SAPIENZA UNIVERSITY OF ROME
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Dipartimento di Architettura e Progetto

DRACO
Dottorato di Ricerca in Architettura e Costruzione

XXXII CYCLE

B-u-i-l-d-i-n-g on B-u-i-l-t S-p-a-c-e

Compiling the Construction Bases in the Historical Textures of the Cities
In Urban and Architecture Scale
Case Study: Historic Texture of Shiraz, Iran

A dissertation submitted for the degree of DPhil in Architecture and Construction

Ali SOKHANPARDAZ

Supervisor: Prof. Paolo CARLOTTI
Co. Supervisor: Prof. Attilio PETRUCCIOLI

ROME 2016 -20

Building on Built Space

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The cover image expressing the concept of infill development in graphic.

Source (City of Vancouver, B.C. Planning Department - derived from Municipal Research & Services Center of Washington, 1997.

For Paolo Carlotti

I found, Guidance, Friendship, Discipline and Love, everything, in one person. And that person is

Polo Carlotti

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Rome 2016 -19

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DIAP **De**partment of **A**rchitecture and **P**roject
DRACO **D**octorate of **R**esearch in **A**rchitecture and **Co**nstruction

XXXII CYCLE

A dissertation submitted for the degree of DPhil in Architecture and Construction

To my wife, Farzaneh,

Who always supports me with love and my family, who gave me the light.

Paolo **CARLOTTI**
Supervisor

Attilio **PETRUCCIOLI**
Co. Supervisor

TUTOR'S REPORT ON THE DOCTORAL THESIS In italiano

BUILDING ON BUILT SPACE

Compiling the Construction Bases in the Historical Textures of the Cities In Urban and Architecture scale

Case Study: Historic Texture of Shiraz, Iran

Ph.D. student: Ali Sokhanpardaz

La tesi svolta da Ali SOKHANPARDAZ si iscrive nel filone di ricerca oggi internazionalmente meglio conosciuto come Morfologia Urbana. In particolare, riguarda il tema del rapporto tra costruito storico e progetto contemporaneo, con particolare attenzione al caso di studio di Shiraz (Iran) e nell'attualissimo e di più sicuro interesse scientifico della progettazione nel tessuto consolidato di una città storica.

Ali SOKHANPARDAZ in modo sistematico ed approfondito e con efficace graficizzazione sinottica propone alcuni abachi che descrivono chiaramente le fasi di formazione e trasformazione della città di Shiraz. Quindi, sul caso di studio, approfondisce in due capitoli dedicati, la descrizione e le manifestazioni generali, ponendole in stretto rapporto alla fenomenica in atto nella città odierna.

La tesi presenta una struttura chiara e ben articolata che illustra chiaramente l'orizzonte di ricerca cui aspira lo studio.
Gli spazi costruiti delle città storiche, guardati con un interessante obiettivo di metodo che prova a legare
in unità organica tutte le scale indagate, diventano il focus privilegiato della trattazione che sperimenta l'interpretazione della lettura operante, a partire dal capitolo terzo.
L'accurata trattazione storico critica non perdendo di vista l'approccio architettonico prova a fare sintesi di alcuni metodi consolidati in tema di studio della forma del tessuto e dell'architettura.

Il quarto capitolo, in continuità con quanto trattato nel precedente, tratteggia la città del XX secolo annotando le trasformazioni che l'autore riconosce in sette distinti periodi. Esso è poi seguito da un altro capitolo che prova a descrivere i processi di sviluppo e di formazione del fenomeno dell'intasamento nel costruito storico delle città considerando, in maniera non marginale, i casi esemplari delle realtà insediative iraniane anche in rapporto alle convenzioni e ai trattati nazionali e internazionali.

Finalmente nel capitolo sesto introduce una prospettiva progettuale che ha l'obiettivo di considerare il tema della densificazione e dell'intasamento, che è anche una rigenerazione del tipo e del tessuto edilizio nella città storica; ciò nel duplice aspetto di valutazione e di visione eccentrica che prova a fare sintesi tra il tema della progettazione architettonica e quello del restauro urbano. Argomenti particolarmente trattati ormai da qualche decennio con risultati significativi nelle Scuole di architettura italiane e dei quali

il dottorando ha fatto tesoro.
Partendo allora da alcuni casi esistenti schematizzati in tabella, denuncia la consapevolezza dell'impossibilità di fornire una casistica esauriente e predeterminata capace di concludere esaustivamente ma prova a tratteggiare poche linee guida generali che possano aiutare ad intervenire sul processo trasformativo, tanto alla scala del tessuto quanto alla scala architettonica. Ciò facendo particolare attenzione a non incorrere in quel rischioso determinismo che in forma latente spesso si manifesta nel tentativo di classificazione tassonomica quando riferiti al campo della progettazione.
L'interesse posto da Ali Sokhanpardaz nello svolgimento del tema come nelle conclusioni ci consente di affermare l'utilità e la singolarità del lavoro svolto, oggi, come mai in passato utile suggestione per chi debba dedicarsi al progetto della ricostruzione e rigenerazione della città storica.

Ali Sokhanpardaz ha anche colto con interesse sollecitudine le osservazioni e i suggerimenti che gli sono stati offerti nel momento della prevalutazione, continuando a riflettere sulle tipologie di case a corte presenti, oltre che nella città di Shiraz anche nell'intorno geografico-culturale in cui compaiono tipi edilizi analoghi. Prendendo ancora una volta occasione di integrare e migliorare la stesura della tesi in vista della dissertazione finale.

Si tratta di un Lavoro aperto ad ulteriori sviluppi e riflessioni e che va inteso all'interno della ricerca progettuale.
Il candidato ha raggiunto una riflessione matura di buon livello, che ha prevenuto conclusioni intermedie, come necessariamente accade quando si aspira a far svolgere la ricerca con la riflessione progettuale.

Roma, 20 gennaio 2020

L'architettura è tutto e tutto non è un'architettura

Bahram Shirdel - Architetto Iraniano

The architecture is everything and not everything is an architecture

Bahram Shirdel- Iranian Architect

index General

Building on built space

Compiling the Construction Bases in the Historical Textures of the Cities

Case Study: Historic Texture of Shiraz, Iran

index Detailed

Building on built space

Compiling the Construction Bases in the Historical Textures of the Cities

Case Study: Historic Texture of Shiraz, Iran

CHAPTER FOUR: URBAN FORMATION IN NEW DEFINITIONS OF ARCHITECTURE

CHAPTER FIVE: INTERVENTION PROCESSES IN THE HISTORICAL TEXTURE OF CITIES

CHAPTER SIX: STRATEGIES FOR CREATING INFILL STRUCTURES IN HISTORICAL URBAN TEXTURES

List of Tables

List of Figures

Ph.D. student: Ali SOKHANPARDAZ
Sapienza University of Rome
DiAP department of architecture and project
DRACO doctorate in Architecture and Construction Cycle XXXII
Supervisor: Paolo CARLOTTI
Co.Supervisor: Attilio PETRUCCIOLI

A c k n o w l e d g m e n t s

This research work is the result of a study, reflection, and production process that lasted three years. It was a long stretch of road, mostly lived in a race towards a broad horizon of objectives, during which there were many meetings that left a few signs and some constant presences. Without these meetings and without these presences all this would have been more difficult, if not impossible. First of all thanks to Prof. Arch **Paolo CARLOTTI** and Prof. Arch **Attilio PETRUCCIOLI** who supported me in the research with advice and indications that allowed this work to be completed.

My sincere thanks also go to Dr. **Victor BRUNFAUT**, Dr. **Axel FISHER**, and Dr. **Geoffrey GRULOIS**, in ULB who provided me an opportunity to join their team(Habiter) as a researcher, and who have access to the laboratory and research facilities. Without their precious support, it would not be possible to conduct this research.

Finally, the most felt and dutiful thanks to those who in these intense months and years have been close to me more than any other, in every form and with every kind of support: my family, and my wife. My gratitude goes in a very special way to my wife, who supported me in an exceptional way during these years of study and research.

L'architettura è davvero difficile, l'ho capito solo di recente, è come la musica, puoi goderne ma, per saperlo, è una storia diversa

Diana Agrest

Architecture is really difficult, I only understood it recently, it's like music, you can enjoy it but, to know it, it's a different story

Diana Agrest

Abstract

Construction in old areas of cities is of important issues for experts in the field of recognition of historical cities and intervention in their perspective state in order to adapt them with new functions. However, the issue of intervention basics development in these cities, which sometimes form the central core of cities and are coherent of the totality of urban cities, is a matter, which is less concerned. Many cities in Iran which have historical background and construction face different problems in accepting any change in their structure and having a connection with newly constructed parts in order to infuse of modern urban infrastructures. Preserving the authenticity and continuous integrity of urban contexts to adapt to newly constructed sectors, are one of the important issues in the field of intervention in historical contexts. By investigating the interventions which are done in the central core of Shiraz which causes destruction to the large parts of the historical context in the Zandieh axis territory, it will be cleared that the interventions are done without considering the scientific and codified principles. Due to the unique spatial texture and formation of social, cultural and economic relations and conformance of the related local patterns of construction, the central core of Shiraz in southern Iran is a good case to study about intervention in historical contexts in order to comply with new urban functions. This process can be developed as a model in other historical cities in other countries. It is important to read the historical contexts of cities in order to decide on the type of intervention. Selecting the appropriate methodology and determining the approach based on the parameters affecting the environment are among the factors that are emphasized as a first step in dealing with the historical contexts of cities. Considering the basic structures in the formation of cities and population centers, it is of particular importance that it should always be considered. In the urban contexts of Iran, and especially in historical contexts, the absence of such an approach is very noticeable. What needs to be addressed is reading the historical context and how to read it. This research focuses on building in built spaces of historic cities - and specifically the historical texture of Shiraz in southern Iran – and attempts to read the historical texture appropriately and to find its constituent components as an organic and integrated urban texture, in the formation of which, various environmental and peripheral factors have played a role. Accessing to a clear picture of the formation method of Iranian historical texture – especially the historical texture of Shiraz - will help the formation of new elements -that have been designed and constructed in the historical context as replacing elements of the missing parts (degraded by many factors) –to have a regular process consistent with urban morphology and architectural language. This research develops principles, according to which, building in historical texture of the city would be done, not only on the basis of the functional-physical needs but also on the need of unification between functioning with morphology and the physical body with architecture language. The methods used in this thesis will be done in two ways of library and field studies. The combined approach of qualitative and quantitative method will be used for data analysis. The findings of this research will develop guidelines which will be the base for construction in urban historical contexts in order to adapt urban fabrics to the daily needs of its residents.

Building on Built Space - Compiling the Construction Bases in the Historical Textures of the Cities

Foreword

Today, with increasing urbanization, urban problems are more important than ever. These problems have different roots with different effects and can be examined in different ways. One of these problems is the lack of attention to the historical context in modern cities, so that the authorities' efforts - not specialists - are more focused on the expansion of cities and the creation of new streets to provide urban infrastructure and amenities (with a lower focus on the importance of the historical texture). In recent decades, the old urban fabric has been destroyed due to the lack of clear views on the goals, policies, and procedures for discussing to build on built space. With the growth and expansion of cities, historic textures are subject to destruction, and extreme modernism in architecture and urbanization has destroyed the old urban districts. The replacement of new buildings with historical buildings and monuments has deepened the gap between past architectural identity and present-day architecture. However, in new urbanization developments of the world and the emergence of its problems, the historical parts of cities are more exposed to unfavorable complications of urban development than other urban areas. Based on such an argument, theoretical perspectives have been developed and analyzed by the thinkers during recent centuries. Different countries with different cultures, languages, and beliefs have put forward many valuable experiences throughout history that illustrate the identity of each historical context in these cities. At the same time, it can be said that the basis of theatricalization (global) in historical context has evolved over time. After World War II, especially after the 1960s, there were significant events that changed the direction of the urban restoration process. Through the enjoyment of the great history of architecture and urbanization, western European countries have been able to identify the positive historical features and characteristics of their cities, to desirably rehabilitate and to exploit it. According to the theories, action, and goals of the mentioned countries, other parts of the world tried to manage the process of regeneration, re-creation, and construction in the historical context, using the strengths and opportunities in their historical textures and were able to prevent further destruction of historical textures. Iran, which itself has not been the producer of modern urban science, has been lagging behind the rest of the world to protect or build the historical texture of cities. Looking at the current situation in the historical context of the cities of Iran, one can conclude that one of the most fundamental problems in constructing in its empty spaces - which have been created for various reasons - is the lack of methods and principles of construction based on the emphasis on morphology and architectural language. If we look at parts of the historical context of Iranian cities such as Tehran, Mashhad, and Shiraz, we will see how the morphological structure of the city has been disrupted by imposing incorrect policies and ignoring urban morphology and architectural language, and it has created many problems for residents.

Because the historical texture is an integral part of the city's complex and its fate must be determined in relation to the whole city, any intervention should be evaluated on the scale of the historical fabric and the whole city. Scattered and unplanned interventions carried out by various institutions have already brought irreparable damage to the structure of urban texture. At the moment, each of the institutions involved in urban management has been interfering in historical texture without clear theoretical foundations for intervention. The fact is that the complexities of building in the empty spaces of historical texture, the multiplicity, and variety of residential buildings in Iran, and the fundamental differences in the type of intervention, the need to examine and determine the parameters to be constructed in historical textures seems to be absolutely clear. Generally, the basics of the spaces built in the cities of Iran have had the following problems:

- The lack of clear theoretical foundations for intervention in historical textures;
- Relying on government actions and defining policies of intervention in historical texts by the authorities - not experts;
- Dispossessed property and destruction of ownership numbers and changes in residential per capita as well as changes in urban morphology;
- Lack of attention to the cultural-social characteristics of the historical context and, consequently, the incorrect selection of the points of intervention;
- The obvious contradiction between the method and the scale of intervention with the morphological characteristics of the historical context;

In other words, one of the reasons for the failure of many of the principles and suggestions for building in the empty spaces of the city's historical texture can be attributed to the analysis and solutions that address the architectural and morphological features of this type of spaces. , Generally, rely on alien and non-realistic assumptions used as imported models and lack the precise definition of Iranian architectural and urban structures. The study of the successful experiences of urban restoration and building in the historical context of cities in most countries shows that determining and choosing the type of intervention in the historical texture to have a special method. Therefore, the focus and attention on the historical monument in its current position is not the correct solution. However, in most cases, it is necessary to consider the historic centers of the cities and establish a management and execution plan for interfering with their texture. Therefore, and as a preliminary conclusion, it can be said that the management of historical texture in the field of structural interventions requires a methodological approach to the historical context along with other approaches. In such a way, the ability of textures can be helped by these factors. In other words, historical textiles management requires measures that are structurally and not economically. Therefore, considering the above issues, it seems necessary to create a new approach to the construction of the space made. Therefore, in this research, an attempt has been made to investigate the type of intervention in the historical context of cities with an emphasis on its structural features and morphology. The emphasis on morphological features and reading of historical texture in order to provide principled methods for interfering with historical textures and construction in them empty spaces is the main objective of this research.

Building on Built Space - Compiling the Construction Bases in the Historical Textures of the Cities

Chapter One: STRUCTURE OF RESEARCH(Building on Built Space - Compiling the Construction Bases in the Historical Textures of the Cities)

Introduction-Chapter One

-The object of the research
-The reasons for the research
-Objectives and meanings of research
-Research methodology
-State of art
-Research background

Chapter one

Introduction-Chapter One

The theme of “building on built space” within the more general question of urban design reminds us how any intervention on the city, be it the consolidated historical city or the cities of today that extend and extend well beyond the limits of the historical peripheries, can only refer to the whole urban organism, to its entirety of work. Building in the built does not mean giving up architecture, on the contrary, it is from the comparison between the new and the old that the expressive intensity of one and the other is emphasized; both in conservative interventions in which care is taken to safeguard the characters and the formal matrices of buildings, with materials, types and construction techniques compliant, and in renovations in which to present with sincerity forms, materials and technologies of the contemporary as an expression of a renewed urbanity, however in equilibrium with the confirmed urban landscape. In both cases, the ability to intervene on one side, without forcing the performance capabilities of historic buildings and their architectural qualities, on the other, without mimicry but developing a compatible constructive logic, able to dialogue with the pre-existent remains decisive. The city grows expanding and at the same time grows on itself proceeding for additions, insertions, overlaps, is the rule of its development throughout history. This modality, typical of the urban evolution of all time, has now returned to the center of the architectural debate as a consequence of a reversal of the social and economic dynamics that until a little over a decade ago were based on the growth of population and settlements.

Today, for environmental reasons, in defense of the soil value and for reduced economic availability, the architectural project operates in the logic of re-stitching and the minute insertion in the existing one. In this logic, the contribution of Iranian architecture on the international scene has become particularly significant as attention and intervention skills are not limited to the reuse and expansion of buildings in historical fabric, but are extended to interesting grafting solutions, and regeneration of urban voids in the most desperate conditions. This thesis presents a selection of these interventions, different for the localizations, for the strategies and the choices made by the designers, but all of them animated by a strongly pragmatic spirit that proves very stimulating on the inventive level with high-quality architectural outcomes.

Building in the built arbitrarily offers various interpretations, which lend themselves in turn to a difficult confrontation with our memory, with the desire to leave a trace as designers of our passage on something that in turn is the result of other wills, of others traces left by the designers who preceded us. A sort of cultural and temporal overlap, which on the one hand should respect and preserve the historical monument, the territory and the context on which it insists, on the other it should adopt it, re-functionalized it, reuse it for our contemporaneity, where the use, the presence and the testimony of materials and of compositional and technological innovations often have nothing to do with the places or with those particular memories.

On the built, if the building still needs conservation, consolidation and safety measures without taking into account that the process of knowledge of a cultural asset (archaeological site, monument, ancient city, territory, landscape, etc.) absolutely needs all the phases that characterize it (relief, analysis of the material state, studies on conservation and restoration multicriteria analysis) are well defined and developed. The purpose of this study is the codification of the principles of intervention in the historic city center considering the character of the historical context and the architectural design solutions subject to construction, adapting to the historical context and overcoming the related problems, also adopting adapted vernacular solutions. Current research is an attempt to find appropriate innovative strategies to minimize the impact of intervention even for the optimized construction based on the vernacular architecture for the semi-arid and hot climate of Iran and other similar places. The research method based on reading, interpretation, and analysis of recent samples and recent studies. During this thesis among the recent construction projects in historic city centers in Iran, Shiraz has been selected as case studies and will be followed by data collection and analysis, so the results will be published as design principles for adaptive construction in the historic city center in Iran and other similar.

The object of the research

In the years preceding the industrial era, the slow process of transformation and modernization of past historical cities was mainly determined by cultural norms. These criteria were shaped over time and the technical tools limited at that time had no effect on it. Despite some obvious splits in spatial development or urban architecture, the urban context has been preserved by cultural continuity. The arrival of the industrial era at the beginning of the 20th century created a completely new situation. The technical progress of time provides the tools necessary for the creative and revolutionary power of human beings to show themselves in the new area of urban architecture. However, interventions in the physical space of the cities to adopt the city's physical structure to the needs of the residents have caused the change of the city's spatial structure and an unbalanced distribution of the city's infrastructures and urban installations. Iran's first experience in building historic urban spaces was in Tehran and later in Mashhad. Despite the numerous problems that occurred as a result of new construction in the aforementioned cities, the construction process, regardless of its base continued in other major cities in Iran, including Shiraz. The destruction of fifty-seven hectares of three hundred and sixty hectares of the historical context of Shiraz is another example of inappropriate interventions in the historical contexts of cities as "construction in constructed areas". In the general aspect, construction in historical contexts should be done in two parts: software (development principles and intervention basis) and hardware (compliance of functions and meanings) in a holistic and integrated vision. This study introduces a process in which, with a detailed assessment of the scale intervention of the historical context, proposes levels of physical and landscape intervention in a systematic way for historical contexts that reduce unfounded constructions as much as possible and also guarantees the preservation of historical contexts and it will avoid the unnecessary evacuation of historical contexts due to damage.

The reasons for the research

In most cases, the historical contexts of cities have suffered a fundamental failure due to aging, damage, lack of essential facilities and services to meet the needs of urban life of today's citizens. Therefore, "building in a built area" is one of the most basic ways of responding to the perennial question about the historical contexts of cities, which always emerges from municipal officials to adapt to the daily needs of citizens. In the new approaches, the existence of new concepts in the construction of old urban areas to adapt to new functions is very serious. In Iran, due to the multiplicity of historic cities and the location of historical contexts in the central urban core of developed cities and the growing need for compliance of new constructs with the old context, it is necessary to develop building principles in these cities. It is clear that through the correct recognition of historical contexts and the action and reaction of modern architecture in the historical context, we will be able to organize interventions based on a more efficient implementation that is consistent with the historical and cultural origins of the context. The question of the restoration of historical monuments in Europe began in the early nineteenth century, but the question of the construction of old city spaces in order to adapt the space available to the functions and every day and to the new needs of the residents, does not have a long history among urban restoration experts and construction management, and no comprehensive and systematic research has been done in this area. The documents available mainly describe the experiences scattered in the scale of individual buildings. Despite the existence of grateful cities in Iran with a precious historical nucleus, in recent years few urban management experts and urban restoration investigate this theme and develop structural and prospective interventions in the old urban spaces as an action coordinated with the body and spirit of the existing architecture. Shiraz with a history of thousands of years and with a precious historical context is one of the examples of Iran and the world that has experienced the uncoordinated action of "building in a built area". Although the "building in a built area" projects of - the Zandieh cultural historical axis - is still under construction and not yet put into operation, the lack of coordination with the historical urban contexts and a physical and functional misalignment with the current and the historical situation of the city to adapt to the real needs of its residents, makes this project a problem for the historical context of the city. The problem that has always continued to damage the historical context of the city and is not able to cope with the historical body. Therefore, this study attempts to address the historical background and to extrapolate the principles of intervention in historical contexts at the international level to reproduce the principles of "construction in the built area" in the historical cities, obtain a broad and generalizable guideline in other similar examples in the world.

Objectives and meanings of the research

The question of "The building was built in" in the historical cities is the most important concern in the urban and regional management issues of cities with the nucleus or historical centers. The most important issue in this regard is the creation of a new logical interaction between the new and constructed atmosphere and space so as not to compromise the life and survival of the historic core of the cities. Investigating the cases built in the historical centers of the cities in Iran and in particular in Shiraz city, and the actions taken in existing cases in which the historical context has changed and have destroyed the physical and prospective integrity, we will try to formulate the right principles of intervention. Consequent-

ly, the overall considered objective of this study, which is “the development of the building principles in the historical contexts of the cities” is defined in the following parameters:

- Review, principles and international policy on restoration and historical context of cities based on their expansion.

- Review, recognition, and analysis of methods and principles of intervention in the historical contexts of Iranian cities, including Mashhad and Tehran and comparing them with similar Iranian architecture on a global scale.

- Development of scientific, technical and ideological principles of “construction in a built area” in order to adapt the functions with the architectural concepts and daily needs of residents with an approach to international cards. History of Iran and many large cities with historical core that are still vibrant and alive and make up much of the city’s physical structure, such as Tehran, Shiraz, Mashhad, Yazd and other major cities in Iran, to ensure respect for the growth of population and technological progress needs to develop and build new spaces in the physical architecture of the past, shows the need to address the problem of “build on built space”.

Therefore many questions and questions on how to implement the construction of structural and landscape interventions coincide with the needs of residents of a historical context that requires global behavior of residents and beneficiaries of historical contexts. Consequently, is there a question that is built on its own without looking at its foundations and only at the structural and constructive dimension and regardless of aesthetic principles and adapting to new functions that meet the needs of residents in the historical context or not? If so, is our technical memory the only way to act as an interventionist in the question of building in the built historical areas?

The following questions that underlie the preparation of this research are the following:
- In essence, what should be the construction in the historical areas of the cities to adapt to the daily needs of residents in the historical context?

- Our intervention on the question of “building in constructed areas” is to what extent?
- Should the construction of old areas of the city be obvious or hidden from a specific distance from the historical context?

- The completed projects to adapt to the new body in the old historical contexts in Iran and in other countries have been made with what bases and to what extent these actions have been allowed?

- Are there principles codified in other countries with similar architectural principles with Iran to “build in a built area”?

Research Methodology

In this regard, data collection will be carried out in two ways: library and field methods. A) Studies of the library, including the study of the subject’s recordings and the extraction of what has been done so far. Therefore, the review of various articles on the topic of research and the collection of information through the search for valid databases will be done. B) Field studies, including architectural perceptions of the building scales, structure, and perspective in the studied village, interviews with experts and competent authorities, participation in workshops related to the research topic.
The categories of information that constitute the backbone of the research are the following:

State of art

A comprehensive study on the subject of this study shows that although the construction in historical contexts has a long history, the formulation of principles that can specify the process of designing and reproducing architectural space in historical contexts in cities is less considered by experts in various fields of management and urban construction. The restoration of historical works covers the last two centuries involved various professionals in this field, but the question of the new physical adaptation in the old space, in cities with the historical core is a new topic that has been less studied. Today, there are numerous reasons for such an approach. Increasing population and expanding cities with historical nuclei are the main reasons for tackling this problem. In particular, the historical monuments existing in the old territories as a national identity document have acquired new definitions of value. Construction in historical texture, regardless of urban morphology and architectural language, which is one of the main problems in the process of development of urban infrastructure in Iran and many other countries, including Middle Eastern, not only does not lead to the sustainability and optimal efficiency of historical textures cities but also will deteriorate them as soon as possible. Lack of basic informational resources in order to investigate the type and structure of the citiy formation in Iran based on the comprehensive and detailed technical map has been limited research on this subject in the scale of case studies and very superficial studies. Studies show that factors such as the reluctance to conduct studies to improve the conditions governing the structure of historic cities by urban management authorities are one of the main reasons for not conducting further studies on the construction of historical textures of the cities.

Research background

Paying attention to the presence of infill structures in the historical texture of the cities has occurred during the years following World War ll. In fact, after the establishment of ICOMOS (international organization), this opinion that historical areas of the cities can be considered in urban planning was reinforced. Following the actions of ICOMOS, other international organizations such as UNESCO, ICCROM, and European Union provided many guidelines in this regard, through holding Seminars and Congresses. In 198, a joint meeting was held in Rome City by ICCROM and ICOMOS, and the results were published in 1993 in the form of guidelines for cultural heritage frontages. For the first time, the word “infill structures” was introduced in this book, in order to the presence of new structures in the historical contexts, and its features were described. So far, various solutions and plans have been put forward and applied for designing the infill structures in historical contexts, each of which has followed its own approach. At the executive level, these cases include some projects such as the following. Of course, it is necessary to explain that the infill projects exceed this number, but just a few examples have been mentioned here.

Horner neighborhood –Chicago, West Palm Industrial Park –Chicago, Albina Corner Portland, McaDam North in Portland, Portsmouth in Virginia, Bara and Orange County in California, Uptown Neighborhood in Dallas-Texas, George Pompidou center Paris.

From a research point of view, various studies have been carried out in recent years, some of which are as follows:

In 2001, In an article entitled “the necessity for an urban renaissance”, Abbas Farrokh Zenuzi explained the reconstruction of historical textures and attempted to present the basic criteria in the field of intervention invaluable historical and old centers of the cities, through a kind of temporal revision in the world and Iranian experience.

In 2006, in his book entitled “New Structures in Historical frontages “, Bahram Ghadiri pointed to the subject of the infill constructions and their approaches and introduced each of the examples. At the same time, he discussed some prominent buildings built in the historical texture of the cities.

Mohammad Javad Mahdavi Nejad conducted research entitled “New Architecture in Valuable field “ at Tehran University in 2007. In this research, he explained the way of designing of modern architecture in the valuable historical textures and presented suitable criteria for the registration of Iran’s contemporary valuable architectures.

In 2010, in an article entitled “Measuring the Capacity of Development in Unused Spaces of Qazvin Central city with Emphasis on infill Development Approach”, Mojtaba Rafieian has addressed the issue of creating infill Structures in the Historical texture of Qazvin City in the Art Magazine of Tehran University. In this article, he emphasized on the use of unused and abandoned spaces in Qazvin City and tried to make a connection between this, and the issue of establishing infill structures. This research is about the feasibility of infill development in one of the streets of Qazvin city and merely examines and reviews the issue.

In 2010, in an article in the journal of Manzar Monthly, entitled “Infill Development, Utilizing the City’s Inner Capacity,” Ehsan Sharifian considered Infill Development as one of the manifestations of endogenous development and described it as the simplest strategy to achieve this approach. In this article, he pointed out the proportionality and harmonious between endogenous development and the historical textures.Also he believes that its observance is necessary for any program and plan of the country.

In an article entitled “The Effects of Infill Structures on Stimulation of Development in Worn-out textures”, published in Manzar Magazine in 2011, Masoud Khademi and Roja Alipour explained the issue of Infill Structures and its Impacts on Stimulation of Development in

Worn-out textures. The authors considered infill structures as the major factor and driver of development in worn-out historical textures.

At the International Conference on Architecture and structure in 2011, Nariman Farahzah, entitled “Infill Buildings is an intermediary for the Presence of New Structures in the Old Texture”, has pointed out on the use of modern structures in the consolidation of monuments as well as the creation of infill structures using modern structures.

In an article on the City and Native Architecture Magazine entitled “Criteria for Architectural Design in Historical textures “ published in 2011, Asghar Mohammad Moradi, and Shaghyegh Tork Zaban pointed to the issue of rules and regulations. This is a brief examination and overview of the general regulations that describe extensively the issue of construction in historical textures.

In an article entitled “Affected Variables on Successful infill Design in urban Historic Context, Arts and design studies in 2012, Hessamalddin Sotoudeh addressed the issue of affecting parameters such as form, materials, ornamentations and ... in infill buildings.

Yalda Shah Teymoori and Hamed Mazaherian at the University of Tehran in 2012 with the subject of “Design Guidelines for New Structures in the Historical Contexts “ pointed out this subject that what are the global approaches to the presence of new structures in the historical context? The study also examines general indicators that are effective in the characteristic of a historical context and the factors that should be considered in relation to each of these indicators when designing new structures.

Aesthetic Fitness of New Architectural Design in the City of Shiraz which is Written by Hessamalddin Sotoudeh at the University of Malaysia Singapore in 2013, attempted to evaluate the designing solutions proposed by Steven Semes from the perspective of residents. Also, it addressed the issue of existence of beauty and art in monuments and its impact on infill buildings. But ultimately, it explored the type of architecture in valuable textures and concluded that it is better to use an architectural approach consistent with historical texture in case of creating an infill structure in the historical texture of Shiraz.

Also in another essay entitled “Development and Revitalization of Historical Centers of Cities” in Shahrnegar Magazine” in 2015, Abbas Farrokh Zenuzi pointed out the need for an explanation of definitions, concepts, and methods in development context and revitalization of historical Centers of Cities. In this article, he integrated the main contents of the four sections of the book Continuity and Change Alexander Papageorgiou, 1971, and tried to address the issue of its intervention and revitalization, after investigation of the concept of the historical city center and investigating its status and importance.

In 2015, “Shekofe Naiini and Jamaluddin Soheili, in an article entitled “preferred solution of designing for infill building in historical texture from the citizen’s point of view, attempted to explore popular designing methods in historical textures. Finally, they argued that growth and development of the historical texture require the sensitivity of designers and architects and that the citizen’s point of view of how to create infill structures in the historical texture should be considered especially by the designer’s.

