

# Analysis and Evaluation of the Trend of Street Architecture Developments by Using Multi-Criteria Decision Making Model (Case Study: West of Iran, Streets of Sanandaj, Hamedan and Kermanshah)

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**Abstract:** Over the centuries, Iranian architecture has undergone various changes, and has gradually been removed from its traditional state of the art. Street architecture has not been the exception. The streets are the main building blocks of the city and they are considered as the most important elements of the city. Therefore, the present study has examined and evaluated the process of street architecture developments by using a multivariate decision making model. The method of this research is descriptive-analytic. The research data were collected through a questionnaire of 40 experts in the field of study. To analyze the data, the similarity method has been used to fuzzy ideal option FTOPSIS. The results of the surveys indicate that the trend of changes in the studied streets according to the similarity index in the time returns of years 1961 to 1996 (0.521), which shows that during this period, the highest changes have been observed in the architectural indexes of the study; while the trend of changes in the returns from the years 1941 to 1961 according to the similarity index (0.553), has the highest analytical weight in this study and during this period, appropriate changes are assessed.

**Keywords:** Architectural index, Similarity index, West of Iran, street developments, Modarres Avenue, Ekbatan Street, Enqelab Street

## INTRODUCTION

In recent decades lifestyles and living patterns and trends in the private and public spaces in cities welcome change socially with culturally and economically (Madani Poor, 2010). However, these changes create spaces that not take advantage of an opportunity to update the original patterns and is not rooted in our Architecture (Golestani and Sharif zadeh, 2011). The way we shape cities and the way we create urban spaces will have a profound impact on the type of current life in those spaces (Whyte, 1980). The city has different definitions in different societies and cultures. In fact, the city

can be regarded as a manifestation of human civilization. The Iranian city is divided by two different worldviews, ie before and after the arrival of Islam into Iran (Mansouri, 2013: 52). What is known as the city after the arrival of Islam in the Iranian cities (before the arrival of Western urbanism) is directly influenced by the urbanization of Islam, and the Islamic city is the representation of the spatial form and structure of the society, based on Islamic ideals, the form There are also communication and decorative elements in it (Bamet, 1990: 11). With the arrival of the Qajar era, due to the characteristics of Iran as a point of departure, access to the Far East, as well as Russia's access to the South Sea, is being considered. From this period onward, Iranian-Islamic urbanization undergoes physical and spatial changes. On the one hand, with the coming of the Pahlavi government, admiration for the progress of the West in the Qajar government ends with fascination with the West in the Pahlavi government (Habibi, 2006).

Between the spaces, street, is the most urban space .Because many of the activities associated with the city and its citizens is ongoing .Although the history of the street is considered in the ninth century and then (Dabir Sayaqy, 2000). The historical documents prior to the ninth century reminds the same street spaces in cities such as Tabriz and Ray that is called the founder or the tag transition (al- Hashemi, 2011). Due to the transition in the functional hierarchy of the traditional city street so today we have showed the important role of spatial localization, and cultural, social and economic performance of our cities (Shieh, 2009). This concept is in line with the market's key role in determining the performance of our cities, towns and even in their physical appearance (Habibi, 2006). This concept is in line with the market's key role in determining the performance of our cities, towns and even in their physical appearance (Habibi, 2006). These spaces represent Islamic culture and identity, and many of our cities has also been a popular distillery. Coordination of these spaces by nature in the form of modern-day concepts of creation and Char Baghshahrha<sup>1</sup>. in the previous couple of centuries of the supremacy of the Safavid period coincides with the superiority of the street and in urban spaces has also been (same, 2006).

Such a noble concept in urban society in the early Pahlavi era and the arrival of modernist architecture and urbanism concepts can be tremendous developments. The order of spaces that are part of the physical and functional hierarchies, both in terms of urbanism and architecture were considered to be obvious that of the traditional to the modern city and brought turmoil to the traditional and historic body of towns (Kamrava, 2008). Act of streets and thoroughfares in the first decade of this century and in the squares and streets of cities such as Hamadan in 1931, and Tehran in 1937 demonstrated the streets leading architectural and urban change in contemporary cities around the country. As in the Pahlavi period, with a name like Sick House, Lale Zar etc. Each new roles and new forms of are constructed (Habibi and Ahari, 2008).

