, maintaining emotional ties to former communities, and openness to the idea of returning under favorable circumstances.

4.3 Clustering Residents Based on Their Preferences for Neighborhood Improvements

The clustering model was developed to identify resident groupings based on their preferences for neighborhood improvements, with an optimal value of three regular clusters and one outlier cluster **Table 3.** Adaptive feature selection was enabled to dynamically prioritize the most relevant variables, with feature importance evaluated using the Akaike Information Criterion (AIC). This model used a Log Likelihood distance measure to address the categorical nature of the data. The model had a variety of input variables, such as demographic factors (age, gender, and length of residence), preferences for architectural upgrades, the significance of preserving historical buildings, support for mixed-use

developments, desired architectural characteristics, and preferences for enhancements in public infrastructure. This approach provided a solid framework for analyzing and realizing resident preferences regarding neighborhood enhancements.

Table 3. Objective 2's model specification

Aspect	Details
Clustering Objective	To cluster residents based on their preferences for neighborhood improvements.
Optimal Number of Regular Clusters	3
Number of Outlier Clusters	1
Adaptive Feature Selection	Enabled
Feature Importance Method	Information Criterion
Information Criterion	Akaike Information Criterion (AIC)
Distance Measure	Log Likelihood
Input Variables	Age, gender, duration of residence in the current neighborhood, preferences for architectural improvements, the importance of preserving old buildings, support for mixed-use developments, desired architectural features, and preferences for public infrastructure improvements.

The aim of this examination is to cluster respondents based on their preferences for neighborhood improvements and use across-cluster feature importance to determine the key variables that distinguish the clusters, as shown in **Fig. 4**.

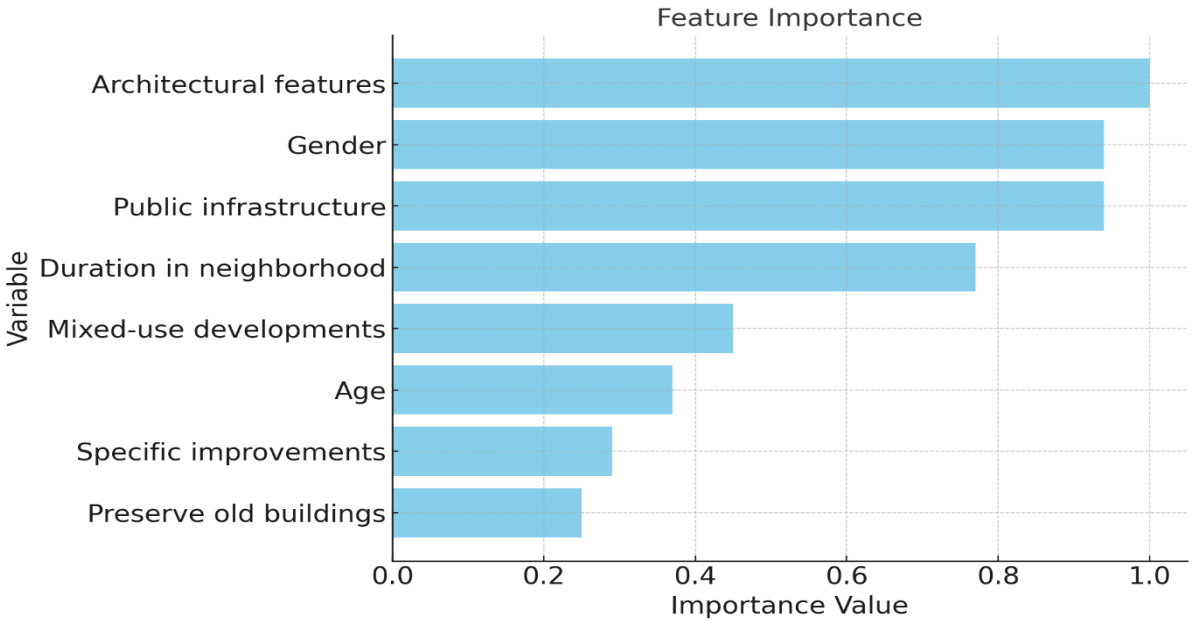

Figure 4. Objective 2' Across cluster feature importance.

