

Transformation of Public Spaces and Changing Pattern of Mobility in a Historic City, Case Study: Isfahan, Iran

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1 ABSTRACT

Esfahan is one of the central and historic cities of Iran, which dates back to 2000 years ago. The city is enriched with crafts and folk art, which has led to it being registered as part of the Creative Cities Network of UNESCO. The centerpiece of the city, NaghsheJahan Square, was inscribed as a UNESCO World Heritage Site in 1979, and it well represents the brand of the city Esfahan; its intricate mixture of historic architecture, viable urban space for work and recreation for its citizens, and a welcoming landmark on tourists' maps.

The variety of typologies used to build the urban spaces has led to strong pedestrian patterns throughout a coherence network. Hence, these areas have a powerful potential to change structure, mobility patterns and people's perception.

In spite of this, in recent decades, new developments and urban changes such as mega malls and recreational sites have resulted in new poles in design and architecture in the outside areas of the urban city. This phenomenon is leading to movement of people, energy and resources as well as changes in life styles, the image of the city and its mobility patterns.

The objective of this article is to further analyze and discuss how urban transformation and urban changes in a micro and macro scale affect the mobility pattern and pedestrian flow. In order to this, methodology used is based on analysis of literature and environment in two levels; first, urban transformation analysis based on public urban space's typology and urban space analysis; and second, mobility patterns based on space character and pedestrian flows.

The results show that emergence of structures such as megamalls City Center or Dreamland Project create daily driving flows, which decrease urban space's perception.

In conclusion, in historic cities, such as Esfahan, urban changes should be planned and centered around its historic fabric, and public urban spaces should be designed and controlled with mobility's patterns in mind.

Keywords: Esfahan, historic city, mobility, transformation, urban space

2 INTRODUCTION

Isfahan is one of the central cities of Iran. It has a long history of various civilizations. One of the most important period, in which fundamental changes made in the city, began about 400 years ago when it was re-established as the capital. During this period, the city consisted of large buildings along with useful, huge urban spaces and infrastructures. In that time the government acted powerfully that it brought about structural transformation, and so far its importance has not been diminished.

The transformation process in the entire Isfahan City has created a variety of new urban spaces. Different types of squares, recreational-commercial spaces and local urban spaces have been created from the standpoint of spatial typology. The contrast between the nature of traditional textures and the policies of decentralization of the city center has created forces that have led to exogenous development and the duality of use of spaces has practically emerged. The main structure of this city, which is located on two natural axis of Zayandehrood River and Abbasid Charbagh Street remained from the Safavid urbanism, has a regular and organic structure. In fact, the main structure of Isfahan was created by Safavid urbanization changes. But in recent decades, new spaces have raised a new subject that different mobility has been created in the city. Pedestrian presence is one of the main mobility in a city that depends on the identity and mental health of citizens.

3 DIFFERENT PERIODS OF URBAN SPACES TRANSFORMATION PROCESS IN ISFAHAN

The evolution and development of the Isfahan City can be described in five periods in terms of physical structure as follows:

Period I: from the end of the Sassanid era to the beginning of the Islamic era (the Abbasid era) with the character of neighboring urban cores. (750-1258)

Period II: Isfahan during the Seljuq era with the character of the interconnected and enclosed city (1037-1194).

Period III: extensive development of the city in the Safavid era ; with the view of open city. (1501-1722).

Period IV: Isfahan in the Qajar era. (1789-1925).

Period V: Contemporary Isfahan in the last century.

In the Seljuk era (1037-1194), Isfahan had a coherent and central structure and texture in which the main spaces and residential and governmental textures were placed surrounding the Atigh Square and the Jame Mosque. Therefore, if one wants to talk about the urban spaces in the Seljuq era, he must consider square, street and markets as the most important spaces.

