

Research Article

Impact of Architectural Design on Household Relocation Decisions Amid Rapid Urban Expansion

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Article Info	Abstract
Article History	Rapid urbanization in Iraqi Kurdistan, notably in Sulaymaniyah, has markedly influenced residential architecture and social dynamics since 2003. This study examines how urban growth impacts residents' decisions to relocate, emphasizing the relationships among architectural quality, neighbourhood cohesion, and location satisfaction. A survey of 540 residents from various neighbourhoods was conducted, with data analyzed through structural equation modelling and factor analysis. The results reveal a significant positive correlation between high-quality architectural design and residents' willingness to move. Conversely, strong neighbourhood social ties and location satisfaction negatively affect relocation intentions. These insights highlight the critical need for urban planners and policymakers to balance architectural innovation, community bonds, and strategic location planning. By doing so, sustainable urban growth can be achieved, enhancing residents' quality of life. The study provides valuable recommendations for addressing urban expansion challenges, offering practical guidance to foster integrated and sustainable development in rapidly growing cities like Sulaymaniyah.
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1. Introduction

Urbanization is a global phenomenon that is significantly reshaping cities worldwide, driving both progress and critical challenges [1]. Rapid urban growth, particularly in areas experiencing political and economic transitions, often exacerbates social disparities and environmental pressures [2-4]. Sulaymaniyah represents a compelling case study in Iraq's Kurdistan region due to its accelerated urban expansion following the 2003 political changes [5]. This rapid growth has markedly influenced the city's architectural practices and social dynamics, notably within residential sectors.

Employing a mixed-method approach, including surveys and qualitative analysis, this study investigates how rapid urbanization in Sulaymaniyah has altered residential architectural design and influenced social patterns and housing preferences. It addresses four key research questions: (1) How does rapid urban growth affect residential architectural design and structures? (2) What factors influence

residents' decisions to relocate to newly developed housing complexes? (3) How do neighbourhood social dynamics influence migration tendencies within urban contexts? (4) Which architectural features are prioritized by residents when selecting housing?

The rapid urbanization of Sulaymaniyah presents a multifaceted challenge. While it offers the potential for improved living standards and economic growth, it also brings about issues related to infrastructure strain, social inequality, and environmental stress. This study seeks to address these challenges by examining how rapid urban expansion impacts the architectural features of residential complexes and, in turn, influences residents' decisions to relocate. The research aims to contribute to more sustainable urban planning and development practices in Sulaymaniyah by exploring these dynamics.

Findings from this research will provide critical insights into urban planning and policy formulation to foster sustainable urban development. The outcomes can help policymakers design targeted regulations and incentives promoting environmentally sustainable construction practices, enhancing residents' quality of life, and facilitating stronger social cohesion. Additionally, this research informs developers about aligning residential projects with residents' evolving preferences and societal needs. Ultimately, by clarifying the relationship between urban growth, architectural innovation, and social dynamics, this study contributes valuable knowledge toward sustainable and integrated urban expansion in Sulaymaniyah and comparable urban contexts.

2. Literature Review

The body of literature on urban growth and housing development provides this study with a broad viewpoint. Among the main subjects are the impacts of urbanization on housing markets, the impact of architecture on urban environments, and the social dynamics of residential mobility.

Urbanization, which frequently leads to rapid development and construction, fuels the demand for housing. Studies have suggested that there could be benefits and drawbacks to this. Urbanization has the potential to improve living circumstances, strengthen the economy, and create jobs. For instance, as cities expand, businesses and industries are drawn to them, stimulating local economies and generating employment [6]. However, recent research has highlighted that these benefits are not evenly distributed, often exacerbating socio-economic disparities and displacing lower-income residents [7, 8]. The lack of proactive policy measures has led to the commodification of housing, turning essential shelter into a speculative asset [9].

In contrast, some scholars argue that inclusive urban policies can help counteract the negative effects of rapid urbanization. For example, studies have shown that inclusive housing policies, which encourage the supply of affordable housing, can mitigate the adverse effects of urbanization by averting the eviction of low-income residents due to rising property values [10, 11]. However, other research suggests that

merely increasing housing supply does not necessarily lead to affordability, as market-driven forces often determine housing costs [12].

One of the main things that defines urban areas is their architecture. A city's residential complex design affects its livability, sustainability, and aesthetic appeal [13]. Recent studies emphasize that poorly planned urban architecture can contribute to urban heat islands, increased energy consumption, and social fragmentation [14]. Architectural components like construction materials, layout, and energy efficiency can significantly impact the environmental impact of housing complexes and the quality of life of their occupants. Some scholars argue that emphasizing "green" architecture is often a marketing strategy rather than a genuine effort toward sustainability, as many so-called sustainable buildings fail to address deeper socio-economic issues [15].

Recent findings also suggest that the spatial layout of residential complexes significantly affects community interactions and mental well-being [16, 17]. While some argue that well-designed common areas and pedestrian-friendly neighbourhoods foster relationships and a sense of belonging among residents, others contend that gentrification and high-cost developments often displace long-term inhabitants, reducing social cohesion [18].