The most influential variable was "architectural features" (1.0), emphasizing residents' strong interest in designs that enhance neighborhood livability. "Gender" (0.94) and "public infrastructure improvements" (0.94) were equally important. This reflects how demographic attributes and the quality of infrastructure shape preferences. "Duration in the

neighborhood" (0.77) further highlighted the role of residency length in influencing priorities. Other notable factors included "mixed-use developments" (0.45) and "age" (0.37), while "specific improvements" (0.29) and "preserving old buildings" (0.25) had comparatively lower importance. These results demonstrate that practical improvements and demographic characteristics play a significant role in shaping residents' preferences for neighborhood enhancements.

4.3.1 Cluster Profiles

Cluster 1: "Family-focused traditionalists"
This cluster is composed of females aged 35-44 who have lived in their current neighborhoods for 6-10 years. They prioritize the addition of public open spaces and architectural designs that create places for children and teenagers to spend time, reflecting their family-oriented focus. Accessibility improvements are seen as key to retaining their satisfaction with the neighborhood. They do not support mixed-use developments. Instead, they appreciate the preserve and restore previous buildings. This indicates residents' inclinations for preserving traditional elements in their neighbourhood.

Cluster 2: "Modern design enthusiasts"
This group consists of women aged 35-44. They have lived in their neighborhoods for 1-5 years. They favored modern architectural designs and enhancements in public facilities to improve the overall attractiveness of their area. They prefer improved building exteriors. Also, they have a neutral opinion on mixed-use developments. Similar to Cluster 1, they appreciate the preservation of previous buildings. However, they also seek a combination of modern architectural styles.

Cluster 3: "Sustainability advocates"
This group includes men aged 35-44. They have been living in their current neighborhoods for 1-5 years. They place a high value on energy-efficient architectural designs and improvements to sidewalks as essential public infrastructure upgrades. They show strong support for mixed-use developments. This demonstrates a willingness to combine residential, retail, and community areas. They appreciate better building facades. However, they also stress the importance of preserving older structures. This aims to balance sustainability with respect for historical preservation.
These groups reveal a range of priorities, from family-friendly environments and contemporary aesthetics to sustainability and mixed-use integration. This indicates the diverse viewpoints of residents regarding neighborhood enhancements.
Each cluster has its unique traits. However, there are several commonalities that emerge. This indicates shared values and priorities among residents when it comes to neighborhood improvements. These similarities underscore the key themes that link the diverse preferences of the clusters.

- **Demographic consistency -** All clusters consist of individuals aged 35-44. This indicates that this age group has a strong interest in influencing neighborhood enhancements. Furthermore, all clusters feature residents who have lived in their current neighborhoods for a relatively short to moderate duration (1-10 years). This highlightes a transitional period in their housing choices.

- **Value for preservation -** There is a common focus across all clusters on the significance of preserving and restoring historic buildings. This reflects a collective value placed on maintaining our architectural heritage while also accommodating new developments.
- **Focus on architectural improvements -** The specific inclinations vary. However, all clusters emphasize the role of architectural enhancements in improving neighborhood liveability. These improvements can be included of energy efficiency to improved building facades and accessibility. These architectural elements are crucial for everyone.
- **Public infrastructure improvements -** All clusters acknowledge the necessity for improved public infrastructure to make their neighborhoods more appealing. Their specific priorities may vary—such as open spaces, sidewalks, or amenities. However, the overall focus on infrastructure reflects a common recognition of its significance.
- **Interest in stability and retention -** All groups show a preference for enhancements. This would motivate them to remain in their present neighborhoods. This highlights a shared wish for stability and improved living conditions.