In the Safavid period (1501-1722), which is the brightest period of urbanism in Iran, Isfahan was the capital of Iran and the center of civilization and urbanism has culminated with the new concepts such as ChaharBagh, square and royal gardens. Walls have been built on the four sides of ChaharBagh. The royal gardens were located in it and it is interesting that people can go there freely, and in fact they could be considered as semi-public spaces. The combination of plant and water and built environment in this street and the gardens surrounding it created a unique space. Public spaces, in addition to ChaharBagh and Abbasis street and other main streets and covered streets, have been formed by several squares and the most important squares are the NaghsheJahan Square (Shah Square) and the Kohneh Square (Atigh square). The first urban planning was planned in Isfahan and performed during twenty-five years and then. It became a model for many other cities. The re-capitalization of Isfahan led to the flow of wealth from other parts of Iran to the city and culminated in economics and mobility. This culmination was beyond the Seljuq era and all subsequent periods until contemporary reforms in the third and fourth decades of the twentieth century.

During this period, Shah Abbas directed the main development of the city outside the limits of Seljuq Isfahan and towards Zayandehrood and then, its south. The neighborhoods of Jolfa, Gabrha and Tabriziha, which were disconnected from the main city, gradually connected to it. The Naghshe Jahan Square was built and the main building, such as the royal palace, mosque and Bazar were placed around it; Keisaria gate opens into the Isfahan Grand Bazaar.

Designing a new and vast urban street called ChaharBagh, and creating a broad square with a clear definition of spatial arrangement as the new center of the city and not as a new city, makes it possible to use the concept of urban zoning in organizing the Iranian city for the first time; (Fig 2)



Fig. 1: Different periods of Isfahan

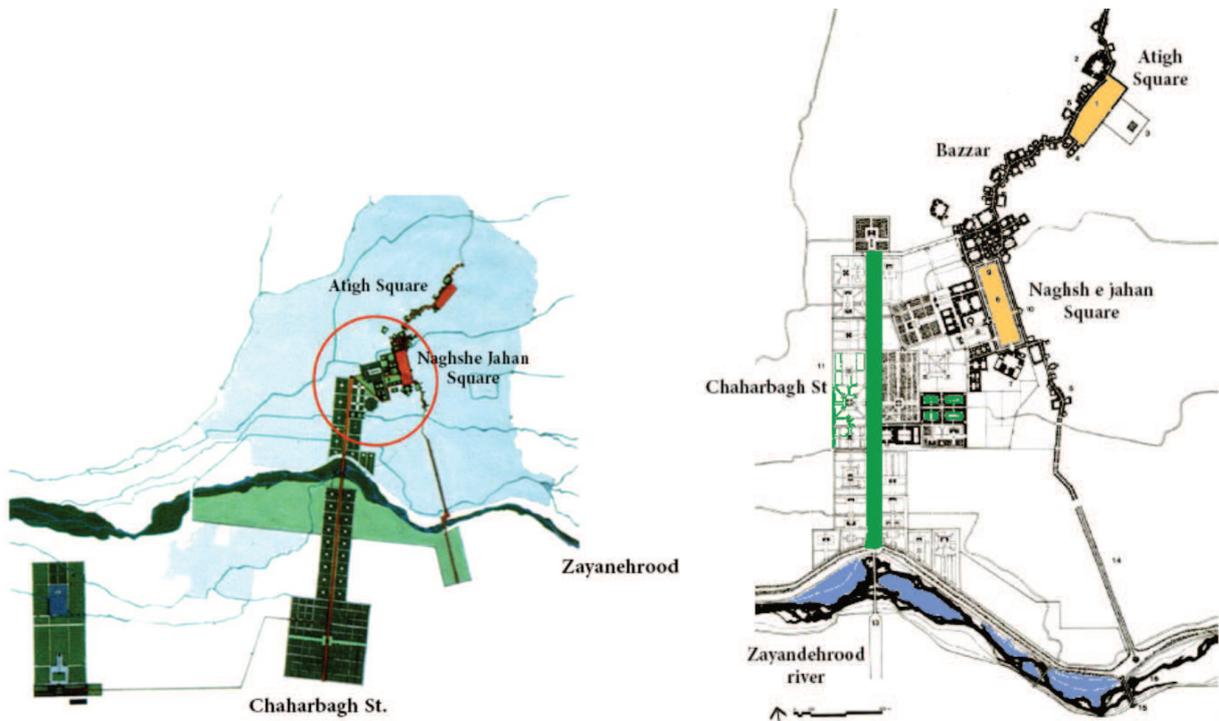


Fig. 2: Safavid City Structure, Two Axes, Zayandehrood and Chaharbagh, Pedestrian And Coach Mobility.