Various factors can influence moving decisions, including personal circumstances, neighbourhood characteristics, and housing quality [19, 20]. Studies have revealed that economic instability and precarious employment significantly increase residential mobility, often forcing individuals to move not out of preference but necessity [9]. For instance, Communities with good public transportation, low crime rates, and excellent schools have a higher chance of attracting new residents and retaining existing ones. However, the uneven distribution of these amenities often leads to further socio-economic stratification, with wealthier populations clustering in resource-rich areas while marginalized communities face systemic neglect [8].

Urban expansion impacts patterns of integration and segregation, which in turn affects the social structure of cities [18]. New housing complexes regularly spring up on the edges of expanding cities, sometimes dividing different ethnic and socio-economic groups socially and geographically. This can lead to the emergence of wealthy enclaves and neglected communities, which can worsen socio-economic inequality [11]. Adopting an inclusive urban design that encourages mixed-use and mixed-income projects to help close these gaps and build more cohesive communities is advised. According to Zhou, et al. [12], diverse communities with various housing options and income brackets can strengthen social cohesion and reduce economic disparities.

Handling the challenges of urbanization and housing development in rapidly growing cities like Sulaymaniyah requires a diversified approach. Planners and policymakers must balance the needs of social fairness, environmental sustainability, and economic prosperity. This means ensuring that infrastructure

and urban services keep up with population growth and constructing high-quality, cost-effective housing. For instance, investing in healthcare, education, and public transportation is essential to promoting sustainable urban growth and raising the standard of living for locals [21, 22]. However, without policies targeting affordability and equity, these improvements may inadvertently fuel gentrification and further widen social inequalities [20].

In summary, urban expansion and housing development studies highlight the importance of an integrated approach to urban planning that considers social, economic, and environmental aspects. By understanding the complex interplay among these elements, policymakers and planners may create urban environments that are economically successful, environmentally sustainable, and socially inclusive. Cities such as Sulaymaniyah, which illustrate the advantages and difficulties of rapid urbanization, offer valuable lessons to other rapidly growing metropolitan areas worldwide.

Due to various outside factors, Sulaymaniyah's urban growth has been split into several phases, each with distinct social and architectural dynamics. The city's historical trajectory offers a priceless case study for understanding the consequences of rapid urbanization in an environment marked by social, political, and economic change [23].

Sulaymaniyah's expansion was restricted by political unpredictability, economic difficulties, and inadequate infrastructure before 2003 [24]. During this period, straightforward urban planning, low-rise buildings, and traditional architectural forms distinguished the city's architecture. Most individuals resided in unofficial housing, with many of these being personal homes they had built themselves. The greater political and economic unrest that Iraq experienced in the final decades of the 20th century led to constrained growth and severely reduced prospects for investment in urban infrastructure. Due to inadequate urban planning, the city grew haphazardly, and its services and infrastructure could not keep up with even a moderate population increase.

After 2003, there were many changes. The region experienced increased security and autonomy when Saddam Hussein's government was overthrown, and the Kurdistan Regional Government (KRG) was established. This drew significant investment and spurred a building boom. New office buildings, retail centres, and public infrastructure projects changed the city's skyline [25, 26]. High-rise apartment buildings, gated communities, and modern architectural designs proliferated. Master-planned communities were also developed during this period to accommodate the growing population and improve living conditions [27]. The KRG's strategic vision and initiatives for economic liberalization and infrastructure development played a major role in driving this urban expansion. These actions included encouraging foreign investment, improving neighbourhood security, and providing funds for essential services and infrastructure.

There are still many issues despite these positive developments. Home affordability is one of the biggest issues today, particularly for those with modest and low salaries. A nice home has become more

difficult for many people to afford due to speculative investment and high demand driving up property values. The problem is exacerbated by the lack of affordable housing options and the concentration of new construction in premium market segments.

Social integration is yet another ongoing issue. The migration of people from many regions and backgrounds has contributed to Sulaymaniyah's cultural diversity but has also created social divides. Encouraging a sense of inclusion and belonging among all residents and granting them equal access to opportunities and services are essential for the city's social cohesion. Policymakers and urban planners must implement measures that promote social integration and prevent communities from being divided based on factors such as wealth, race, or other attributes.

3. Materials and Methods

This section outlines the study's methodological framework, including the research design, validity and reliability measures, instrumentation, sampling, ethical considerations, and survey design.

3.1. Research Design

This study utilized descriptive and correlational methods. Descriptive statistics summarized key characteristics (means, standard deviations), and correlational analysis examined the relationships between variables. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to ensure the validity of the measurement model.

3.2. Validity and Reliability

3.2.1. Construct Validity

Several steps were taken to ensure the validity and reliability of the data:

Exploratory Factor Analysis (EFA): The suitability of the data for factor analysis was confirmed using Bartlett's Test of Sphericity ($p < 0.05$) and a Kaiser-Meyer-Olkin (KMO) score of 0.90, indicating excellent sampling adequacy (Table 2).

Cronbach's Alpha: Internal consistency of the scales was assessed using Cronbach's Alpha. All factors demonstrated reliability above accepted threshold of 0.70, with values ranging from 0.82 to 0.91 (Table 3). The CFA model fit indices supported the validity of the measurement model, with CMIN/DF = 3.34 (acceptable range < 5), AGFI = 0.90, CFI = 0.94, TLI = 0.93, and RMSEA = 0.066 (below 0.08). These indices indicate a well-fitting model (Table 4).