These likenesses indicate a common set of values and priorities, such as a commitment to preservation, enhancements in architecture, and better infrastructure. However, there are varying specific preferences and attitudes regarding neighborhood development.

This study was conducted in Sulaimani, Iraq. The findings of this study provide valuable insights into the neighborhood preferences and attachments of residents. The findings of this study are both in line with and opposed to previous international research.

In Objective 1, which examined how individuals feel about and connect to both their previous and present neighborhoods, the strong emotional ties to the community and cultural heritage found in this study align with the findings of **(Talen and Shah, 2007)**. They identified that social cohesion and community identity play a crucial role in shaping residents' satisfaction and sense of attachment. However, unlike studies in Western contexts where economic opportunities are a dominant factor in residential decisions **(Van Ham et al., 2011)**, this study found that functional factors, such as improved infrastructure and housing conditions, were primary motivators for relocation. Similarly, studies **(Lewicka, 2011)** emphasize the role of nostalgia in urban planning, which resonates with this study's findings that residents miss specific aspects, such as a sense of community, from their old neighborhoods. Notably, the willingness of residents in Sulaimani to return to their old neighborhoods if significant improvements are made highlights the potential for urban regeneration, as advocated by **(Kyttä et al., 2013)** in their work on participatory urban planning.

For Objective 2, which focused on preferences for neighborhood improvements, the study's emphasis on modern architectural features and energy-efficient designs parallels findings from studies in rapidly urbanizing cities, such as those by **(Adinyira et al., 2007)**. Both studies noted a growing demand for energy-efficient and modernized urban spaces. However, this study uniquely highlighted resistance to mixed-use developments among certain clusters, contrasting with findings from North American contexts **(Grant, 2002)**, where mixed-use developments are often viewed as enhancing community functionality and accessibility. The strong emphasis on preserving old buildings aligns with findings from European cities, where urban heritage preservation is often prioritized **(Carmona, 2021),** though the balance between modernity and preservation is less pronounced in cities experiencing rapid urban expansion, such as those in Iraq.

Infrastructure improvements, such as better sidewalks and expanded open spaces, emerged as key preferences in Sulaimani, aligning with findings from studies in developing countries **(Dimitriou and Gakenheimer, 2011; Evren and Akad, 2001; Fouracre et al., 2006)**, which also emphasize the importance of pedestrian-friendly infrastructure in enhancing urban livability. This present study noted the significance of public spaces in promoting community interactions. This aligns with the findings in the literature that stressed the importance of thoughtfully designed public spaces in urban settings around the world **(Gehl, 2012)**.

This study supports the findings of international research by emphasizing the significance of infrastructure, architectural enhancements, and heritage conservation in urban planning. However, it also reveals the distinct context of Sulaimani, where practical requirements, cultural connections, and preferences for mixed-use development differ from worldwide trends. This shows the unique socio-cultural and urban dynamics of the area. These insights also highlight the necessity for tailored urban planning strategies that blend worldwide best practices with local needs and preferences.

5. DESIGN AND POLICY IMPLICATIONS

The results of this study offer valuable insights for urban planners, architects, and policymakers who are looking to improve neighborhood livability and increase resident satisfaction.

The findings highlight the need to cultivate a sense of community while enhancing the quality of life in new developments (Objective 1). Policymakers should focus on creating public spaces and community hubs that promote social interactions and help restore the connections that many residents feel are lacking. Improving modern infrastructure, including reliable utilities and efficient transportation systems, is essential, as these factors were significant motivators for residents moving to newer neighborhoods. In addition, urban revitalization initiatives should take into account the feedback from residents who are open to returning to their former neighborhoods, if substantial improvements, such as upgraded amenities and enhanced safety measures, are implemented.