As though the streets of the former social identity and cultural character of the inhabitants even in its design and construction types were shown; the major challenges of today's cities are gripped by the use of these spaces (Izadi et al, 2012). Extensive traffic, creating a gap in the urban fabric and its eclectic architecture and construction issues are a matter for these areas cover the activities of the house and into the old city centers to markets such as crowded malls today 's issue and their role is to provide needed roadway reduced (Pakzad, 2004). The question that brought our nation's innovation in the cities of us and have many capabilities and social and cultural and even build and coordinate architecture with nature and the environment as well as of those kidnapped and the turmoil it is waived.

The first lesson we need to learn is that the city is not born for the sake of permanent passage of cars, but to protect the inhabitants and the culture of its inhabitants (Hony & Mumford, 1986). This

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<sup>1</sup>- in the late nineteenth and early 20th century Urban Garden City Theory by Abnerz Howard in harmony with nature and criticism of the state of pollution and industrial towns that time has been proposed

goal of the city as the body extends to all its components and factors, including the streets. Therefore, according to the stated articles, the purpose of this research is to analyze and evaluate the trend of architectural developments in the west Iran streets by using a multi-criteria decision making model.

### **The purpose of Research**

The aim of this study is to Analysis and evaluation of trends in the architecture of the west of Iran streets that is for an item on the streets of Madras Kermanshah city; streets of Ekbatan in Hamedan and, Enqelab Street is in the city of Sanandaj. In this regard, in order to achieve the goal of effective indicators for studying the architecture of 13th Street at three time periods 1921 to 1941, 1941 to 1961 and 1961 to 1996 were used.

### **Literature review**

According to the study on the subject of the research and the area under study, there was no specific information and history but there are several studies and plans for development and renovation and reconstruction in different cities, which can be used in appropriate ways. A study on the history of the research that has been carried out in the following projects and plans of each city are divided into:

#### **A. Kermanshah Research Background:**

1. Kermanshah Governorate, comprehensive plan of the city of Kermanshah, 1996; 2. Improvement and renovation of Kermanshah city (Feyzabad), 1997; 3. Temple, design of the old texture structure of Kermanshah city, 2005; 4. Report of the Central Textile Organization of Kermanshah City, 2007. ; 5. Boroumand Sorqabi, Department of Housing and Urban Development in search of Kermanshah urban identity, 2009.

#### **B. History of Hamedan Research:**

1. Comprehensive plan of Hamedan city, 1968; 2. The plan of organizing Imam Khomeini Square, 1997; 3. Improvement of renovation of wadded texture in Hamadan, 2008; and 4. Design of urban area of Imam Square and six axis, 2007; and 5. Improvement plan Renovation of Vanished Texture of Hamedan, 2008.

#### **C. Sanandaj Research Background:**

1. Department of housing and urban planning of Kurdistan province, Sanandaj comprehensive plan, Marjan Consulting Engineers, 1976; 2. Rasooli, University of Tehran, 1993; 3. Department of Housing and Urban Development of Kurdistan Province, General Directorate of Development and Development and Influence of Sanandaj, Research and Development Consultant, 2001; 4. Habibi, Review of the Process and Pattern of Physical Development of Sanandaj, 2001; and 5. Razavi, in search of urban identity in Sanandaj, 2005.