Convergent Validity: All factor loadings exceeded 0.5, and the average extraction values were above 0.5, indicating that the items adequately measured their respective constructs (Table 5).

Discriminant Validity: Items loaded significantly higher on their designated factors than others, with differences exceeding 0.1, ensuring distinctiveness between factors (Table 5).

3.2.2. Reliability Analysis

Cronbach's Alpha: Reliability scores ranged from 0.82 to 0.91, surpassing the threshold of 0.70 (Table 3).

3.3. Instrumentation

The survey instrument used in this study consisted of four constructs: Architectural Aspects, Neighbourhood, Location, and Intention to Move. Each construct was measured using multiple items adopted from validated sources, ensuring reliability and relevance to the research context. All constructs' reliability scores (Cronbach's Alpha) exceeded the acceptable threshold of 0.70, indicating strong internal consistency.

Architectural Aspects: This construct was measured using nine items adapted from Talen [28] and Nasar and Julian [29]. These items focused on assessing perceptions related to residential spaces' architectural design and features. The reliability of this construct was 0.91, demonstrating high internal consistency.

Neighbourhood: The neighbourhood construct was assessed using four items derived from validated scales by Buckner [30]. The items explored the respondent's evaluation of their surrounding environment, including social cohesion and safety. The Cronbach's Alpha for this construct was 0.83, indicating good reliability.

Location: The location construct was measured using five items sourced from Handy, et al. [31]. The items captured the importance of accessibility and proximity to key facilities. The reliability score for this factor was 0.82, confirming its consistency.

Intention to Move was assessed using four items adapted from Huang [32] and Landau, et al. [33]. These items examined the respondents' likelihood of relocating from their current residence. This construct demonstrated high reliability with a Cronbach's Alpha of 0.91.

3.4. Survey Design

There were thirty questions in all, divided into four main groups. The section on architectural aspects includes design decisions, construction materials, and aesthetic values. The neighbourhood component dealt with social ties, safety, and community resources. The location segment addressed environmental problems, accessibility, and proximity to facilities. The factors influencing locals' decisions to relocate were looked at in the willingness to move section.

3.5. Pilot Study

The survey's validity and reliability were tested on one hundred participants in pilot research. The feedback from the pilot study was used to clarify and improve the clarity of the questions. The survey was then distributed to the 540 participants in the main sample.

3.6. Sampling Procedure

Sulaymaniyah locals were selected, with residents from different socio-economic strata, genders, and marital statuses. Stratified random sampling was used to ensure that the sample was representative. For each of the 540 participants, specific demographic data is provided in Table 1.

Depending on the habitation type, income brackets, and location, strata are divided in Sulaymaniyah. A stratified sampling technique is allowed to include a wide range of experiences and points of view in the study. To provide a comprehensive view of the impacts of urban expansion, the sample included people from newly built housing complexes and older neighbourhoods.

3.7. Ethical Considerations

Ethical approval for this study was obtained from Tishk International University, ensuring compliance with ethical guidelines. All participants were provided with detailed information about the study and gave their informed consent. Anonymity and confidentiality were strictly maintained throughout the data collection and analysis process. Participants were assured that their responses would be used solely for research purposes.

3.8. Research Hypotheses

Based on the conceptual framework, the study tests several hypotheses:

1. H1: Rapid urban growth significantly impacts the architectural aspects of housing complexes in Sulaymaniyah.
2. H2: Better architectural features in new housing developments positively influence residents' willingness to move.
3. H3: Social neighbourhoods negatively impact residents' decisions to relocate, as strong community ties reduce mobility.
4. H4: Location and accessibility influence residents' satisfaction and willingness to move.

3.9. Demographic Information

A detailed examination of the sample's age, gender, marital status, number of children, income bracket, and city of residence is provided in Table 1.

4. Data Analysis

Exploration factor analysis (EFA) was used to ascertain the fundamental structure of the survey data. Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) test were used to determine whether the data were suitable for factor analysis. Cronbach's Alpha was used to evaluate the internal consistency of the survey scales. Confirmatory factor analysis (CFA) was used to validate the factor structure discovered by EFA. Structural equation modelling (SEM) was used to test the suggested correlations between the variables.

Table 1. Demographic characteristics of the sample

Demographic	Frequency	Percent	Valid Percent	Cumulative Percent
Age				
18-25	170	31.5	31.5	31.5
26-35	291	53.9	53.9	85.4
36-45	52	9.6	9.6	95.0
46-55	22	4.1	4.1	99.1
56+	5	0.9	0.9	100.0
Total	540	100.0	100.0	
Gender				
Male	323	60.0	60.0	60.0
Female	217	40.0	40.0	100.0
Total	540	100.0	100.0	
Status				
Single	96	17.8	17.8	17.8
Married	425	78.7	78.7	96.5
Divorced	19	3.5	3.5	100.0
Total	540	100.0	100.0	
Children				
1	111	20.6	20.6	20.6
2	90	16.7	16.7	37.2
3	153	28.3	28.3	65.6
4	92	17.0	17.0	82.6
5	55	10.2	10.2	92.8
6	39	7.2	7.2	100.0
Total	540	100.0	100.0	
Income				
< 500,000 IQD	171	31.7	31.7	31.7
500,000 - 1M IQD	180	33.3	33.3	65.0
1M - 2M IQD	131	24.3	24.3	89.3
2M - 3M IQD	44	8.1	8.1	97.4
> 3M IQD	12	2.2	2.2	99.6
Total	540	100.0	100.0	
Location				
Twimalik	112	20.7	20.7	20.7
Sabunkaran	95	17.6	17.6	38.3
Akari	59	10.9	10.9	49.3
Kaniba	95	17.6	17.6	66.9
Bakhtiyari	87	16.1	16.1	83.0
Other	92	17.0	17.0	100.0
Total	540	100.0	100.0	

Source: Authors own work.