There are many articles and manuscripts of this kind. But what this study intends to do – is building in cities-built space based on urban morphology and architecture language –either have not been addressed or has been merely sufficed to some general indications. So, it is very important to address this issue and to expand its related discussions.

Chapter Two

Chapter Two: URBAN MORPHOLOGY

Introduction-Chapter Two

-Cities as part of a complex and detailed system(The historic city, the contemporary city)
-Historical City
-Concept of “old city texture” in Iran
-Physical- spatial properties of the city old texture in Iran
-The Effect of Contemporary Transformations on the Physical-Spatial Structure of the Old Texture
-Contemporary city
-Dimensions of Iranian urban development and architecture
-The study of city size concept
-Shape and meanings of the city
-The evolution of urbanization in Iran
-Conclusions from previous discussions

Introduction-Chapter Two

Urban morphology is about pattern recognition; the analysis of ensembles of buildings and spaces; inference and interpretation of type; inferring urban form-function relationships; understanding and evaluating what urban design is creating.

Olgu Caliskan
Middle East Technical University
BUILT ENVIRONMENT VOL 37 NO 4, p409

There are different interpretations of expressing urban morphology. It is very important to examine the city from which point of view. The study of the city based on its shape and physical structure- with every considered definition - is very important to understand urban morphology. In a different statement, it can be said that the foundation of the formation and building of the city is based on the behavior of citizens and its inhabitants, not based on academic definitions proposed by thinkers and scientists. The study of the shape structure and shape features of each architectural single-bead in urban textures shows that the whole city has been formed as an organism based on its DNA.

The second chapter of this study, which deals with the subject of urban morphology, investigates the Iranian cities in terms of form and structure, analyzes them from the perspective of a live and dynamic texture and investigate the contemporary city and historical city as well as the differences between them from the point of view of urban morphology. The study of the form of Iranian cities and their related meanings and concepts is one of the other issues that will be studied in this chapter. Reading and interpreting the urban morphology process in Iran and its evolution, as well as the factors affecting the formation of Iranian cities, are among the issues studied in this chapter. The focus on the case study(Shiraz historical texture)is another part studied in this chapter. This chapter of the study with summarizing the findings in relation to urban morphology is an introduction to studies in future chapters of this research.

Cities as part of a complex and detailed system

The city is a complex system of social, economic, and environmental layers that takes life in a systematic process with the association of its various layers. A systemic attitude to the city is created based on the way of organic thinking to phenomena. Organic thinking emphasizes new concepts such as universality, system, hierarchy, and the dynamics of biological phenomena.1 Based on this thinking, the city is a complex system of different layers that can be broken down into any of these sub-systems, but it is a collection of all of them.[1]

1. AtashinBar, M. (2012). Order the main element in the scientific analysis of the street landscape. Bagh-e-Nazar, 23.
Farshad, M. (1983). System approach. Amir Kabir press, 93.

Morphological studies often deal with the development of forms and pattern of the present city or other urban areas through time, in short with evolution.

Murphy, 1966

"Ten people do not form a city. And a hundred thousand people can not be a city. The city must be large enough to be self-sufficient in order to lead a healthy life in the same way as a self-governing political community…"

Aristotle

The Politics-Book

An allegorical representation of abstract town planning principles in the age of rationalism, with geometric layouts being idealized as 'divine' order.

2. AtashinBar, M. (2012). Order the main element in the scientific analysis of the street landscape. Bagh-e-Nazar, 24.

"An organistic attitude to the city provides a foundation of systemic world view." An organism is a totality that gains its essence from its integrity. In this definition, the physical and semantic dimensions, that form an organ totality from their interaction, are considered. Investigating the elements and factors involved in recognizing the city's landscape has a major role to recognize the urban system.

A systematic survey of the city requires attention to the city as a whole, the constituent layers of which form the structure of the city's landscape system through dynamic interaction with each other. The ancient cities had a systemic function within their limits by virtue of being organic. In this Thinking, the city is considered as a complex system.[2]

In a systematic approach, one needs to look for several factors or elements to understand the main building of each city such as the main access network and activity centers. The hierarchical system of entering the city, sightseeing in the city

and leaving it leads to the formation of paths in the city that shapes the overall portrait of its landscape. The entrance of the ancient cities is one of the main systemic basics of the city and has established such a strong relation with the inside and outside of the city, which one can hardly determine the entrance of Iranian old cities within a specific limit. The city is a dynamic organism. The imagination of the city as a living creature was first introduced by “Hegel” and “Spencer” in the 19th century. This view could confirm many of the previous normative notions that seemed to be obviously correct. In fact, this theory forms the foundation of the English New-urbanism.[3]

The Green Belt Cities in the United States, and many of the New Urbanism in the world. A more advanced form of this model has been applied in “la Tapio” New-urbanism in Finland, in the original design of the “Bedford Park” and “Hampstead Garden” suburban towns in the United Kingdom and in “Radburn” and Chatham Village “in the United States. The first principle of this model is that any biological unit should be considered as a separate social and spatial unit and should be independent as far as possible. But internally, people and their places should be considered as fully affiliated. The organic model emphasizes the coordination and solidarity that aim to of survive and strengthen of the community rather than competitive struggle.

The shape and function of each internal part should be integrated, but at the same time, each part is clearly distinguished from other interior parts and functions. The collection must have a single unit, either in appearance or in reality. An optimal dimension can be imagined because the beyond of which would be problematic. Also, the internal structure of the settlement should be based on the hierarchy, ie. the branched tree.

In this pattern, the settlements are born just like living beings and reach maturity and fullness(of course, unlike the living organisms, they should not die). The functions are rhythmic and the healthy bio-complex would become stable based on dynamism with physiological balance. This cycle, without interruption and in a balanced manner, leads to the constant preservation of societies and resources. Also, certain physical forms, such as radial patterns, restricted units, green belt, irregular curvatures, centered points, imaginative and non-geometric designs can be attributed to these theories.[4]

3. New Urbanism is a planning and development approach based on the principles of how cities and towns had been built for the last several centuries: walkable blocks and streets, housing and shopping in close proximity, and accessible public spaces. In other words: New Urbanism focuses on human-scaled urban design. The principles, articulated in the Charter of the New Urbanism, were developed to offer alternatives to the sprawling, single-use, low-density patterns typical of post-WWII development, which have been shown to inflict negative economic, health, and environmental impacts on communities. These design and development principles can be applied to new development, urban infill and revitalization, and preservation. They can be applied to all scales of development in the full range of places including rural Main Streets, booming suburban areas, urban neighborhoods, dense city centers, and even entire regions.
https://www.cnu.org/resources/what-new-urbanism

4.Lynch, k., & Bahreini, H. (2002). Theory of City Form. Tehran University Press, 35.

Unfortunately, there is no evidence of a general optimum size for the city. In fact, it is possible to consider different sizes for a city in terms of axes such as access identity or monitoring, etc. It can also be argued that an enlarging the city more than its assumed threshold brings its advantages and disadvantages. Enlargement of place or change in its performance may often be so rapid that would not allow the successful implementation of vitality and fitness, so people like “Plato” have advocated the “zero growth.” Of course, absolute stability is not possible. In addition, as populations and places become aged,(assuming constant growth) the total composition will be changed Impressively. Therefore, it seems reasonable to find a moderate rate of growth that is optimal. To be able to properly deal with the natural environment, we must admit that the city is as natural as the village, and there is no difference between them in this regard. The preservation of the historical environment began for the first time in the United States and with political motives (to prevent the violation of national unity and the attempt to Americanizing the immigrants in America). There are ambiguous and meaningless places, as well as desirable and meaningful places at each level of density. Naturally, due to changes in cultural, technological, climatic and so on, conditions of the favorable density in the city also varies. In addition to normal population density, the density of work, services, etc. are also important in the city.[5]

5. Lynch, k., & Bahreini, H. (2002). Theory of City Form. Tehran University Press, 37.

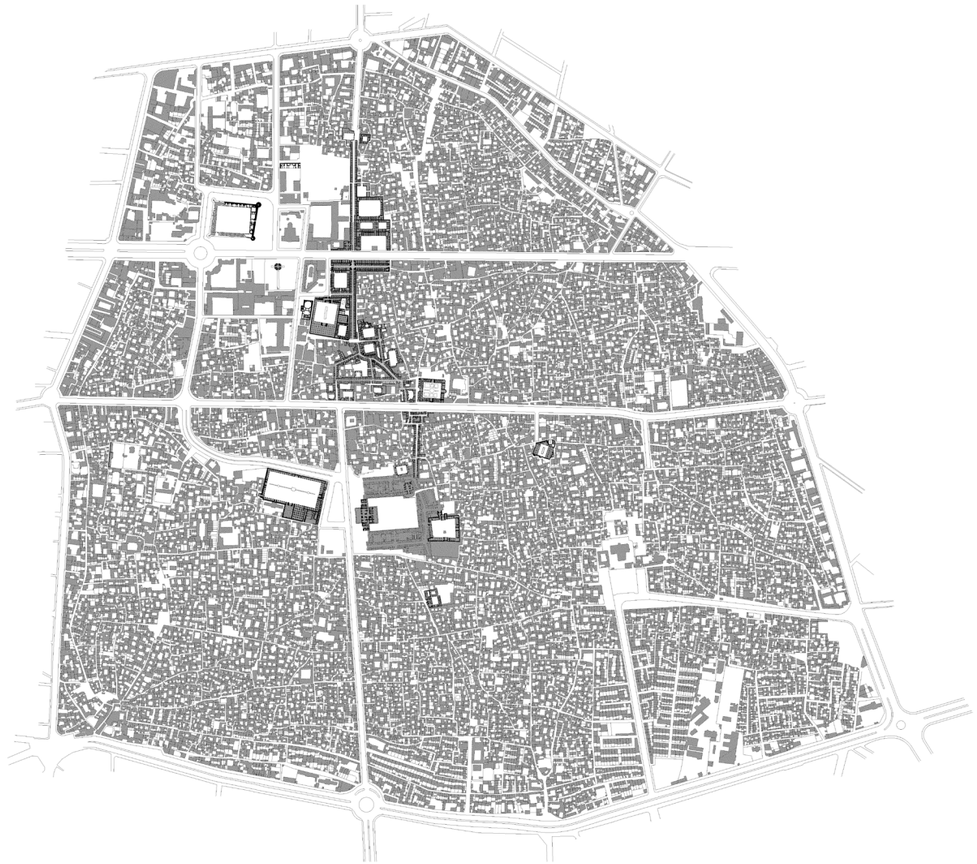
Historic cities can be seen as the most complete and certainly the most tangible incarnation of culture.

Stefano Bianca
Director Emeritus of the Aga Khan Historic Cities Program
Historic cities in the 21st century: core values for a globalizing world

Historical City, Contemporary City

Historical city

A city can be defined as a complex system constituted of different structures and relationships built up through an incremental process. Every one of these structures represents a sub-system. such as social, economic, political or cultural. However, architecture forms the life in the city and its image; that is its personality. Architecture brings into being



Map of Shiraz historical context. Source: Fars Province Cultural Heritage Organization

all these overlapping entities according to time, place and society. It has the task to grasp different parameters and embody them in the physical, man-made environment as the cultural manifestation of society. In other words, architecture links these entities and provides a place to act during the process. The architecture that contains these subsystems itself forms a structure, a system of relationships between time, place and society in which one can base an argument. Accordingly, if architecture is a structure, its products are also representative of this structure and its quality lies in the way this fabric is assembled. Therefore to grasp the underlying principles of an urban fabric the first need is to understand the way this structure is actualized. In other words how the elements have been combined. A method based on the formal qualities of the city would easily mislead us in seeing how the urban elements relate to each other, focusing merely on the urban elements themselves which are temporary. Therefore a method of understanding we argue should be based on the relationships that are in architectural terms, spatial qualities and the structure which is permanent.[6]

6.Ozarslan, n. (2003). Understanding the Historic City. Exists, 84.

We can observe the artifacts, but we have to experience the rituals in order to fully understand the place.

Julian Smith
Executive Director, Willowbank National Historic Site & School, Niagara-on-the-Lake (Canada) Principal
Marrying the old with the new in historic urban landscapes.

Of this, I am quite sure, that if we open a quarrel between the past and the present, we shall find we have lost the future.

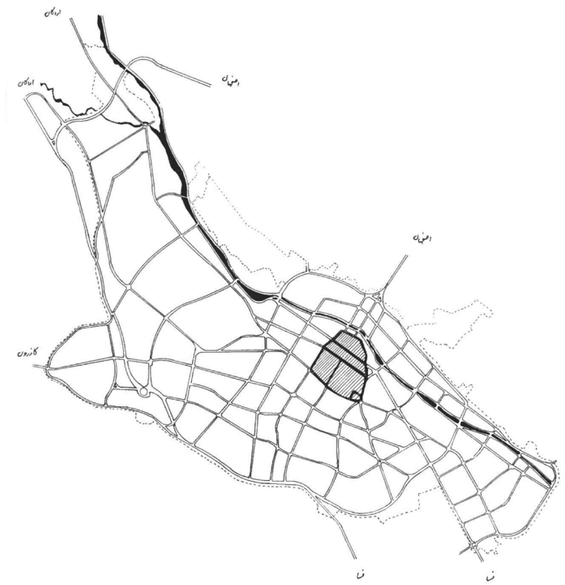
Sir Winston Leonard Spencer-Churchill
A British statesman, army officer, and writer

1874 –1965

According to international treaties, Historical textures have distinct, and sometimes different definitions.
But in essence, they all emphasize a common point of view.
In international charters, the historic city is defined as follows:

“Historical and architectural (including vernacular) areas” shall be taken to mean any groups of buildings, structures and open spaces including archaeological and palaeontological sites, constituting human settlements in an urban or rural environment, the cohesion and value of which, from the archaeological, architectural, prehistoric, historic, aesthetic or sociocultural point of view are recognized. Among these “areas”, which are very varied in nature, it is possible to distinguish the following “in particular: prehistoric sites, historic towns, old urban quarters, villages, and hamlets as well as homogeneous monumental groups, it is understood that the latter should, as a rule, be carefully preserved unchanged.[7]

7. Historic area/city (from the 1976 Recommendation). http://portal.unesco.org/en/ev.phpURL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html



Location of historical context in Shiraz. Reference: Shiraz Municipality

Among the international charters on the subject of historical textures and cities and urban landscape, the following can be pointed:

1976 UNESCO recommendation concerning the safeguarding and contemporary role of historic areas.
1987 Washington Charter on the Conservation of Historic Towns and Urban Areas.
2011 Recommendation on the Historic Urban Landscape, including a glossary of definitions.

Historic urban area *(from the ICOMOS Washington Charter)*

Historic urban areas, large and small, include cities, towns and historic centers or quarters, together with their natural and man-made environments. Beyond their role as historical documents, these areas embody the values of traditional urban cultures.

Urban heritage *(from European Union research report Nº 16 (2004), Sustainable development of Urban historical areas through an active Integration within Towns – SUIT)*

- Urban heritage comprises three main categories:
- Monumental heritage of exceptional cultural value;
- Non-exceptional heritage elements but present in a coherent way with a relative abundance;
- New urban elements to be considered (for instance):
- The urban built form;
- The open space: streets, public open spaces;
- Urban infrastructures: material networks and equipment.

The Washington Charter: Charter on the Conservation of Historic Towns and Urban Areas (1987) *was adopted by the ICOMOS General Assembly, Washington, DC, October 1987.*

This Charter, adopted by the ICOMOS General Assembly in 1987, establishes the principles and guidelines for the protection and conservation of historic towns. The Charter seeks to complement the Venice Charter, whose emphasis is on the individual monument. It addresses such issues as:

- integration of preservation objectives into planning policies;

- qualities of historic towns that should be preserved;

- participation of residents in the preservation process; and

- the social and economic aspects of historic town preservation. [8]

8.http://portal.unesco.org/en/ev.phpURL_ID=48857&URL_DO=DO_TOPIC&URL_SECTION=201.html

9. Falamaki, m. m. (2009). Restoration of buildings and historical cities (Vol. 1). tehran, Tehran, Iran/Tehran: faza press.(p.160).

Mohammad-Hasan Talebian

(born 1961 Tehran) is an Iranian architect. He graduated with a degree in doctoral studies at the Architecture, Management, and World Heritage Protection from Tehran University.

Deputy Director of Cultural heritage of the Cultural Heritage, Handicrafts and Tourism Organization (2013 to present)
- Member of the State Infrastructure Commission (2013 to present)
- Member of High Council for Urban and Architecture of Iran (2013 to present)
- Member of the General Culture Council of the Supreme Council of the Cultural Revolution, (2013 to present)
- Member of the Strategic Council of the Ministry of Roads and Urban Development's Rehabilitation and Renovation Organization (2013)
- Member of the Commission on Article (5) of the Tehran Municipality (2013 to present)

10. Shafaghi, s. (1997). Recognition of Old Town Texture. proceedings of urban textures. Specialty Conference on Urban Texture (p. 427). Kerman: Arg of Bam: Ministry of Housing and Urban Development.

Mohammad-Mansour Falamaki

(born 1934 Mashhad) is an Iranian architect and urbanist. He graduated with a degree in doctoral studies at the University of Venice in 1962, specializing in technical engineering from the University of Milan in 1968 and specializing in the renovation of historic buildings and towns from the University of Rome in 1969. He has been Associate Professor at Tehran University since 1969-1974 and has been a professor since 1975.

But the definition of the historical texture historic city in Iran's national charter, as well as in the scientific writings of the thinkers of Iran, is different from its universal definition in the UNESCO 1976 International Charter.

"Mohammad Mansour Falamaki" believes that the historical texture of Iran includes that part of the urban texture that was formed before 1300 S.H.(1921 A.D), In fact, a part of the Iranian cities that have been formed before the Qajar era can be called historical texture. It is a time when the Shocking and transformative changes in the Pahlavi era did not begin to take place.[9]

"Mohammad Hasan Talebian" believes that from the perspective of the Cultural Heritage Organization, every urban texture that is about 100 years old or more is considered as a historical texture, but the historical values that people consider for a particular urban fabric are also important. In the historical cities of Iran, a part that has been formed before the arrival of modernity in Iran is called the old texture.[10]

The old texture has been formed in most cities besides the historical core of the city, and in terms of geometry of the streets, how buildings are located next to the passageways, the number of building floors, the connection between entrance and passways the scale of construction, to a large extent follow the features of the historical texture.[11]

And often have narrow alleys that are reminiscent of the lives of pre-industrial humans and the lack of penetration of motor vehicles. [12] According to the definition of the Supreme Council for Urbanism and Architecture of Iran, the old texture includes some part of the city that was formed before 1300 S.H., and -despite having the values of identity - has a low living and spatial value due to its physical exhaustion and the lack of safety, strength, service, and urban infrastructure standards. This is while in the environments formed in the old texture, there is a reflection of a society that contains the concept of being meaningful in every sense of the world and the concepts of identity, readability, visibility, compatibility and many other concepts are considered as features of these textures.[13]

1300S.H.(Solar Hijri) is equal to 1921A.D.
The Solar Hijri year is 621 years less than A.D. year. In this sense, to convert the Solar Hijri to A.D., you need to add the number 621. Also, to convert the A.D. year to the Solar Hijri, the number should be reduced to 621.

There are other definitions for the concept of the historical city include:
"As those active human settlements strongly conditioned by a physical structure originating in the past and recognizable as representing the evolution of its people" It is fundamental that a historic center is inhabited and form a live cultural nucleus.

This definition recognizes that a historical center is not constituted only by material and physical heritage.
It comprises not only:
- Buildings,
- Streets,
- Squares,
- Fountains,
- Arches,
- Sculptures,
- Lamp posts,

but includes the natural landscape, and of course:
- It's residents,
- Customs,
- Jobs,
- Economic and social relations,
- Beliefs and urban rituals.

This definition also includes the important presence of the past and understands by "historical" all those cultural, architectural, and urban expressions which are recognized as relevant

11.Safamansh, k. (1997). Proposal for a parallel design method in ancient textures. proceedings of urban textures. Specialty Conference on Urban Texture (p. 539). tehran: Ministry of Housing and Urban Development.

12. Shafaghi, s. (1997). Recognition of Old Town Texture. proceedings of urban textures. Specialty Conference on Urban Texture (p. 539). Kerman: Arg of Bam: Ministry of Housing and Urban Development.

13. Haghighat Na'ini, G., & Ashrafi, M. (1995). Investigating the concepts and values of architecture and urbanism in the Na'in texture. Proceedings of the History of Architecture and Urbanism of Iran (p. 297). Kerman: Arg of Bam: National Congress of Architecture and Urban Development of Iran.

and which express the social and cultural life of a community. It eliminates any selection based on restricted interpretation of the term historical and an outlook which places more value on past periods of history. We can affirm that it is also the recognition of a society or a social group which qualifies a sector of the city as a historical area and interrelates with the totality of the Urban Compound, and in a way is intimately related to the Metropolis in various forms.[14]

14.Mutal S., HANDOUT (SOME DEFINITIONS)No. 4. 2012.2.

The historic cities are formidable cultural resources, in several ways. Their conserved past vestiges serve as lighthouses, as it were, which enable people to orient themselves in an increasingly confusing contemporary world. Even if they convey different symbolic messages over time, they remain irreplaceable sources of cultural identity in the anonymous no man's land so typical of many modern agglomerations.

But beyond their antiquarian values, historic cities incorporate a promise for the future. For they contain the genetic seeds of certain deep structures and corresponding human practices and processes that future generations cannot afford to lose. Once reactivated, these seeds can develop in different soils, so to speak, simply because they refer to permanent traits of human nature and are therefore timeless. They will thus be able to instill life, social relevance, emotional content and sensorial enjoyment to emerging new urban structures – which otherwise are at risk of remaining stillborn products of a purely abstract imagination, projected into a meaningless reality.

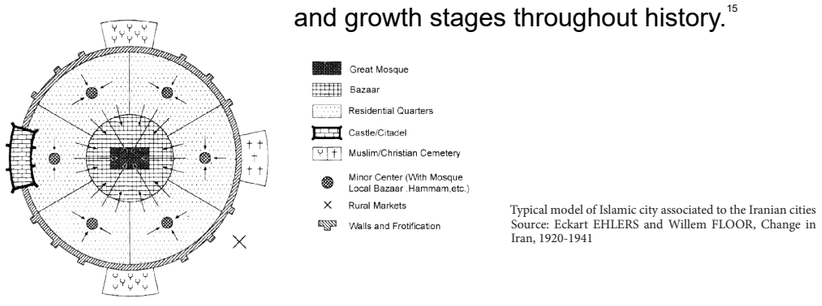
Stefano Bianca
Director Emeritus of the Aga Khan Historic Cities Program
Historic cities in the 21st century: core values for a globalizing world

World Heritage papers 27

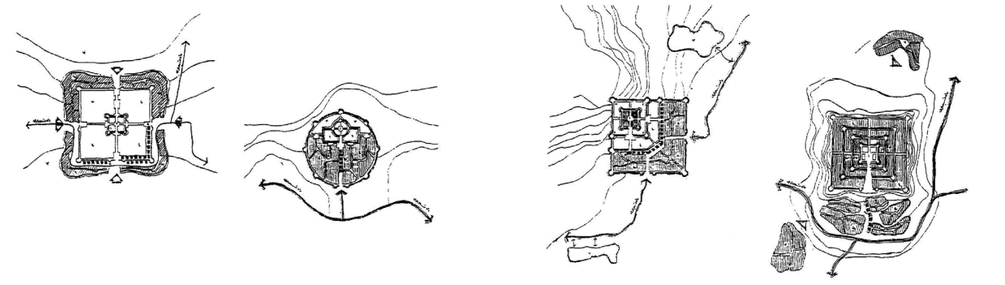
Concept of "old city texture" in Iran

Today, the word "texture", more named as "city texture" term, is used in the literature of architecture and urbanization, and it seems to be a completely tangible expression for general and specific people. This word has been originally taken from biology and expresses the living, dynamic and changing nature of the city. The texture of each city, first, specifies the physical aggregation of the city, ie full and empty spaces, their size, and their relationship and their closeness limit. Secondly, reveals the communication networks, the method of access and the general characteristics of ways and alleys; thirdly, it expresses the spatial distribution of activities; and fourthly, it reflects the city formation, development and growth stages throughout history.[15]

15.Toufighi, M. (1997). Urban development and the logic of escaping from the old textures of Sabzevar city. proceedings of urban textures. Specialty Conference on Urban Texture (p. 25). Kerman: Arg of Bam: Ministry of Housing and Urban Development.



Typical model of Islamic city associated to the Iranian cities
Source: Eckart EHLERS and Willem FLOOR, Change in Iran, 1920-1941



The physical structure of the city during the Sassanid period

The physical structure of the city during the Parthian period

The physical structure of the city during the Achaemenid period

The Physical Structure of the City in the Medes Period

And the communications network together compile a combination of filled and empty spaces called texture. This texture is dynamic and live. This combination always changes with transformations created in the number and composition of the age of the population, the natural, economic, social and communicational system, tools and technical knowledge, and other factors affecting the formation of urban spaces and elements; and formed to provide facilities and space suitable for life.[16]According to the definition of the Supreme Council for Urbanism and Architecture of Iran, "the context means a linked range that is formed by different morphologies during the life of the city within the boundaries of the city or its margin , in continuity and link with the city". This range can consist of buildings, collections, roads, spaces, urban amenities, and installations, or a combination of them.[17]It is usually possible to recognize the different layers of the city texture by investigating the phases of urban physical-spatial development.

16.Sultanzadeh, H. (1995). Naiin of the Historic Millennium. (p. 60) Tehran, Tehran, Iran/Tehran: Office of Cultural Research.

17.Sharan, Consulting Engineers., Guidance for identifying and intervening in worn-out tissues.2005,(p. 35). Tehran: Fan and Art Idea Publishing.

18.Tavassoli, M. (1990). City in Islamic Era lands (First Edition ed.). (A. Iraj, & M. Yahya, Eds.) Tehran:(p.49). Asatir press.

Supreme Council for Urbanism and Architecture of Iran

The Supreme Council of Urban Development is an organization that has been established in the Ministry of Roads and Urban Development since 1965. The council determines the priority of projects, examines and approves urban planning regulations, and determines and approves building standards and reviews urban planning rules.

Physical- spatial properties of the city old texture in Iran
Texture formation of the smaller urban units named district

One of the important properties of old textures of Iran cities is its division to some districts. Because the historical city as a whole has been composed of units as districts. [18]

In Iran, a city has been a collection of homogeneous and con-

joined districts which have been built in a defined location according to ethnic, religious, professional or territorial relations, occasions, type and connections and have been preserved their identity and genuineness the same for years and were known as the main constituent units or such as city cells, the habitation of tribe, religion or a special group and more than any other urban unit they had ethnic, family and sometimes administrative and class solidarity, integration and conformity inside themselves.[19]

What always acted evidently in the construction and deployment of districts have been social, cultural, religious or economic commonalities.[20]

And in the meantime separation of districts according to the difference in beliefs and religious or ethnic characteristics is more seen among big cities with more and various population and in smaller cities factors such as a difference in occupations forms the base of districts division.[21]

Formation of the transit network according to pedestrian access

In the past, urban area and the distance between various centers of social and economic activities was so that citizens walked from one point t another and sometimes animals were used for the displacement of people or goods.[22]

So physical- spatial structure of the city was formed according to pedestrian traffic and usage distribution was in balance with life requirements of that period and there was no problem about traffic on passages and could welcome an active and dynamic social life because alleys and passages were in a way that could provide the possibility of communication and face-to-face encounter and social interaction of the residents.[23]

In fact, narrow, dead-end and intricate alleys are important specifications of the old texture of Iran traditional cities which is a social and geographical phenomenon and in fact had defensive aspects and also showed the ownership of a family or ethnic and in a time a special class (Shafaghi, 432, 1997). Since the form and the geometry of the passageways of old texture is in such a way that is not primarily designed for car movement and there is not enough space for car stop, access and passage and car stopped inside the texture are not easy.[24]

Formation of the physical structure according to soft and

19.Khaksari, A., Shakibamenesh, A., & Ghorbanian, M. (2006). Urban Neighborhoods in Tehran:(p.183). Institute of Humanities and Cultural Studies, 5.

20.Tavassoli, M. (2002). city building and architecture at a hot and dry climate of Iran. Tehran:(p.147). Payam press.

21.Khaksari, A., Shakibamenesh, A., & Ghorbanian, M. (2006). Urban Neighborhoods in Tehran. Institute of Humanities and Cultural Studies, 5.

22.Soltanzadeh, H. (2006). Urban Spaces in Iranian Historical Textures. manzar magazine, 17.

23.Safamanesh, K. (1997). A suggestion for the parallel design method in old textures. Proceedings on urban textures, specialty conference on urban texture (p. 54). Mashhad: Ministry of Housing and Urban Development.

24.Safamanesh, K. (1997). A suggestion for the parallel design method in old textures. Proceedings on urban textures, specialty conference on urban texture (p. 54). Mashhad: Ministry of Housing and Urban Development.

organic geometry

25.Soltanzadeh, H. (2006). Urban Spaces in Iranian Historical Textures. manzar magazine, 19.

26.Mansouri, A. (2013). Space Agency in the Islamic City of Iran. Art and Civilization of the East, 1(1), 60.

27.Safamanesh, K. (1997). A suggestion for the parallel design method in old textures. Proceedings on urban textures, specialty conference on urban texture (p. 51). Mashhad: Ministry of Housing and Urban Development.

The old structure of the cities has mostly developed organically and the relation between spaces and urban elements is a more or less natural but organized and regular relation because the formation of urban spaces and elements together was influenced by the behavior patterns and the culture of the people of society and historical cities were not formed with a fast and accelerated process and under the influence of immediate requirements of different groups. On the contrary, in the usual way, they appeared in accordance with material and spiritual requirements and progressive growth and development of the society and accepted the necessary deformation.[25]

So they have a natural and free soft geometry and reiterative, uniform and monotonous shapes and dimensions have never been used in their manufacture. What makes these kinds of textures synchronous and united are the uniformity of the general dominant spirit on city construction and ruling cultural and technical patterns of their architecture. These textures are totally organically formed and developed in conjunction with their social and economic resources and natural environment and with people participation and they have emerged over time without any design and their geometry totally indicates this natural and gradual process as if this texture didn`t need designing methods.[26]

The existence of harmony in terms of scale, proportions, and visual unity of volumes and levels

Often, the construction scale in the cities old texture is of a micro kind, because the buildings are often small and low-rise and each house consist of a number of volumes built around the courtyard. At the same time, in the old context, the courtyard, which is a hollow (negative) volume, is at the center of the house and is of a priority than the construction volume around it. That is why the shape of city spaces in the old texture is of nested type and as a result, the urban space, whether in the alleys or inside the houses is more experienced as a combination of building shells than construction volumes.[27]

On the other hand, the use of endemic materials was leading

to the unification and harmony of the buildings external surfaces in the past.

In most cities of Iran, especially the cities of the central and southern regions, the outer surface of the walls was covered with mud-brick and cob; therefore, the color and kind of the architectural and urban collections were unified and harmonized, because the difference between the color and kind of the mentioned materials was not so great that they would prevent their unity and integrity. [28]

Also, it appears from a historical survey of some cities that, their inhabitants have had some criteria in the field of the establishment of public and private buildings, main entrances and secondary crossings, networks for service providing and distribution of resources and reservoirs of consumable supplies of the city, and so on; and they have obliged themselves to do it. No citizen has had the right to exceed the agreed size of the city to beautify it, or to make significant deficiencies, whether at the height or the width of the house he wanted to build. The colors and materials of the buildings, the rate of the window –dressings and certain signs of each building could not be determined irrespective of what was traditionally prevalent in that city. [29]

28.Soltanzadeh, H. (2006). Urban Spaces in Iranian Historical Textures. manzar magazine, 64.