The findings reveal a distinct demand for specific architectural and infrastructure improvements (Objective 2). Residents in the neighborhood under study appreciate energy-efficient designs, modern aesthetics in buildings, as well as enhancements to public infrastructure, such as improved sidewalks and more open spaces. Reactions to mixed-use developments were varied. Some areas showed strong support, while others were less favorable. Policymakers should take a focused approach and ensure that mixed-use plans are introduced in line with what residents prefer. In addition, the strong focus on preserving older buildings indicates a need for heritage preservation policies that strike a balance between historical restoration and modern requirements. Improvements in accessibility and the creation of child-friendly spaces also emerged as vital. This shows the significance of inclusive designs that cater to families.

These findings indicate that urban improvement efforts in Sulaimani should prioritize the integration of modern infrastructure and sustainable design. These also should maintain the distinct cultural and architectural heritage of the neighborhoods. This balanced approach can meet the practical needs of residents while also nurturing their emotional ties. This may resulte in neighborhoods that are both functional and significant. Such customized strategies could be applied to other urban settings in Iraq and wherever the challenge of blending

historical preservation with modern development is essential for promoting sustainable urban growth.

6. CONCLUSIONS

This study examines how residents perceive and connect with their neighborhoods. The findings reveal a mix of emotional attachment, functional needs, and urban modernization. These factors shape residents' choices to stay or relocate.

Many residents feel strong emotional ties to their old neighborhoods. This is due to cultural heritage, social connections, and a sense of belonging. Others prioritize better infrastructure, housing quality, and modern amenities. Satisfaction in newer neighborhoods is linked to improved services and energy-efficient housing.

A key challenge is balancing modernization with tradition. Modern neighborhoods offer better infrastructure. However, some residents worry about the loss of cultural identity and social cohesion. Urban transformation in Sulaimani is not only physical. It also brings social and cultural changes that affect residents.

The clustering analysis identified three groups:

1. Service-Oriented Movers – They prioritize modern infrastructure and public services over cultural factors.
2. Cultural Heritage Preservers – They value traditional architecture and community identity. They would return to their old neighborhoods if improved.
3. Ambivalent Movers – They have mixed views. They enjoy modern services but also miss their old neighborhoods.

These findings show the complex needs of urban residents. Some welcome modernization. Others prefer preserving traditional spaces. Urban planners must find a way to combine modern designs with historical elements. This ensures both functional improvements and cultural preservation.

To address these findings, several actions are needed.

1. Strengthen Community Engagement - Residents should have a say in neighborhood planning. Participatory urban planning allows them to express their needs. This ensures development aligns with community expectations.
2. Preserve Cultural and Architectural Heritage - Historical buildings should be restored and maintained. Urban renewal projects should include adaptive reuse of old structures. Modern buildings should integrate local architectural styles.
3. Improve Public Infrastructure and Green Spaces - Better sidewalks, drainage systems, and public spaces are necessary. More green areas should be created. Pedestrian-friendly designs will improve neighborhood livability.
4. Support Modern, Sustainable Housing - Energy-efficient housing should be encouraged. Sustainable building materials will reduce environmental impact. Mixed-use developments should be introduced where residents support them.
5. Tailor Urban Policies to Resident Clusters - Different groups have different needs:

- Service-Oriented Movers – Focus on better utilities, smart infrastructure, and modern public services.
- Cultural Heritage Preservers – Support neighborhood revitalization, historical conservation, and social engagement.
- Ambivalent Movers – Offer a balance of modern services and cultural elements.

6. Promote Sustainable and Inclusive Development - Policies should encourage eco-friendly infrastructure and green building standards. Public spaces must be inclusive for families, elderly residents, and people with disabilities.

By following these recommendations, Sulaimani can achieve sustainable and culturally responsive urban growth. Urban plans should respect both modern needs and traditional values. These strategies can also guide other fast-growing cities facing similar challenges.