### **Theoretical framework**

Street favorite topics of most theorists in the field are different. Different definitions and views in this area has sought to intervene in the streets and how to deal with different ways of making the payment thereof shall be provided. Physical approach to the theory of people like Kevin Lynch, 1960; Cullen 1961 and Bacon, 1997; aesthetic approach like Kablans, 1998; Social perspective in the streets like theorize Jane Jacobs, 1961; cultural perspectives of people like Lamnurl, 1994; political views of Marx, 1980, or historical perspective in the streets like the idea of Niccolo, 1995 shows the influence of the street as a space of the city in the form of spatial and physical (Atashin Bar, et al, 2012). Attention to the theories of the formation and development in the Western theorists such as

Soria Mata in the theory of linear, or Kenzo Tange in formation of Japanese cities such as Tokyo and reveals his plan for urbanism and architectural significance of this is speculative Street (Aufestrusky, 2008; Pakzad, 2009).

On topics related to landscape architecture and street performance and its role and roughness that built and there is a perspective, it can even be remembered as a system. Outlines the position of the architectural function in the perception of the city and the street and the urbanism on the type of construction and embedded elements and signs and the position of its components on it to clarify its formation mechanism and help citizens to understand even the basic concept of the town for them. In this regard, Kevin Lynch also believes that the streets or the network to move there in the urban complex is the most effective means to bring, which is based on continuous city it can be set to. So it is clear that the street and the building and how it is processed in spatial perception and regulation may help to town. From the perspective of architecture and landscape architecture, with the exception of street is Kelly. Facial express the objective and body components which express functional components - history (subject) (Atashin Ba, et al, 2012). The order is one of the main components of its architecture as well as studies on the street where two definitive format and takes place in the explanatory table 1 outlines these cases has been dealt.

**Table 1:** General characteristics of the species in order of St.

The dominant theory	Logic	Power	Period	Architecture	Order of Street
Mass and space	Fixed	Rule	Classical , Renaissance and Modern	Rationalist	<b>Final</b>
Perspective	Fluid	Community	Tradition and postmodern	Organic	<b>Illative</b>

Carefully in these specifications, especially the dominant theory, logic and design specifications to the phenomenon of the order on the street can be found the old streets of the cities in our country, especially after the Safavid era has an organic, fluid status and has been transcendent landscape. Street like the garden of four (Golestani and Sharifzadeh, 2011), which has a presumption of regularity in harmony with nature and the product of diverse physical components with multi-dimensional roles. This type of order in the streets of our nation's traditional cities, especially during the Safavid and spontaneous formation of the resulting from elements of the system in response to the requirements of the following different rules.



**Figure 1:** 1941 Sanandaj - Enghelab Sq



**Figure 2:** 1931 Kermanshah, the former shahrdari Sq



**Figure 3:** Hamedan's Imam Square

**Source:** Cultural Heritage, Handicrafts and Tourism

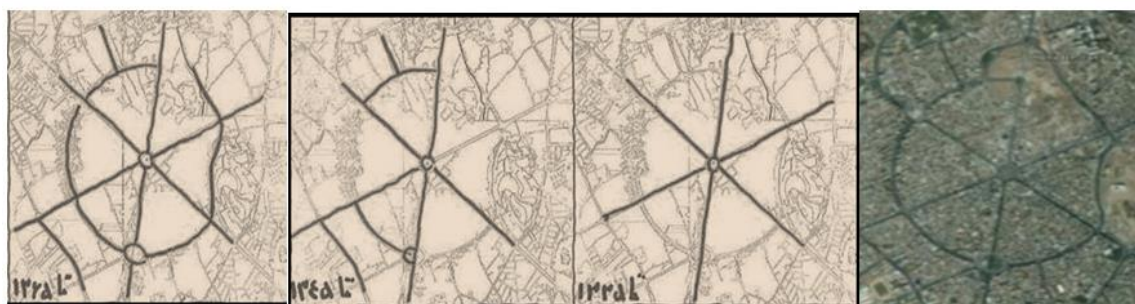
Such performance both objectively and subjectively in terms of the architecture and urbanism of the period is known as the Esfahan school to the world. Glory, though until the late Qajar more or less continues but with the beginning of the Pahlavi era and the modern part of the ruling Government in the wake of other form of construction and evolution of the architecture and urbanism that happens more quantity and volume and mass is considered. As previously stated, with the advent of Reza Khan, pseudo-modernist thinking is to transform the Iranian-Islamic city into a modern city. The influence of these thoughts on the city, with the creation of a street on the old texture, caused wide variations in the Iranian-Islamic city.