Table 2. Exploratory factor analysis results

Item	Mean	Std. Deviation	Extraction	Architectural Aspects	Location	Neighborhood	Intention to Move	Explained Variance	KMO
Q1	5.87	2.042	0.705	0.829				25%	0.90
Q2	6.00	1.992	0.671	0.779					
Q3	6.05	1.941	0.689	0.821					
Q4	5.84	2.003	0.643	0.769					
Q5	5.97	1.918	0.670	0.810					
Q6	6.59	1.908	0.628	0.758					
Q7	6.40	1.751	0.566	0.702					
Q9	6.00	1.736	0.554						
Q10	6.19	1.831	0.493		0.603				
Q11	6.90	1.950	0.597			0.576		13%	
Q12	6.21	2.147	0.741			0.843			
Q13	5.91	2.367	0.724			0.846			
Q14	6.72	1.926	0.663			0.758			
Q15	6.60	1.776	0.540		0.535			14%	
Q16	6.69	1.886	0.549		0.632				
Q17	6.27	2.062	0.700		0.731				
Q18	5.77	2.023	0.639		0.770				
Q19	5.96	1.940	0.737		0.843				
Q24	6.63	1.820	0.632				0.682	11%	
Q25	6.51	1.954	0.700				0.758		
Q26	6.39	2.063	0.642				0.793		
Q27	5.68	2.269	0.564				0.602		

Source: Authors' work.

Upon analysis of the Kaiser-Meyer-Olkin test findings, Table 2's data suggested that the planned variables and items might explain up to 90% (0.90) of the general variation. This amount was permitted because it exceeded 50% (0.50). Put another way, the discovery that KMO is higher than 0.5 suggests that the outcomes of EFA have significance. Second, the explained variance shows the percentage of variance that each element contributes. Consequently, it is found that architectural elements, neighbourhood (13%), location (14%), and moving intention (11%) account for 25% of the variance in this questionnaire.

The fact that the loads under the same item are bigger than the factors under other factors, and that this difference is more than 0.1, indicates discriminant validity. This shows that things break down due to their causes. However, the greatest value of each item under its component shows convergent validity. Each item can explain at least 50% of the variance that arises within it because every extraction value is 0.5 or above. As a result, the legitimacy of the EFA approach may be claimed.

Table 3. Reliability analysis results

Factor	Cronbach's Alpha	Items
Architectural Aspects	0.91	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q9, Q10
Neighborhood	0.83	Q11, Q12, Q13, Q14
Location	0.82	Q15, Q16, Q17, Q18, Q19
Intention to Move	0.91	Q29, Q30, Q31, Q32

Source: Authors' work.

Concerning Table 3, the reliability analysis enabled us to determine the degree of internal consistency exhibited by each element. To do this, we applied Cronbach's Alpha method. If a factor's Cronbach's Alpha value is 0.7 or higher, it is considered consistent. If the same questions are asked of the same sample again under the same conditions, the same results will be obtained. It was thus concluded that they were dependable in terms of the ratio of architectural elements (0.91), neighbourhood (0.83), location (0.82), and goal to relocate (0.91).

Table 4. Results of confirmatory factor analysis

Item	Dimension	Factor Loading	CMIN/DF	AGFI	CFI	TLI	RMSEA
Q15	Location	0.689	3.34	0.90	0.94	0.93	0.066
Q16	Location	0.711					
Q17	Location	0.803					
Q18	Location	0.596					
Q19	Location	0.550					
Q11	Neighborhood	0.764					
Q12	Neighborhood	0.647					
Q13	Neighborhood	0.605					
Q14	Neighborhood	0.807					
Q5	Architectural Aspects	0.745					
Q4	Architectural Aspects	0.762					
Q3	Architectural Aspects	0.788					
Q2	Architectural Aspects	0.799					
Q1	Architectural Aspects	0.802					
Q6	Architectural Aspects	0.731					
Q7	Architectural Aspects	0.662					
Q10	Architectural Aspects	0.615					
Q29	Intention to Move	0.816					
Q31	Intention to Move	0.940					
Q32	Intention to Move	0.944					
Q30	Intention to Move	0.604					

Source: Authors' work.

Finally, confirmatory factor analysis was applied, and testing was done to confirm the results.

Consequently, all item factor loads were more than 0.5 for each factor. Second, if the model fit values CMIN/DF are less than 5, AGFI, CFI, and TLI values are 0.9 or higher, and last, if the RMSEA value is less than 1, it is concluded that the model has appropriate fit values, and the CFA test is positive. It was decided that the model could be validated, and the applied survey had sufficient validity and reliability.