Fig. 3: Chaharbagh, now and safavid period.

In such condition which the axis has been formed during the ten centuries of Iran's urbanism history after the Islamic era and before the Safavid era, formation of straight urban axes have become important and valuable as much as the market in addition to the creation of urban open space in the role of recreational and tourism walkway. It can be said that the urbanization of Isfahan in the Safavid era presents two types of specific urban axes with a completely different structure to the urbanism in the world. The first type is an organic and covered axis of markets which is the dominant element in providing the city's economy and since it spatially connects the squares, mosques, caravanserai, etc. to each other, it is considered as one of the most powerful public spaces. Such a structure with the scale of Isfahan market design can rarely be found as a continuous urban axis in the urbanism history of other territories. The second type is the green and straight tourism axis in a given scale. In addition to playing a role in providing urban green space, it is considered as urban public space by placing a specific architectural element around it and linking it to other important urban spaces (Ranjbar et al., 85).

Therefore, in this period, new urban spaces such as the construction of Si-o-se pol and Khajou bridges, provided a new type of water-side space. Holes, benches and platforms of the bridges provides a space for a fun gathering in addition to the service and movement space. Construction of the new square of Naghshe Jahan Square on the southern side of the Kohne Square (Atigh Square) was performed with respect to the old center, and, in order to connect these two centers to strengthen the Bazaar.

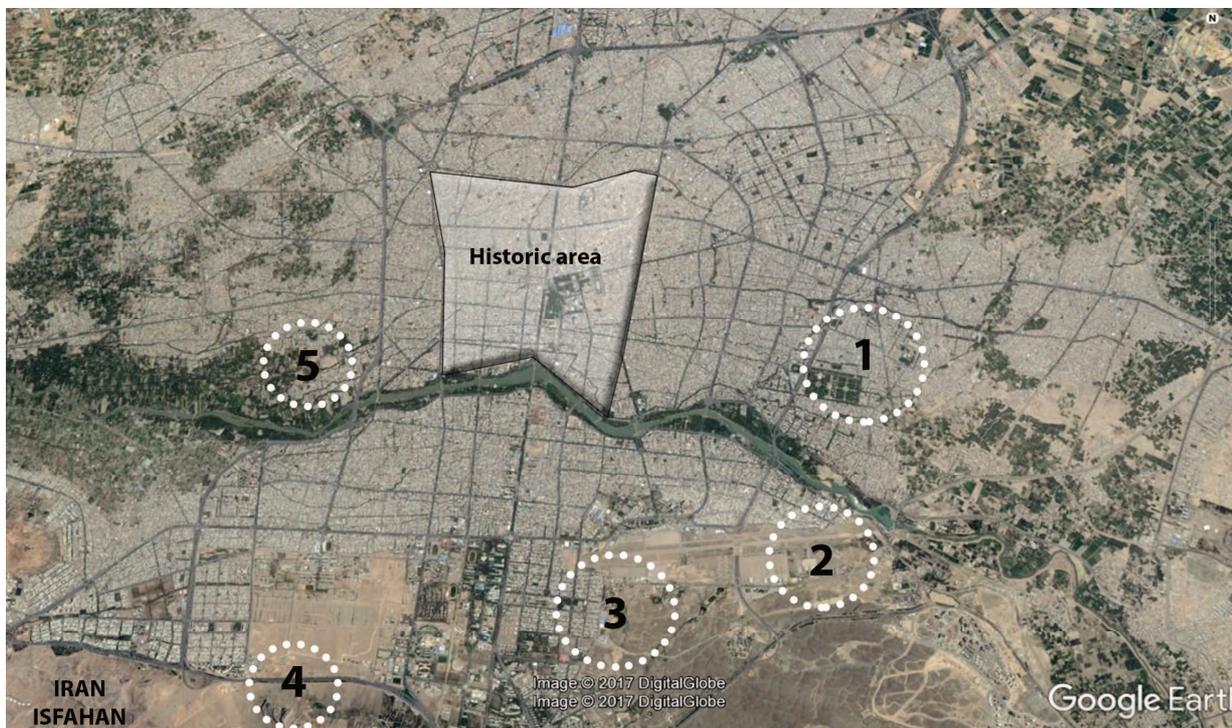
After that in the Qajar period (1789-1925), changes in the Safavid gardens began and this ends to the construction of massive mansions in the garden. In the Qajar period, the developments were focused on buildings with decorations and orientation. Also due to the powerful changes made during the Safavid period, the transformations were led to single building and cultural land-uses, all of which were created in imitation of Europe after kings' journeys.