The changes to the urban fabric cut in squares and streets of the city of Hamadan in 1931 attached to it (Figure 4) shows and continue from the 60s onwards, with the establishment of comprehensive and detailed designs in Architecture of country early developments in the adoption of eclectic architecture in the West.



**Figure 4:** Map of Hamedan, 1953 (Mostafavi)

The texture of the old city that their organizational and civil infrastructure to the Pahlavi period had retained, starting new activities transform and change shape and appearance and intense inner role was suffered. It was found that the threat of the disintegration of the old city through the central streets of the 6th Imam Khomeini Square, a radial plan presented by Karl Frisch, the old market in the center of the city was demolished, but there is the 6th Street Project despite stronger than the market and old screed, drive the development of the city, on the main elements of the body such as the market, the old, the mosque and theological school. Figure 5 shows the development of Hamadan in the map below from 1921 to 1986 (Zakir Haghighi, Kianoosh et al, 2014).

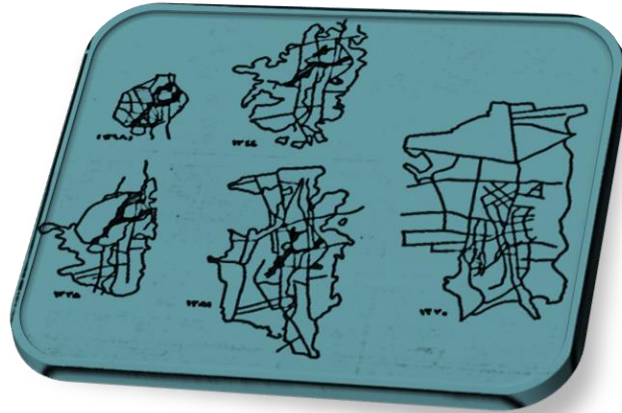


**Figure 5 :** Development of Hamadan between the years 1921 to 1986 (source : the same)

The Modares street is a plan that in Kermanshah 1933 to distinguish on the basis of a plan that fell through and the old name of the street Jolo Khan from North to South was created to attach. The current location at the time of creation of the street and a ford in one pass, sometimes within a neighborhood called Jolo Khan who was ahead two to create the Pahlavi era and changes during its



view of urban-oriented body out with new designs and inlays were created out of its body that all users of foreign bodies, including public places and public-service commercial and along with passage of a car driven separately considered, the purpose of the project at that time in the car to the city and impress and schools, and religious places in the mosque, tunneling as well as longitudinal movement within the city to create a central artery of a new architecture with different structures that extraversion was the most important cause .An example of this architecture with different user specified below.



**Figure 6:** The Making of Kermanshah and car access in such a way placement

The streets of the North - South called Enqelab the East - West named Firdausi Sanandaj, the traditional system of neighborhoods stirred a similar urban street of Kermanshah struck generated from the intersection of the revolution, the result was established in 1935 to recognize Reza Khan accordance with the plan of the old town sometimes the transition from the traditional mode of communication within the community and has been removed. All of the external hull Street user include public service Government and commercial-and was written off and a driven cross car to breakdown used for the purpose of this project is done in those years car entry to the city and to impress a mosque and schools and religious places next to it and also make the crossover Ford del motor to create a city of the Central artery and an emerging different structural architecture that extraversion is the most important feature of it. During 1921-1941 from the towns as their concept of district loses, in the course of political Islam as the administrative center of the center of Kurdistan province, and the most important-and the largest city of the province will be raised. It can be said of Sanandaj city instead of enclosed in fences and natural borough in a space that housed the roof by high mountains around surrounded by, By dragging the cross streets in the city and provide new elements like barracks, factories, hospitals, offices, etc. during this period, there were changes in urban construction, Gradually we see the streets of the main functions of extraversion to create a community center, and the city's main market, crossing the street so that the longitudinal axis of Alaf Khan (the main market of the city of Sanandaj) is divided into two parts, and also this thread such a function was fit with the market's body in empty space either side of the street, the shape and physical values-enter a market would enable the functional basic (Asad zadeh, a comprehensive redevelopment of the old market of Sanandaj). 1941-1961 period , which can be considered a period of economic downturn and begin the process of modernization, Sanandaj plan by American Consulting Engineers West Alton with a view totally alien to the character of the social, cultural, economic, and geographical region were prepared and for the second time the skeletal structure of