29.Falamaki, M. M. (2006). Farabi and Citizenship in Iran. (p. 85) Edition (Vol. 1). Tehran, Tehran, Iran/Tehran: Faza Press.

Effectiveness from an active central axis

The basic framework of the physical-spatial structure of the old Iranian cities was mainly a centroidal axis, in which some cores were being settled as the axis inflection points along with it. The nuclei have come from each other in different historical periods, and the emergence of each new core does not completely destroy old cores. The cores have come one after another over different historical periods, and totally, the emergence of each new core has not completely destroyed the old cores. Investigating the components of the cities' physical-spatial structure shows that, in most cases the linear axis has appeared as a Bazar in the direction of the main link of the city to other cities, and the nuclei and the axis inflection points have been formed by a central square settled surrounding the governmental, religious and commercial main buildings. In addition to the main core located on the centroidal axis, there are also other secondary cores in the direction of old textures that form the center of the districts and acts on different scales. These centers are interconnect-

30.Tavassoli, M., & Bonyadi, N. (2010). Urban Space Design. Tehran, Tehran, Iran/Tehran: Shahidi press.25

31.Falamaki, M. M. (2006). Farabi and Citizenship in Iran. (p. 19) Edition (Vol. 1). Tehran, Tehran, Iran/Tehran: Faza Press.

ed through directs and ultimately connected to the main axis of the city, and on the other hand, connect to the city gates. The collection of the centroidal axis of the city, their inflection points, the districts' centers and the directs create a warp and wood leading to create a coherent urban structure.

Diffusion of urban and public spaces based on social relations

Urban space is one of the main elements of the structure of each city, which is created, transformed and changed the with history of a nation in different periods. This important element in which various cultural, economic, or political activities have always being progressed, has been aware of beaten by the heart of the city and figured the fate of the city.[30]

On the other hand, the city is the place for living of the people, their movement, the secret of association, development, and continuity of lives**.** Mobility in the social and socio-cultural space, mobility in the economic and socio-economic space and mobility in spatial space. These mobilities influence tangibly on all places, environments, and spaces of the city, and is the constructor of a new form of urban relations equation that will never be sustained.[31]

32.Falamaki, M. M. (2006). Farabi and Citizenship in Iran. (p. 79) Edition (Vol. 1). Tehran, Tehran, Iran/Tehran: Faza Press.

33.Falamaki, M. M. (2005). Urban Renewal and Reclamation (2 ed., Vol. 1). Tehran, Tehran, Iran/Tehran: Samt Press. (p. 132)

In the ancient city, the position of different urban spaces has been determined depending on how they relate to each other, the way humans are present and interact, and the functional expectations of human beings from those spaces, so that these spaces, while meeting the socio-spatial needs of the population, enjoyed the best physical position and mental status in terms of the environment in which they were located. How to locate such spaces can also be considered and surveyed from the point of view of the cognitive system of the region.

The Effect of Contemporary Transformations on the Physical-Spatial Structure of the Old Texture

Changes and transformation is a part of the city's nature, and all cities have undergone a variety of changes and transformations throughout their lives. These changes and transformations, whether caused by natural and inhuman

factors or caused by human factors, are the most important part of the history of a city.

Sometimes it is thought that change passes hastily, fast and progressively over time, and the face transforms the appearance and body of the city; It seems that everything has been destroyed and new life is going on. In both cases, the change leaves its sign in the physical –spatial structure of the city and creates a profound transformation in its life; Either in progress or deterioration form.[32]

Today, in the cities of Iran, on the one hand, activities that are rooted in history and slowly realize, have made the city space conditional, and on the other hand, the common activities have cast a shadow over the city with a global description and interpretation.

In other words, before the national economy becomes industrialized in Iran, the cities began to take some measures that had been previously customary in industrialized countries, and cities that previously had a dynamic physical-spatial structure, lack that currently.[33]

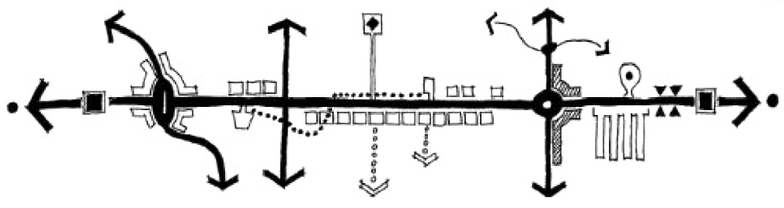
The emergence of these developments in the old context of cities is more tangible than other sectors and its results are more understandable and observable.

The emergence of these transformations has had negative consequences more tangible in the old texture of cities than other sectors, and its results are more understandable and observable.

On the other hand, in the vast majority of cities, it is rarely possible to distinguish between the effects of the socio-cultural and economic -functional factors in the physical-spatial structure , and what has been formed in the old texture of the historical cities of Iran as the physical-spatial characteristics over long centuries, is the result of interaction with the socio-cultural and economic-functional structure of the city centered around human, which have being created the required context for a human life.

In the past, due to the continuity and dynamism of the city transformation stages, the city's physical-spatial structure was also transformed into a positive and upward path coordinated with the socio-cultural and economic-functional structure, it was the human interaction and constructive interactive environment, the power and quality of which were added from a generation to generation;

But after the industrial revolution and sudden and accelerated changes in urban life, the city's physical-spatial structure lost the power of coordination with new transformations; and the positive qualities and the results of constructive interaction between man and the environment , confronted with a crisis and a problem due to the lack of coordination with socio-cultural and economic-functional transformations.



The main bone of the city based on the central axis

The Sasanian Empire

Was the last kingdom of the Persian Empire before the rise of Islam. Named after the House of Sasan, it ruled from 224 to 651 AD. The Sasanian Empire succeeded the Parthian Empire and was recognized as one of the leading world powers alongside its neighboring arch-rival the Roman-Byzantine Empire for a period of more than 400 years.

- "A Brief History". Culture of Iran. Archived from the original on 21 November 2001. Retrieved 11 September 2009.
- Norman A. Stillman The Jews of Arab Lands pp 22 Jewish Press Society, 1979 ISBN 0827611552
- International Congress of Byzantine Studies Proceedings of the 21st International Congress of Byzantine Studies, London, 21–26 August 2006, Volumes 1–3 pp 29. Ashgate Pub Co, 30 Sep. 2006 ISBN 075465740X

35.Mashhadizade Dehaghani, N. (1994). Analysis of Urban Planning Features in Iran. Tehran: University of Science and Technology of Iran.250

36.Mir Mohammadi, H. R. (1996). Appearance and Texture of Islamic Cities. Meshkat Journal, 53.

Physical structure features of Islamic- Iranian cities

In the post-Islamic period, the cities of Iran continued their life in the same preliminary form. Kohandazh, Sharestan, and Rabaz, which were formed as the main components of Iranian cities construction at the Sassanian Empire, were also comprising the components of Islamic cities in the first years. According to the features which urbanization and urban development took after Islam's sovereignty, the construction of cities changed gradually. Urbanization development expanded the suburb(Rabaz)of the cities. These suburbs that were formed from immigrants and villagers residing in it during the Sasanian Empire, evolved in terms of urbanism, got urban spaces and institutions, and become more important than Sharestan.[34]

Bazars that were once located near the city's gates expanded on one side along with the main ways leading to the city center, and on the other side along with the main ways and roads continued outside the city and got internal and urban spaces and elements. Each part and space was dedicated to the supply or production of special goods, and inns and warehouses were also created to meet new needs. Mosques, especially the Grand mosque were built in connection with the Bazar and near the citadel was built in the city old center or in Rabaz.

Alleys such as the secondary trajectories were separated from the Bazars that formed the backbone of the city, which located the water storages, coffee houses and other urban spaces beside the binns, baths, schools and grain stores, near the backbone of the city.

The mosques, which gave the most important attributes to Islamic cities, located in the city as the criterion for distinguishing the city from the village, and formed the three elements of Islamic cities construction, together with the citadel and Bazar.

The division of the city into specific components of Kohandzh, Sharestan, and Rabaz was replaced by the tribunal, military and religious centers, Bazars and districts of the city.[35]

The central part of traditional and Islamic cities is like an island surrounded by a network of sidewalks.

The central part of the city was a physical environment with social and economic values and the guardian of the cultural

34.Mashhadizade Dehaghani, N. (1994). Analysis of Urban Planning Features in Iran. Tehran: University of Science and Technology of Iran.245

and religious values of the Muslim.[36]

The physical- functional elements of the historical textures of Islamic- Iranian cities

Elements and components existed in the ancient cities of Iran have had a kind of integrated and interconnected spatial interaction.

In Islamic cities, spaces such as ... the grand mosque, Bazar, government center, and residential spaces, while each of them keeps its particular place, rank, and character in urban spaces hierarchy and play its role, together create a unit collection which shows the city as a coherent and interconnected collection in terms of space.

The main elements of the urban complex in Islamic cities include:

Citadel and battlement

The Citadel has been composed of a collection of buildings, institutions and governing organization of the city, and was the ruler's headquarters. Citadel has been linked to the Bazar and the grand mosque. These features are visible in the works remained from many old parts of the cities. The main pillars of the city including caliphate's seat (Dar-al-Khilafah), Dar al-Hokumah(governor's seat) or metropolis (Dar-al-Emareh) have been emerged instead of Kohdezh. Then, through creating the kings and emirs palace, they founded a collection called citadel, which main axis of the city at a distance from the grand mosque and Bazar and located in the central area of the city. In the meantime, the citadel is separated from other elements as a political element and manifested as the main focus of the city by creating a fence and battlement around it. The second part of Shaarestan does not differ with pre-Islamic periods in terms of formulation, but it is completely different in terms of content. Cultural-religious elements, Bazars, and district are in this section. Guilds, craft workers and most of the various classes and levels of the population live in this sector.[37]

Grand Mosque

Except for the political element which existed with different names of caliphate's seat(Dar-al-Khilafah),metropolis(-Dar-al-Emareh),Dar al-Hokumah(governor's seat) and eventually citadel(Arg), the cities of Islamic era had two main bases:

Grand Mosque and Bazar. The grand mosque was a religious-political center and was being built in a convenient place as a spiritual center of the city and the area under its influence. Sometimes, the grand mosque as the government seat was the linking between religion and government, such as the mosques which were the Dar-al-Emareh, like Tabriz citadel(Arg-e Tabriz), which was built as a mosque, but later became the government headquarters. The mosque is considered as the most important public building in the city and obtains an underlying position in the thoughts related to Islamic urban development.[38]

The place of the mosque has always been in the beating heart of the city so that it finds its true meaning in close relation with people. That is why the shape and dimensions of the mosque ground are subject to the facilities of the surrounding texture and internal development needs, and has a certain pattern and shape in its outer volume.[39]

Bazar(Market)

The Bazar is the second major factor in Islamic cities formation. Each city had at least one linear Bazar, starting from the gate, reaching the city center and stretching around the grand mosque. Some Bazars were stretching from one gate to another continuously and were of miles long. In cities with possibility of raining damage to shops and goods, a brick ceiling was built on the Bazar direct and some openings were embedded in the roof for lighting and ventilation. Each guild had it's own special direct, in which there was no way for other occupations or guilds, and usually, that section became known as a guild, like the shoemakers Bazar, the coppersmith Bazar and so on.[40]

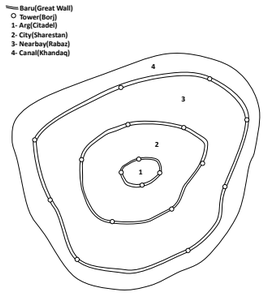
The Bazar rotates around the mosque and school and encompasses it. Also according to the traditions remaining from the Sassanid Empire city, the Bazar passes the city and is expanded from the main square of the city(the government headquarters) to the wall and battlement; thus, the Bazar can be named as the backbone of the Islamic city.[41]

The Islamic city has had several Bazars, each one was beside the other for selling a particular product or some special goods. Urban position and location of the Bazar, the major spaces and centers of the city along with it, as well as the role of Bazarers in urban life, did not leave the Bazar merely an economic space but turned it to space for many social activities.[42]

37.Nazarian, A. A. (1995). Iran Urban Geography (first edition ed.). Tehran: Payam Nour University Press..24.

38.Mashhadizade Dehaghani, N. (1994). Analysis of Urban Planning Features in Iran. Tehran: University of Science and Technology of Iran. 279-281.

39.Hamzehnejad, M., & Arabi, M. (2014). Studying Iranian Originality in Contemporary Modern Mosques (Case Study: Vali Asr Square Mosque Design, Tehran). Journal of Iranian-Islamic Urban Studies, 49.



Hierarchy of Formation of Ancient City Structure

Bazar

in the Persian language, Bazar is called the number of stores that congregate on a street or a specific space. Historically, the Bazar refers to the place where buyers and sellers go to exchange goods or services.

40.Soltanzadeh, H. (1983). Urban Formation Process and Religious Centers of Iran. Tehran: Agah press..126.

41.Habibi, S. M. (2005). From Shar to City.Historical Analysis of the Concept of City and its Physical Appearance: Thought and Effect (Second Edition ed.). Tehran: Tehran University Press..46-48.

42.Daneshpour, A., & Rousta, M. (2013). Conceptual Framework of Sustainable Community in Islamic Worldview and Urbanism Tradition of Muslims. ournal of Iranian-Islamic Urban Studies, 17.

Residential areas and districts

The districts of Iranian –Islamic cities have a special geographical unity in their structure. Dead-end, alleys, passages and the district centers join with public elements and externalize the district. Each of these components has its own properties with significant importance in terms of the traditional texture of the cities. Elements and spaces such as plazas, mosques, drinking fountain, bath, ancient cistern; and inns and small squares in some of the accredited districts; and sometimes gymnasium in Iranian cities have been created to meet the needs of each district inhabitants, and Indeed has given them relative independence. The District components include residential houses, dead-ends, alleys and finally the district center's public installation such as mosques, temples, plazas, baths, ancient cistern and sometimes coffee houses. The mentioned elements were scattered uniformly throughout the city and had a limited scope of influence and performance, and the last point of influence and scope of these elements function was the districts boundary.[43]

Street network, wall and external views

The communicational structure within the range of old urban textures has been formed based on the historical formation and past functions with regard to the human scale organically. Short access in pedestrian scale with the socially prominent role, the complexity of the paths due to weather conditions and urban security is the significant features of the structure of the old districts communicational network.[44] The districts were connected to each other through a narrow network of twisted streets, which are divided to into quasi-private, private and public network's dead-end streets. Also, the city wall encompassed a few gates, each one of them ended to a district.[45] There were cemeteries in the outer part of the walls. A weekly Bazar was held outside the main gate. Much attention has been paid to the transitional territory and intermediate limit of public and private spaces in historical textures. The territories have been divided into a district unit, several residential units (neighborhood complex) and the territory of a residential unit.[46]

43.Khodaei, Z., & Taghvaei, A. A. (2011). Characterization of Islamic Cities, with Emphasis on Physical Dimensions of Islamic Cities. Journal of Iranian-Islamic Urban Studies, 105.

44.Esmaeilian, S., & Pourjafar, M. (2013). Search for Criteria Forming Urban Space Networks in Historical Texture of Iran (case study: Isfahan, Dardasht). Journal of urban management, 71.

45.Komeili, M., & Khodaei, Z. (2011). Comparative Study of Identifying Elements in Islamic Cities (Case Study: Rey City). First National Conference of Islamic Architecture and Urbanism (p. 950). Tehran: National Conference of Islamic Architecture and Urbanism.

46.Pourjafar, M. (2011). The Phenomenology of Identity and Place in Historical Textures. Journal of Iranian-Islamic Urban Studies, 17.

Identity

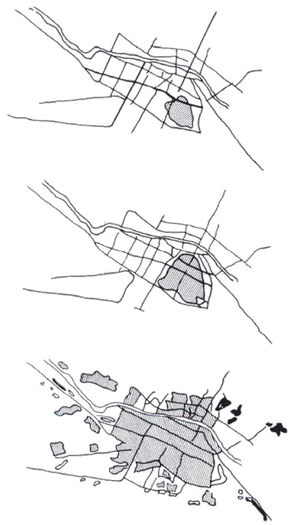
Identity is a phenomenon that is shaped in the historical context of a society. This sense of identity permeates would be internalized in the individual and guides his/her behavior and ultimately integrates society over time. The behavioral unity created at the level of society seeks a physical body to meet the individual's and society's mental and behavioral needs. Designing its own special ideology, the Islamic city calls for a particular behavior that can be implemented in its own specific physical body. The Islamic city is formed with a mosque in its center, developed with the Bazar in its axis and published by districts formation in its area.[47]

47.Movahed, A. (2012). Recognition of Physical Identity in Islamic Cities (Case Study: Rey City). Journal of Regional Planning, 46.

Contemporary city

Changing the public space function in the contemporary city

According to the belief of modern city critics, urban spaces have lost their function as places for establishing social relations, and in fact, the social concept has replaced with compulsory co-existence in the city. The traditional square, which allowed public participation in collective decision making, has been eliminated. The invisible current communicational channels have been associated with an inappropriate phenomenon and added a new dimension to the spatial- time chain of the city, resulting in the isolation of the people and their activities. Despite the advanced technology and modern communicational and transportation methods, other people are not directly related to space, and the spatial scale is understood by their vehicles scale The facilities of individuals direct relations are decreasing; and automation and communication processes in spreads to individuals isolation. The factors related to major changes in public spaces performance in cities can be expressed as follows:



Development of Shiraz from traditional city to contemporary city

- **Ever-increasing dependence on the car**

The ever-increasing dependency on cars, and consequently the increasing demand for parking, highways and the paths special for car, figures such a prevailing type of open spaces in our city. Mobility and communication have dominated public spaces, and cultural meaning and human purpose have been lost. The street has lost its social meaning, and the diversity and public life ability in the cities have been replaced

with order and mobility by car, then pedestrians.

- **Zoning and usage policies for urban renewal projects land**

Renewal projects do not respond to social patterns in the urban spatial development and have eliminated the old and valuable urban spaces, irrespective of social relationships that give sense to urban community life. Zoning has separated the areas and, as a result, the living space from the workspace. The spatial order has been replaced with the order of the functions, and the importance of spatial order has been neglected in social functions. The rules for zoning and dividing the city into contiguous small areas have eliminated the diversity and life of the city.

- **The lack of coordination between state and private institutions to design public urban environments**

Today, the communal spaces are replaced by private elements. In the past, designing of public spaces was carried out in conjunction with private buildings, but today, the state and private institutions are not related to each other, resulting in the emergence of existing urban spaces. Investing to maintain public spaces has diminished and the form and appearance of the city have been ignored. In this regard, the conflict between public and private interests must be resolved in order to resolve or at least reduce the current crisis of urban spaces.

- **The modernist tendency to the infinite open space**

Contemporary architects and urban developers influenced by modernism have set aside human dimensions and traditional principles. High-rise buildings have been abandoned without shape in a vast space and the space between buildings is rarely designed. The streets have lost their recreational and social performance and have driven people to tend to use urban spaces. The influence of modernist opinions on the creation of pure forms and elements such as light, air, wind flow, and unlimited park-like spaces became an important factor to create isolated modern buildings. They do not have a social interpretation of space, and the public urban spaces are considered only as a separate function. Christian Norberg-Schulz believes that the destruction of urban spaces is

a problem raised following the rejection of the need for immunization in enclosed space. The new enclosed dwelling units are not compacted spatially and have been formed from free buildings in park-like spaces. The streets and squares are assembled of dispersed units, which according to Citeh, are repeated everywhere as products made with the “modern” brand.[48]

48.Moradi Zavieh, P. (2003). Physical-Spatial Analysis of Haft-e Tir Square, Master’s thesis of Urban Development. In P. Moradi Zavieh, Master’s thesis of Urban Development (p. 20). Tehran: Islamic Azad University (Central Tehran Branch).

Dimensions of Iranian urban development and architecture

Iran’s architecture is a combination of space works in a complex way, but the result of this complexity is a simpler understanding of space. In order to attend to the inappropriate space of architecture, human beings inevitably expend much of their mental energy. In contrast, the appropriate spaces are easily understood. That is why the tranquility felt in Iranian architectural spaces. The closed spaces are repeated and create other open spaces. In some modern western architecture spaces, the outdoor (outer space) is formed from the remaining built spaces and lack the architectural value, while in Iran’s architecture, the outdoor (outer space-void) is formed from the conscious presence of built spaces. In this architecture, there is deep accretion between inner and outer spaces, and each one takes another shape. The tranquility and beauty felt by a human through moving in the old texture the cities owe to the discipline of the two inner and outer spaces. This paper studies the aspects of Iranian architecture.

Open spaces-closed spaces

Sophisticated rules and concepts of the traditional architecture of Iran about large and small spaces are of the same meaning. For example, the main and secondary axes in an urban square, or in the courtyard of a residential house would be enclosed and indexed the same. And what is common in both is keeping the same pattern. The first distinction that can be made between two different spaces is their closure or openness. Iran’s architecture acts very skilfully to transform these two spaces and links them through a hierarchy of semi-open and semi-closed spaces. As a result, traditional Iranian buildings form and form the surrounding environment. In the

same way, traditional Iranian buildings shape their surroundings and take its shape. Open space has an independent character in Iranian architecture. Despite some western examples, this space is not space remained between buildings but has an independent identity. Although the courtyard of an Iranian house or seminary is outdoor on one hand, it is an architectural piece on the other hand.

Symmetry

Symmetry is one of the most prominent and obvious factors to identify the space. It means cobber- companion and counterpart and refers to something which is the reason for understanding another issue. It is generally associated with centrality and axis. Symmetry is integrated with order and is a kind of pre-programmed work plan. It is also compatible with the environment and human nature. Human uses less energy for understanding symmetric space. It is obvious that creating symmetry without reason and logic makes it boring and non-interesting. Generally, there are two types of indicator symmetry in Iranian architectural space:

- Linear and bilateral symmetry so that, the elements are situated around a shared axis.
- Radial symmetry in which elements are situated around a central point.

Axis

Axes are also the most primary means for organizing architectural forms and spaces. Their presence is sometimes obvious and prominent and sometimes assumed and invisible. Generally, they induce symmetry and strengthen the path and movement in their direction due to having a linear shape. Axis is similar to a raceway, the end of which should be open to flow. Open axis has potential, it is motion versus quiescence and it finally should end somewhere to make sense. Display and movement of the axis in Iranian architecture have changed from horizontal to vertical state and it causes more fluidity and uniformity of space. Axis crosses similar spaces with the same value and creates a dynamic path.

Entrance

Entrance is the joint of indoor and outdoor spaces. As in Iran architecture, two spaces are not directly connected, some other spaces help to arrange the entrance formation with a certain hierarchical. Sometimes, this formation and spatial organization are shaped between two open spaces- two closed or half-closed spaces. In many cases, an architectural work shows the spatial organization and the plan, which is going to define, in the entrance as a prelude. Elements which arrange the entrance formation in combination with each other are in charge of invitation, distribution, and guidance, respectively. Two architectural spaces such as house and passageway are less in proximity to each other directly, rather they connect generally through quadripartite and vestibule. Spaces which are place in the classification of entrance space include:

Inviting space

This space is by itself a combination of elements and spaces which have the role of inviting and guiding toward building including frontage, platform counter, and doorway and even the space between the edge of the building with environment and sky.

Distributing space

After the invitation, this space which has the role of division and distribution to the other spaces is seen in buildings with different shapes such as vestibule, semi- vestibule and so on.

Guiding space

This space appears in the form of indoors, porticoes and corridors and is in charge of guiding from one space to another. The above three spaces are the most suitable adjustor for the movement of man from outside to inside or vice versa. Sometimes, the combination of these three components gives the sight of a magnificent building to the entrance of a small house.[49]

Spatial organization

Understanding the architectural collections requires a flow of

49.Tavassoli, M. (2002). city building and architecture at a hot and dry climate of Iran. Tehran: Payam press. 83-89.

discrimination, distinction, combination, and integration starting from the understanding of similarities and distinctions between different spaces and promotes until the obvious identification of these similarities and distinctions. Physically a city can be considered as the collections of architectural units or buildings which are placed in a special order or combined with each other. In this case, a city can be observed and analyzed as a collection with a hierarchical system which consists of an architectural single element, architectural collections, urban blocks, districts, and the whole city. Identity and special characteristics of a city are originated from the specifications of architectural single elements or the main types of units and the variety of subtypes derived from them and types of architectural elements combinations and are obvious in visual qualities and special functions. Construction of new wide and straight paths contrasting with traditional organic texture has damage the zoning, neighborhood units, destruction and disarray of social arena, hierarchical order of roads network and destruction of integrated spatial and physical organizations of urban collections and also damaging visual and physical qualities such as unity, integrity, conformity, connectivity, continuance, human scale, …. The general and dominant form of space is called its spatial organization. Generally, the common and simplified form between some spaces which cannot be more simplified is called the spatial organization of those forms. Different spatial organizations can be named, according to which, the spaces can be analyzed. But, in the meantime, the line and circle are well known and obvious organization and plans of space. Two types of general spatial organizations are recognizable in Iranian architectural and urban development spaces:

- Linear spatial organization

The line is appeared from the repeat of similar forms and represents movement and continuity. The linear spatial organizations are of the following specifications. They are directional and can define special points at the beginning or end. Continuity, movement, dynamism, and growth are part of their natural specifications. They have special flexibility and can be broken, curve or direct.

- Central spatial organization

This organization is a suitable space for extrovert volumes and directs the look to each direction outside. In symmetric

mode, it is a suitable spatial organization for pavilions and mansions perrons and it can be defined in the shape of a circle or polygonal or even square. Central space organization has also attitude towards the internal side and is easily changed to an introverted volume and is a suitable organization for defining a prominent and noble point at the center. Sometimes, this centrality in Iranian architecture tends to a building and sometimes to the clear space of the central courtyard. Central forms are easily simplified and come close to the shape of circle or spiral; as a result, the eye can easily circulate in.[50]

Volumes proximity

Iranian architecture's forms come from craving a primary simple volume. These volumes, with abundant complications and different functions, follow the combination principles of primary simple volumes. The building defines its environment with its volume and shape and gives tranquility or movement to that. That`s why the inappropriate volumes disturb the balance of their environment. These volumes also response to the functional requirements alongside performing aesthetic duties; in this respect, the competition between form and function priority won't be held. Volumes become high, stretched on the horizon, transparent, light and heavy by decreasing or increasing.

Space Combination

Rules and the way of combining a collection of some spaces are the same as those which exist in the combination of the components of a single space. The pattern is traveling in the formation of all components of the building from small to big ones and doesn't stop in one place. Creativity is done to connect or combine two small components of the space or two big collections identically. Properties such as communication, connection, expansion and sequence, interference and continuity are recognized in a big collection, as can be seen in the space of a residential house room. Octagon shape can be seen in the entrance of a residential house as well as a school courtyard or inn. In this architecture, the spaces don't lose their independence during combination although

50.Tavalaei, N. (2001). Contextualism in Urban Development. Journal of Fine Arts(10), 24-25.

51.Pakzad, J. (2000). Identity and This is The Same. Soffeh magazine, 31, 56.

they are dependent on each other. In Iranian architecture, a conversation between open and closed space has special complication and beauty. In this architecture, open space creates a unique combination through penetrating closed space. Sometimes open space penetrates closed space and makes it light and transparent, and sometimes closed space surrounds open space and changes it to positive and architectural space by creating a yard. There is a deep relationship between the component and the whole space as if each element has a certain share of volume and space.[51]

The study of city size concept

City size including the city itself or maybe its previous forms do not have a clear and obvious definition. Various factors affect on the size of a city, the description of which, and the role of each one help to define the city size. Shortly, these factors are:

- Population
- City economic power(the city total income, per capita income or average family income)
- City physical size(city expansion)
- Density(it means the relation between the population and city area, or in other words, the intensity of land use)

- In studies related to the city size, the population factor is mostly used as the demonstrative factor of city size for the reasons given below:

- Access to the information related to the population is easier than other factors.

- As the economic capacity of big and crowded cities in countries with low per capita income is less than that of medium cities in countries with higher per capita income, economic capacity can`t be considered as a suitable criterion for city size because it can`t be used as a general measure.

- Density only shows accumulation rate in a specific location and it doesn't consider the important aspects of development.

- On the other hand, although the physical size of city by itself effects on showing the city greatness , it cannot be an effective factor if not accompanied by other factors, because most of the low- population and wide suburbs, in which there is not much economic activity, cannot find their real situation in hierarchical order of size only because of their area.

Confirming population as the main index in this regard, "Kevin Lynch"

says: there is consensus on this issue that key variable is the number of the resident population, not, for example, the number of workers or the geographical extent of settlement or the size of infrastructure or monetary value of production. Also, the United Nations merely rely on population criterion in the classification of the cities size.

Kevin Andrew Lynch (1918-1984)

Was an American urban planner and author. He is known for his work on the perceptual form of urban environments and was an early proponent of mental mapping.

Andrade, Leonardo M.V. (2005). "Lynch, Kevin". In Caves, Roger W. (ed.). Encyclopedia of the City. Routledge. pp. 297–298.

United Nations Centre for Regional Development (UNCRD)

UNCRD, which was established in 1971 based on an agreement between the Government of Japan and the United Nations, strives to promote sustainable regional development in developing countries with a focus on development planning and management in the context of globalization and decentralization trends, and the growing concern towards global environmental issues and their impacts.
- http://www.uncrd.or.jp/aboutuncrd

Small, Medium and big cities

There is no exact definition for small, medium and big cities. So, the minimum and maximum thresholds are usually considered to determine them. Harvey and Suthertwait have defined small cities like the one with populations ranging from 5 to 20 thousand and middle cities as the one with a population of 20 thousand and more.

At the Seminar on "The Role of Small and Medium Cities in National Development," held at the United Nations Regional Development Center (UNCRD) in Japan in 1982, cities with a population of 20,000 to 100,000 were defined as small and medium-sized cities. So it can be inferred that cities with more than 100,000 people have been considered as the big cities.

In the 1970s, Datar defined French cities with a population of between 20,000 and 100,000 people, which is coordinated with the UNCRD definition. Of course, this classification of cities varies from one country to another.

For example, in China, the cities with a population of 200,000 people or less, those with a population between 500,000 and 200,000 people, and those with more than 500,000 people have been considered as small, medium and big cities, respectively. In Germany, the cities with a population of 20,000 to 100,000 people; in the former Soviet Union, those with a population between 50,000 and 100,000 people; in Africa, those with a population between 20,000 and 50,000 people; and in Asia, those with a population between 20,000 and 250,000 thousand people are called medium towns.