In the Pahlavi era (1925-1979), due to the formation of network skeletons and the domination of the streets, the Bazaar lost its economic function as an enclosed and active environment in a specific set, and many active trading centers were built on sides of new streets to make the flows of capital and goods easier. In this period, urban life was based on two structures: old structure that was so strong that and the city would continue to live its urban life based on it and new structure which is based on traffic axes. Here, one of the most important transformations occurred in the mobility in the city. The streets where the cars moved in and walking was actually removed and the axes where the walking was prioritized. One of the most important urban transformations in Isfahan occurred during this period. In any case, urban developments in Isfahan have taken place without paying attention to its historical potentials, and the arrival of cars in the city, the formation of dense industrial and services centers, and the unidentified construction have disrupted spatial balance and urban life.

4 NEW DEVELOPMENTS AND THEIR IMPACT ON URBAN SPACES IN ISFAHAN

In the past two decades, the Isfahan city has been undergoing fundamental transformations through structural and infrastructural developments. Macro projects such as the reconstruction of the Atigh Square in the historical texture and the main core of the city have created new spaces and led to future changes in the city.

Urban spaces types in Isfahan suggest new spaces due to global and regional developments. The conversion of the permanent river to the seasonal river and the process of changing the nature and quality of the urban space surrounding it, the changes and developments in the historical texture and around the Naghshe Jahan Square and the creation of spaces with tourism axis, new redevelopment approaches in urban projects, such as recreation of the basic and event-based culture etc., all are of the driving forces of transformations of urban public spaces and creation of their new nature and types.



1. Healthcare center 2. Dreamland 3. City center 4. SOFFEH Mountain 5. NAJVAN Park

Fig. 4: New project and urban spaces (Google Earth, 2017)

So, in a summary, regarding the process of urban developments and transformations from the important periods so far, it can be claimed that, almost to the end of the Pahlavi era, the urban development has taken

place within the city and no urban development was observed out of the city. Even the industrial factories were built within the urban area and emerged in the main axis of urban development; but, in the contemporary period and after the 1990s, the policies of decentralization of central textures led to the use of this American urbanization approach in the development. Therefore, the definition of projects such as City Center created a new and fast development pole along with internal slow changes.

5 EXAMINATION OF MOBILITY RESULTED FROM STRUCTURAL AND SPATIAL CHANGES IN THE CITY DURING THE LAST DECADE

There are two kinds of changes taking place in the Isfahan City: on the one hand, creation of out of the central development and decentralization of the center, such as the City Center and Healthcare Center projects, etc. and on the other hand, the only focus is on the Safavid Historical structure not the historical textures, and also on minor and general changes. By looking at the totality of the textures of the central region and their spatial nature, it becomes evident that in the central regions, there is a need to create squares and urban green and open spaces in the future urban transformations and the potential for creating such spaces is available but urban developers and management institutions have focused the urban transformation process of the Isfahan city on the construction of infrastructures and streets.

The process of spatial changes in the central texture of the city is focused on the physical improvements of the ChaharBagh axis and its building and the creation of urban open spaces in the central texture parallel to Chaharbagh Street in order to facilitate traffic. Perhaps, reconstruction of the Atigh Square is one of the most important measures to increase and create urban open spaces because it provides a large space for pedestrians. Lack of space's quality causes decreasing the vitality and presenting. So, this square could not work with the structure and mobility of the city.