the old city, and molested with the cross streets of the patient's body, suggesting the city again and surgery dissipates and the main structure of the disruptive user, urban city and gradually the new tissue was formed alongside the old. Between the years of 1961-1996 changes in economic, political and social developments, and that in a state of rapid urbanization, the urbanization stationary phase, as in the 17-year period, growth and physical development of the city of Sanandaj in the 350 year history of the city. According to the Comprehensive Plan in 1973, the Marjan consulting engineer for the city of Sanandaj were made, the development project was carried out in the regulations, reflecting its space in the neighborhood of Hassan Abad, Khosro Abad and Sharif Abad as well as the influence of the old steel and concrete buildings can be seen, The structure of the city in this period consists of the quarters and several new neighborhoods that a number of them on the basis of a plan well thought out and the number also of rural migration outcome have been created. The city is also central to a single model in the range is dependent on Enqelab Square. With this change in the market as the backbone of economic, social and cultural rights and the transfer of the bulk of economic activity to gradually withdraw its physical development lags behind and incompatible with the formation of its functions, its central activity is weakened. (Iqbali, Naser Rahimi, Mahmoud, 2010).



**Figure 7:** Historical evolution of Sanandaj from 1921 to 1991  
(Source: Consulting Engineers of Piravesh, 2010)

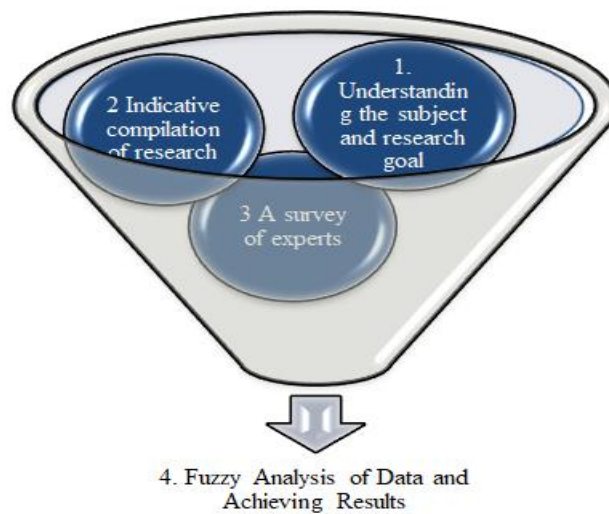


**Figure 8:** The 1956 aerial photograph of the city of Sanandaj  
(source: Cultural Heritage , Handicrafts and Tourism Organization of Kurdistan )



## Research Methodology

This study is a descriptive analytical methodology in line with the analysis of the process of the formation and change of the Street West of Iran architecture with an emphasis on the streets of Madras in Kermanshah city; streets of ekbatan in Hamadan and Enqelab in the city of Sanandaj is finished. To achieve the goal 13 affecting factors of the formation and dynamics of this process as the openness of the architecture of choice on the streets of the city, Sirclassion, aspects of emotional, mental, and consistent quality, aesthetic, functional and physical hierarchical spatial localization-functional, the SPAD, common functional density of pure and impure body, skyline, conveying semantics and aesthetics and the creation of Social Security in the period 1921 to 1941, 1941 to 1961 and 1961 to 1996 were studied. Data collection and analytical study of the opinions of 40 experts in the field of Architecture and Urban Studies has benefited. To analyze the data obtained from experts is similar to the model used FTOPSIS phase ideal option.