In Iran, the discussion of the medium (middle) cities has first been formally reported in (CETIRAN) land use planning reports, and the classification of the population between 25,000 to 250,000 people have been selected for these cities. In the studies on land use planning or designing (Stage I, 1985), the classification of small, medium and big cities have been

presented as follows:

- Small cities (with the population less than 50 thousand people)

- Small-medium cities (with the population 50 to 100 thousand people)

- Big medium cities (with the population 100 to 250 thousand people)

- Medium cities (with the population 250 to 500 thousand people)

- Big and very big cities (with a population of 500 thousand to 2 million).[52]

Shape and meanings of the city

The city's shape is a reality independent from the observer, which has been constantly existed and some messages are sent from it. It is in the urban landscape, where the city's shape becomes a direct tangible quality. The power and ability to create a mental image of the city's shape in the minds of a person is a capability in the city's shape. Properties of the city's shape can create a mental image of it and a sense of place in the citizen's mind. The city's shape, which means the mental imagination of the city- including degrees of perception, identification, recognition, and distinction, linking the elements and components, linking and relating the city's shape and activities and linking the events, time and place and relating the non-spatial meanings and values- is the creation of a strong mental image of the city that provides the basis for the interaction of people with the environment.[53]

Factors Effecting on Physical Formation of the City

Throughout history, various ideas have been raised about the roots of the city's formation. For example, from the point of view of Ibn-e Khaldun, the formation of the city has a social root, which has been formed following the luxuriousness and Nervousness of mankind and the necessity of the state existence. From the perspective of Gordon Childe, the formation of the city is rooted in economics, and Amos Rapapourth considers the cultural and psychological context to be effective in urbanization.[54]

52.Zebardast, E. (2003). City Size. Tehran: Urban Development and Architecture Studies and Research Center.42.

53.Habibi, S. M. (2005). From Shar to City.Historical Analysis of the Concept of City and its Physical Appearance: Thought and Effect (Second Edition ed.). Tehran: Tehran University Press.9.

54.Nasr, T. (2013a). Components of the Physical Identity of Iranian Cities. In T. Nasr, (Ph.D.) Thesis in Urban Planning (p. 101). Tehran, Tehran, Iran/Tehran: Islamic Azad University, Science and Research Branch.

Ibn Khaldun

(ˈɪbən kælˈduːn; ‡27 May 1332 – 17 March 1406) was a leading Tunisian Arab historiographer and historian. He is widely considered as a forerunner of the modern disciplines of historiography, sociology, economics, and demography.

- Savant, Sarah Bowen (2014). Genealogy and Knowledge in Muslim Societies: Understanding the Past. Edinburgh University Press. p. 77. ISBN 978-0-7486-4497-1.

Amos Rapoport

(28 March 1929, Warsaw)

Is an architect and one of the founders of Environment-Behavior Studies (EBS). He is the author of over 200 academic press in this field, including books that have been translated into foreign languages, including French, Spanish, German, Persian, Japanese, Korean and Chinese.

His work has focused mainly on the role of cultural variables, cross-cultural studies, and theory development and synthesis. His influential book House Form and Culture explores how culture, human behavior, and the environment affect house form.

- Ingold, Tim (2002) Companion Encyclopedia of Anthropology, Taylor & Francis.

Vere Gordon Childe

(14 April 1892 – 19 October 1957)

Was an Australian archaeologist who specialized in the study of European prehistory. He spent most of his life in the United Kingdom, working as an academic for the University of Edinburgh and then the Institute of Archaeology, London, and wrote twenty-six books during his career. Initially an early proponent of culture-historical archaeology, he later became the first exponent of Marxist archaeology in the Western world.

- Trigger, Bruce (1980). Gordon Childe: Revolutions in Archaeology. London: Thames & Hudson. ISBN 978-02310-5038-8.
- Green, Sally (1981). Prehistorian: A Biography of V. Gordon Childe. Bradford-on-Avon, Wiltshire: Moonraker Press. ISBN 978-0-2390-0206-8.

Christian Norberg-Schulz

(23 May 1926– 28 March 2000)

Was a Norwegian architect, author, educator, and architectural theorist. Norberg-Schulz was part of the Modernist Movement in architecture and associated with architectural phenomenology.

- Christian Norberg-Schulz (Store norske leksikon. Norske arkitekter og arkitektkontorer fra 1900 til i dag. Forfatter: Ketil Kiran).
- Christian Norberg-Schulz (Modern European Architecture Museum).

Kevin Lynch (1995) focuses on the relationship between the city's shape features and the issues associated with them. Lynch's groundbreaking study of the people mental images from the city they live, created a completely new field of research, called the Cognitive Mapping, and focuses on the mental processes involved in the creation and formation of such images. The importance nowadays added to the concept of "identity of the place" as a reciprocal relationship between the recognition processes of social activity and the shape features.

In Christian Nurburg Schultz's view, human relationship with the environment is more than a person's orientation towards his environment, as Lynch has simply referred to. One can make a person's friendship with a special environment by recognizing the deep process of identification. The identification of man with the place gives rise to the assumption that the place has a character- i.e there are features distinguishing one place from other ones and giving places a unique existence or the place' soul-according to which, the main object of the architecture is defined. Any given space or place (including the city) has its own specific text and content and induces a kind of dependency and sense of belonging and commitment among its inhabitants. These three elements, due to the special organization experienced over time, are the important elements of distinguishing that location from other ones, founding the spatial identity; So, the factors affecting the formation of the city's physical body can be considered as economy, community, and nature.

The economy includes the type of livelihood, capital, labor, management, existing politics, and laws and bills, barriers and limitations. The community consists of historical backgrounds of the way of thinking and worldview, population, language, race, religion, traditions, rituals, science, art, technology. Also, nature includes geographical and climatic features, weather, water, soil, wind, plant, sun, and topographic view and landscape.

In 'The Summaries of the Urban Landscape", Gordon Cullen. 1998 presents objective landscape techniques. The analysis of the mental landscape is important for Kevin Lynch, 1960 in "Image of the City". In the paper "Histology and features of the city", Karl Kropf raises the morphology of the city. From his point of view, morphology is a factor in distinguishing a city from another, and the same factor shows the personality and

Otto Koloman Wagner

(13 July 1841 – 11 April 1918)

Was an Austrian architect and urban planner, known for his lasting impact on the appearance of his home town Vienna, to which he contributed many landmarks.

- Sarnitz, August (2005). Otto Wagner: Forerunner of Modern Architecture. Taschen. ISBN 3-8228-3647-8.

Christopher Wolfgang Alexander

(born 4 October 1936 in Vienna, Austria)

Is a widely influential British-American architect and design theorist, and currently emeritus professor at the University of California, Berkeley. His theories about the nature of human-centered design have affected fields beyond architecture, including urban design, software, sociology, and others.

- "Book of Members, 1780-2010: Chapter A" (PDF). American Academy of Arts and Sciences. Retrieved 14 April 2011.
- "Christopher Alexander". www.pps.org.

identity of the city.[55] Wagner believes that time and space, human beings, and action create an inseparable identity; therefore, the meaning and the action are intertwined elements, which must be taken into account to understand the identity of the place and time.[56] Regarding the definition of identity in buildings and cities, Christopher Alexander believes that the identity of each space is shaped by the continual repetition of a particular pattern of events occurring in that place. The identity of any city or building is affected by the event in which it occurs, more than anything else.[57]

55.Karbalayi Nouri, R. (2006). Identity, City, Memory. International Conference on New Towns (p. 373). Tehran: New City Development Corporation Press.

56.Ghasemi Esfahani, M. (2006). Sense of Place in the New Towns. International Conference on New Towns (p. 325). Tehran: New City Development Corporation Press.

57.Alexander, C. (2002). The Timeless Way of Building. (Q. B. Mehdi, Trans.) Tehran: University of Shahid Beheshti Press.52.

58.Nasr, T. (2013a). Components of the Physical Identity of Iranian Cities. In T. Nasr, (Ph.D.) Thesis in Urban Planning (p. 136). Tehran, Tehran, Iran/Tehran: Islamic Azad University, Science and Research Branch.

Environmental perception

Human perception of the environment is one of the most central issues of environmental psychology. It is a process by which a person chooses the necessary data from his environment according to his needs. Therefore, it is a targeted process and depends on the culture of attitude and value governing the receiver thinking. Hence, the perception process is always associated with the knowledge of man from the environment.[58]

Thomas Gordon Cullen

(9 August 1914 – 11 August 1994)

Was an influential British architect and urban designer who was a key motivator in the Townscape movement. He is best known for the book Townscape, first published in 1961.

- "Library of Congress LCCN Permalink 61016682". Lccn.loc.gov. Retrieved 3 February 2018.
- "Library of Congress LCCN Permalink 73161799". Archived from the original on 10 July 2012.

Karl Kropf

Is Director of urban design consultancy Built Form Resource and Senior Lecturer at Oxford Brookes University. He has more than thirty years of experience in the fields of urban design, landscape architecture, architecture, and historic conservation, working in the UK, France, and the US.

- https://www.researchgate.net/profile/Karl_Kropf

The city's skeleton is a complex of the spine and an interconnected network of utilities and various urban elements, giving cohesion to the totality of city, and its texture is continued throughout the city to its distal components i.e residential districts. This complex illustrates total features and characteristics of the city, including artificial elements (mosques, churches, palaces, walls, and fences) and natural elements(mountains, hills, rivers, seashore and massive vegetation coverings and the like. The city's skeletal elements, which form the city iconic network, are the identifying tools and inflection points in the city, applied to create a memory of the city and its legibility, through their specific spatial organization.[59]

Rivers, lakes, vegetation and animal species of particular points and other natural factors formed as the main symbol of a city and introduce themselves as the main elements of the city identity, play an important role to recognize the city and its inhabitants. In addition to the natural elements that depict the appearance of a city, the buildings of the network of roads, public spaces, complementary elements of space, such as urban furniture, and in general, the artificial environment, if they are identified, can display a different perspective

59.Hamidi, M. (1997). Structure of Tehran City. Tehran: Tehran Engineering and Technical Consulting Organization Press.87.

and landscape of each city's physical body ; The identification of these dimensions should be consistent with the culture and beliefs of the inhabitants of the city. On the other hand, the structure of cities in the estimation of the thinking and worldview of nations and civilizations. The physical image and locations of our city reflect the mental structures of its inhabitants or determine the method of religious beliefs that have long influenced the formation of cities so that Mumford considers the spiritual issues as one of the main causes of the cities formation. It is also imperative to mention that symbols and signs are potential means to explain the meaning. The importance and necessity of the presence of the symbol in the city are so much that Kevin Lynch deems a network of symbols as necessary to create legibility in the city.[60]

60.Lynch, K. (1960). The Image of the City. Massachusetts: Mass Cambridge Massachusetts: MIT Press.

61.Turner, T. (2000). City as Perspective. (N. Farshad, Trans.) Tehran: Urban Planning, and Processing Co.19-20.

62.Ahmadi, B. (1994). Modernity and Economic Thought (First Edition ed.). Tehran: Markaz Press.11.

The evolution of urbanization in Iran

Although the history of urban development and urban planning in Iran is rooted in the history of the urbanization of this land and dates back to a few thousand BC, there is still a belief that the thinking of urban development and urban planning in Iran is imported thinking. Some reasons, including the following, can be searched for this way of thinking.

Many of the physical effects of ancient urban development in Iran have been eliminated due to the impact of environmental and climatic elements or political and historical adversities, and only very few evidence has remained from them.

The Parthian Empire

(247 BC – 224 AD)Was a major Iranian political and cultural power in ancient Iran. Mithridates I of Parthia (r. c. 171–138 BC) greatly expanded the empire by seizing Media and Mesopotamia from the Seleucids. At its height, the Parthian Empire stretched from the northern reaches of the Euphrates, in what is now central-eastern Turkey, to eastern Iran. The empire, located on the Silk Road trade route between the Roman Empire in the Mediterranean Basin and the Han dynasty of China, became a center of trade and commerce.

- Brosius, Maria (2006), The Persians: An Introduction, London & New York: Routledge, ISBN 978-0-415-32089-4
- Bickerman, Elias J. (1983), "The Seleucid Period", in Yarshater, Ehsan (ed.), Cambridge History of Iran, 3 (1), London & New York: Cambridge University Press, pp. 3–20, ISBN 978-0-521-20092-9.

The Achaemenid Empire

(550–330 BC) Was an ancient Iranian empire based in Western Asia founded by Cyrus the Great. Ranging at its greatest extent from the Balkans and Eastern Europe proper in the west to the Indus Valley in the east, it was larger than any previous empire in history.

- Turchin, Peter; Adams, Jonathan M.; Hall, Thomas D (December 2006). "East-West Orientation of Historical Empires". Journal of World-systems Research. 12 (2): 223. ISSN 1076-156X. Retrieved 12 September 2016.

among the few urban developments works discovered and the remained, only a very small part, has been scrutinized and introduced scattered. In contemporary urban development, no much evidence is observed about the thinking performance of ancient and enlightened Iranian urban development. The contemporary pluralist urban development has turned the urban environment into a handful of land usage and disproportionate construction styles, and completely deprived it of the unity existed in the regular environment of the predecessors, which has been praised.[61] Modernity, with the concept of rationalism and the destruction of traditional beliefs and habits, along with passing the financial and intellectual methods, has also transformed the ancient architectural and urban development life.[62]

Ancient period and its empires

The ancient period began about in 19th century B.C. and continued until the 7th century A.D. According to evidence and resources available, the process of urbanization and urban development in this period can be studied in five historical sections, which coincides with the emergence of governmental systems. The of Medians empire was accompanied by the beginning of Iran civilization, lasted from the 9th to 7th century B.C. The Achaemenid empire covered the 7th to 4th century B.C., and in the 3rd century AD replaced with Seleucids.

The 3rd century B.C. to 3rd century A.D. corresponds to the period of the Parthian sovereignty. From then on, until the 7th century A.D., began with the Islamic Muslim invasion to Iranian urban development, the Sassanians came to power in ancient history. Generally, the spatial construction of Iranian ancient city consists of two distinct parts: one was the state citadel, and the other was the “SHAR” or the main city, which formed the basis of the spatial divisions of the city.[63]

63.Habibi, S. M. (2005). From Shar to City.Historical Analysis of the Concept of City and its Physical Appearance: Thought and Effect (Second Edition ed.). Tehran: Tehran University Press.30-36.

*In Iranian culture, “**SHAR**” means the city, and the word “ **SHAHRESTAN** “ means a county or a town or a big city divided into several sections and governed by the governor.*

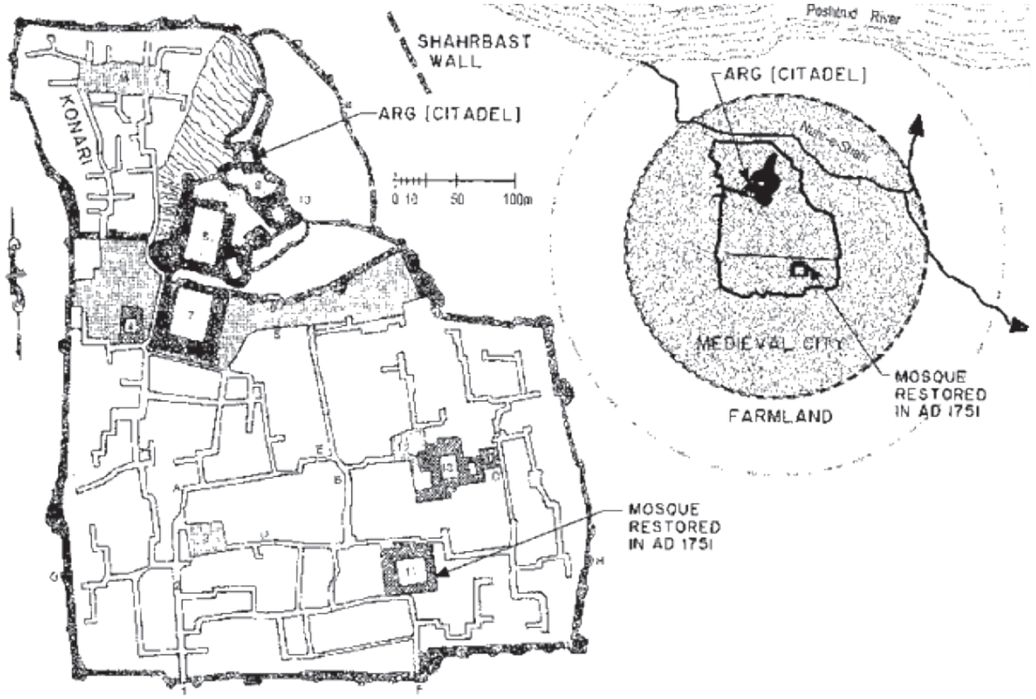
- Author

This traditional allocation and division of space were formed during the Achaemenid empire and gradually evolved into a structured form in the Sassanid empire. The governmental citadel, later called “Kohndzh” or “Qahandeh” by Muslims, was a strong citadel or castle with political and governmental functions, from where, the organized urban management of the city was applied to the city’s social and economic constitution; That is why it has been the residence of his ruler, his family, and his relatives and his guardian and security forces. The Shah’s palace, the relative’s domicile, the treasury barn, courts, military installations, and soldiers houses, temples and main fire temples, and defensive fortifications constitute the complex of the physical body of elements of this section. Due to the key role and strategic importance of governmental citadel in the city, it was located in a high place in the center of the city in order to provide a reliable and effective defense against internal and external enemies. In the mo rphology of the ancient cities of Iran, “SHAR” (or the main city), is part of the city’s physical body, inhabited by its citizens. Zoning or urban districts form the basis of its physical divisions. The physical foundation of this section, called the “Shaarestan” in the Islamic period, can be defined with a set of houses, temples

and fireplaces, the main Bazar and defensive fortification. Occasionally, the “SHAR” itself was organized and arranged with other sub-divisions, the middle “SHAR” and outer “SHAR” (Rabaz in the Islamic period), which reflects the class system and aristocracy ruling the city.

Another segregation observed in the urban development of this period is functional segregation, or in other words, the traditional separation of urban use. The ancient city of Iran has had a set of defensive - military, governmental, commercial, productive (workshop and agricultural), religious and residential. The physical elements and spaces occupying this function (ie, the governmental citadel, the Bazar, temples, houses, farms, workshops, and defensive fortifications) have been clearly separated and each one has been located in a certain place in the city.

In fact, the location and distribution of urban uses throughout the city have been done according to their performance criteria, which is considered as one of the most important principles of urban planning. Based on this criterion, the interference and adjacency of heterogeneous used have been avoided in the organization of urban uses. This is still considered as the main approach and has an important place in urban planning, whether in modern urban development and town development or in old urban planning.



ARG-e-BAM(Bam Citadel) south of Iran

Spatial organization (spatial determination of principles and concepts)

The study of the spatial foundation and urban morphology of the ancient Persia shows significant evidence of the performance of urban planning rules and criteria of this period. These rules have crystallized in various ways on the cities' body and reflected their effects on urban space organization. Unfortunately, such spatial effects, either due to climate effects, political or historical adversities, have not been retained or properly studied, so that today it can be used accurately with all dimensions to determine and depict the delicacies and details of Iranian urban development. However, the amount that has been remained and studied can be effective to discover and understand many facts and highlights the great points of traditional urban development of Iran.

The study of the remaining texts and the remnants of ancient Persia cities, with all of its shortcomings and deficiencies, reflects the fact that the criteria and thoughts of urban planning have been crystallized in various dimensions and appeared physically in the body of the city. These thoughts first appeared in the construction of single monuments and urban elements (such as the temple), then they were continued with the construction of urban collections, and finally, have been occurred in space with the emergence of complete urban samples. Thus, they have been turned from the soul to the physical body in various dimensions and have been visualized spatially.

Accordingly, urban development and urbanization in Iran refer to three great historical experiences and periods; the spatial crystallization of the city in each of these periods, in addition to the historical continuity of the concepts of the previous periods, has both its evolved form and the new concepts, which is unique to the same period. These periods include:

First period

This is the birth and emergence period of urbanization and urban development from the 9th to 4th century BC. This section has been lasted six centuries and covers the governance period of the Medes and Achaemenid dynasties. In this period, the city, urbanization and urban development were found-

ed under the influence of cultural exchanges and social interactions with urban civilizations located in Mesopotamian Plain, in Median land and organized in Achaemenid land.

The urban planning thinking of the Median period, which is significantly visible in the "Hegmataneh" (Ecbatana)construction, is defensive-military thinking that reveals its effects in locating the city and its physical face. The emergence of military and castle cities, which have a special place in the typology of Iranian cities, has been the direct consequence of this thinking. The city, in the first place, was a tough and strong castle over a hill or strategic point, and its development was heavily influenced by defensive and military strategy.

For this reason, in the urbanization of the Median period, an element that played a key role and was carefully designed and planned, was a governmental citadel, i.e city's defensive castle and fortifications, and its internal divisions. Other urban elements such as the Bazar, urban districts, and "SHARESTAN" in the spatial organization of the city did not have a prominent position and evolved shape, and were in fact in their early stages.

When this urban development thinking comes to its Achaemenid period in its historical movement, is transformed according to time requirements , creating another organization in space: the Military - castle city of "Media" is replaced with Persian military- commercial and commercial-agricultural city (Achaemenid); Urban development is liberated from the monopoly of military- defensive thinking and organizes urban and regional space in accordance with Achaemenid urban development thinking. The first phase of this program, on a macro scale, follows the division of land and empire territory into the country, clan, village, and home. In addition, some programs are being implemented at the local level for urban organizing. Within the frame of these programs, the city is the main site of which, in addition to the divisions that classify the social body of the city, some divisions are also applied to the spatial organization of the city, which finds a definite form in its body.

The spatial division and allocation of the city's physical body to three branches of the governmental citadel, the medial "SHAR" and the outer "SHAR", which is the basis of the spatial divisions of the city throughout the ancient period, is first apparent in the spatial organization of the Achaemenid city.

The Seleucid Empire

Was a Hellenistic state ruled by the Seleucid dynasty which existed from 312 BC to 63 BC; Seleucus I Nicator founded it following the division of the Macedonian Empire vastly expanded by Alexander the Great. Seleucus received Babylonia (321 BC) and from there expanded his dominions to include much of Alexander's near-eastern territories. At the height of its power, the Empire included central Anatolia, Persia, the Levant, Mesopotamia, and what is now Kuwait, Afghanistan, and parts of Pakistan and Turkmenistan.

- Jones, Kenneth Raymond (2006). Provincial reactions to Roman imperialism: the aftermath of the Jewish revolt, A.D. 66-70, Parts 66-70. University of California, Berkeley. p. 174. ISBN 978-0-542-82473-9. … and the Greeks, or at least the Greco-Macedonian Seleucid Empire, replace the Persians as the Easterners.
- Society for the Promotion of Hellenic Studies (London, England) (1993). The Journal of Hellenic studies, Volumes 113-114. Society for the Promotion of Hellenic Studies. p. 211. The Seleucid kingdom has traditionally been regarded as basically a Greco-Macedonian state and its rulers thought of as successors to Alexander.

Alexander III of Macedon

(20/21 July 356 BC – 10/11 June 323 BC)

Commonly known as Alexander the Great. was a king (basileus) of the ancient Greek kingdom of Macedon and a member of the Argead dynasty. He was born in Pella in 356 BC and succeeded his father Philip II to the throne at the age of 20. He spent most of his ruling years on an unprecedented military campaign through Asia and northeast Africa, and by the age of thirty, he had created one of the largest empires of the ancient world, stretching from Greece to northwestern India.

- Bloom, Jonathan M.; Blair, Sheila S. (2009) The Grove Encyclopedia of Islamic Art and Architecture: Mosul to Zirid, Volume 3. (Oxford University Press Incorporated, 2009), 385; "[Khojand, Tajikistan]; As the easternmost outpost of the empire of Alexander the Great, the city was renamed Alexandria Eschate ("furthest Alexandria") in 329 BCE."
- Golden, Peter B. Central Asia in World History (Oxford University Press, 2011), 25;"[…] his campaigns in Central Asia brought Khwarazm, Sogdia, and Bactria under Graeco-Macedonian rule. As elsewhere, Alexander founded or renamed a number of cities, such as Alexandria Eschate ("Outermost Alexandria", near modern Khojent in Tajikistan)."
- "Alexander the Great (356–323 BC)". UK: BBC.

Shush has been one of the military cities of ancient Iran

Hegmataneh in western Iran, one of the first cities built in ancient Iran

Since then, the Bazar element finds a definite place in the physical body of the city and its function plays a significant role in the city's economic life. The mechanism of genesis, transformation, and evolution of the city and urban development in Median and Achaemenids periods, known as Persian style or Persian method in urban development, ends with the "Alexander the Great" attack in the third century BC; and the middle period in ancient urban development starts.

Second period

This is the period of combining and integrating both Iranian and Greek urban development, and foundation of autocracy cities with the style of government-Greek cities on the Iran national statue. This stage began with the invasion of Alexander the Great in the 3rd century BC and coincides with the short period of the Seleucids sovereignty in Iran. In this period, the urban development politics of the Medes and Achaemenids, i.e Persian style in urban development, which was derived from Mesopotamia, became native in Median land and evolved in the Achaemenid government, was invaded by the Greek urban development method and, to some extent, lost its unity and integrity. For this reason, the physical-spatial formation of the city has undergone the change and exhibited other symbols. One of the urban development activities of the Seleucids was the construction of the new-founded cities and towns and in the Greek urban development style, using the Hippodarius chess grid, which was often commercial and strategic routes.[64] Another measurement of Seleucid urban development is the reconstruction of many urban centers and ancient villages- cities of Iran using the Greek urban development method. In most cases, Alexander and his successors (Seleucid), repaired and rebuilt old cities and ancient residential centers, and changed them accordingly to their desires. In this regard, fertile areas such as Kermanshah, Borujerd, and Hamedan were considered by them, some changes were made in cities and centers such as "Kangavar", "Nahavand", and "Dinor", and the Greek installation was made; "Hegmataneh" was rebuilt.[65]

Hellenization or Hellenisation

Is the historical spread of ancient Greek culture, religion and, to a lesser extent, language, over foreign peoples conquered by Greeks or brought into their sphere of influence, particularly during the Hellenistic period following the campaigns of Alexander the Great in the fourth century BC. The result of Hellenization was that elements of Greek origin combined in various forms and degrees with local elements; these Greek influences spread from the Mediterranean basin as far east as modern-day Pakistan. In modern times, Hellenization has been associated with the adoption of modern Greek culture and the ethnic and cultural homogenization of Greece.

- Zacharia, Katerina (2008). Hellenisms: Culture, Identity, and Ethnicity from Antiquity to Modernity. Ashgate Publishing, Limited. ISBN 978-0-7546-6525-0.
- Koliopoulos, John S.; Veremis, Thanos M. (2002). Greece: The Modern Sequel: From 1831 to the Present. New York University Press. ISBN 978-0-8147-4767-4.

Ecbatana

Was an ancient city in Media in western Iran. It is believed that Ecbatana is in Hagmatana Hill (Tappe-ye Hagmatāna), an archaeological mound in Hamedan.

According to Herodotus, Ecbatana was chosen as the Medes' capital in the late 8th century BC by Deioces. Under the Achaemenid Persian kings, Ecbatana, situated at the foot of Mount Alvand, became a summer residence. Later, it became the capital of the Parthian kings, at which time it became their main mint, producing drachm, tetradrachm, and assorted bronze denominations. The wealth and importance of the city in the Persian empire are attributed to its location on a crucial crossroads that made it a staging post on the main East-West highway.

In 330 BC, Ecbatana was the site of the assassination of the Macedonian general Parmenion by order of Alexander the Great.

- Stausberg, Michael; Vevaina, Yuhan Sohrab-Dinshaw (2015-04-27). The Wiley-Blackwell Companion to Zoroastrianism. John Wiley & Sons. ISBN 9781118786277.
- "ECBATANA". Iranica. Retrieved 10 April 2014.
- Sulimani, Iris (2011). Diodorus' Mythistory and the Pagan Mission: Historiography and Culture-heroes in the First Pentad of the Bibliotheke. Leiden: BRILL. p. 204. ISBN 9789004194069.

The Medes

Were an ancient Iranian people who spoke the Median language and who inhabited an area known as Media between western and northern Iran. Under the Neo-Assyrian Empire, late 9th to early 7th centuries BC, the region of Media was bounded by the Zagros Mountains to its west, to its south by the Garrin Mountain in Lorestan Province, to its northwest by the Qaflankuh Mountains in Zanjan Province, and to its east by the Dasht-e Kavir desert.

- Encyclopædia Britannica Online Media (ancient region, Iran)

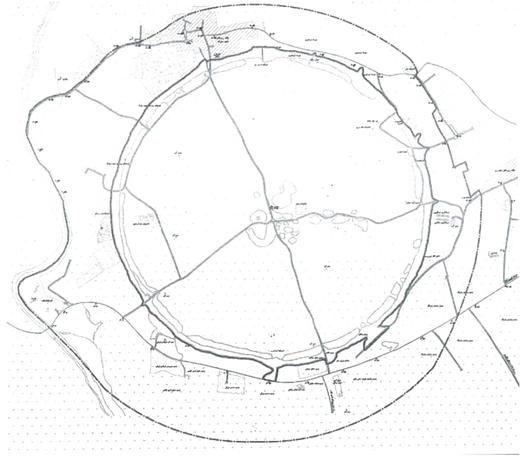
64.Taghavi Nezhad Dilami, M. R. (2002). Architecture, Urban Development and urbanization of During the time passing. Tehran: Yasawoli press.80.

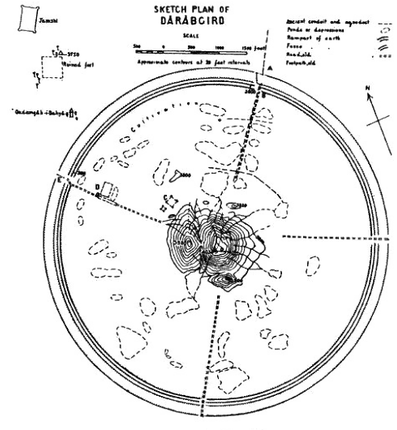
And Susa and Fasa cities have undergone some changes. One of the most important elements in installed in these cities, following the Greek urbanization, was the element of the field as a social and public space that has been added to the elements of the physical organization of the cities. In Seleucid period, which lasted less than a century, the city and urban development generally continued to grow, but experienced the transition period from an indigenous and Iranian style to a mixed way called "Parsi-Helleny", and revealed its evidences in the spatial organization and the physical formation of the city's physical body in different parts of the country.

The third period

It is the flourishing period of urbanization and urban development, and generalization of its expansion throughout the land. This period, which lasted from the 3rd century BC to the 7th century AD, coinciding with the period of the Parthian and Sassanid sovereignty in Iran, is considered as the last stage in the history of urbanization and urban development of ancient Iran. This period was accompanied by the emergence of a Parthian style in urban development and ended with a Muslim invasion in the first century AH.