In this study, based on the analysis of documents and the study of the existing states at two levels of changes in the types of urban spaces and the resulting mobility, it can be concluded that some programmes as outer developments, the construction of the streets in the central areas to facilitate the traffic, the creation of closed spaces and megamalls on the peripheral areas and adjacent highways and main streets other types of movement patterns have been created in a historic city such as Isfahan. These patterns come about as a result of macro structural changes. However, the central texture of the city has many pedestrian potentials, but as long as the out of central development is on the agenda, change process of movement patterns is based on the traffic and this imposes a kind of American urbanization on the city.

6 DISCUSSION AND CONCLUSION

A study of the changes in a city in different periods requires a historical interpretation. The beginning of the formation of the main urban spaces in Isfahan can be seen in the Seljuq period: establishing the main centers of settlement and building Jame mosque in the north of Isfahan which was considered as the only public space. After that, we witness the culmination of construction of urban spaces and structures in the Safavid era, where the main spaces and the urbanization art have reached their highest level and the spaces such as square, the tourism axes such as Chaharbagh, etc. were created and then in the Qajar and Pahlavi eras, no great changes were made. In the contemporary era, new urban spaces have emerged.

The development process in the historic cities of Iran is basically influenced by external driving forces such as globalization and urban competitiveness, politics, government and technology. At the level of metropolitan, these forces have caused different patterns of mobility in the city. This mobility is mainly based on high-speed movement and car driving in the main streets and has added daily journeys to the peripheral. Meanwhile, the central textures of the city with a coherent structure and high potential for pedestrian networks has lagged from the internal development and are generally degraded and transformed into an area for the automobile and a fast speed flows. The traffic constraints in the central texture affected by urban subway infrastructure development projects have inevitably led the surrounding axes to accept the vehicle. In fact, most of the spaces with the potential to become an urban space have become the parking lot for cars. The axes such as Abbas Abad with an identity of street with many trees, have become only a passing axis.

Therefore, the nature of the transformation of urban spaces and the development of structure of a historic city should be based on the preservation of urban identity and perception. This requires attention to the mobility in the city and increasing the flow of pedestrians in the historical and central textures with focusing on

internal development. This means that the movement infrastructure in the city should go towards general displacements such as the tram and metro and the pedestrian network is considered as the dominant axe in the central zone. Therefore, pedestrian networks with the nodes of precious urban spaces make it possible to increase the flow of pedestrians in the city and the central areas and this leads to the promotion of citizens' perception and, ultimately.

This research demonstrates the value of urban spaces transformation analysis in urban studies. Although mobility pattern affects on transformation of public spaces; transformation pattern creates new mobility pattern. It depends on the power of public space which can influence the city main structure. Indices of this power are hidden and can be found in an integral analysis through social, economic, political and environmental interaction of public spaces and whole city. The scale of such analysis can be expanded to regional level.

7 REFERENCES

- Azarm, Zahra ,Ranjbar, Ehsan: A New Framework for Sustainable Urban Tourism in Esfahan based on Urban Spaces Transformation. Urban Transition Global Summit Conference, Shanghai,China, 2016.
- Azarm.Z ,Ranjbar. E, Marti casanovas. M: Urban Design Guideline In Middle Urban Fabric Based on Analyzing Public Space Transformation (Case study: Bid Abad District). Master Thesis, Tarbiat Modares University, Tehran, Iran, 2017.
- Ghalani.Z, Ranjbar. , Izadi. M.S: Urban Design Framework Based on the Interaction of Flagship Regeneration Project and Historical Neighborhood (case study: Regeneration of Atigh Square and Haronieh Neighborhood in Isfahan city). Master Thesis, Tarbiat Modares University, Tehran, Iran, 2017.
- Hoblyk, A: Transformation of urban space, tasks and methods of study. *Przestrzeń i Forma*, 2013.
- Madanipour, A. Knierbein, S. and Degros, A: *Public Space and the Challenges of Urban Transformation in Europe*, Routledge, 2013.
- McCormick, K., Anderberg, S., Coenen, L. and Neij, L: Advancing sustainable urban transformation. *Journal of Cleaner Production*, 50, pp.1-11, 2013.
- Yang, Y: Sustainable urban transformation driving forces, indicators and processes, Doctoral dissertation, Bauhaus University Weimar, 2010.