**Figure 9:** The Conceptual model of the research process

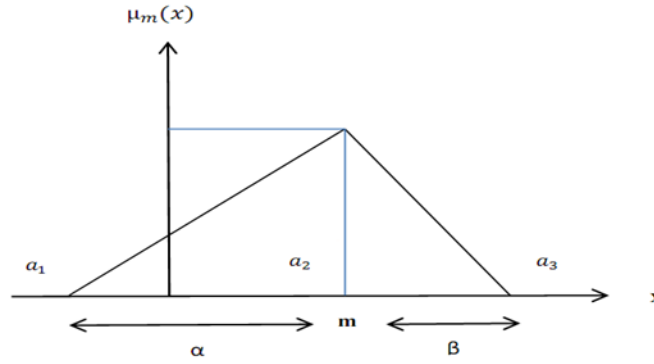
### Mathematical structure and performance of the model used in this study:

*Techniques used in this study are similar to the ideal option of phase or phase TOPSIS was first named by researchers<sup>2</sup>, for deciding n criteria to m option is given. This model takes advantage of the multi-stage analysis. Firstly, this model will be decided in the following matrix form of organization.*

$$\tilde{A} = \begin{bmatrix} \tilde{x}_{11} & \tilde{x}_{12} & \dots & \tilde{x}_{1n} \\ \tilde{x}_{21} & \tilde{x}_{22} & \dots & \tilde{x}_{2n} \\ \dots & \dots & \dots & \dots \\ \tilde{x}_{m1} & \tilde{x}_{m2} & \dots & \tilde{x}_{mn} \end{bmatrix}$$

If you are using the triangular fuzzy numbers to analyze the performance of this technique will be  $\tilde{x}_{ij} (, c_{ij}, b_{ij}, a_{ij})$

<sup>2</sup>- Chen and Huang



**Figure 10:** The function of triangular membership of numbers in the fuzzy environment

**Source:** Amanpour and Alizadeh, 2013: p 90

The second stage of the model determines the weight matrix of relations following criteria will be used to reach this

$$w_{j1} = \min_k \{w_{jk1}\}$$

$$w_{j2} = \frac{\sum_{k=1}^k w_{jk2}}{k}$$

$$w_{j3} = \max_k \{c_{jk1}\}$$

Scale of the third stage fuzzy decision matrix which is based on the following relationships

$$\tilde{r}_{ij} = \left[ \frac{a_{ij}}{c_j^*}, \frac{b_{ij}}{c_j^*}, \frac{c_{ij}}{c_j^*} \right]$$

$$\tilde{r}_{ij} = \left[ \frac{a_j^-}{c_{ij}}, \frac{a_j^-}{b_{ij}}, \frac{a_j^-}{c_{ij}} \right]$$

In the relations  $c_j^* = \max_i c_{ij}$  and  $a_j^- = \min_i a_{ij}$  will be  $(\tilde{R})$ . Given the above relationships were matrix phase can be obtained using the following equation is the sum

$$\tilde{R} = (\tilde{r}_{ij})_{m \times n} \quad I=1, 2, \dots, m$$

The fourth step in the calculation of the index between the indicators with positive side and the negative aspects of the index with which to calculate the weight of research model dedicated to the order of the following relationships they used.

$$\tilde{v}_{ij} = \tilde{r}_{ij} \cdot \tilde{w}_{ij} = \left\{ \frac{a_{ij}}{c_i^*}, \frac{b_{ij}}{c_j^*}, \frac{c_{ij}}{c_j^*} \right\} \cdot (w_{j1}, w_{j2}, w_{j3}) = \left\{ \frac{a_{ij}}{c_j^*} \cdot w_{i1}, \frac{b_{ij}}{c_j^*} \cdot w_{i2}, \frac{c_{ij}}{c_j^*} \cdot w_{i3} \right\}$$

$$\tilde{v}_{ij} = \tilde{r}_{ij} \cdot \tilde{w}_{ij} = \left\{ \frac{a_j^-}{c_{ij}}, \frac{a_j^-}{b_{ij}}, \frac{a_j^-}{a_{ij}} \right\} \cdot (w_{j1}, w_{j2}, w_{j3}) = \left\{ \frac{a_j^-}{c_{ij}} \cdot w_{i1}, \frac{a_j^-}{b_j^*} \cdot w_{i2}, \frac{a_j^-}{a_{ij}} \cdot w_{i3} \right\}$$