Table 5. Convergent and discriminant validity

Construct	Factor Loadings (Range)	AVE	CR	Square Root of AVE	Correlation with Other Constructs
Architectural Aspects	0.615–0.802	0.57	0.92	0.75	0.75 (Location)
Neighborhood	0.605–0.807	0.54	0.84	0.73	0.68 (Location), 0.73 (Arch. Aspects)
Location	0.550–0.803	0.50	0.83	0.71	0.68 (Neighbourhood)
Intention to Move	0.604–0.944	0.66	0.91	0.81	0.65 (Arch. Aspects), 0.70 (Location)

5. Results and Discussion

The data analysis has been expanded to provide more in-depth insights into the findings. The presentation of results has been streamlined, ensuring clarity and conciseness. The relationships between the key variables—architectural features, neighbourhood, location, and intention to move—are explored in more detail, connecting them to existing literature.

5.1. Testing the Model

The correlation and regression analyses will be summarized in the following sections. SPSS applied correlation, and AMOS software found hypothesis results (Table 6, 7, and Figure 1).

Table 6. Summary table of hypotheses and their test results

Hypothesis	Variables	Pearson Correlation Coefficient (r)	p-value	Conclusion
-Residents' willingness to move is positively correlated with architectural features	Architectural features and intention to move	0.72	< 0.01	Supported
-Social neighbourhoods negatively correlated with moving	Neighbourhood aspects and intention to move	-0.58	< 0.01	Supported
-Location and accessibility are positively correlated with the willingness to move	Location/accessibility and intention to move	0.69	< 0.01	Supported

The correlation results show a positive correlation between willingness to move and architectural design ($r = 0.72$), as well as between location and willingness to move ($r = 0.69$). However, we have seen a negative correlation between social neighbourhood and willingness to move ($r = -0.58$).

These results support our hypotheses that architectural features, neighbourhood social cohesion, and location/accessibility are all significant factors influencing residents' housing decisions in Sulaymaniyah. The findings align with previous studies, which have demonstrated the importance of these factors in housing preferences and urban mobility [34].

Further, to test our hypotheses, we employed structural equation modelling using AMOS software (Table 7).

Table 7. SEM results

Hypothesis	Path	Standardized Coefficient (β)	p-value	Result
H1: Architectural features positively influence the intention to move.	Architectural Features $\rightarrow$ Intention to Move	0.62	< 0.01	Supported
H2: Social neighbourhoods negatively influence the intention to move.	Neighbourhood Aspects $\rightarrow$ Intention to Move	-0.43	< 0.01	Supported
H3: Location and accessibility positively influence the intention to move.	Location/Accessibility $\rightarrow$ Intention to Move	0.58	< 0.01	Supported

- Chi-Square (χ^2): 225.3, $p < 0.01$.
- Comparative Fit Index (CFI): 0.94.
- Tucker-Lewis Index (TLI): 0.92.
- Root Mean Square Error of Approximation (RMSEA): 0.06.

These indices suggest that the model fits the data well and adequately captures the relationships among the variables. Further, the SEM analysis confirmed the reliability and validity of the constructs. Architectural Features, Neighbourhood Aspects, and Location/Accessibility demonstrated strong factor loadings and reliability scores, with all Cronbach's Alpha values exceeding 0.80 [35]. This indicates a high degree of internal consistency among the items.

Firstly, architectural features emerged as a significant positive determinant of relocation intentions ($\beta = 0.62$, $p < 0.01$). This finding highlights the importance of well-designed housing projects that cater to residents' aesthetic and functional preferences. High-quality architectural features, such as modern designs, efficient layouts, and durable materials, not only enhance the appeal of housing but also create an aspirational value that motivates residents to move to new developments.

In contrast, neighbourhood aspects negatively correlated with relocation intentions ($\beta = -0.43$, $p < 0.01$). This result suggests that strong social bonds within neighbourhoods act as an anchor, reducing residents' willingness to leave their communities. People with strong ties with their neighbours, cultural or social groups, or a sense of belonging in their current area are less inclined to relocate, even if better housing options are available. This emphasizes the social cost of moving, as leaving a familiar and supportive environment can create uncertainty and emotional strain.

Lastly, location and accessibility significantly influenced relocation intentions ($\beta = 0.58$, $p < 0.01$). Proximity to essential services such as schools, hospitals, public transportation, and shopping centers remains critical in housing decisions. Accessibility ensures convenience and minimizes daily travel burdens, making new housing projects in prime locations more attractive to potential residents.

The results indicate that specific architectural features in new residential complexes are likely to attract residents from the city, thereby driving urban growth in these areas. This trend can create demand

for additional residential complexes as the existing ones reach full occupancy. Legislators and urban planners can use these insights to design housing complexes that meet the requirements of their citizens and promote urban growth. Emphasizing improving architectural components and developing strong community links can help new housing complexes attract more residents.