The city became the key element to organize the national space during this period. Until that time, city and urban development were b being manifested in the concept of single cities in space, which often was capital centers and a symbol of the saber-rattling of the ruling dynasties; whereas urbanization and urban development were shaped on a massive scale in space after that .i.e a network of cities that had diverse functions and used them in the urban area. Urban thinking and urban planning criteria of the ancient period in its historical dynamism, reaching this stage, obtains the peak of its evolution and defines and establishes the true identity of the ancient city of Iran, as we know today. In the division of the country

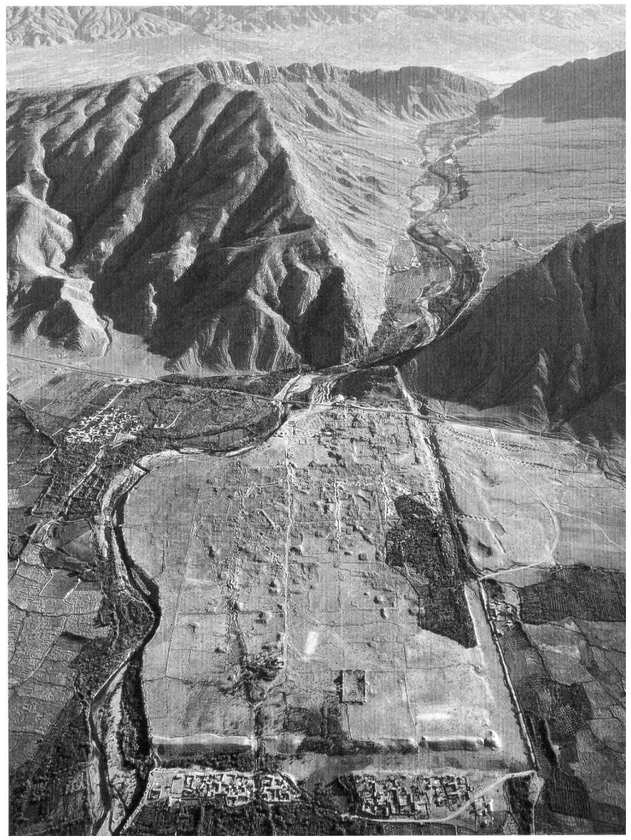




65.Taghavi Nezhad Dilami, M. R. (2002). Architecture, Urban Development and urbanization of During the time passing. Tehran: Yasawoli press.79.

Darabgerd and Goor city are two cities that built during the second period of urban development in ancient Iran.

for its more administration, Parthians paid more attention to the cities, and principally, provided a kind of internal autonomy to the states and the cities.[66] They are the founder of a type of city that is called circular or around cities in urban morphology. These centers were often found in cities with a circular design whose design and construction were heavily influenced by defensive criteria. This reveals the insecurity of Iran in the Parthian period. Some historical sources regard this urban form as an adaptation of the principles of West Asian's old urban development or derived from the design of the military camps of Assyria.[67] The development of the castle making art and the construction of defensive fortifications in the architecture and urban development of the Parthian period can be analyzed in conjunction with this urban development method. In the Sassanid era, a vast network of new-founded towns, known as Shah's cities, was built with the principles of Sassanid urban development by kings, especially powerful kings like Ardeshir, Shapur, and Ghobad. The scope of Sassanid urban development activity was such that today it has created the belief that most of the ancient cities were formed during the Sassanid era or the ancient cities of the past periods that expanded and prospered in this period. Ten city constructions have been named in the list available from state capitals in the Sassanid era.[68] The construction of port cities in the ancient period should also be attributed to the Sasanid era. They established a number of port cities, including Rishahar and Siraf, on the northern coasts of the Persian Gulf, to develop maritime commerce. The main factor for urban development and urbanization in the Sassanid era is the link between the national economy and the urban economy. Cities have been the main focus of trade exchanges; therefore, the government administration has been highly dependent on urban economics.



Aerial photo of the historic city of Bishapour in southern Iran

66.Nehchiri, A. H. (2000). Historical Geography of Cities. Tehran: Madreseh Press.290.

67.Girshman, R. (1993). Iran from the beginning to Islam (10 ed.). (M. Mohammad, Trans.) Tehran: scientific and cultural.326.

68.Ashraf, A. (1974). Historical Features of Urbanization in Iranian- Islamic Period. Social Sciences Letter, 1(44),32.

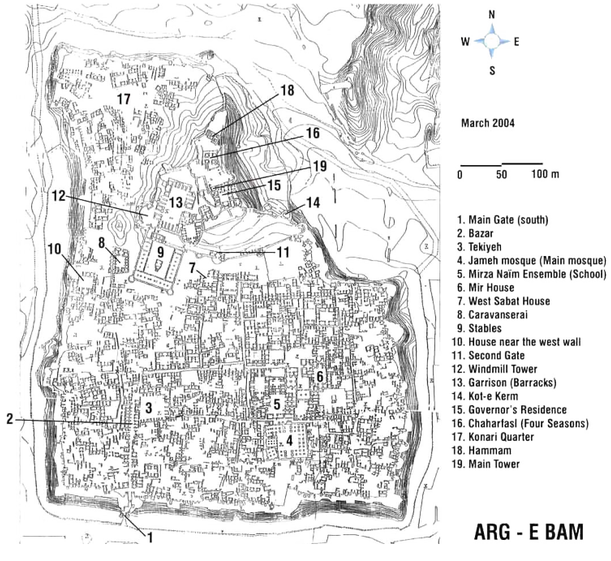
In the last period of the history of ancient urbanization and urban development (Parthian and Sassanid), urban development criteria and urban planning regulations are being used to organize urban spaces and reach the peak of their evolution. The spatial structure of the city's physical body can be defined and described as a manifestation of these criteria, with the following characteristics:

1) Urban space is separated in its entirety by some segregation. The result of this separation is the allocation and division of the physical body of the city into three parts of the governmental citadel, the middle town, and outdoor city.

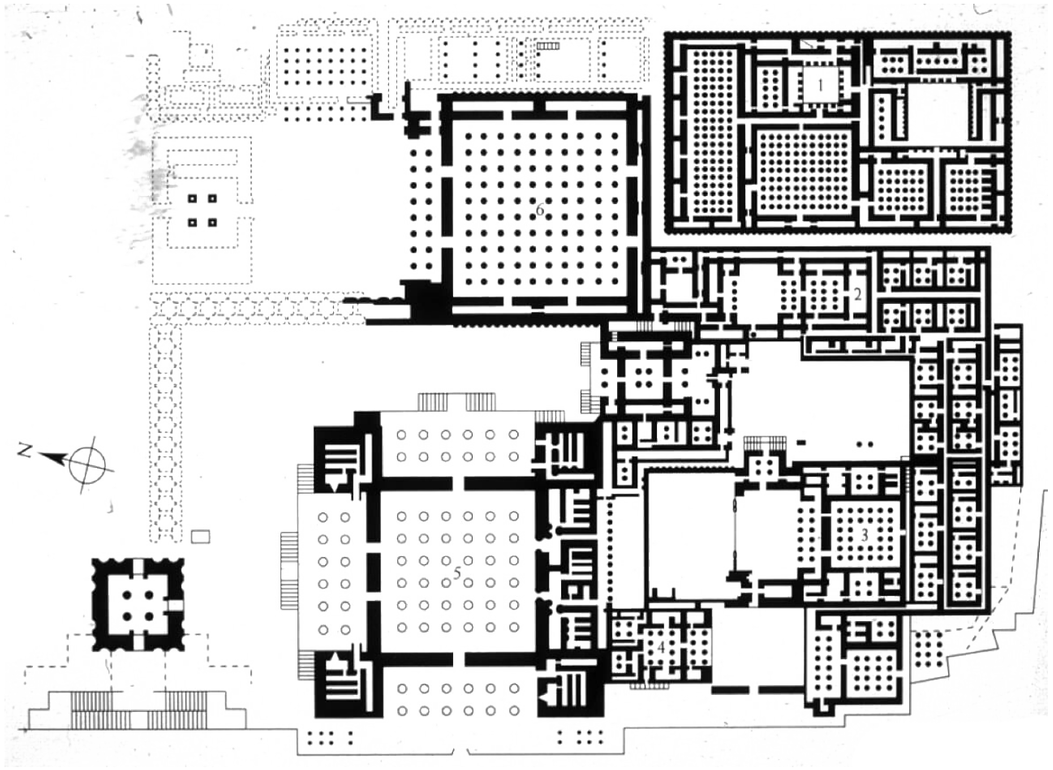
2) Among the triple spaces of the city, whether in the "Parthian" city or in Sassanid city, the governmental citadel is considered as the most prominent urban space.

The style of urban development commonly used by the Parthians and the Sassanid are known as the "Parthi" method or style of urban development in the ancient period of Iran. It seems that in this urbanization, building with consciousness, and establishing with previous design and plan,i.e the planned urbanization, has been of a prominent place in the complex of urban activities. This is confirmed by similarities between the design of the Sassanid. The results of archaeological reviewing and historical studies describe these maps in the form of a rectangle. The intersection of the main axes in its internal networking has imagined the cross shape.[69]ARG-e-BAM(BamCitadel) is one of the cities that built based on this system.

ARG-e-BAM(Bam Citadel) south of Iran



69.Mashhadizade Dehaghani, N. (1994). Analysis of Urban Planning Features in Iran. Tehran: University of Science and Technology of Iran.217.



Map of historical city of Parseh (Persepolis) in southern Iran

Conclusions from previous discussions

The results of these studies indicate that the traditional Iranian urban development system has been based on a set of old, but unwritten criteria and regulations. These regulations are a combination of economic, environmental and worldview features or a perspective of the existence that has been faced to man. Accordingly, some factors such as water, defense, the functional unity, performances and the types of spatial, functional and classical segregations have been considered in urban development. Works that have remained from the spatial-physical body of the Iranian city from Median to Sassanid, with all their inadequacies and limitations, show well the performance of mentioned thoughts and their transformation from soul to body.

Tracking these planning thoughts and the spatial organization arisen out of which, while emphasizing the endogeneity of urban development thinking in Iran, can be regarded as a valuable resource for reviving past values in contemporary urban development. The essence and motive of many of these thoughts, as persistent principles, illustrate the continued ability of the traditional, alive and dynamic principles that can be used in different conditions and situations.

There is no doubt that life is evolutionary and developmental; and dynamism, growth, and variability are undeniable properties of existence, and urban development is not excepted from them. But the semen of this dynamics is undoubtedly in the past. It is born from the past and is the result of the message of the past, and of course, have preludes for the future. One of the points that have been observed in Iranian urban development, even until the end of the last century, was the continuity and historical sustainability of traditional principles and concepts;

However, the aspects of innovation and adaptation to time are also considered. But today, what is in front of the Iran urban development, because of the disconnection from historical past, evokes nothing except the maid, separation, and irregularities. The issue of the society modernism moreover, has targeted the transformation of the urban community, in the physical dimensions of the city, more than anything else, and greatly altered the ancient concepts of urbanization.

Chapter Three

Chapter Three: AN INTERPRETATION OF READING OF THE HISTORICAL CITY OF SHIRAZ (SHIRAZ AS A BIG RESEARCH SAMPLE)

Introduction-Chapter Three

- Reading the urban morphology of Islamic cities in Iran and city formation based on morphology
- Where is the studied case?
- Shiraz and its formation in the context of urban morphology
- Parameters affecting on Iran cities formation
- Formation of Shiraz City according to effective parameters
- The history readout in the formation stages of Shiraz city
- Formation of Shiraz city core
- A summary of case studies (Shiraz)
- Urban morphology and organizational structure of urban districts
- Urban structure formation based on urban sign focuses
- The main structural elements and features of the city
- Expansion of the city) construction on the margin of the historical city) and its effects on the historical texture of the city
- Structural changes and the historical texture skeleton
- Influence on the structure of the passages network in the historical texture
- Read the historical texture as designing in it
- Urban Texture in Shiraz City

Introduction-Chapter Three

To provide meaningful architecture is not to parody history but to articulate it.

Daniel Libeskind

It is not possible to determine precisely the principles and process of the Iranian cities formation, due to the lack of sufficient informational resources and the studies at the time that there were still significant remains of the primary core of Iranian cities. In addition, understanding the formation process of Shiraz is not an exception to this. However, according to studies and surveys on urban morphology in the historical texture of Shiraz, stating the Shiraz formation process in the historical context will become somewhat more specified. Investigating the available informational sources from historical texts and documents, this chapter studies the historical trend of Shiraz formation and discusses the parameters affecting its formation from the climatic, social, defensive and religious aspects. This section of research draws the process of Shiraz formation and development, through step-by-step readout of available maps and documents.

The study of urban morphology and formation structure of urban districts, formation of city construction based on urban symbolic centers, urban development process - construction in historical city suburb -and its effects on the historical texture of the city, reading the historical texture as its design, and stating the formation structure of Shiraz over recent periods are the other parts of this chapter.

Reading the urban morphology – of Islamic cities - in Iran and city formation based on morphology

Urban morphology

Traditionally, urban morphology is defined as a systematic study of the form, shape, and design of urban areas. Also, the growth and function of the city would be added to this definition in some cases. Generally, the cities function plays an important role in urban morphology formation, so that each urban function creates a special morphology and landscape.

For example, the cities with multiple textile factories, typically provide a special form of urban morphology along with spinning factories, their own warehouses, and labor house; whereas, pilgrimage cities with minarets, finials, mosques, churches and religious schools create another kind of morphology. Urban morphology can be studied in three periods, in terms of time.

Historical genesis period: The geographical situation and historical backgrounds give birth to the city in this period. The city is gradually developed under the influence of various internal and external factors. The heart or the center of the city has administrative and religious attractions.

Patterning and formation period: The built streets and paths create the skeleton of the city, and it takes a special patterning by its different cores and their functions in this period.

And, the configuration period:

The morphological features of the city clearly illustrate the relation between its morphology and function in this period. This period is influenced by gravity and centrifugal forces.

By studying the structure of cities, it can be found that urban morphology emphasizes on several basic issues;

- Urban design analysis in the morphology of cities:

The city physical and topographic development , the streets system, properties of the buildings, the city development project in historical periods, Bazar places (its genesis and evolution) of urban cells, changes in the central part of cities, construction of land use and the effects of gravity and centrifugal forces will be studied in this method.

- Periodic behavior: different land-use periods, building forms and the correlation between the development of urban areas form and marginal belt with economic fluctuations and social class location will be emphasized in this kind of survey.

- Factors affecting on morphological changes of the city: In this regard, the study of the change in the form of buildings given the personal and public buildings, change of social and economic factors, analysis of landowners', planners' and architects' role in urban morphology, suburbs and new cities as well as interdependence between form and function are considered as the important issues to recognize urban morphology.

In addition to three mentioned factors, the climatic and topographic conditions, as well as ideological values, also play an important role to form urban morphology.

Islamic city

A full definition of the Islamic city and its properties has not been provided yet. But according to Naghizadeh point of view, the Islamic city is an evolving process, and always adapts itself to requirements of its time, place and inhabitants, of course with reference to Islamic principles. In other words, the Islamic city is a potential identity, which can have its own special interpretation and manifestation at any time and place, with due regard to technology, materials, knowledge, arts and native culture.

Parviz Piran believes that “such a general naming – i.e. the Islamic city - of the settlements in the Islam world is wrong. In this regard, he writes: “Such a naming, more by Western scholars, is mixed with some prejudices and incompatibilities, and adds a concept to confusion rather than enlightenment. Ultimately this application may be simultaneous with other misunderstandings and it would be supposed that the mentioned cities have been governed according to Islamic laws. Although some features of Islamic world cities, such as mosque, Azan, and to some extent the Bazar, are almost the same; and although in the large part of ancient world, the concept of the district has been similar in many cities, a diversity that exists in the cities of the Islamic world, in any respect, is so dramatic that it’s difficult to classify them in a group because of some similarities“.[70] In Mahmoud Tavassoli’s point of view, the Wests’ reason for such terminology is “location of the city (ies) alone in one Islamic city and its formation after the genesis of Islam.”

He poses the fundamental question that: “First, what should we do by the cities, whose core dates back to the pre-Islamic era? And secondly, can we consider any city as Islamic, albeit it has been formed in an Islamic country and in the Islamic era?”.

In this regard, he brings the opinion of two orientalists, accompanied by him in some way, and writes: Claude Cohen and Jan Oben believe that it is better to say that cities in “Dar al-Islam” than Islamic cities. Cohen shows that most of the features considered for Islamic city are in fact particular to cities of the Byzantine and Middle Ages and the Italian cities before the 11th century, and even to some extent, China and Central Asia“.[71]

Tavassoli emphasizes again on his opinion and writes: “although it is difficult to identify the pre-Islamic core due to extensive changes made in Iranian cities structure during the Islamic period, there is no doubt that many physical features of the architecture and urban development of the ancient Iran era have come to the Islamic era“.[72] In this regard, Ahmad Ashraf writes: Iranian cities in the Islamic era were formed from a mixture of Sassanid city with the new-founded Islamic cities.[73] Javier Doplanol believes that the Islamic city is a combination of intertwined blocks, ventilated undesirably through zigzag alleys, dark courtyards, and low-rise houses, endlessly segmented due to their small courtyards; and it seems that disorder is the most prominent feature of Islamic cities.[74]

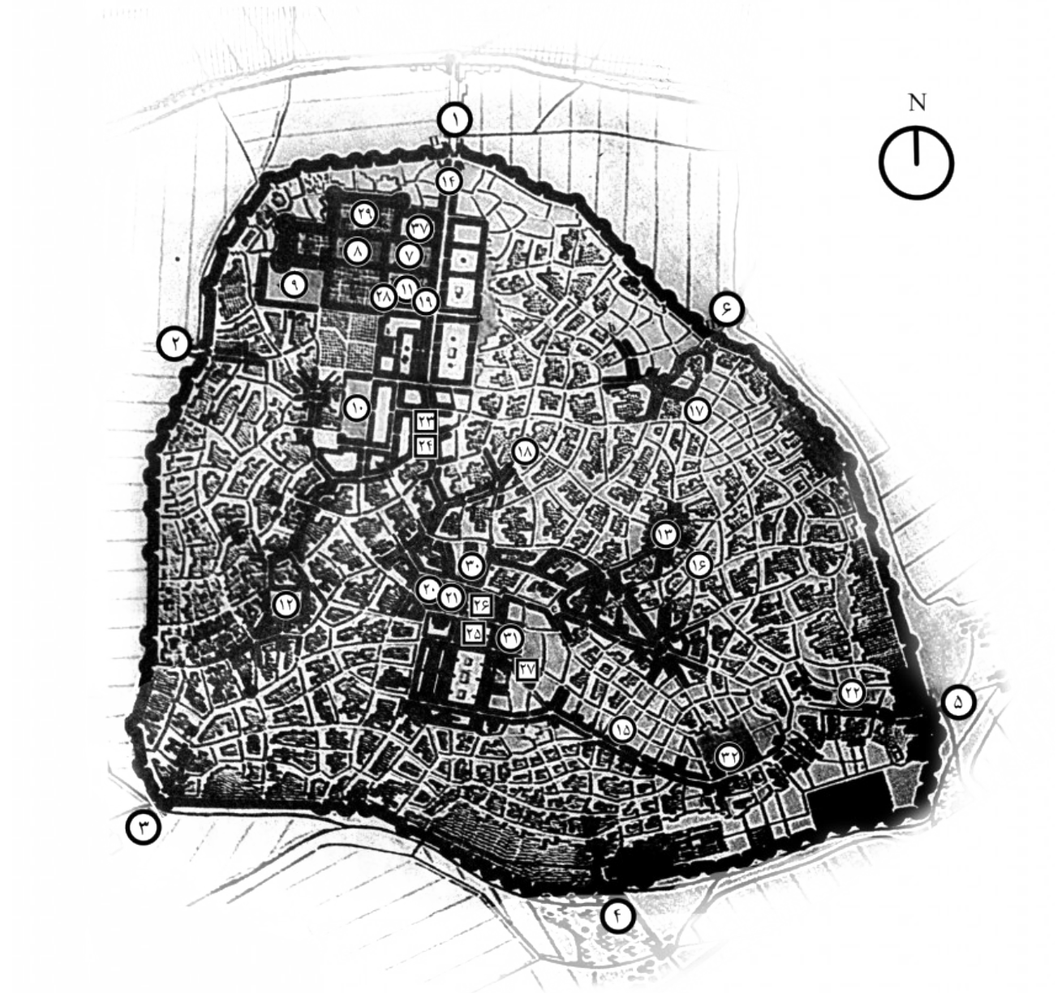
70.Piran, P. (2007). the Village Theory replaced by the City Theory. Andishe-ye- Iranshahr, 1, 75.

71.Tavassoli, M. (1990). City in Islamic Era lands (First Edition ed.). (A. Iraj, & M. Yahya, Eds.) Tehran: Asatir press.359.

72.Tavassoli, M., & Bonyadi, N. (2010). Urban Space Design. Tehran, Tehran, Iran/Tehran: Shahidi press.127.

73.Ashraf, A. (1974). Historical Features of Urbanization in Iranian- Islamic Period. Social Sciences Letter, 1(44), 20.

74.Hakim, B. S. (2002). Arabic-Islamic Cities: Principles of Urban Development and Construction. (M. A. Mohammad Hossein, & A. M. Aref, Trans.) Tehran, Tehran, Iran/Tehran: Ministry of Culture and Islamic Guidance.364.



شکل ۲- نقشهٔ شیراز در سال ۱۸۵۰ میلادی معادل با ۱۲۲۹ شمسی و ۱۲۶۷ قمری، تهیه شده توسط چریکف

دروازه‌ها:
۱- دروازهٔ اصفهان
۲- دروازهٔ باغشاه
۳- دروازهٔ کازرون
٤- دروازهٔ شاهدعلی‌الله
٥- دروازهٔ قصابخانه
٦- دروازهٔ سعدی

میدانها:
۷- میدان سرای
۸- میدان توپخانه
۹- میدان طویله
۱۰- میدان شاه
۱۱- میدان وکیل
۱۲- میدان کفش‌دوزی
۱۳- میدان مالفروشها

بازارها:
١٤- بازار وکیل
١٥- بازار بالاکفت
١٦- بازار سیدعلاءالدین حسین
١٧- بازار لب‌آب
١٨- بازار مرغ

کاروانسراها:
١٩- کاروانسرای وکیل کریمخان
٢٠- کاروانسرای روغنی
٢١- کاروانسرای گمرک‌خانه (انبار کالاها)
٢٢- کاروانسرای فیل (انبار کالا)

کارگاهها:
٢٣- کارگاه سید ولی
٢٤- کارگاه سنگ سیاه
٢٥- کارگاه شاهناصر
٢٦- کارگاه وکیل‌خان
٢٧- کارگاه میرزا ابراهیم

سایر بناها:
٢٨- مسجد وکیل کریمخانی
٢٩- سرای کهنه وکیل‌خان (ارگ کریمخانی؟)
٣٠- مسجد بناب حاجی
٣١- مسجد سردزک
٣٢- سیدعلاءالدین حسین
٣٣- سربازخانه (قشلاق)

Map of Shiraz city in 1850. Drawn by Cherikov

Properties of Islamic city in Iran

Islam is the dominant factor of Islamic city pattern, based on which, all indicators and elements of the city social and physical life are identified and systemized certainly.[75] Kohandezh and the governor›s seat (Dar-ol-Hokoomeh), Bazar, mosques, schools, and districts are all visual representation of the system of governance, guilds, religious communities and nation (Ummah) in Islamic city.

75.Ayazi, S. A. (2008). Explanation of Islamic Thought around the City and Urbanization with an Emphasis on Religious Texts. The first Conferences of Islamic Utopia (p. 102). Isfahan: Isfahan University.

Urban renovation is being continued as one element of the city dynamics. The people themselves embark to do so according to requirement, and all of the custodians and managers of the city move towards this dynamics.[76] In general, despite the various differences between traditional Muslim cities, two factors including urban construction and the city texture can be considered as commonalities of spatial-physical properties of Islamic cities, which include the inner and outer complexity. The mosque was added to Islamic cities structure as a new element. According to historical documents, the first Islamic state was built in the mosque.[77]

Islamic cities morphology

Perhaps, the traditional Islamic city would be the manifestation of a meander in twisted alleys at first glance.

In the top view of the city displays itself in a crystalline form, with cubes and charters-which are in fact the community of side- by- side houses, the cut spaces, everyday life commute, convoluted paths and the tied roads that seem to end nowhere.[78] According to Moghaddasi, the streets of Shiraz were so contracted that even human or animals could not cross it.[79] In the old texture of Tehran, the paths were narrow and twisted; and the buildings had protrusions to path space to create more shadows. The orientation of houses and, consequently, the street plans had partly environmental logic. The streets and alleys were continued to the front of the entrance door but did not give any picture of the nature or dimensions of the district.[80] The fact is that villages, towns, and Islamic cities were rarely matched with the geometric symmetry of urban design. In order to create distinct areas of the public space and the traffic system, the structure of the Islamic city is limited to the spaces between houses and spaces such as shops and chambers. While the social composition of the Iranian city is matched up with Islamic needs, its› morphology is to a large extent the logical response of culture to the natural environment, especially the topography and climate of the Iran plateau. The climatic conditions of Iran Plateau and other Middle East countries have caused the central yard system to be considered as the dominant model, for most Islamic cities of the mentioned region, to achieve the proper dwelling conditions.[81] The emphasis on observing the sanctity of family was one of the most significant factors leading the internalization principle of residential districts. Observing this principle in buildings was influenced by various factors including climate, geography, and security. This was approved and encouraged due to compliance with the principle of family sanctity in Islam, and the application of this principle in all urban and architectural spaces has been effective in the emergence of compacted and continuous urban textures in historical textures.[82] The grand mosque and religious centers are considered as centers accumulating the urban textures in Islamic cities. In the district centers, some elements such as anchor, mosque, seminary school, bathrooms, and

76.Habibi, S. M. (2005). From Shar to City.Historical Analysis of the Concept of City and its Physical Appearance: Thought and Effect (Second Edition ed.). Tehran: Tehran University Press.141.

77.Ben-Hamouche, M. (2009). The complexity of Urban Fabric in Traditional Muslim Cities: Importing old Wisdom to Present Cities. Urban Design International, 14, 23.

78.Bmat, N. a.-D. (1990). Islamic city. (M. H. Halimi, & M. Eslambolchi, Trans.) Tehran, Tehran, Iran/Tehran: Printing & Publishing Organization of the Ministry of Culture.87.

79.Moghaddasi, A. A. (1982). Ahsan al-taqāsīm fī marifat al-aqālīm (Vol. 2). (A. N. Monzavi, Trans.) Tehran, Tehran, Iran/Tehran: Corporation of Authors and Translators.640.

81.Kheirabadi, M. (1997). Cities of Iran. (H. Hataminezhad, & E. Mafi, Trans.) Mashhad, Mashhad, Iran/Mashhad: Nika press.21.

80.Shokoee, H. (1988). New Perspectives in Urban Geography. Tehran, Tehran, Iran/Tehran: The Organization for Researching and Composing University Textbooks in the Humanities (SAMT).191.

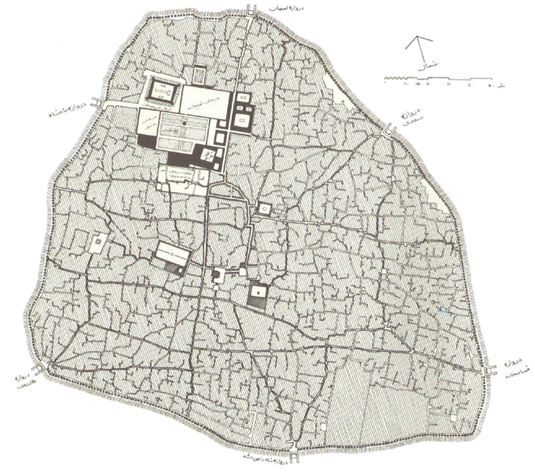
82.Kheirabadi, M. (1997). Cities of Iran. (H. Hataminezhad, & E. Mafi, Trans.) Mashhad, Mashhad, Iran/Mashhad: Nika press.41.

shops configure the urban texture. Usually, the fields in Islamic cities are spaces enclosed with surrounding buildings, creating a space for social, cultural, religious and sometimes commercial activities. These squares exist in the textures of Iranian cities both in geometric and non-geometric patterns.[83]

In a general statement, we can mention the following items about morphological-spatial properties of urban texture in Iran:

- In Iranian cities, each element of the architectural physical body has a specific function and an amazing relation with other elements of architecture in unifying hierarchy. Houses are balanced and proportionate in terms of the height, volume, composition, materials and outside decorations.
- In Iran cities, the communication has taken a more legible form based on more clear relation between the city center and district through main paths as linking elements. This feature is evident not only in the entire construction of the city but also in its components, i.e. the district centers.
- In the old cities of Iran, the residential units are joined with the central courtyard. The physical organization of the old cities of Iran is based on the spatial link between the elements including the city center, the district centers, main crossings, and square.
- The coordination of the scale of the main crossings and paths of the city with secondary sidewalks is another feature of urban texture in Iran.
- Breaking the linear state of the local streets, adjusted with breaking the uniform voids into a few contracted and wide spaces, dynamically and steadily, through a combination of different but harmonious bodies, is another feature of Iran urban textures. In fact, this is the reduction of length and creation of a variety of space, distinguishing it visually.
- In urban spaces of Iran, in spite of the variety of geometries and volumes applied in urban spaces structure, a balanced and adjusted combination of contradictory functions has been created with high proportionality, supporting the urban services through a logical relation with each other.
- In the urban texture of Iran- between the buildings combined to create an enclosed space in the city- there is such a harmony in morphological unity that, the mentioned space becomes continuous and creates a harmonious unit, despite the formation of enclosed spaces from different buildings.

83.Tavassoli, M. (1988). Principles and Methods of Urban Planning and Residential Areas in Iran. Tehran, Tehran, Iran/Tehran: Research Center of Urban Planning and Architecture of Iran.137.



Shiraz, the spatial structure of the city 18th century A.D.

A part of the Historic Center of Shiraz, Iran / 1980

A part of the Historic Center of Shiraz, Iran / 1980

Where is the studied case?

Iran

Iran has an area of 1648198 square kilometers or 636375 square miles, 0.7(seven-tenths) of which is composed of water. It is a Western-Asian country, located in the Middle East, as well as Central Asia and the Caucasus. Iran has a boundary with Armenia, Azerbaijan (including the Nakhchivan republic) and Turkmenistan in the north, Afghanistan and Pakistan in the east, and Iraq and Turkey in the west. In addition, it has a maritime boundary with Kuwait, Iraq, Saudi Arabia, Bahrain, Oman, Qatar and the United Arab Emirates in the Persian Gulf.

The entire southern boundaries of Iran are surrounded by the Persian Gulf and Oman Sea.

The total area of Iran land boundaries is 5170 km, and its total area of matrimony boundaries in the north and south is 2510 km.

Iran is one of the extensive countries in the world, located in 25 degrees and 3 minutes to 39 degrees and 47 minutes of north latitude and 44 degrees and 5 minutes to 63 degrees and 18 minutes of east longitude.

Generally, Iran is located at a geographical coordinate of 32.4279 ° N, 53.6880 ° E. It is considered as one of the oldest countries and the first founders of human civilizations in the world. The country is among the top 5 countries in the world due to climate and biological diversity, and among the top 10 countries in the world historically and culturally. In other words, Iran is among the top 10 countries in the world in terms of tourist attractions.

Map of Iran

Iran's position among neighboring countries (Middle East)

Iran's position on the world map

Shiraz

Shiraz is one of the great cities of Iran and the capital of Fars province. It is located in the central part of Fars province at an elevation of 1,486 meters above sea level in the Zagros Mountains and has a moderate climate.

The city has been extended to the Drake Mountain from the west, to the Bamou, Sabzpooshan, Chehelmabam, and Babakohi (from the Zagros) Mountains from the north, to an area of 1268 square kilometers. It is divided into 9 separate urban areas according to the latest administrative divisions and covers an area of 178,891 square kilometers.

The name of Shiraz has been registered under various names such as “Tirizis”, “Shirazis” and “Shiraz” in historical documents and books. The original site of this city was Qaṣr-i-Abu Naṣr. Before the Islamic era, Shiraz city has been a castle dating back to the Sassanid era and before. It has been transferred to the current site during the Umayyads period and flourished at the expense of the destruction of Estakhr - the old capital of Fars province-. Shiraz was the capital of Iran during the Safari, Boian, and Zandieh periods.