The fifth step in the calculation model nearly ideal phase<sup>3</sup> and the anti-ideal phase<sup>4</sup> that these states were calculated using the following relations

$$A^* = [\tilde{v}_1^*, \tilde{v}_2^*, \dots, \tilde{v}_n^*]$$

<sup>3</sup>- Fuzzy Positive Ideal Solution (FPIS)

<sup>4</sup>- Fuzzy Negative Ideal Solution (FNIS)

$$A^- = [\tilde{v}_1^-, \tilde{v}_2^-, \dots, \tilde{v}_n^-]$$

The values of  $\tilde{v}_i^*$  the best and values of  $\tilde{v}_i^-$  are worst for the parameters.

The sixth step is the calculation of the distance from the negative and positive ideal which would be in the order of their relations has been used for the following

$$S_i^+ = \sum_{j=1}^n d = (\tilde{v}_{ij}, v_j^*)$$

$$S_i^- = \sum_{j=1}^n d = (\tilde{v}_{ij}, v_j^-)$$

The final step in this model is the similarity index was calculated using the following equation

$$cc_i = \frac{S_i^-}{S_i^+ + S_i^-}$$

### Findings of research

In this phase of the study, the experts were asked to study the parameters of the study were 13 -fold in the three time periods 1921 to 1941, 1941 to 1961 and 1961 to 1996 based on the Likert range from very low to very high studied for their valued research. After collecting expert opinions obtained values were converted to analysis of triangular phase to phase numbers (Table 2).

**Table 2:** The triangular fuzzy numbers to indicators for the evaluation of research

The fuzzy value	Importance indicators
1,1,3	Very Poor
1,1,3	Weak
1,3,5	Average
3,5,7	Much
5,7,9	So Much

Phase action after the data of the table to get the values of the scale of the analysis for the bulging phase experts that are examples to the first 5 index of these tables in table 3 is provided for research<sup>5</sup>

**Table 3:** Example of a Fuzzy Scale Chart of Indicators Research

indicator	Urban experience			circulation			Emotional aspects of mental			Quality and consistency			Aesthetics		
Time period															
1921-1941	0.1	0.59	0.9	0.1	0.35	0.9	0.1	0.56	0.9	0.1	0.54	0.9	0.1	0.71	0.9
1941-1961	0.3	0.73	0.9	0.1	0.60	0.9	0.3	0.7	0.9	0.3	0.63	0.9	0.1	0.64	0.9
1961-1996	0.3	0.68	0.9	0.1	0.68	0.9	0.3	0.66	0.9	0.1	0.49	0.9	0.1	0.51	0.9

After the unprecedented scale of data has been weighted data communication and then calculate the distance from the positive ideal  $S^+$  and distance of negative ideal  $S^-$  indicator. Processes of this part of the study are presented in Table Four.

<sup>5</sup>- Note that due to the length and frequency tables presented in this section is an example of these tables