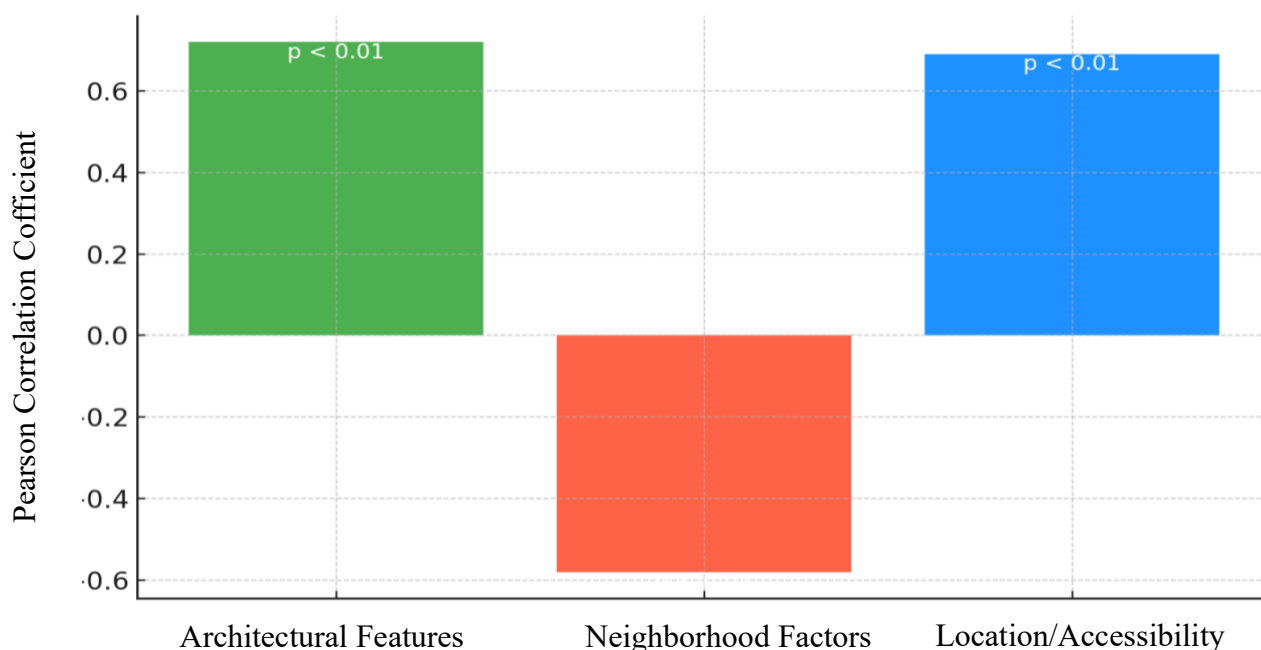


Figure 1. Correlation between variables and the intention move

6. Limitations and Future Research

While this study provides valuable insights, it does have its limitations. Since the research focuses exclusively on Sulaymaniyah, the findings might not fully capture the complexities of urban growth in other cities, especially those with different economic conditions, governance structures, or cultural influences. To build on these findings, future studies should examine similar trends in metropolitan settings to see if the same patterns hold.

Another limitation is that this study uses a cross-sectional approach, which captures a single moment rather than tracking changes over the years. People's housing choices and urban dynamics constantly shift due to economic fluctuations, evolving government policies, and infrastructure development. A long-term or longitudinal study could clarify how these elements influence urban growth over time. In addition, using a mix of research methods—such as in-depth interviews and ethnographic studies—could provide a more personal and nuanced understanding of how residents experience urban change.

Finally, future research could examine the role of government policies, private sector investments, and community-driven initiatives in shaping urban development. Understanding how different policy models impact housing affordability, accessibility, and social inclusion would expand on the current

findings and offer practical insights for urban planners and decision-makers striving to create more equitable and sustainable cities.

7. Conclusions

This study presents novel insights into the housing market dynamics of Sulaymaniyah, particularly regarding the factors influencing residents' decisions to relocate. It underscores the significant impact of architectural features, social cohesion, and location on residents' willingness to move. The findings highlight urban planners and developers' critical role in ensuring that new housing projects emphasize high architectural standards and incorporate features that promote strong community ties and access to essential services. This approach attracts residents and fosters sustainable urban development, enhancing the overall quality of life.

This study's novelty lies in its focus on the intersection of architectural, social, and geographic factors, providing a comprehensive understanding of what drives housing mobility. The study's potential impact is evident in its relevance to urban planning policies and development strategies, offering practical recommendations for improving the livability of rapidly growing cities like Sulaymaniyah.

While the study provides valuable insights, future research could address its limitations by examining additional factors influencing housing decisions, such as economic variables or cultural preferences. Comparative studies involving other cities with similar growth patterns could provide a broader perspective on urban mobility trends. Exploring longitudinal data could also help assess how residents' priorities evolve, particularly as cities grow and develop. Finally, expanding the study to include the perspectives of urban developers and policymakers would provide a more holistic understanding of the challenges and opportunities in managing urban expansion.

In conclusion, political, economic, and social challenges have significantly impacted Sulaymaniyah's urban growth. How the city has developed highlights the challenges and complexities of managing rapid urbanization in a dynamic and always-evolving environment. Even though there have been significant advancements in housing, infrastructure, and services, issues with affordability, social inclusion, and environmental sustainability still need to be constantly addressed. Sulaymaniyah may grow sustainably and raise everyone's living level by implementing a thorough and all-encompassing urban planning strategy.