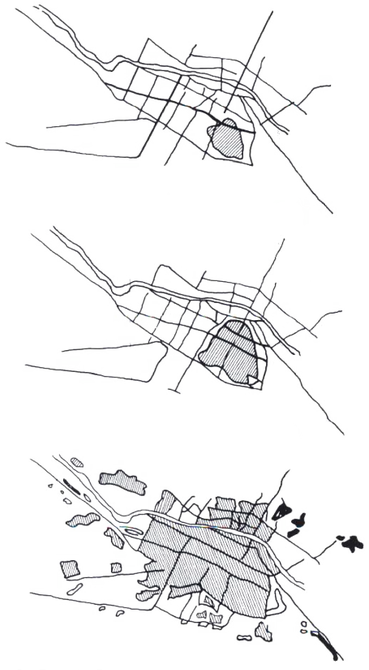
Shiraz location in map of Fars province

Location of Fars province on Iran map

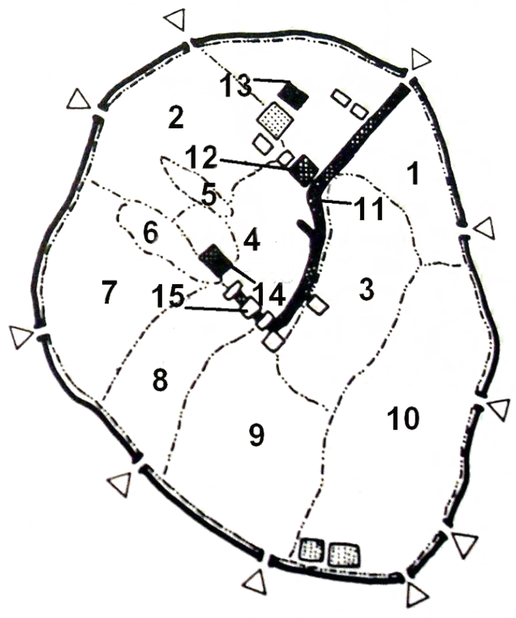
Shiraz and its formation in the context of urban morphology

The Iranian cities have had different shapes and designs in the vicissitudinous historical context of Iran plateau and its vast empire territory. However, they all have a single design in terms of hierarchical structure. Iranian cities with special and prominent historical core such as Shiraz, Esfahan, Kashan, Yazd, Tabriz and Mashhad, all follow an organic structure and have formed the city based on climatic, cultural, social, military and sometimes political parameters.

During the Achaemenid era, Iranian cities were built under the influence of the Assyria urban development, with an emphasis on the defensive aspect, with circular plans, the most important of which can be mentioned as Darabgard and Shahr-e-Goor cities. Cities that have been formed over elevations, hills, and mountains according to their time requirements-based on the military impacts and defensive implications of the city- have also been another type of Iranian urban development typology i.e the morphology of Iranian cities. Such cities have not been built with a single typology. But the city defensive part was built on adjacent elevations, and other parts were formed on the submontane plains.



Shiraz City Expansion Process



Formation of the early core of Shiraz

The process of formation and expansion of Shiraz city in the context of urban morphology. In this process, the initial core of Shiraz city is expanded to the west and then to the northwest.

Darabgard

Darabgard has been the first capital of the Sassanid Empire, and the name of one of the five Pars states on ancient Iran. It has also been named as Darabgard or Darabjard. This ancient city is one of the Achaemenid buildings dating back to about 2500 years. Its circular shape has a special architecture of that time under the influence of Assyrian governance military camps.

Ganje-Danesh, Historical geography of Iranian cities,(1987), Hakim, Mohammad Taghi Khan, Tehran: Madreseh Press, affiliated with Educational Assistance Publishing.

Shahr-e-Goor

Shahr-e-Goor is an ancient city in Firoozabad town of Fars province. It was founded by the order of Ardeshir Babakan in the early 3rd century AD. In the time of its development, it was the center of a division of Fars province, called Ardashir-Khwarrah. The city is of circular design and pattern, with a diameter of 2 km, and four main gates, where the government buildings and the courtiers' residence have been located.

It is considered as the first circular city in Iran and one of the world's first circular cities.

Tabari, Muhammad –ibn-Jarir.Tabari History. Translated by Abolghasem Payandeh. Asatir Press.1996. 5th Edition.

HERODOTUS

(C. 484 BC – C. 425 BC)

Was an ancient Greek historian who was born in Halicarnassus in the Persian Empire (modern-day Bodrum, Turkey). He is known for having written the book The Histories, a detailed record of his "inquiry" (ἱστορία historía) on the origins of the Greco-Persian Wars. He is widely considered to have been the first writer to have treated historical subjects using a method of systematic investigation—specifically, by collecting his materials and then critically arranging them into a historiographic narrative. On account of this, he is often referred to as "The Father of History", a title first conferred on him by the first-century BC Roman orator Cicero.

- T. James Luce, The Greek Historians, 2002, p. 26.

ISTAKHR

(Middle Persian: Stakhr, Persian: Estakhr)

Was an ancient city located in southwestern Iran, in Fars province, five kilometers north of the Persepolis. It flourished as the capital of the Persian Frataraka governors and Kings of Persis from the third century BC to the early 3rd century AD. It reached its apex under the Sasanian Empire (224-651 AD).

- Bivar, A. D. H. (1998). "Estakhri. History and Archaeology". Encyclopaedia Iranica, Vol. VIII, Fasc. 6. pp. 643–646.

PASARGADAE

(From Old Persian Pāϑra-gadā; Modern Persian: Pāsārgād)Was the capital of the Achaemenid Empire under Cyrus the Great (559–530 BC), who ordered its construction. It is located near the city of Shiraz, in Iran. Today it is an archaeological site and one of Iran's UNESCO World Heritage Sites.

- "BATRAKATAŠ," Encyclopædia Iranica, online edition, available at: http://www.iranicaonline.org/articles/batrakatas-place-name-which-appears-on-the-elamite-fortification-tablets-found-at-persepolis-apparently-the-same-as-pasargad

- David Stronach and Hilary Gopnik, "PASARGADAE," Encyclopædia Iranica, online edition, 2009, available at http://www.iranicaonline.org/articles/pasargadae

At a certain section of Iran the history (the Parthians or Arascian), the city was designed and built with the pattern of the Greek cities design, leading to the formation of the Hippodamus cities. This type of urban morphology has long been prevalence in Iran urban development and formed the foundation of Iranian cities in ancient times with a slight shift and getting out of geometric constraints. Bishapur can be mentioned as one of the cities with the Hippodamus design. The city of Abu Nasr, which is the site of the formation of the primary core of Shiraz, was also formed in the morphology of Iranian cities.

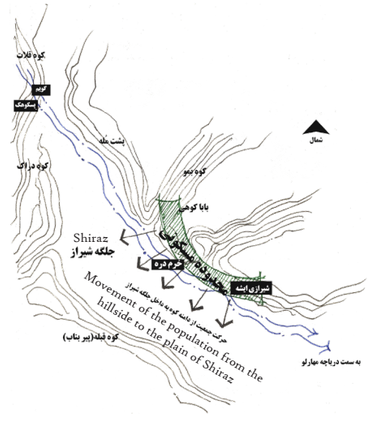
Abu Nasr city, where the primary core of Shiraz was formed, was also formed following the Iranian cities morphology.

The genesis of Shiraz City

Before entering the Aryan race, the ancient inhabitants of Persia have been consisted of relatively rude black local natives living in the mountains, the evidence and symptoms of them are now available in ancient Iranian museums, Persepolis and Pars.

According to the researchers' view, the Aryans have arrived at the Iran plateau from 1000 to 1400 BC.

As Herodotus says, the Aryans (Persians) have consisted of 10 tribes, one of which was the Pasargadians who settled in Pasargad city and then Istakhr city. It is not certainly clear that which tribe of Persians has settled first in the Shiraz plain. However, we know that the Pasargad city has started to be destroyed, after the domination of Alexander, and its people have moved to Istakhr city and transferred from the Istakhr to Shiraz after the Arabs dominated.



Shiraz in the pre-Islamic era

In general, no much information is available about Shiraz before Islam, since most of the available historical books related to Shiraz are from the works of Islamic historians, who have generally focused on post-Islamic events and situations, and have paid less attention to pre-Islamic history.

These books, which may be the only means of accessing the position and limits of Shiraz in the past, attribute the shiraz construction history to Muhammad ibn Yusuf al-Thaqafi, the governor of Fars during the caliphate of Abd al-Malik ibn Marwan(65-89 AH) 685-708 AD. And some of these books restrict this date to 76 AH or 696 AD.

In his Farsnameh book, Ibn Balkhi expresses the Abu Nasr city or collection, now known as Qasr-i Abu Nasr as the origin of Shiraz. If we imagine Qasr-i Abu Nasr as the origin and source of Shiraz, based on the available evidence, we choose a rational Eastern source; and If Ibn Balkhi's text is correct, we can consider the distance of six kilometers between Qasr-i Abu Nasr and the old location of current Shiraz as the movement route of Shiraz from the original to current situation.

According to the foundation of Shiraz and changes in the city development from the beginning of Islam on, that is visible in the available maps, Shiraz has always been moved toward the west, and this is true also about the present era and the development direction is quite evident.[1]

ARYAN (/ˈɛəriən/)

Has as its root a term that was used as a self-designation by Indo-Iranian people. The term was used by the Indic people of the Vedic period in India as an ethnic label for themselves and to refer to the noble class as well as the geographic region known as Āryāvarta, where Indo-Aryan culture is based.

- Gopal, Madan (1990). K.S. Gautam (ed.). India through the ages. Press Division, Ministry of Information and Broadcasting, Government of India. p. 70.
- Michael Cook (2014), Ancient Religions, Modern Politics: The Islamic Case in Comparative Perspective, Princeton University Press, p.68: "Aryavarta […] is defined by Manu as extending from the great Himalayas in the north to the Vindhyas of Central India in the south and from the sea in the west to the sea in the east."

1.Quotes from the report of Cultural, H. O. (1995). examining how Shiraz was formed and the process of its transformation in different periods of history. Shiraz: Fars Province Cultural Heritage Organization.1-2.

Abū Muhammad al-Ḥajjāj ibn Yūsuf ibn al-Ḥakam ibn ʾAqīl al-Thaqafī

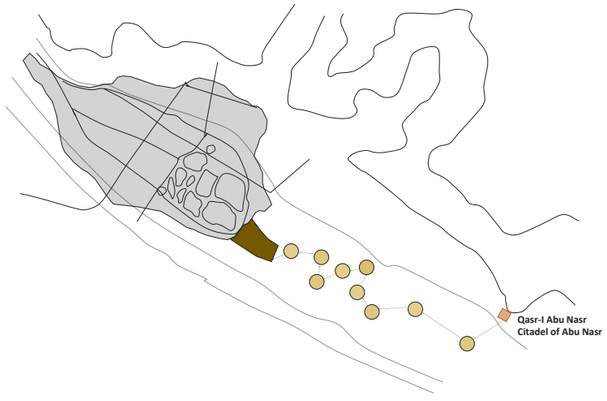
(Ta'if 661 – Wasit, 714), known as al-Hajjaj ibn Yusuf (Arabic: al-Ḥajjāj ibn Yūsuf)
was perhaps the most notable governor who served the Umayyad Caliphate. A highly capable though ruthless statesman, strict in character, a harsh and demanding master, he was widely feared by his contemporaries and became a deeply controversial figure and an object of deep-seated enmity among later, pro-Abbasid writers, who ascribed to his persecutions and mass executions.

- Dietrich, A. (1991). "al-ḥadjdjadjī. yusuf". The Encyclopedia of Islam, New Edition, Volume II: C–G. Leiden and New York: BRILL. pp. 39–42. ISBN 90-04-07026-5.

Abd al-Malik ibn Marwan ibn al-Hakam

(Arabic: Abd al-Malik ibn Marwān ibn al-Ḥakam; June/July 646 – 9 October 705)
was the fifth Umayyad caliph, ruling from April 685 until his death. A first-generation born-Muslim, his early life in Medina was occupied with pious pursuits.

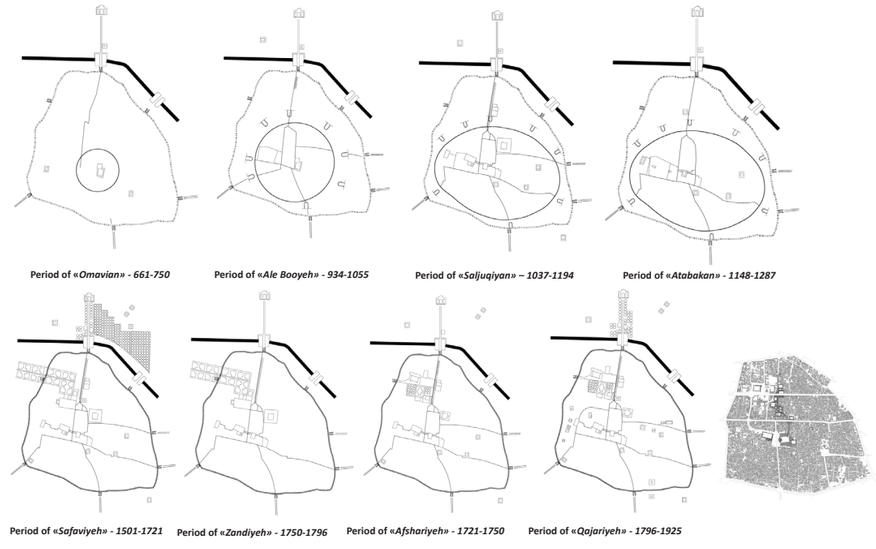
- Ahmed, Asad Q. (2010). The Religious Elite of the Early Islamic hijaz: Five Prosopographical Case Studies. Oxford: University of Oxford Linacre College Unit for Prosopographical Research. ISBN 978-1-900934-13-8.



The historical evolution of Shiraz and its formation at its present location based on historical evidence

Therefore, Shiraz can be considered a city, developing from the east to the west, and the current situation of the city development can be considered as confirmation of this theory. One of the main causes of this mobility should be sought in a natural situation and atmospheric conditions of the plain, so that investigation of the natural situation of this area shows that the rainfall in the northwest highlands of this plain is high and always waters flow from west to east toward the Maharlou lake. After the Arabs conquest to Iran and breaking down of Istakhr city, the city was gradually evacuated and its inhabitants turned to Shiraz. According to the contents of the Islamic histories, which is considered as the only evidence of Shiraz historical development in the Islamic era, Shiraz was founded in 74 AH or 694 AD, by Muhammad ibn Yusuf al-Thaqafi, the brother of Hajjaj ibn Yusuf, appointed as Shiraz governor by Umayyad caliph and Abd al-Malik ibn Marwan. The primary core of the city was at the time of foundation without any defensive battlement. However, some battlements with a ditch full of water were built around it at different times. The first battlement of Shiraz was built in 639 AH or 1242 AD. The Shiraz Fence was renovated or reconstructed several times during different years. It was destroyed by the earthquake in 1339 AH or 1921 AD, and no fence or battlement has been renovated from then on.

Flourishing and development of Shiraz are merely limited to times that it has been capital or has become important for some reasons.



Urban organism - phases of growth of the city of Shiraz in the years 661 between 1925
Spatial evolution of the old urban fabric

FĀRSNĀMA

(Persian: Farsnameh, "The Book of Fars")
Is a local history and geography of Fars Province, Persia wrote during the Seljuq period (12th century). It is attributed to one (otherwise unknown) "Ibn al-Balkhi", i.e. a person whose father is from Balkh, Khorasan.

- Bosworth, C. Edmund (15 December 1997). "EBN AL-BALKI". Encyclopædia Iranica. Retrieved 12 February 2012.
- www.iranicaonline.org/articles/ebn-al-balki

Ibn al-BALḴĪ

The conventional name for an otherwise unknown author of Fārs-nāma, local history, and geography of the province of Fārs written in Persian during the Seljuq period, so-called because his ancestors came from Balḵ in eastern Khorasan.

Balki-nezad, p. 3; the form "Ebn al-Balki" is used in Kašf al-zonon, ed. Flügel, IV, p. 344, no. 8681.

The study of the historical evolutions of the city shows that the origin of Shiraz city formation should be searched in the Bazar and four axes that have crossed them and surrounded the urban elements. Each axis represents a physical evolution of a period of city history. These evolutions have taken place in accordance with the requirements of the time and with respect to past experiences to improve and complete the city structure. The placement of urban elements during these axes has been subject to a certain arrangement so that the common features of the city structure at different times are as follows:

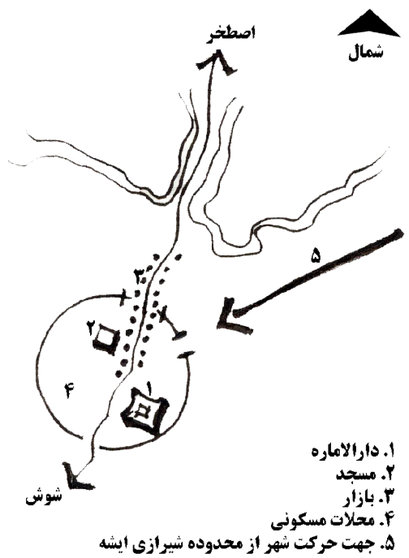
- The location of urban elements at the route of the infiltration galleries and the flowing waters;
- The segregation between the religious, governmental and commercial field of functions;
- Existence of interface spaces and functional joints.
- The first urban space was created for the gathering of Muslims, following the construction of the Aqiq Grand Mosque during the time of Amr-i Laith Saffari. After that, some places such as the New Mosque, the Shah Safavid Square, Toopkhaneh Square and so on created the past urban spaces, so that Shiraz has never been empty of urban spaces until the contemporary era.

Briefly, The steps of Shiraz city formation are as follows:

-1st step:

The first step of the city main structure formation relates to its flourishing at the time of Al Boyah, in the 4th century AH or the 10th century AD. Before that, the Atiq Grand Mosque was constructed and the city Bazar was continued from its side to Istakhr city gate. Urban elements were established on the way to the Azodi Qanat at the time of Al Boyah.

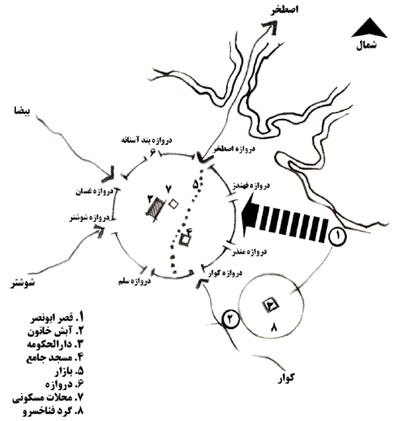
The governmental buildings were located in the west and religious elements were centered on the east of the Bazar axis. This pattern has also led to the formation and expansion of the main city skeleton in later periods.



The first step of the formation of Shiraz

-2nd step:

The second step of the city historical evolution of the has been during the Fars Atabakan era. The segregation of urban functions was also observed in another axis, which was selected during this era parallel with the Azodi Qanat. In this era, some frontage-shaped spaces were created between these spatial elements, which facilitated their activities.



The second step of the formation of Shiraz

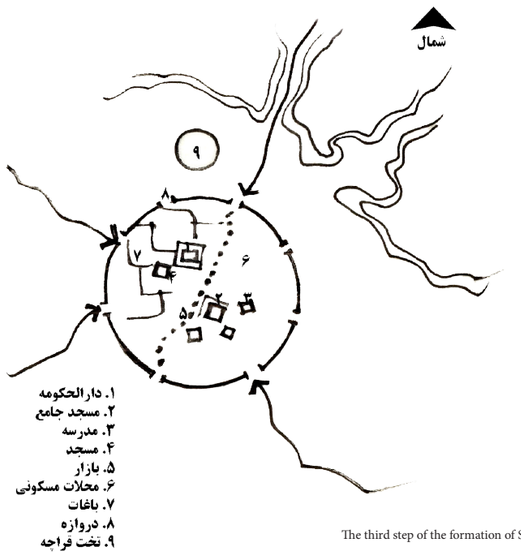
-3rd step:

The third step of the city historical evolution dates back to the Safavid period. In addition to the main structural elements of the past, the Safavids had a specific pattern and method to design urban spaces, which adapted it to the needs of the city in different conditions. The third axis of urban elements placement in Shiraz, which has been created in this period, started from the Khan school in the east to the Daoud Khan Bazar in the middle of the two direction of the Bazar, reaching the Shah Safavi Square, surrounded with the palace, Dar al- Shifa and the Safavi Mosque.

At this time, another axis was constructed in the form of Chahar Bagh, extending from the Darvaze Isfahan to the Tange-ye Allah Akbar.

Due to the destructive floods in 1079 AH. 1669 AD in Shiraz, the Afghan invasion and destruction of the buildings by the next dynasties, the valuable treasure of Safavid architecture and urban development in Shiraz was demolished, and there was nothing left but a few buildings, and references to some of the historical documents.

In this period, which is considered as the most flourishing period of urbanization in Iran after Islam, Shiraz had such an extended area during the Safavid era that, the city was not expanded as much from then on, until the early Qajar era.



The third step of the formation of Shiraz

-4th step:

(These steps and its analysis will be discussed in detail in the next sections of this study).

The fourth step of the city historical evolution is during the Zandieh period. After defeating the Afghan attack, Karim Khan Zand arranged Shiras as headquarter of his government, then built and developed the city since 1180 AH, 1767 AD.

He built his of governmental buildings often on the axis leading to the Bāgh-e Shāh instead of the Safavid destroyed buildings and gardens.

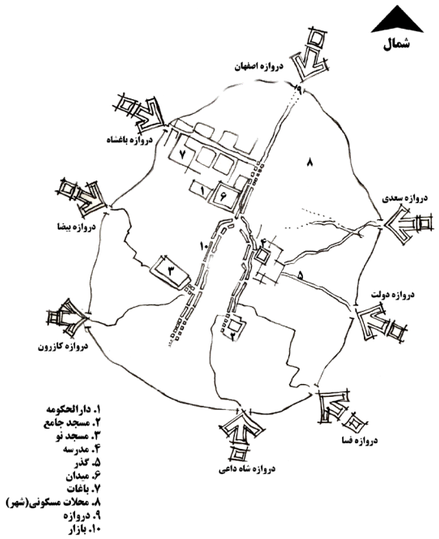
Although the architecture of Zandieh buildings enjoyed the sophistication and hardness of the Iranian architecture culture, in the urban design of this period, the functional aspects were considered as important more than the values of aesthetics.

Considering the distribution and compression of urban elements in a set of Zandieh axis buildings confirmed that, designing has been done in a predetermined range and within a damaged urban texture.

Abu Ishaq Ibrahim ibn Muhammad al-Farisi al-Istakhri

Was a 10th-century travel-author and geographer who wrote valuable accounts in Arabic of the many Muslim territories he visited during the Abbasid era of the Islamic Golden Age. There is no consensus regarding his origin. Some sources describe him as Persian, while others state he was Arab.

- Bolshakov, O. G. (1998). "ESTAKRI, ABU ESHAQ EBRAHIM". EncyclopaediaIranica, Vol. VIII, Fasc. 6. pp. 646–647.



The fourth step of the formation of Shiraz

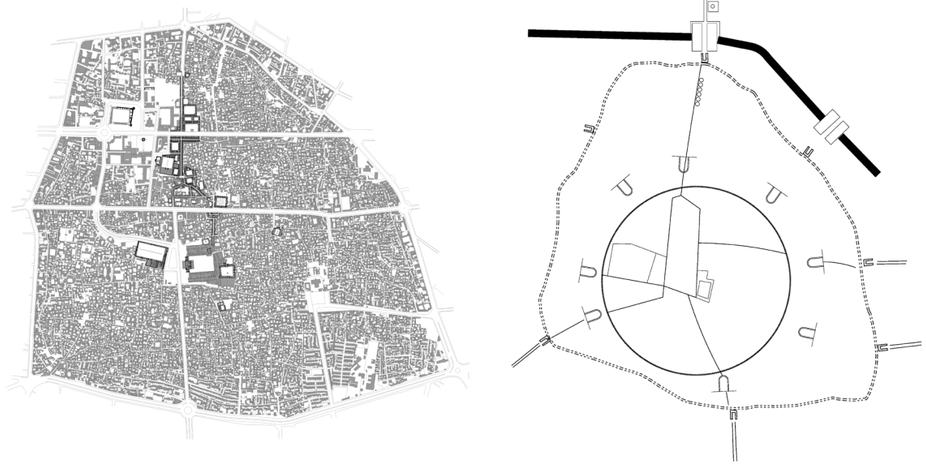
The study and preparation of historical periodization plans of Shiraz city show that the primary core of Shiraz formation center, which has made the consistency of the city backbone, was formed by constructing *Atiq Grand Mosque at* Saffarids era in 281 AH or 894 AD. At that time, this mosque was located at the northwest end, and according to Istakhri, it is supposed to be one of the cities with no fence in that period. *Atiq Grand Mosque* (with political-religious function) and the home of the city grandee were located at the center of Kohandezh. But, the state palace was separated from city religious center at Deylamian period following the historical separation of political and religious power. In this era, the Grand Mosque was near the Bazar and separated from Dar-al Emareh. The government facilities were also located near a river, flowing from the bottom of Adud al-Dawla palace and Grand Mosque toward the city outside. Strengthening the government center made the main access from Darvaze Istakhr (current Darvaze Isfahan) to the government center. Also, the main Bazar of the city started from the northern gate of the Grand Mosque, has had numerous directions, each one allocated to a special trade. On the other hand, strengthening commercial activities

around the way of Darvaze Istakhr to government center has caused this way to be known as another important Bazar.[2]

So the main features of Shiraz city structure at Deylamain period can be known as two below ones:

- Separation of religious and governmental areas
- Formation of parallel Bazar axes

2. Quotes from the report of Cultural, H. O. (1999). A systematic approach to Shiraz ancient context and historical cultural axis. Shiraz: Fars Province Cultural Heritage Organization.14.



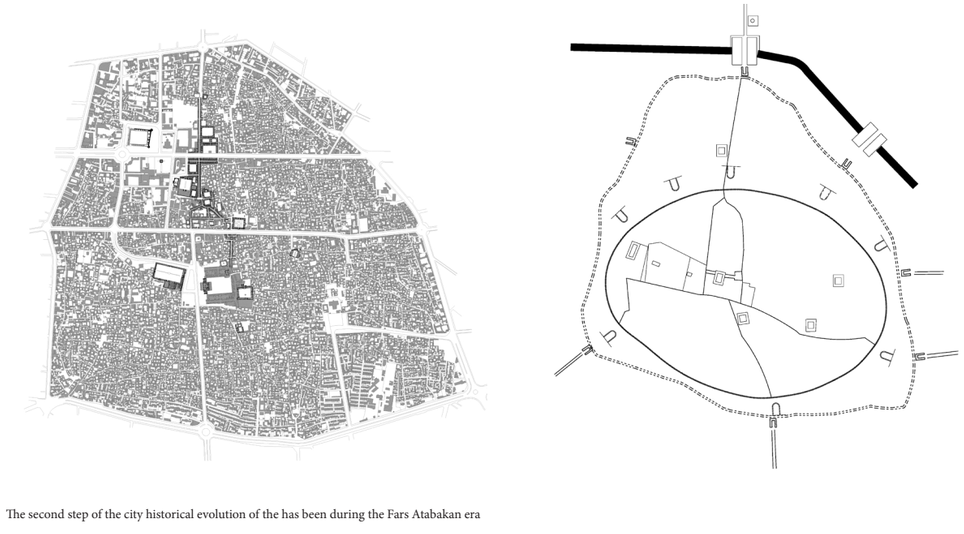
The first step of the city main structure formation relates to its flourishing at the time of Al Boyah, in the 4th century AH or the 10th century AD.

At Atabakan period, the city great Bazar which was reconstructed and completed from the Main Bazar of Deylamian period, started from North West of the Grand Mosque continuing to the north side. Today, this Bazar (which is Shiraz oldest Bazar) is called Haji Bazar. Furthermore, a beautiful mall was established between Ahmad ibn Musa and Muhammad ibn Musa monuments (which were established at the same era) which an octagonal basin was embedded at its foursquare and a stream was flowing in the middle of the Bazar. This mall, which was called Sare Houz Agha Bazar, was destroyed while contemporary renovation, which interconnected the courtyards of Imamzadehs. Four other Bazars (known as Sar-e Chaharrah), which connected the courtyard of Shahcheragh to new Grand Mosque (new mosque was also built in the same period i.e. in 614 AH or 1218 AD), were also established at this era. These four Bazars which were the contour of Bazare Morgh and Sare Dozak districts were destroyed while establishing Ahmadi Street and square.

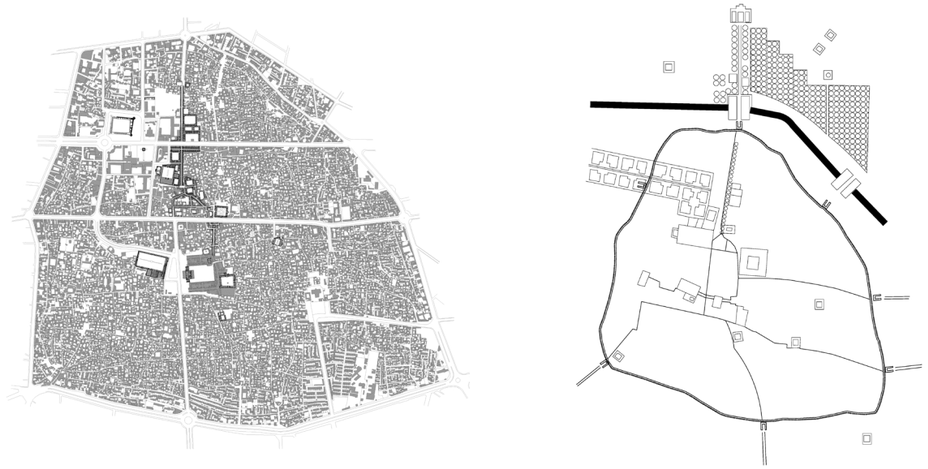
As it can be seen on the picture, major urban elements of Atabakan period including Atabakan Garden, Atabaki New Mosque, Sar-e Chahar Rah Mall, Shahcheragh Courtyard, Sare Houz Agha Mall and Courtyard of Seyed Mir Hossein's Monument, all were established according to the axis, extending alongside Azodi Qanat.

Among the elements of Atabakan period, the new mosque has special importance as the commonality of pilgrimage-religious spaces and governmental elements. Wide courtyard of this mosque as a kind of urban open space has had recreational, service, social and political function in addition to a religious function.

Even before the establishment of Ahmadi Square and the destruction of Sare Chahar Rah Mall, the new mosque had the various mentioned functions as one of the most pleasant ur-



The second step of the city historical evolution of the has been during the Fars Atabakan era



The third step of the city historical evolution dates back to the Safavid period. In addition to the main structural elements of the past, the Safavids had a specific pattern and method to design urban spaces, which adapted it to the needs of the city in different conditions.

ban spaces in Iran, which has practically lost its position following the destruction of the mall and physical changes of backbone collection. In general, the main structure of Atabaki city has followed the pattern of the city at Deylamian period. Separation of religious and governmental areas and elements positioning on an axis perpendicular to the Bazar can be known as the common structural features of these two periods.