**Table 4:** Calculation of distances from the positive and negative indicators of ideal

Indicator	A		B		C		D		E	
Period	$S^+$	$S^-$	$S^+$	$S^-$	$S^+$	$S^-$	$S^+$	$S^-$	$S^+$	$S^-$
1921-1941	0.283	0.309	0.319	0.277	0.286	0.305	0.288	0.302	0.206	0.340
1941-1961	0.205	0.343	0.280	0.312	0.208	0.336	0.216	0.324	0.215	0.326
1961-1996	0.210	0.333	0.273	0.326	0.212	0.329	0.296	0.293	0.234	0.305
Indicator	F		G		H		I		J	
Period	$S^+$	$S^-$	$S^+$	$S^-$	$S^+$	$S^-$	$S^+$	$S^-$	$S^+$	$S^-$
1921-1941	0.200	0.358	0.273	0.326	0.310	0.228	0.272	0.330	0.306	0.285
1941-1961	0.206	0.340	0.285	0.306	0.336	0.208	0.273	0.326	0.300	0.289
1961-1996	0.220	0.319	0.309	0.283	0.326	0.273	0.309	0.283	0.287	0.303
Indicator	k		L		M					
Period	$S^+$	$S^-$	$S^+$	$S^-$	$S^+$	$S^-$				
1921-1941	0.285	0.306	0.208	0.336	0.300	0.289				
1941-1961	0.283	0.309	0.220	0.319	0.233	0.306				
1961-1996	0.312	0.280	0.295	0.295	0.300	0.289				

After the calculation of the index is the ideal distance of positive and negative indicators for individual research in the 13's in 3 time period to calculate the similarity and the final weight for changes to the architecture and the process of the formation of the three selected streets in the selected time period was research The results of this phase are shown in Table 5.

**Table 5:** Calculate the similarity index and weight change during the formation of the architecture of selected streets

Period	$S^+$	$S^-$	$CC_I$	<i>Rank</i>
1921-1941	3.542	3.996	0.530	2
1941-1961	3.265	4.052	0.553	1
1961-1996	3.590	3.917	0.521	3

The final results of the analysis of the similarity to the ideal model of phase FTOPSIS option indicates that the period of time the major indexes up to 1941-1961 selected in the architecture of the streets of the most weight are %553 and subsequently to have minimal formation is changed. This is while according to the expert's idea the period 1961-1996 have the lowest weight %521 and subsequently has the highest formation and changes and the transformation of the 13 indicators in selected branches of study have been in the street.

## Conclusions

The purpose of this study was to analyze and evaluate the trends of architectural developments in Sanandaj, Kermanshah and Hamadan streets by using a multi-criteria decision making model. In order to achieve the research objectives, based on 13 indicators (urban inclusiveness, circulatory, emotional-psychological aspect, quality and consistency, aesthetics, functional-functional hierarchy and physical-functional location, vegetation rate, net income, net density and gross impurity, heaven line, the transfer of semantic concepts and the amount of social security) selected in three periods from 1921 to 1941, 1941 to 1961, 1961 to 1996; the process of changes and architectural changes. Streets of Modarres in Kermanshah, Enqelab in Sanandaj, and Ekbatan in Hamadan were investigated. The results of the research show that in the time efficiency of years 1941 to 1961, in the main of the selected architectural index in the studied streets, with 0.55 has the maximum

importance and therefore had the least formation and transformation. However, according to the experts, the time efficiency between the years 1961 to 1996 has the lowest weight of 0.51% and therefore has the most formation and transformation in the 13 selected indicators studied in the streets.

Street is the simplest element of urban elemental elements, which makes for the integration, linkage and maintenance of urban communities. On the other hand, the streets are a mythical view of Iran's civilization, which, according to its historical transformations, can track its place and role in the minds of the audience in different periods. Other findings from research show that street-level studies are the basis of many theories in the field of architecture and urban planning. Some urban theorists, such as Kenzo Tange, Soria Mata, and great architects such as Alexander, Jacobs, etc. The studies of the streets and public spaces of cities have a special place. It is also clear from the results of the meta-analysis that the transformation of the city as a symbol of discontinuity, progress, and development in the Pahlavi era. The ancient texture of the cities witnesses cross streets targeting a neighborhood organization and the street as the nation's foremost and powerful edge of the city continues to be enjoyed throughout the course.

But in the end, the results of the survey in these three periods show that considering the historical background and identity of the studied streets and considering the principled planning and changing attitudes toward the old streets and taking into account the time and place conditions, we can rehabilitate the streets. The study is integrated and the logical linkage of spatial functions can provide the basis for the development of the streets and based on these results, it can be argued that a brighter future awaits the streets.

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