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Declaration of Competing Interest: The authors declare they have no known competing interests.

Research Involving Human/Animal Participants: This study involved human participants, received ethical approval from Tishk International University, and written informed consent was obtained from all participants; no animals were involved in this research.

References

- [1] M. R. Beissinger, *The revolutionary city: Urbanization and the global transformation of rebellion*. Princeton University Press, 2022.
- [2] B. He, L. Zhu, X. Cai, J. Li, and H. Zhu, "Examining the impacts of mega-events on urban development using coupling analysis: A case study of the Boao Forum for Asia," *Sustainability*, vol. 12, no. 2, p. 730, 2020, doi: <http://dx.doi.org/10.3390/su12020730>.
- [3] G. F. Randolph and C. Deuskar, "Urbanization beyond the metropolis: Planning for a large number of small places in the global south," *Journal of Planning Education and Research*, vol. 44, no. 1, pp. 279-291, 2024, doi: <http://dx.doi.org/10.1177/0739456X20971705>.
- [4] K. G. Awuah and R. T. Abdulai, "Urban Land and Development Management in a Challenged Developing World: An Overview of New Reflections," *Land*, vol. 11, no. 1, p. 129, 2022, doi: <https://doi.org/10.3390/land11010129>.
- [5] H. Ameen, *The influence of Place, Space, and Socialising agents on Identity in Iraqi Kurdistan: A study of Kurdish youth aged 18-25*. University of Exeter (United Kingdom), 2020.
- [6] J. V. Henderson and S. Kriticos, "The development of the African system of cities," *Annual Review of Economics*, vol. 10, no. 1, pp. 287-314, 2018, doi: <http://dx.doi.org/10.1146/annurev-economics-080217-053207>.
- [7] A. I. Almulhim and P. B. Cobbinah, "Can rapid urbanization be sustainable? The case of Saudi Arabian cities," *Habitat International*, vol. 139, p. 102884, 2023, doi: <http://dx.doi.org/10.1016/j.habitatint.2023.102884>.
- [8] N. Esmailpoor, F. Esmailpoor, and F. Rezaeian, "Explaining the causes of population outflow from the historical fabric of Yazd city," *Cities*, vol. 137, p. 104318, 2023, doi: <https://doi.org/10.1016/j.cities.2023.104318>.
- [9] A. Rodríguez-Pose and M. Storper, "Housing, urban growth and inequalities: The limits to deregulation and upzoning in reducing economic and spatial inequality," *Urban Studies*, vol. 57, no. 2, pp. 223-248, 2020, doi: <http://dx.doi.org/10.1177/0042098019859458>.
- [10] K. L. Chen *et al.*, "Association of promoting housing affordability and stability with improved health outcomes: a systematic review," *JAMA Network Open*, vol. 5, no. 11, pp. e2239860-e2239860, 2022, doi: <http://dx.doi.org/10.1001/jamanetworkopen.2022.39860>.
- [11] M. P. A. Souza, M. S. da Natividade, G. L. Werneck, and D. N. Dos Santos, "Congenital Zika syndrome and living conditions in the largest city of northeastern Brazil," *BMC Public Health*, vol. 22, no. 1, p. 1231, 2022, doi: <http://dx.doi.org/10.1186/s12889-022-13614-x>.
- [12] M. Zhou, Y. Qiao, and J. Guo, "Research on the mechanism involved in urban social inclusiveness and resident entrepreneurship: Evidence from China," *Cities*, vol. 149, p. 104978, 2024, doi: <http://dx.doi.org/10.1016/j.cities.2024.104978>.
- [13] K. Yi and Z. Xu, "Exploring the Aesthetic Principles of Traditional Lingnan Architecture in Guangzhou Influencing Economic Development and Socio-economic Perspective—A Notch from Public Well-being and Modernity," *Journal of Information Systems Engineering & Management*, vol. 8, p. 22838, 2023, doi: <http://dx.doi.org/10.55267/iadt.07.13843>.
- [14] D. Zhuang *et al.*, "A performance data integrated BIM framework for building life-cycle energy efficiency and environmental optimization design," *Automation in Construction*, vol. 127, p. 103712, 2021, doi: <http://dx.doi.org/10.1016/j.autcon.2021.103712>.
- [15] Y. Wang, J. Kuckelkorn, F.-Y. Zhao, H. Spliethoff, and W. Lang, "A state of art of review on interactions between energy performance and indoor environment quality in Passive House buildings," *Renewable and Sustainable Energy Reviews*, vol. 72, pp. 1303-1319, 2017, doi: <http://dx.doi.org/10.1016/j.rser.2016.10.039>.
- [16] K. Fang, S. A. Azizan, and H. Huang, "GIS-based intelligent planning approach of child-friendly pedestrian pathway to promote a child-friendly city," *Scientific reports*, vol. 14, no. 1, p. 8139, 2024, doi: <http://dx.doi.org/10.1038/s41598-024-58712-5>.