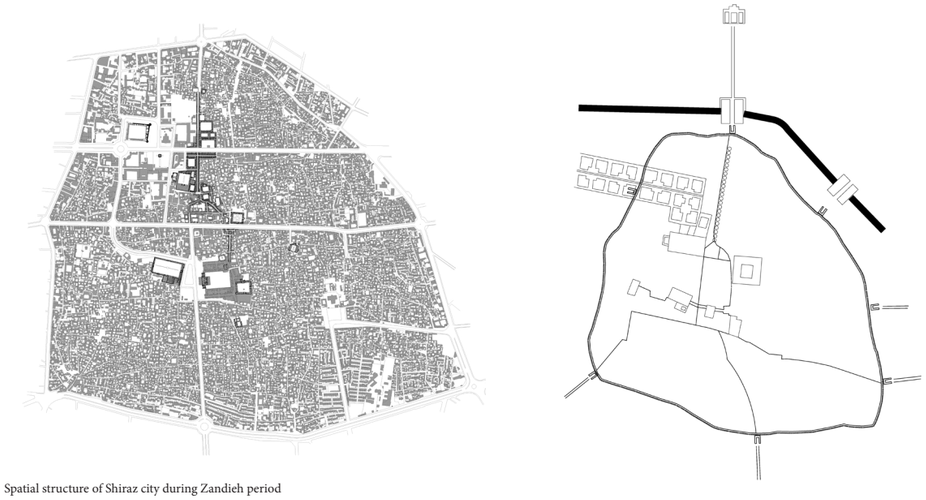
After Atabakan period until the beginning of Safavid's, the opportunity for creating important changes at city texture, especially the backbone, was not achieved and the previous structure was more or less preserved because of turmoil and conflict between unstable dynasties. But Safavid period which is considered to be the most prosperous and magnificent period of urbanization in the light of the compiled design of city texture has changed significantly in the backbone. In this period, the main Bazar of the city (which was probably at the location of a current new Bazar, and the current Vakil Bazar), has extended through the axis of the old main Bazar to Darvaze Isfahan. This Bazar was then rebuilt, developed and changed at Kaim Khan period.

Respecting to the past urban development actions and preserving the main elements of urban structure, Safavid implemented their own special urban planning pattern on the axis parallel and similar to past periods axes. In this axis, the positioning of the elements was started form Madrese-Khan, which got to Shah Square through Davood Khan Bazar- to-Gheisariyeh. Around this square, there was a mosque and Safavid palace in addition to elements such as Imamzadeh Seyed Abdollah and Dar ol-Shafa. At present, there is no trace left of square and palace and other buildings; However, this area of Sah Square district. Behind the Safavid palace, there was a Governmental garden, the northern side of which was adjacent to a passage-way leading to Bagh Shah, and the city grandee had established gardens on its both sides. Although at the left documents there was no comment about the existence of water and arboriculture, it had the same role as Chahar Bagh-e Isfahan functionally.

At 100-years interval of the late Safavid period until 1180 AH or 1767 AD, that Karim Khan Zand made Shiraz as capital, not only Shiraz lost its past magnificence and prosper and its important and historical buildings were destroyed, but also security and tranquility departed from the city.

According to evidence and documents of Zandieh period, the backbone of Shiraz in this period can be described as following:

The rebuilt Vakil Bazar was being appeared while entering the city from Darvazeh Isfahan. At the west side of the Bazar, there was a wide area including Naghare Khaneh Square(at the east of the area) and Toopkhane Square (at the west of the area). Nagare Khaneh and Divan Kaneh buildings were built at the north side of this area. Also, the great building of Arg was established at the west side of the square. At the south of the square, Karimkhan newly-built garden named Bagh-e Nazar and a bit farther towards east between Bazar and Bagh-e Nazar and in front of Nagare Khane Square, there was Vakil Mosque. At the west of this mosque as at the distance of an alley, there were Vakil Bath and cistern and at Qiblah side of the mosque, the main parts of a school were established, which had not been finished until Karimkhan`s death.



Spatial structure of Shiraz city during Zandieh period

Shiraz lost its last prosperity and changed to a second class city at Qajar period, because of the destructions resulting from campaign and civil wars after Karimkhan`s death, transferring of capital to Tehran, a disorder of country situation, maritime trade prosperity through Karun river and Khuzistan and general destructions by Agha Mohammad Khan. However, some changes were also made at the backbone of the city and its surrounding areas over this period, the most important of which include: establishment of the new Bazar (Mirazy-usefi Bazar) along Vakil Bazar, Farman Farma Building at the northwest corner of Bagh-e Nazar, Nasir-ol-Molk Mosque, Bath and House at the southwest of Ghavam District, Hosseinieh Mosque and Moshir House at Sange Siah, Moshir Mall, Bazar and Arcade near the south door of Vakil Bazar, Ilkhani Mosque, Bagh ,Hosseinieh and Bath at the west side of Shah Square district, Naranjestan, Andaroon and Hosseiniyeh Ghavam.

Like other big cities, the backbone of Shiraz was also undergone great evolution at the Pahlavi period. Of course, Shiraz still relied on its' last main backbone, although urban open spaces and residential districts damaged basically at the beginning of this period. City public usage was organized on Zand axis and new residential developments were being accomplished according to a certain order and separation. At these years, the new administrative organizations were built at the arena of past squares. The municipality, Ministry of Justice, Police headquarters, Bank and … were established around Zand and at Mashgh and Toopkhaneh Squares. But fast development of Shiraz after this period caused the dispersion of urban elements and diversity at the city center structure. Lack of the proper development policies and dispersion of urban usage caused the rupture of the city main skeleton, and thereafter Shiraz never enjoyed the structural coherence. The existence of big and various stores beside each other at the city center led to losing the active role of districts small malls. Also, the creation of malls according to the past traditions was not noticed at the new districts. Moreover, the plans of contemporary urban development had no mostly positive effect on the proper formation of the city skeleton, due to following the irregular construction and fluid motion of public usage at the city.[3]

Shiraz city, the surrounding fence of which was gradually destroyed at Qajar period, was extended towards North West at Pahlavi period and a regular texture was created on new street buildings. Zand Street, which was the carrier of main urban applications, became the backbone of the new city, from which side, the city was developed subsequently. According to the plan which shows Shiraz city in 1947, Lotf Ali Khan Street has been under construction. Comparison of Shiraz at the beginning of the contemporary century and in 1974 shows that irregular increase of urbanized population at the recent decade has had explosive growth, and foundations of urbanization have changed. The historical area of the city which included all of Shiraz city until the beginning of the century now has become a small spot with an approximate area of 350 hectares at the center of great Shiraz, the penetration of the city new changes to which is unavoidable.

3. Ali Akbari, I. (2004). An approach to revitalizing past values in contemporary urbanism. Noor magazine(Second Issue), 50.

Parameters affecting on Iran cities formation

The water, trade, government, and road effective parameters are among the main variables which had a great effect on defining the location of the cities. These variables, together with the people's traditional lifestyle and available technology, help considerable recognize and analysis of the traditional consistent form of Iran cities. Reading morphology of Iran cities won't be possible without the recognition and right understanding of their locating and formation. We consider some mentioned parameters accordingly.

Water effective parameter

According to the topography map of Iran and its highlands, we can see that little space of Iran enjoy the necessary fertility and development. These soils are so poor at most parts of Iran except those used for agricultural purposes. Basically, the residential centers are located in places, where the water or its source and at least the soil with necessary potential for agricultural purposes are available.

Residential centers have usually grown around and alongside waterways and even sometimes apart from the effects of soil quality; however, generally, the soil and its quality are considered as significant factors affecting the growth of cities.

Generally, the shortage problem of water and its resources affected most cases of urban development except rare cases; and by acknowledging that Iran doesn't have a big river, most of the residential centers had to develop a system and an artificial method to collect water and their development to be a subordinate of water supply systems. These systems appeared on city context in the form of wells, qanats, and underground channels.

The role of water at the face and texture of desert cities shines so importantly and deep that, it sometimes affects the district texture strictly. In these cities, the compressed houses surround the district and alley cisterns; and request their shaping in it. In desert cities, cisterns are mostly the constituent elements of a city or village location; and in desert cities such as Kashan, Yazd, Naein, Harand, Cisterns together with mosque or Imamzadeh, Hosseiniyeh, bath and Bazar and square esteemed and vitalized the city center collection. Cisterns and their affiliated spaces have no private claimant

and are dedicated to public benefit.

Regarding the role of rivers and water supply at the morphology of Iran cities, we can mention the channels branching from the Zayandeh Rood river which is called Madi in local expressions. These channels are associated with city texture and passages. In Isfahan, these water channels divide the city into several parts, so that in most cases, the boundary and limit of the districts were somehow defined by Madies. The influencing area of the cities has been very limited In Iranian cities, unlike European ones. Traditional and water supply system was processed by digging channels under the ground from mountain areas to flat plain. As explained, this system of water collection allowed the population to reside as a strip in its length. Development and creation of residential centers should have followed the facilities of water sources. Therefore residential districts usually grew longitudinal (linear) in the length of slopes and at the continuation of water sources. Briefly, the shape of cities was in compliance with land ownership and the development of water sources.

From a historical point of view, the water flew as channels all over the cities and villages traditionally. This channel was a river or a qanat, from which the smaller channels (aqueducts) branched out in districts as necessary. These aqueducts were the water distribution device all over the city. The main point in this regard was the city development in a linear form following the mainstream from the water channel. The transportation system of that time i.e. “on foot”, allowed a limited linear development. Therefore, the city length was growing as its width was being developed. The most important point was that the city scale was limited to human facilities. It means that the city scale regained its shape and size in a distance range that matched human ability to step.

Government effective parameter

Another force that had an impact on the urban development form Iran was government power, and the central government was protected by local and regional powers. Establishment of this power at one of the centers (of the city) not only caused the progress and activity of the city but also developed and flourished the areas around the city, which was selected as the center. Iran history is full of such evolutions, and in fact, some of the city came to existence because of the settlement of central government. This change of the permanent center of the government affected the urban textures of Iran. For example in East Azerbaijan, there were three capitals named Tabriz, Maragheh, and Ardabil which currently have a lot of townsmen; and if this historical function didn’t happen, maybe only one of these cities or none of them would exist at the current time. Another impact of government on the internal traditional structure of Iran cities was based on segregation. A main part of the city was allocated to state activities. Fenced part of the city was separated from its main body physically, and arrival to this part was usually possible from one end of the Bazar.

Trade effective parameter

Another factor, the considerable effect of which was obvious on the development of Iran cities, is traded between cities. This issue still remains true in some Middle East countries, because of dependency on natural situations. Anyway, it is obvious that inns and domestic regional trade have been important to develop most cities of Iran, for example, Tabriz, Bushehr, Damghan and many other cities of Iran.

Even if local, national and international trade is not the most important part of the economic field of Iranian cities, they are an important variable at the expression of the development of Iran urban centers. Generally, the caravans have been referring to the cities for water supply, taking rest and security and finally for trade. Preparation of big shelter structures, inns, retires rooms and securities were presented in the cities in its turn. The collection of these needs was merged at the Bazar structure.

Caravan trade had great importance to develop Iran cities. For understanding the importance of this activity, it is necessary to study briefly the historical nature of trade in the Middle East.

Between 492 and 1500 AD, two events happened, affecting the commercial texture of the Middle East. One of these events was the Mogul invasion, and the other was the Ottoman campaign. Mogul invasion reinforced trade from east and Ottoman stabilized it from the west. At this time Iran was used as a defensive shield for commercial empires because of its special strategic situation. Trade and commerce made significant progress in the Safavid period, at great Shah Abbas era in Iran. Although some of the cities were exclusively created for the protection of caravans at that time, most of the villages also caused the importance and credibility of cities because of their function as a commercial tie. Also, they turned to cities, and their streets and main squares became the center of a transaction and numerous inns were built all over the streets. Some walls were built around these cities for security purposes and they were built in circular form for complete confrontation, and the population

The Mongols

The designation “Mongol” briefly appeared in 8th-century records of Tang China to describe a tribe of Shiwei. In the thirteenth century, the word Mongol grew into an umbrella term for a large group of Mongolic-speaking tribes united under the rule of Genghis Khan.

- “Mongolia: Ethnography of Mongolia”.Encyclopædia Britannica. Retrieved 2007-07-22.

The Ottoman Empire

(/ˈɒtəmən/; Ottoman)

Historically known in Western Europe as the Turkish Empire or simply Turkey, was a state that controlled much of Southeast Europe, Western Asia, and North Africa between the 14th and early 20th centuries.

- Hamish Scott (2015). The Oxford Handbook of Early Modern European History, 1350–1750: Volume II. p. 612. ISBN 978-0-19-102000-1.”The Ottoman Empire-also was known in Europe as the Turkish Empire”
- Soucek, Svat (2015). Ottoman Maritime Wars, 1416–1700. Istanbul: The Isis Press. p. 8.ISBN 978-975-428-554-3.

increased and accumulated over time inside these fences. Bazar and its location, as a complementary factor of trade parameter, also have had an important role at the formation of Iran cities. The heart of Iran traditional cities i.e. Bazar was the place of commercial activities. It was obviously playing the role of a commercial center and while the philosophy of Bazar existence was dependent on commercial needs, it practically played the role of a communicative axis between north and south or east and west of the city. Iran cities were formed, and their morphology was defined by the Bazar as the backbone. Bazars, which have been formed because of city placement over communication roads between some cities, stabilized the situation of the city as a commercial city or a communicative tie between some commercial routes. Many cities of Iran have been formed because of place at the intersection of some commercial roads, in other words, their establishment place has been selected due to their commercial position. Iran cities, in addition, to take the formation from the geographical area, shaped and organized all of their villages, agricultural areas, and towns, and sometimes this effectiveness was to the extent that the economic organization and area population morphology were under the influence of urban factors and cities were being formed according to the commercial factors.

Road effective parameter

In the past, the formation of Iran cities such as Tabriz, Shiraz, Isfahan, Tehran, Qom, and Mashhad was dependent on their selection as the government center or the existence of shrines. Progress and development of these cities have been totally dependent on the role taken on the mentioned tasks. But except two mentioned factors, the Road factor has also effected on the genesis and development of Iran cities, which gave value and credit to some of the cities over history. Also road, as one of the important factors for selecting the cities establishment location, were always of significant importance. Important roads such as Shahi connecting road at Fars Province is one of these cases. Shahi Road was built with the order of Darius the Great at Achaemenid era. This main road has connected Persepolis to Pasargad, Shush and other imperial cities. Shahi Road had a length of 2699 km (1677 miles) and it had one halting-place at about every 24

km which is equal with 111 stations. It is the first recognized main road of Iran and the first international main road of the world. In Khuzestan, this road has been passing Behbahan, Shush, Shooshtar, and Ramhormoz.[4]

4.Quotes from the report of Cultural, H. O. (1995). examining how Shiraz was formed and the process of its transformation in different periods of history. Shiraz: Fars Province Cultural Heritage Organization.8.

Formation of Shiraz City according to effective parameters

Defense effective parameter

Ancient governments of Iran have always been exposed to the invasion of internal and external opponent forces. These invader forces were either rival and hostile governments and regimes that have threatened the existence and independence of central government for expansionism purposes, or tribes who always had a dominant culture known as “invasion and plunder culture” due to the special requirements and economic and social specifications i.e. having movable properties, speedy animals and the sovereignty of some social beliefs among themselves. The existence of such dangers made the defense of the cities and securing citizens necessary and caused the defense factor to be one of the most significant factors, to have an outstanding place in the theoretical and practical principals of Iran urban development. Defense necessity has imposed a specified defensive strategy on ancient urban development and become one of the most important symbols of urban development in this period. Need to defense has made the texture and structure of the old cities of the country strictly defensive; remained traces of defensive fortifications of cities such as battlement and solid walls, gradually resulted in the creation of a special form of the urban physical body i.e. the closed urban type.[5]

Fort and ditch, gates, tight and twisted alleys, small doors and windows, thick walls and also using defensive tools in the residential design of cities are among evidence that shows the domination of defensive thought in urban planning and designing system of this period. Among numerous factors such as religion, water and irrigation, war and defense, and Bazar and commerce which are used to analyze the origin of the genesis of the cities, the role of defense factor has been of great importance both in Iran and other areas of the world.

5.Rahnamaei, M. T. (1990). Collection of topics and methods of urban planning, geography. Urban Studies, 77.

The function of this factor has caused the appearance of city theory as a defensive and military base which is one of the most important theories to analyze urban origin and development system in ancient Iran.[6]

According to what we mentioned before, Shiraz city was established after the ruin of Istakhr city and the movement of its inhabitants from Istakhr to Abu Nasr city(Qasr-i Abu Nasr) and then transferring to the current place of Shiraz at 694 AD, by the order of Muhammad ibn Yusuf al-Thaqafi. According to the historical texts, the first battlement of Shiraz was built in 1242 AD i.e. 600 years after the establishment of the first core. It shows that the defense factor has had a basic role to locate the city. It means that the factor of passive defense has been the first and the main parameter, effecting on determination of Shiraz city establishment location. Study of historical texture of Shiraz and its urban morphology at the time of its formation according to the available documents and historical documents of the invasions and attacks of different tribes and nations to Iran shows that with the expansion of these invasions, using the only “passive defense” system was not enough for the protection of the city, and it has enjoyed of “active defense” too.

6.Shokoee, H. (1988). New Perspectives in Urban Geography. Tehran, Tehran, Iran/Tehran: The Organization for Researching and Composing University Textbooks in the Humanities (SAMT).190.

Active Defense

Active defense refers to directly confront an encounter with the enemy, using proper and available weapons for repelling the attack and neutralize the enemy actions and operation for accessing the resources, city, and facilities. Building wall and battlement around the city and digging the ditch are some cases of active defense

Passive defense

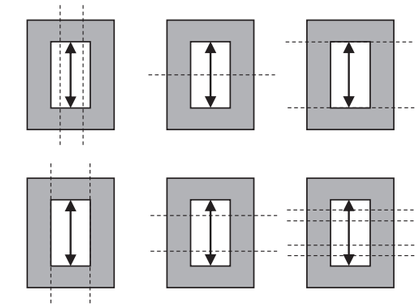
Passive defense includes using the earth natural factors and effects such as mountain, valley, sea, and river in order to avoid the enemy access to resources and installations of the city. At this kind of defense, no weapon is used and the enemy inhibiting factor is only the natural and climatic factors of the region. Building city on elevation, among the mountains or in a region surrounded by rivers are cases of actions for utilization of passive defense.

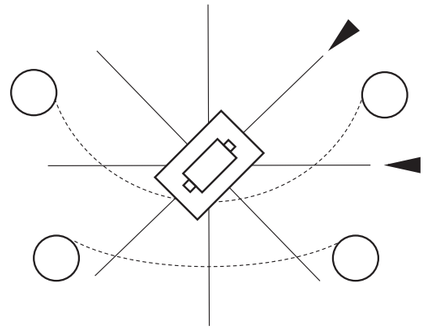
Water effective parameter

The possibility of water supply and distribution has been one of the most important rules for locating and development of habitations in Iran urban development; The necessity of accessing to water have been noticed by urban developers from several perspectives: 1) using water for drinking: 2) using water in agricultural activities: 3) using water for defensive purposes.

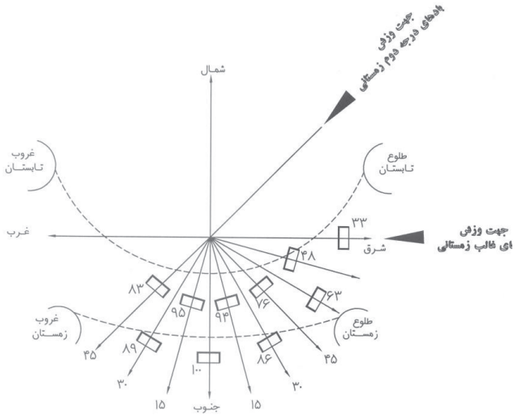
Establishment of many ancient cities besides water resources hasn’t been accidental and shows conscious urban development in this period. Studying the location of ancient cities shows that most of the cities are places besides rivers, or a river has passed through them. Establishment of Shush and Ekbatan cities (Iran ancient capitals) besides Karkheh River is the most prominent example of this legitimacy. In addition to the methods which were used for the utilization of surface water resources in cities, methods for the extraction and storage of underground resources were also invented gradually

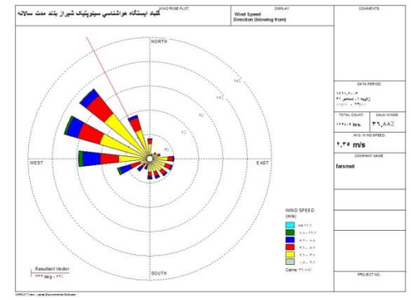
*Due to social conditions, a large proportion of the inhabitants are historically immigrants and foreigners. For this reason, it is almost impossible to obtain documented information about the Shiraz water supply system.



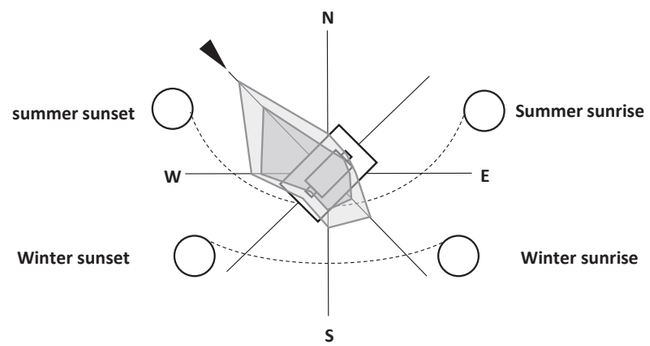


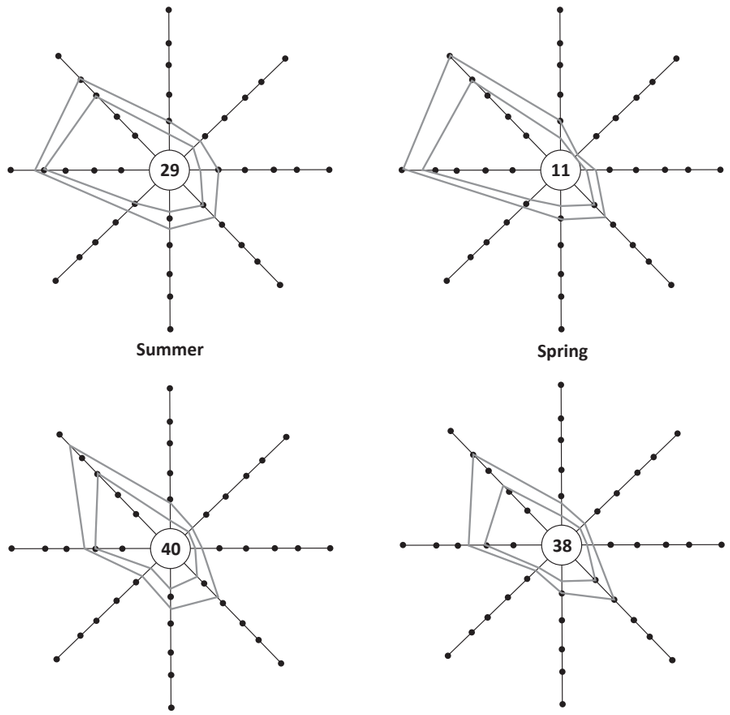
Pattern of corridors on different fronts of the building



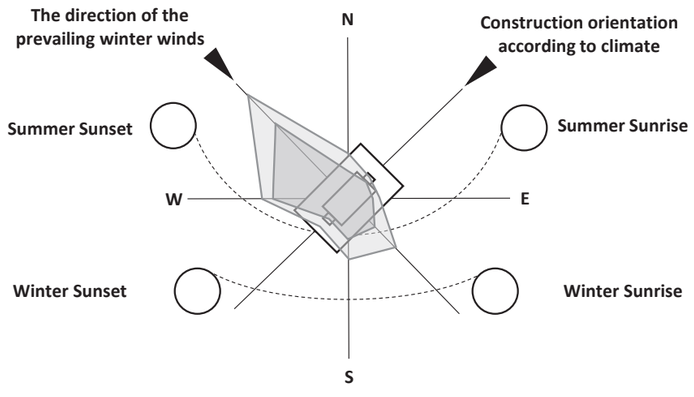


Shiraz Climate Information Chart





Wind direction and velocity in Shiraz (annually)



Shiraz Climate Information Chart

and specified their position in the urban development of the ancient period. The technique of qanat digging is very important in Iran and many dry and droughty lands, and it is considered to be used especially in Iran cities. It has been invented at the time of Achaemenid.[7]

The study of Shiraz hydrographic plans well specifies this point that the formation of the primary core of Shiraz city hasn't been affectless of the parameter effecting on water supply. Shiraz has been one of the best regions for green space processing because of locating on a region with an altitude level lower than its surroundings and having an appropriate slope towards the city. The existence of numerous streams and springs in Shiraz indicates that this city has had proper water resources. Azodi Stream, Saadi Qanat, Kheir Abbad Qanat, Ab Zangi Spring, Rokn Abbad water and so on have been some of the water resources of this city. Also, the existence of gardens such as Ilkhani, Salary, Ghatlagh, Toghi, Atabak, Khandagh, Behjat Abbad, Nazar and many other gardens, some of which still exists, were indicators of the high-water era of Shiraz extensive plain.

Survey of Shiraz geohydrology maps show that four aqueducts of "Kheirabad", "Saadi", "Chenarrahdar" and "Roknabad" were among Shiraz urban water supplies. The two aqueducts of "Kheirabad" and "Roknabad", which originate from the northwest and west of the Shiraz Mountains, supply much of Shiraz after reaching Shiraz.

Also, the topography map of Shiraz shows that the historical city of Shiraz is located on flat ground and the highest altitude difference in the highest and lowest point of the city does not exceed 15 meters, but if used correctly, the slope for water flow over enough on earth. Although the Shiraz underground water supply system has played an important role in the formation of the city's texture and structure, due to the lack of sufficient information and archaeological studies in this area, the location of underground canals cannot be accurately and identified.

What is left of the remnants of the Shiraz water supply system is some cistern that shows the drinking water supplied by these cisterns.

According to people living in the historic context of the city*, the aqueducts supplied some of the reservoirs, and the water needed by some of the aqueducts supplied by rainwater in the winter. According to field investigations in the historical context, no traces of underground canal remnants not founded due to major land-level changes to improve historic crossings and create urban infrastructure.

In addition, due to several earthquakes in recent decades, most of the underground canals in the historical context of Shiraz have been destroyed. Therefore, commenting on the Shiraz water supply system and its impact on the formation of urban morphology in the historical context of Shiraz is based on existing documentation and historical texture maps.

On this basis, the main outlines of Shiraz's historical texture formed along the aqueducts of the city, and sub-sections formed around the water reservoirs and water harvesting sites.

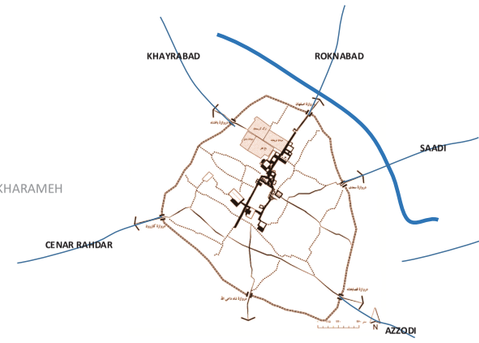
Separations and allocations effective parameter

At its morphologic context, this kind of parameter emphasizes on two other parameters

7.Mojtahedzadeh, G. (1997). Urban Planning in Iran (Vol. 1). Tehran, Tehran, Iran/Tehran: Payam Noor Press.11.

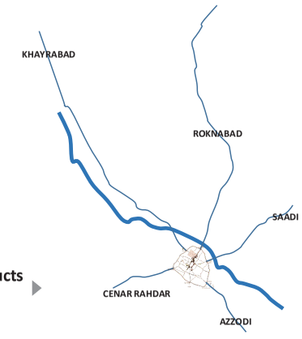
Hydrographic system in historical city of Shiraz

Location of historical texture in the contemporary city and the route of the aqueduct and dry river

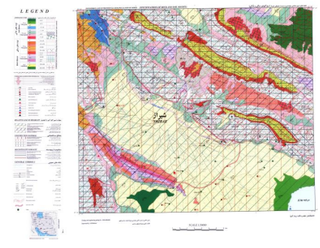


The Shiraz aqueduct route a hundred years ago

Approximate location of the aqueduct routes in Shiraz

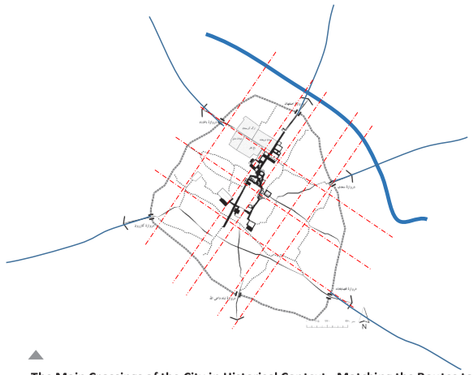


The route of the four main aqueducts that enter the city of Shiraz

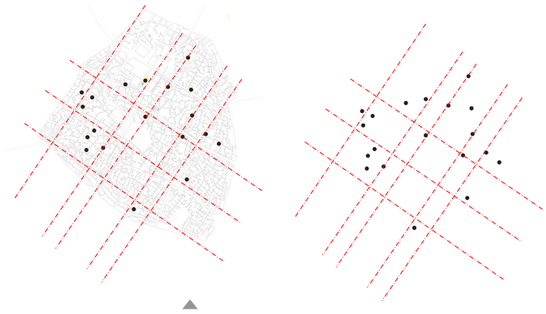


A Geological and hydrological map of Shiraz

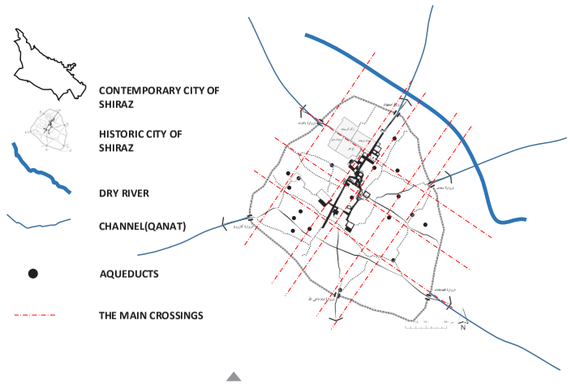
Hydrographic system in historical city of Shiraz



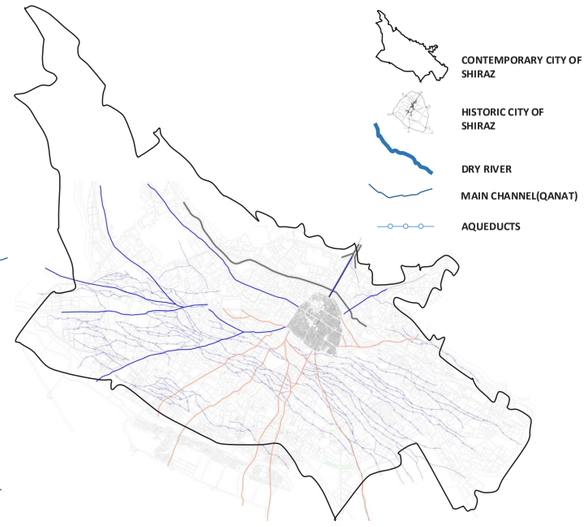
The Main Crossings of the City in Historical Context - Matching the Routes to the Subterranean Route One Hundred Years Ago



Location of city cisterns and routes



The location of aqueducts in Shiraz historical context



Route of aqueducts and rivers in the contemporary city of Shiraz

affecting on the process of Iran cities formation: religion-based –formation effective parameter, and trade- and -economic activity –based formation effective parameter. Urban planning system interfere into the social, economic and physical foundation of the cities in different ways, to create balance and order at the city space; sometimes it follows such a goal by creating separation, division, and allocation on physical structure of the city and sometimes gives meaning to it by integration, combination, and interconnection of this structure. Traditional separations and divisions which are applied to the spatial- physical structure of the cities are one of the most important evidence which shows the existence of planning thought and its legitimacies on the urbane development of that period. Basically, these kinds of separations, which are referred to as class segregation in the social geography of cities, and used with the concept of zoning in the spatial - physical dimension in urban development, are considered at urban development by urban developers from some below aspects:

a) Separation and division of city spatial structure (spatial segregation)

b) Separation of urban applications (operational segregation)

c) Separation of urban classes (social and class segregation)

Religion-based –formation effective parameter

In 651 AD., by Islam entry into Iran and the changing of religion in Iran, fundamental changes happened in Iranian architecture and urban development. Urban texture, arisen out of interconnected architectural single grains, made special changes in itself following religious instructions (of Islam). Creation of blind alleys for more confidentiality and the increase of defensive power of the city where some of these specifications. Designing and building some houses at the end of a passage which came to an end, causing that part of the passage to find private property aspect and to increase the confidentiality and security of that part of the city texture. The existence of deadlocks with the name of one of the influential inhabitants living in the alley certifies this issue. Change of the direction of the house in city texture along with the direction of Qiblah and city mosques shows that the religious parameter in the formation and organization of the cities has been so effective. The existence of internal and external yards at Iranian houses in the Islamic period and the emphasis of Islam on preserving confidentiality and hijab show that Iran has changed the shape and the spatial system of its cities in Islamic period in order to achieve this religious instruction.