Acknowledgements

The authors are grateful for the academic support and resources provided by the Department of city planning Engineering, College of Technical Engineering, Sulaimani Polytechnic University.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper

REFERENCES

Abdullah, W. S., and Abdullah, A. A., 2024. Genotypical change of traditional houses in Sulaymaniyah city. *The Scientific Journal of Cihan University–Sulaimaniya*, *8*(1), pp. 1-23. https:/doi.org/10.25098/8.1.23

Abdullah, W. S., and Ali Qaradaghi, A. M., 2021. Measurable mistakes in architecture the effect of designer's experience on the propagation of mistakes in architectural design-residential buildings in Al Sulaymaniyah city as a case study. *Journal of Engineering*, *27*(1). pp. 89-111 https://doi.org/10.31026/j.eng.2021.01.07

Adinyira, E., Oteng-Seifah, S. and Adjei-Kumi, T., 2007. A review of urban sustainability assessment methodologies. In *International conference on whole life urban sustainability and its assessment,* 9(2). pp. 189-212.

Bartfay, N.A., 2019. Making sustainability accessible: Green Affordable Housing Development in the South Bronx. *Student Thesis*. P. 82. https://research.library.fordham.edu/environ_2015/82

Bay, B. D., and Şentürk, M., 2024. Changes in attachment to place: Urban transformation and older people in İstanbul. *Istanbul Üniversitesi Sosyoloji Dergisi*, *44*(1), pp. 197-220. https://doi.org/10.26650/SJ.2024.44.1.0103

Becqué, R., Mackres, E., Layke, J., Aden, N., Sifan Liu, Managan, K., Nesler, C., Mazur-Stommen, S., Petrichenko, K., and Graham, P., 2016. Accelerating action efficient buildings: A blueprint for green cities. *World Resources Institute*.

Blount, K., Abdi, R., Panos, C. L., Ajami, N. K., and Hogue, T. S., 2021. Building to conserve: Quantifying the outdoor water savings of residential redevelopment in Denver, Colorado. *Landscape and urban planning*, *214*, P. 104178. https://doi.org/10.1016/j.landurbplan.2021.104178

Brown, S. C., Mason, C. A., Lombard, J. L., Martinez, F., Plater-Zyberk, E., Spokane, A. R., Newman, F. L., Pantin, H., and Szapocznik, J., 2009. The relationship of built environment to perceived social support and psychological distress in Hispanic Elders: The role of "Eyes on the Street". *The Journals of Gerontology: Series B*, *64B*(2), pp. 234-246. https://doi.org/10.1093/geronb/gbn011

Carmona, M., 2021. *Public places urban spaces: The dimensions of urban design*. Routledge.

Chan, E. T. H., and Li, T. E., 2022. The effects of neighbourhood attachment and built environment on walking and life satisfaction: A case study of Shenzhen. *Cities*, *130*, P. 103940. https://doi.org/10.1016/j.cities.2022.103940

Cheshmehzangi, A., and Tang, T., 2024. *China Under Construction: Shaping Cities Through Recent Urban Transformation*. Springer Singapore. https://doi.org/10.1007/978-981-97-9785-1

Fornara, F., Ariccio, S., Rioux, L., Moffat, E., Mariette, J. Y., Bonnes, M., and Bonaiuto, M., 2018. Vérification de la structure factorielle et de la fiabilité des preqis en France et test d'un modèle de prédiction de l'attachement au quartier : Une étude sur un échantillon parisien. *Pratiques Psychologiques*, *24*(2), pp. 131-156. https://doi.org/10.1016/j.prps.2017.07.004

Gehl, J., 2012. *Life between buildings Using Public Space* (T. b. J. Koch, Trans.; Sixth edition ed.). The Danish Architectural Press.

Georgiev, G. Z., 2020. Sample size calculator. *Reference Source*.