- [17] Z. Zhang, J. Yu, and J. Tian, "Community participation, social capital cultivation and sustainable community renewal: A case study from Xi'an's southern suburbs, China," *Journal of the Knowledge Economy*, vol. 15, no. 3, pp. 11007-11040, 2024, doi: <http://dx.doi.org/10.1007/s13132-023-01536-x>.
- [18] T. Tammaru, A. Sevtsuk, and F. Witlox, "Towards an equity-centred model of sustainable mobility: Integrating inequality and segregation challenges in the green mobility transition," *Journal of Transport Geography*, vol. 112, p. 103686, 2023, doi: <http://dx.doi.org/10.1016/j.jtrangeo.2023.103686>.
- [19] E. Graves, "Moving to improve?: A qualitative meta-analysis of neighborhood violence and residential decision-making among housing voucher holders," *Journal of Planning Literature*, vol. 34, no. 1, pp. 19-37, 2019, doi: <http://dx.doi.org/10.1177/0885412218795267>.
- [20] S. Kabisch, J. Poessneck, M. Soeding, and U. Schlink, "Measuring residential satisfaction over time: results from a unique long-term study of a large housing estate," *Housing Studies*, vol. 37, no. 10, pp. 1858-1876, 2022, doi: <http://dx.doi.org/10.1080/02673037.2020.1867083>.
- [21] F. K. Auwalu and M. Bello, "Exploring the contemporary challenges of urbanization and the role of sustainable urban development: a study of Lagos City, Nigeria," *Journal of Contemporary Urban Affairs*, vol. 7, no. 1, pp. 175-188, 2023, doi: <http://dx.doi.org/10.25034/ijcua.2023.v7n1-12>.
- [22] C. Tonne *et al.*, "Defining pathways to healthy sustainable urban development," *Environment international*, vol. 146, p. 106236, 2021, doi: <http://dx.doi.org/10.1016/j.envint.2020.106236>.
- [23] G.-M. Salerno, "Touristification and displacement. The long-standing production of Venice as a tourist attraction," *City*, vol. 26, no. 2-3, pp. 519-541, 2022, doi: <http://dx.doi.org/10.1080/13604813.2022.2055359>.
- [24] M. K. R. Hassan, "Factors Affecting Urbanisation in Iraq: A Historical Analysis from 1921 to the Present," *Urbanisation*, vol. 8, no. 1, pp. 61-78, 2023, doi: <http://dx.doi.org/10.1177/24557471231169386>.
- [25] N. Degli Esposti, "The Class Structure of Kurdish Self-Rule in Iraq (1991–2014)," in *Nation and Class in the History of the Kurdish Movement*: Springer, 2022, pp. 81-110. http://dx.doi.org/10.1007/978-3-031-10247-9_4
- [26] F. Sümer and J. Joseph, "Compatibility of the Kurdistan region of Iraq's institutions and economic development within Iraq," *Iraqi Kurdistan's statehood aspirations: A political economy approach*, pp. 27-54, 2019, doi: http://dx.doi.org/10.1007/978-3-319-93420-4_3.
- [27] D. Natali, "The Kurdistan Region of Iraq: Stabilizer or Spoiler?," *Georgetown Journal of International Affairs*, pp. 71-79, 2013.
- [28] E. Talen, "Sense of community and neighbourhood form: An assessment of the social doctrine of new urbanism," *Urban studies*, vol. 36, no. 8, pp. 1361-1379, 1999, doi: <http://dx.doi.org/10.1080/0042098993033>.
- [29] J. L. Nasar and D. A. Julian, "The psychological sense of community in the neighborhood," *Journal of the American planning Association*, vol. 61, no. 2, pp. 178-184, 1995, doi: <http://dx.doi.org/10.1080/01944369508975631>.
- [30] J. C. Buckner, "The development of an instrument to measure neighborhood cohesion," *American journal of community psychology*, vol. 16, no. 6, pp. 771-791, 1988, doi: <http://dx.doi.org/10.1007/BF00930892>.
- [31] S. Handy, X. Cao, and P. L. Mokhtarian, "Self-selection in the relationship between the built environment and walking: Empirical evidence from Northern California," *Journal of the American planning association*, vol. 72, no. 1, pp. 55-74, 2006, doi: <http://dx.doi.org/10.1080/01944360608976724>.
- [32] H.-C. Huang, "Factors influencing intention to move into senior housing," *Journal of Applied Gerontology*, vol. 31, no. 4, pp. 488-509, 2012, doi: <http://dx.doi.org/10.1177/0733464810392225>.
- [33] J. C. Landau, B. Shamir, and M. B. Arthur, "Predictors of willingness to relocate for managerial and professional employees," *Journal of Organizational Behavior*, vol. 13, no. 7, pp. 667-680, 1992, doi: <http://dx.doi.org/10.1002/job.4030130704>.
- [34] A. Pagani and C. R. Binder, "A systems perspective for residential preferences and dwellings: housing functions and their

- role in Swiss residential mobility," *Housing Studies*, vol. 38, no. 4, pp. 682-706, 2023, doi: <http://dx.doi.org/10.1080/02673037.2021.1900793>.
- [35] T. Budur, "Unveiling the Role of Knowledge Sharing and Knowledge Hiding in Enhancing Public Service Motivation: Exploring the Moderating Effect of Organizational Structure," *International Journal of Public Administration*, pp. 1-15, 2024, doi: <http://dx.doi.org/10.1080/01900692.2024.2387695>.