Greif, M. J., 2009. Neighborhood attachment in the multiethnic metropolis. *City & Community*, *8*(1), pp. 27-45. https://doi.org/10.1111/j.1540-6040.2009.01268.x

Górny, A. and Toruńczyk-Ruiz, S., 2014. Neighbourhood attachment in ethnically diverse areas: The role of interethnic ties. *Urban Studies*, *51*(5), pp. 1000-1018. https://doi.org/10.1177/0042098013494441

Hipp, J., 2010. What is the 'Neighbourhood' in neighbourhood satisfaction? Comparing the effects of structural characteristics measured at the micro-neighbourhood and tract levels. *Urban Studies*, *47*(12), pp. 2517-2536. https://doi.org/10.1177/0042098009359950

Hipp, J. R., and Perrin, A., 2006. Nested loyalties: Local networks' effects on neighbourhood and community cohesion. *Urban Studies*, *43*(13), pp. 2503-2523. https://doi.org/10.1080/00420980600970706

Jarah, S. H. A., Zhou, B., Abdullah, R. J., Lu, Y., and Yu, W., 2019. Urbanization and urban sprawl issues in city structure: A case of the Sulaymaniah Iraqi Kurdistan Region. *Sustainability*, *11*(2), P. 485. https://doi.org/10.3390/su11020485

Karabeyeser Bakan, M., Fouseki, K., and Altamirano, H., 2024. Investigating the role of thermal comfort perception on negotiating heritage conservation and energy efficiency decisions through system dynamics. *Buildings*, *14*(6), P. 1800. https://doi.org/10.3390/buildings14061800

Khosravi, H., Bahrainy, H., and Tehrani, S. O., 2020. Neighbourhood morphology, genuine self-expression and place attachment, the case of Tehran neighbourhoods. *International Journal of Urban Sciences*, *24*(3), pp. 397-418. https://doi.org/10.1080/12265934.2019.1698311

Kovacs-Györi, A., Cabrera-Barona, P., Resch, B., Mehaffy, M., and Blaschke, T., 2019. Assessing and representing livability through the analysis of residential preference. *Sustainability*, *11*(18), P. 4934.

Kyttä, M., Broberg, A., Tzoulas, T., and Snabb, K., 2013. Towards contextually sensitive urban densification: Location-based softGIS knowledge revealing perceived residential environmental quality. *Landscape and urban planning*, *113*, pp. 30-46. https://doi.org/10.1016/j.landurbplan.2013.01.008

Lewicka, M., 2011. Place attachment: How far have we come in the last 40 years? *Journal of environmental psychology*, *31*(3), pp. 207-230. https://doi.org/10.1016/j.jenvp.2010.10.001

Muhealddin, B. N., and Ali, A. F., 2019. The impact of architectural conservation policies on the continuance of heritage buildings-Study of conservation in Sulaymaniyah governorate. *Sulaimania Journal for Engineering Sciences*, *6*(4). http://dx.doi.org/10.17656/sjes.10115

Plevoets, B. and Van Cleempoel, K., 2011. Adaptive reuse as a strategy towards conservation of cultural heritage: a literature review. *WIT Transactions on The Built Environment*, *118*, pp. 155-164. https://doi.org/10.2495/STR110131

Sen, S. and Guchhait, S.K., 2023. Influence of green space on place attachment in urban areas: Perspective from a rapidly growing medium-size town of India. *Environment, Development and Sustainability*, *27*(1), pp. 2495-2521. https://doi.org/10.1007/s10668-023-03976-6

Shareef, S., and Altan, H., 2021. Sustainability at an urban level: A case study of a neighborhood in Dubai, UAE. *Sustainability*, *13*(8), P. 4355. https://doi.org/10.3390/su13084355

SPSS, I., 2001. The SPSS TwoStep cluster component. *A scalable component enabling more efficient customer segmentation. SPSS Inc*.

Suchorab, P., and Kowalski, D., 2021. Water resources protection by controlling water supply network leakages. *International Journal of Conservation Science*, *12*, pp. 745-754.

Sýkora, J., Horňáková, M., Visser, K., and Bolt, G., 2023. It is natural: Sustained place attachment of long-term residents in a gentrifying Prague neighbourhood. *Social & cultural geography*, *24*(10), pp. 1941-1959. https://doi.org/10.1080/14649365.2022.2115534

Talen, E., and Shah, S., 2007. Neighborhood evaluation using GIS: An exploratory study. *Environment and Behavior*, *39*(5), pp. 583-615. https://doi.org/10.1177/0013916506292332

Tilaki, M.J.M. and Farhad, S., 2024. A qualitative investigation of revitalisation efforts to foster residents' attachment in dilapidated neighbourhoods: Is identity a matter?. *Journal of Urban Management*, 13(4), pp. 639-656. https://doi.org/10.1016/j.jum.2024.07.003

Van Ham, M., Manley, D., Bailey, N., Simpson, L. and Maclennan, D., 2011. Neighbourhood effects research: New perspectives. In *Neighbourhood effects research: New perspectives*. Dordrecht: Springer Netherlands, pp. 1-21. https://doi.org/10.1007/978-94-007-2309-2_1

Wang, X., and Aoki, N., 2019. Paradox between neoliberal urban redevelopment, heritage conservation, and community needs: Case study of a historic neighbourhood in Tianjin, China. *Cities*, *85*, pp. 156-169. https://doi.org/10.1016/j.cities.2018.09.004

Zhang, Y., Van Dijk, T., Tang, J., and Berg, A. E. v. d., 2015. Green space attachment and health: A comparative study in two urban neighborhoods. *International Journal of Environmental Research and Public Health*, *12*(11), pp. 14342-14363. https://doi.org/10.3390/ijerph121114342

الموازنة بين الحداثة والتقليد في علاقات الجوار والتحديثات المفضلة – دراسة واقعية: المرتفعات السكنية في مدينة السليمانية / العراق

ريباز جليل عبد الله

قسم هندسة تخطيط المدن، كلية الهندسة التقنية، جامعة السليمانية التقنية، السليمانية، العراق

الخلاصة

تتناول هذه الدراسة تصورات السكان وارتباطاتهم وتفضيلاتهم فيما يتعلق بحداثة الاحياء السكنية في السليمانية /العراق، وهي المدينة التي تشهد تحولاً حضريًا سريعًا. ويهدف البحث إلى معالجة هدفين رئيسيين: (1) التحقيق في كيفية رؤية السكان لاحيائهم القديمة والحالية وارتباطهم بها؛ (2) استكشاف أولوياتهم فيما يتعلق بحداثة الاحياء السكنية وباستخدام نموذج Cluster Two Step في IBM SPSS Modeler، تم تحديد مجموعات السكان على أساس رضاهم عن أحيائهم وأولوياتهم فيما يتعلق بالتطورات المعمارية والبنية التحتية. وتشير النتائج إلى تركيز ذو طابع مزدوج : فبينما يقدر السكان وسائل الراحة الحديثة، مثل التصميمات الموفرة للطاقة والأماكن العامة المطورة، فإنهم يقدرون أيضًا التراث الثقافي والارتباطات الاجتماعية. وكذلك تسلط الدراسة الضوء على الاختلافات في التفضيلات التي تتعلق بالحداثة ذات الاستخدامات المتعددة والتحسينات المحددة في البنية التحتية. وتؤكد هذه الرؤى على تحديات تحقيق الموازنة بين التحديث والحفاظ على هويات الأحياء التقليدية. وتقدم النتائج توصيات عملية لمخططي المدن وصناع السياسات في صياغة التنمية الحضرية المستدامة والتي يلبة المتطلبات الثقافية في السليمانية والمدن المماثلة لها.

الكلمات المفتاحية: علاقات الجوار، التجمعات الحضرية، التحديثات السكنية، السليمانية العراق، التحول الحضري.