Trade- and -economic activity –based formation effective parameter

Trade effective parameter has been one of the most important factors to select the cities establishment place in the past. City location at the intersection of important connecting and commercial roads has caused the boom of the city. On this basis, cities were formed, which also called commercial cities. These cities, in addition, to becoming prosperous and developed due to commercial exchanges between different cities were also a place for cultural and social exchanges between different people from different cities, races or tribes. In many cities which are located at the crossroads of commercial roads, some districts have been created due to different culture, race or tribe and even different religions, which had a significant role to form and organize the city. Also, the existence of various trades which sometimes were special to some specified cities, have created the small or big parts if cities that could determine, change or transform the shape and spatial structure of city texture. Among these cases, we can mention the district of Bazare Morgh that is specific to buy and sell the chicken and birds.

The study of available plans and documents regarding the genesis and formation of Shiraz city shows that the trade effective parameter, forming the population cores or urban centers on the basis of commercial roads, has had a significant effect on locating and forming of Shiraz city. Shiraz placement on the crossroads between cities of Darab, Kazeroon, Isfahan, and Firoozabad is one of the main reasons for its selection in the current location. Accordingly, due to cultural or commercial exchanges between the mentioned cities, some regions and districts are formed in Shiraz city, which have been built by observing their own social, cultural or religious specifications. It has been mentioned at the historical texts that Shiraz has had 11 districts named as Balakeft, Labe Ab, Murdastan, Sange Siah, Darbe Shzadeh, Eshagh Beik, Darbe Masjed, Sare Bagh, Meidane Shah, Jews districts and Bazare Morgh, each one has had a special social and cultural structure.

The history readout in the formation stages of Shiraz city

- Middle and Achaemenid Empire (550-330 B.C.)
- The Hellenic and Seleucid dynasties (312 - 64 B.C.)
- The Parthian Empire (247 B.C. - 224 A.D.)
- The Sassanid Empire (224-651)
- The Islamic conquest of Persia (633-651)
- The Rashidun caliphate - Omavian (651-661)

Formation of Shiraz city core

The first mention of the name of Shiraz, on the Elamite mud tabletops, dates back to 2000 B.C., which was found in June 1970 when the land was being dug for the construction of bricks in the southwestern corner of the current Shiraz. Cards written in the old Ilam refer to Tiras city.

8.Limbert, J. (2004). Shiraz in the Age of Hafez: the glory of a medieval Persian city (Vol. 1). Washington: University of Washington Press.4.

Qasr-e Abu Nasr *(Abu-Nasr Palace) or Takht-e Suleiman (Throne of Solomon) is the name of remained constructions situated in Shiraz*

in the Fars province of Iran. According to archaeological studies, the fortress built in the Parthian Empire was an important strategic location in the Sassanid Empire. Archaeologists found various drachmas and art crafts belonged to different historical periods such as Achaemenid, Seleucid Empire, Parthian, and Sassanid. This palace was recorded in Iranian historical list in 1932 in the name of Takht e Suleiman (Throne of Solomon). When Muslims invade Iran and conquered it, they called this palace as Father of Victory.

Establishing Shiraz at the current location (693)

Establishing Shiraz at the current location by “Hojaj ibn al-Thaqafi”. With the arrival of Islam in Iran in 651 A.D., the change of religion from Zoroastrian to Islamic and the decay of the city, it lost its importance and its inhabitants moved to Shiraz. Little information is available of this period, but it is clear that Shiraz has not had a grand mosque until the ninth century when Saffaridof Shiraz became the capital of their rule.[8]

The Umayyad caliphate (703) establishment in Shiraz Historical City

In that time, walls surrounded the city and a few inside districts had their own gates to the exterior of the city. The main gate of the city opened towards the mountains and the city entrance was along the main Qantas. The main entrance of the city leads people to the central part, including a covered Bazar, a governmental citadel, public services, and a formal plaza. The Bazar was the backbone of the city and some alleys were extended from Bazar corridor to the center of districts. Each district also had its organic order with the main center and public services. Some narrow alleys lead the residence to their houses with small gardens inside.

Central Grand Mosque in 894. Main Bazar in 695. City Great Wall in 940. City Gates (…3). Residential area in downtown. Establishing the city of “FANA KHOSROU” in 693.

The Buyid dynasty (932-1055)

- The first evolution in the city main structure is related to the Buyid era in 4th century A.H. or in 10th century A.D. (932-1055). The domination of the Buyid sultans on the Baghdad caliphs has boosted urbanization and trade in their dominated areas so that Azd al-Dawlah Deylami established a town called Kurd Fanna Khusraw to accommodate his troops. Because Shiraz had no more capacity. It was gradually disappeared over subsequent periods.
- He constructed a magnificent palace and a large library in Shiraz. His establishments were near a lake, leading from down of his palace and under the Grand Mosque to Kurd Fanna Khusraw.
- Establishment of monuments for the main functions of the city on the route of Qanats and flowing rivers, in the direction of the natural slope of the plain, was repeated in next historical periods too.
- Separation of the government headquarters from the religious center of the city, which reflected the relationship between the government and the Islamic caliphate system at that time, led to another major access from Darvazeh-Estakhr to governmental center. The city’s Bazar was formed in two parallel axes following the accumulation of business around this route.
- Two major features, i.e. the axis perpendicular to the Bazar and the separation of religious

and governmental field, became the main structural features of Shiraz city and were followed in subsequent periods. The first battlement of the city was built by Amir Abu Kalanjar Deylami, from Buyid Sultans, in 940 AD.

The Bazar also was the backbone of the city.

The main buildings of the city were:

Central Grand mosque in 894. Azodi library in 951. Main Bazar in 695. Azodi Garden and Palace in 955. City Great Wall in 940 and City Gates (8).

The Fars Salghurids dynasty (1148-1285)

- During the Salghurids domination on Fars (448-53 A.H.) (1148-1285 A.D.), no major evolution occurred in the city’s physical construction, except the construction of the schools and single monuments built in Shiraz. The city’s main features and monuments were the same ones built up to the end of the Buyid period, include:
- Central Grand Mosque in 894 –1349. New Grand Mosque in 1218.

The Great Salghurids dynasty (1155-1337)

-The Salghurids were electing the Fars rulers named The Atabak or Solghoriyan, in this era. But The Atabak rebelled on the Salghurids and independently ruled on Fars, in the second half of the sixth century. The second evolution of the physical structure of Shiraz occurred during their era. The city extended to the west during this period. The city still has had a fence and eight gates. Atabak chose the second axis in parallel with the Azodi Qanat established during the Buyid era and equipped them following the establishment of urban and state elements. The Atabak’s Garden, which was the residence of the Atabak and their state palace, was separated and a part of it was dedicated to the construction of the New Atabaki Mosque. This was the first special mosque of the government in Shiraz. This axis was completed and became a part of the city skeleton, following the construction of the “Sar-e Houz Agha” and “Sare Chahar Rah” malls. In the Muzaffarid dynasty era, the school building and Bibi Dokhtaran tomb were also added to this complex. The main structure of the city during the Atabak era had the same features as the Buyid’s. The separation of religion and state domains and the

placement of elements on the axis perpendicular to the Bazar was one of the common structural features of these two periods. The major monuments of this period include:

Tomb of «Mir Mohammad» in 1325. Tomb of «Aladdin Hossain» in 1349. Tomb of «Ali ibn Hamza» in 950. Tomb of «Bibi Dokhtaran» in 1300. Tomb of «Abeshkhatoon» in 1298. Tomb of «Ruozbahan» in 1165. Tomb of «Mir Ahmad» in 1349. Tomb of «A.Khafif» in 981. Main Bazar in 695. City great wall in 940. City Gates (8).

The Safavid dynasty (1501-1722)

With respect to past urban development actions, the Safavids chose the third axis parallel and similar to previous era axis and implemented their own urban planning design by preserving the main structural elements of the city. The elements placement in this axis started from the Madrasa e-khan reaching to Shah Square through Daoud Khan Bazar and Gheysarieh. The Square was surrounded with Safavid palace and mosque, in addition to some elements such as Dar al- Shifa and Imamzadeh Seyed Abdollah. There are currently no works remained from the square, palace, and other buildings. However, this area of the city is still known as the Shah Square district. Behind the Safavid palace, was the governmental garden, the northern side of which was adjacent to a passageway ended to the Bagh Shah, and the elders of the city had established some gardens on its both sides. Despite the fact that there is no mention of water and tree planting on this passageway in remained documents, it has had a similar role to Chaharbagh Isfahan in terms of function. Another passageway that began from the Tange-ye of Allah Akbar reaching to Shah Mir Ali Hamzeh tomb and Darvaze Isfahan Bridge was established as Chaharbagh. The passage was also surrounded by the gardens of the governor and the city elders. The gardens were destroyed after the Safavid era, but their remains are still recognizable due to subsequent reconstruction, even in two paths of Darvaze Isfahan and Zand Streets today. Due to the destructive floods in 1079 A.H. (1669 A.D.) in Shiraz, the Afghan invasion and destruction of the buildings by the next dynasties, no main work of Safavid era in Shiraz have been left except Madrasa e-khan, Khan Reconstructed Bazar(current Mesgaran Bazar).

Shiraz had no fence during the Safavid era, and Gorakani fence had been gradually destroyed over this era.

The Huge flood (1668)

The massive flood in 1668 and the Afghan invasion of Shiraz caused massive destruction in the city. Many buildings in the Safavid era were destroyed and a large part of the city's historical texture, mostly residential, was destroyed.

The walls were surrounded by the city with a few districts inside, which had their own seven gates to the exterior of the city.

The main buildings of the city include:

Central Grand Mosque in 894 – 1349. New Grand Mosque in 1218. Tomb of «Mir Mohammad» in 1325. Tomb of «Aladdin Hossayn» in 1349. Tomb of «Ali ibn Hamzeh» in 950. Tomb of «Bibi Dokhtaran» in 1300. Tomb of «Abeshkhatoon» in 1298. Daoud Khan Bazar in 1630. The complex of the Shah's Square in 1502. Tomb of «Ruozbahan» in 1165. Tomb of «Mir Ahmad» in 1349. Tomb of «A.Khafif» in 981. Main Bazar in 695. City great wall in 940. City Gates (7). Chaharbagh Safavid in 1505. Darvazeh Quran in 960. Safavid bridges in 1505. Khan Square in 1613. Madrasa of Mansuoriyeh in 1478.

The Zand dynasty (1750-1796)

Zandiyeh era in Shiraz began as Karim Khan got into power in 1767 A.D. (1180 AH). He chose Shiraz as its capital and built a governmental monument. When he started building a wall around the city, the area of the city was smaller than the one in the Safavid era. As most of Safavid gardens and buildings were destroyed after the Safavid decline, he established his governmental monuments often in destroyed gardens. First, he designated the Safavid Palace, as his temporary residence (little indoor), after reconstruction of its remnants. Then, he revived the Safavid Garden with the name of Bagh-e Nazar and built his main residence in the form of a citadel (Karimkhani Arg or indoor) The Karim Khan's establishments were built around the passageway accessing to Safavid Bagh Shah. This was the fourth axis for placing the urban elements in Shiraz. Also, He renovated and reconstructed the Safavid Mosque with the name of the Vakil Mosque, and constructed the Vakil Bath, Cistern, and School. Also, he reconstructed the city Bazar in governmental monuments area, and added some inns to it and built Toopkhaneh, Nagharekhaneh, and Divankhaneh besides the square. Moreover, he established another square for exercising the calvaries near the stables and imperial jail.

Shiraz of Karim Khan era had a high fence and a deep ditch. The city was connected to outdoor through six gates and was divided into eleven districts. In this period, the Vakil Bazar was the backbone of the city instead of the old Bazar. Almost all of the urban elements of the Safavid period remained flood-protected. Zandiyeh complex was built instead of the Safavid one, on the remnants of Safavid king's gardens in the west of the city. In 1766, the dry river route was changed to the north and the city developed. Also, Central Square (Military Square) was built.

In addition to the monuments remained from the past, the following features can be found in the Zandiyeh period:

The complex of the Zandiyeh Shah Square in 1502. The wall of the city demolished and

renewed in 1766. The walls of the city demolished in 1792.

The Qajar dynasty (1779-1924)

The era of Agha Mohammad Khan Qajar's reign lapsed with fighting for dominating on the neighborhood lands of Iran. The chaotic situation of the country, changing the capital to Tehran, boosting the maritime trade through Khuzestan and Karun river caused Shiraz to lose its previous importance. During this period, the city wall was going to be destroyed and the traces of ditch around the city remained in the form of a pit. In addition to the six Karim Khani gates, people chose some parts of the ruined fence for commuting and called it "Kal". Kal-e Moshir, Kal-e Shahzadeh Ghasem, and Kal-e Sheik Abuzareh were some of these routes. During this period, the occurrence of severe earthquakes and starvation caused a major part of the construction proceedings to be implemented on repairing the damaged buildings. Establishment of the New Bazar (Mirza Yousefi Bazar) following the Vakil Bazar as well as the Farmanfarma Mansion in the northwest corner of the Bagh-e Nazar are some works of this period.

During the governance of Mirza Hossein Khan Saheb Ekhtiar, the water of Shesh Pir was brought to Shiraz on the way of Zand Current Street, and this street came into the form of Chahar Bagh with tree planting and Raceway in the middle. The courtiers; gardens were also built around it. However, the physical structure of the city was not so different from the Zandiyeh period; and the size of Shiraz city never reached one of the Safavid periods, by the end of the Qajar period.

The main buildings of the city were:

The wall of the city demolished and renewed in 1803. Qavam os-Saltaneh Collection in 1841-1851. Moshir-al-Molk Collection in 1853. Salari Garden in 1849.

The Huge earthquake in 1823. The walls of the city demolished in 1823.

The large earthquake destroyed the walls of the city. The city did not have walls after this date.

The Pahlavi dynasty (1924-1979)

A centralized administrative system was formed during the Pahlavi era, following the collapse of a zoning system in cities. Establishment of the streets that split the heart of the old city and created a new delineation, led to the destruction of the district. The construction of

9.Bonyadi, N. (1992). The Historical Evolution of Shiraz Urban Structure and its Urban Spaces. Specialized Quarterly of Urban Development and Village Architecture, 5, 58-65.

two parallel streets named Karim Khan Zand and Lotf Ali Khan Zand broke off the historical texture of Shiraz. As the Western life patterns were promoted, the prosperous groups of Shiraz gradually settled in the gardens of the west and northwest of the city, and some streets were created for the car traffic in these areas. At that time, the Qajar Charbagh, matched with the Safavid's garden axis, was destroyed and turned into a dry street (Zand Street). The municipality, justice administration, bank, police headquarters, etc., were established around the Zand axis in Mashgh and Toopkhaneh Squares. Although urban outdoors and residential districts suffered major damages during this period, Shiraz still was relied on its original past skeleton. The general uses of the city were organized on the Zand axis, and the new residential developments were subject to a certain order and segregation.

The Government of the Islamic Republic of Iran (1979-IN PROGRESS)

With the change of government in Iran, no fundamental scientific change happened in its urbanization. Cities have been expanding irrespective of the fundamental formation of historical textures. Many parts of the historical texture of Shiraz were destroyed and the streets were enlarged. In addition, new streets were built on historic texture.

In this period, due to the importance of land profitability and fast access to the cavalry in cities as well as the growth of the service sector, the urban functions were expanded on the roadside, and the previous structural features of the city were practically forgotten. Thus, the free economy and urban land Bazar became the determining factors of the growth and the direction of the city center development.

Compulsorily, the contemporary urban development designs did not affect considerably the proper formation of the city's main skeleton, due to following up the irregular constructions and fluid motion of general uses in the city.[9]

A summary of case studies (Shiraz)

Introduction

In this chapter of the research, we will survey about the district structure in urban texture of Shiraz, based on the studies carried out in the previous chapters, a proper understanding of the structure of Iranian cities, the formation of Shiraz according to the effective parameters forming the Iranian cities, and the readout of the history of the city formation and its organizational structure. Consequently, the study of that part of the current city of Shiraz, which is currently known as historical texture, is necessary according to its formation based on the urban symbolic centers.

Shiraz has been important due to its strategic and morphological features and location on the crossing of Firoozabad, Sarvestan, Persepolis and Tisfun cities through Royal road.

This feature besides the cultural and commercial relations with the surrounding cities and arrival of different cultures have made the city to be shaped based on a specific morphology and the districts to be shaped based on cultural and social differences. The Iranian cities rapidly accompanied with this wave of change in their structure, after the arrival of modernity to Iran and its effects on the urbanization culture as well as the need to develop the city and to create the infrastructure required for its expanding.

The expansion of Shiraz on the margin of the historical texture and its undesirable effects on the historical texture are the most important parts of this chapter. It is necessary to read the urban texture and to understand the morphology and the architecture language properly, to achieve the design instructions in historical texture.

This chapter will be a preface to the next one, which explains the city formation in new definitions of architecture.

Urban morphology and organizational structure of urban districts

The first documented information available of Shiraz population is mainly the report of European tourists and their itineraries. By 1956, when the first census was officially conducted in Iran, most of the population data related to Shiraz and its various points have been mentioned in various historical sources, itineraries, and so on. But what is extracted today from the statistics published by the Iranian Statistics Center indicates that the historical texture of Shiraz has been included the entire population of the city until 1943. In fact, the physical development of the Shiraz has been limited to the historical texture until 1941s. The population of Shiraz has been increased than the population of historical texture Since 1956s and the growth rate has always been fluctuating. Totally, the growth rate has been increasing

from 1956 to 1986 and decreasing from 1986 onwards. On the other hand, the comparison of historical texture population with Shiraz city population shows that the population of the historical texture has always been decreased than the latter. This decline of texture population than the city population may be attributed to various factors, including the lack of urban services and facilities, the physical development of Shiraz during the last decades and, consequently, the transfer of a part of the population from the historical texture to the newly developed regions.

The features of districts in historical texture of Shiraz

Shiraz districts were divided into two large groups including Heydari and Nemati.

Those districts, the inhabitants of which considered themselves as the followers of Soltan Heidar -one of the mysticism Sheiks-, were called Heidari. Nemati was referred to as the districts, the inhabitants of which considered themselves as the followers of Shah Nimatullah Wali, who was also one of the greatest and most known mystics of the time. The engagements and conflicts take place between these two groups over long years are still subject to discussion, and even it is known as the proverb of Heidari-Nemati war. Five districts including Ishaq Beg, Darbe- Shazdeh, Balakaft, Shah Square, Bazar-e Morgh districts, were called Heidari Khaneh. Also, five districts including Sarbgh, Sang-e Siah, Darbe Masjid, Labe Ab, Sare Dozak, were called Nemati Khaneh. Of course, Armenia and Kalimiha(Jewish) districts were the neutral ones and did not engage in conflicts.

The population studies on the districts of Shiraz historical texture have been based on the statistics published by the municipality of region 8 of The Statistical Centre of Iran, Shiraz, for census done in 2006. The studies on the districts extents and areas have been done based on the data obtained from cadastral maps of Shiraz historical texture and the information contained in upstream projects:

1-Review of Shiraz Detailed Plan.2004,City and House Consulting Engineers.

2-Review of The Detailed plan of Region 8(Historical Texture) of Shiraz .2011,Parda Raz Architecture and Urban Developer Engineers).

Balakaft District

This district is the largest districts of Shiraz historic texture, which forms 18 percent of the city area with an extent of 65 hectares. Its population composed of 10833 people which equals to18.22 percent of Shiraz population. Kafd, Kaft or Kat, in the language and accent of Shiraz people are referred to orchard areas and large gardens. The district has been included large gardens such as Bagh-e Salari, Bagh-e Khatun, Baghe Kalantari, Bagh-e Astaneh, and some smaller ones. As the tomb of Imam Reza's brother of Hazrat Reza (***PBUH***) –Sayyed Alaeddin Hossein- is located in this district, this has been called Astaneh District and still is called Darbe Astaneh. Since Karim Khan Zand shrank the Shiraz fence, he integrated the Bagh-e Nou (New Garden) district with this district and totally called it Balakaft. This district is located in the South of Shiraz and has been limited to Ishaq Beg and Labe Ab districts and

the city battlement. The dominant use of this district includes the religious use with suburban function, commercial use with sub-district function and residential use occupying a major part of the district.

Lab-e-Ab District

One important work of Karim Kahan was the establishment of Qanats and bringing the water to Shiraz. As it was said before about Balakaft District, it was created from various gardens and needed a lot of water. As it was adjacent to the Lab-e-Ab District, inevitably many raceways full of Qanats running water, were passing through it to reach the Balakaft district to bring water to the gardens. AS the houses of this district were made up adjacent to raceways, it became known as Lab-e-Ab District. Of course, it is worth mentioning that the Lab-e-Ab District also had by itself plenty of small and great gardens and even every house of which had turned into a small garden. However, these gardens were gradually dried up and turned into buildings, due to lack of water and population growth. Also, it should be mentioned that during Karim Khan Era, when Shiraz was shrunk, the Sarajan District was also added to this one i.e. Labe Ab District. This district is among the marginal districts of Shiraz historic texture, which is ended to Shah Daei Allah Square from South. The commercial units are located on both sides of this street. Hosseini Street is located on its eastern side of the district. This street reaches Astaneh Square and is considered as a busy street. The main use of this district is of a residential kind. The area of the district is 32 hectares, which equals to 8.8 % of the historical texture area. According to the census of 2006, the population of this district was 5333 which equals to 8.97% of the total population of historical texture.

Sar-e-Dozak District

When Karim Khan shrunk the Shiraz fence and integrated the districts, the Sar-e-Dozak and Dashtak Districts turned to one district, both called Sar-e-Dozak. Az previously the robbers (*Dozds in the Persian language*) were attacking the people and houses and even caravans, this name was chosen for it. During the Karim Khan era, ten thousand Zar'(unit of length formerly common in Iran that was 41 inches or 104 centimeters) of the Dashtak lands were bought and the Mansouriyah School, which was specialized for training the religious scholars was established. One part of the Dashtak District, the Mansouriyah was also a part of which, was enclosed to Lab-e-Ab District, and now this school is a part of Lab-e-Ab District. This District has been limited to Bazar-e-Morgh, Sang-e-siah, Sar-e-bagh, Lab-e-Ab and the southern fence of the city. It has been placed in the southern part of the old texture. Hazrati Street crosses the middle of it. This Street is one of the streets connecting the city with the Shahcheragh religious center. Therefore, its traffic volume is high. The population of this district is 10.65% of the total historical population and composed of 6333 people. This district, with an area of 38 hectares, which equals to 10.5% of the total historical texture, is the fourth largest districts of Shiraz historical texture.

Sang-e-Siah District

Following the actions of Karim Khan Zand, and integrating the districts of Shiraz, the Darb-e-

Kazeroun District, which was itself a separate district, was enclosed to this district, and they were collectively referred to as the Sang-e-Siah District. The name of this district was taken from the name of Amrobn-e-Osman, Abu al-Bashir, the great scientist known as Sibuyeh (died in 1080 or 1094 AH). His grave was in an unpleasant position in a small abandoned cellar this district, and black stone (in Persian means Sang-e-Siah) was on his grave. Initially, the district name was Sang-e-Sibuyeh i.e. the district where the Sibuyeh grave was located. But, due to the mistake of the commons and the presence of a black stone on the grave, it has been known as the Black Stone over time. This district has been limited to the Shah Square, Shar-e-bagh and Sar-e-Dozak Districts as well as the Western battlement of the city. It is one of the marginal districts of Shiraz historical texture, which has a better situation than its adjacent districts in terms of intradistrict communication, and its secondary accesses are clearer. The main use of this district is of a residential kind. The area of the district is 33 hectares, with a population of 5500 people. It appropriates 9.2 % and 9.25% of total historical texture, in terms of area and population, respectively.

Ishaq Beg District

The name of this district has been taken from the name of Shah Sheik Jamal al-Din Abu Ishaq Inju, the son of Mahmud Shah Inju, who was being called Amir Ishaq Beg by Shiraz people. In the old-time, the district has been limited to Darb-e-Shazde, Lab-e-Ab, Balakaft(Balakafd) and Bazar-e-Morgh districts. Karim Khan Zand Street covers some of the north and Lotf Ali Khan Zand Street passes through this district, thus, it is divided into two parts, the northern part of which has greater urban services due to the proximity to the Darb-e-Shazde District. The northern part of the district has good facilities and the southern part, unlike the northern part has a better texture, due to its proximity to the Astaneh Square and better access to the margin of the texture. The main use of this district is of a residential kind. The district population is 11.49% of total historical texture which equals to 6833 people. It is the third greatest district of Shiraz historical texture, in terms of extent, which has an area of 41 hectares i.e. 11.4% of total historical texture.

Darb-e-Shazde District

The name of this district has been taken from the name of

Shah Zadeh Mansour (Mansour the Prince), and the tomb of Shah Mansour is still located in this district. Because I was the way to reach Sa'di's tomb, The district has been called Darvaz-e-Sadi(Sadi Gate). Today, Darb-e-Shazde and Darvaz-e-Sa'di districts are the familiar names for the Shiraz people. Before Karim Khan Zand era, this district was divided into two districts including Shayadan(The fraudulent) and Mordestan, and Karim Khan merged them. In spite of some physical changes, this district is one of the oldest districts o Shiraz historical texture, located in the northern part of the texture. The urban services in this district are mostly of urban and suburban function. The existence of Vakil Bazar in this area indicates its suburban and even subarea function. The main use of the district is of a commercial and residential kind. It is the ninth district of the historic texture of Shiraz in terms of extent, encompassing 5.5% of the historical texture extent, i.e. is 20 hectares. 5.6 percent of historical texture population reside in this district. Its population is composed of 333 people.

Shah Square District

During his governance over Shiraz, Karim Khan Zand established extensive buildings in the northwest outside of Shiraz, including the great square named Karim Kani Square, which was gradually destroyed and replaced with the modern building of Bank Melli(national Bank), police headquarters, Abouzar High School (the Old Shahpour) and Bank Sepah. Before building this great square, another square had been built in its proximity, near to Bagh Shah Square, which was one of the famous monuments of the Timurid era. It was the place where the army was stationed, and the kings, the emirs, and the armies that time set up their tent. The square was also called Shah Square. In the proximity of the square, some houses were built, which composed a district name the same Shah Square.The district is limited to the Sang-e-Siah, Darb-e-Shazde, Yahoodiah (the Jewish), Bazar-e-Morgh and Darb-e-Masjid Districts. The Shah Square district is located in the northwestern part of Shiraz's historical texture. Lotf Ali Khan Zand district divides the district into two parts. The northern part has wider urban services, because of its proximity Darb-e-Shazde District, and good facilities; and the southern part, unlike the northern part, has better access due to its proximity to Astana Square and Street, and more convenient access to the margin of the texture. The district main use is of a residential kind. Its area is 31 hectares, encompassing 8.75% of the total area of the historical texture of Shiraz. Its population is 8.69% of the total population of the texture i.e. 5166 people.

Darb-e-Masjid District

Today, this district is known as the Darb-e-Masjid-e-Moshir District. This naming is due to the beautiful solid mosque in this place. It is one of a building of Moshir al-Mulk Shirazi, who has been one of the rich persons of the city. The location of the Masjid-e-Nou(new mosque) in this district has raised its religious-tourist use. The proximity of this district with Shah Cheragh and crossing of Montazeri Street, as a way of linking the city with Shah Cheragh, has raised its importance. The residential importance of the district has been raised in the past, because of the quality and social status of the inhabitants. Now, it has an area of 9 hectares, encompassing 2.5% of the total area of Shiraz historical texture. The population of the district is 1500 people equals to 2.25% of the historical texture population.

The Kalimiha (Jewish) districts

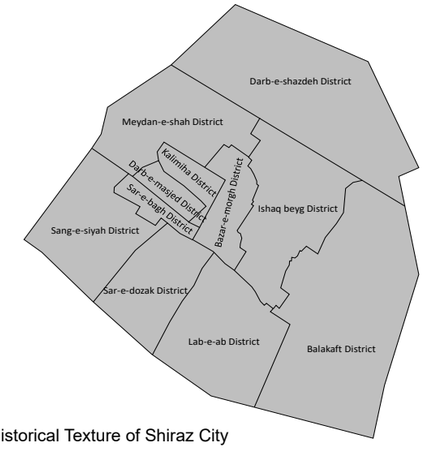
This district has been located between Shah Square and Bazar-e-Morgh districts. At that time, most of the Jews were engaged in gold-making and gold-selling. The Zargarha Bazar(the goldsmith's Bazar), which was a branch of Morgh Bazar, was crossing Kalimiha District was crossing the Kalimiha District, and Zargarha District still remains, and most of its inhabitants are the Jewish people. This district still has remained almost intact. In this district, there were places like baths, Maktab Khaneh (unofficial school), Bazars, mill, The Gharavolkhane (Guardhouse) and mosques special for the Jewish. The district center has been the same mosque special for the Jewish. Due to different culture and religion, the districts have not expanded much among the Muslim-resident districts, and its area has not been exceeding 5.5 hectares.

Due to its small size and very low population, this district has not been of particular importance in terms of the morphological, physical, and socio-cultural structure of Shiraz historical texture. This district is the smallest district of Shiraz historical texture, in terms of extent.1.6%

The District Name	Area (hectare)	Area (%)	Population (individual)	Population (%)
BalaKaft	65	18	10833	18.22
Labe Ab	32	8.7	5333	8.97
Sare Dozak	38	10.5	6333	10.65
Sang Siah	33	9.2	5500	9.25
Sar Bagh	5.5	1.6	916	1.55
Shah Square	31	8.75	5166	8.69
Darbe Masjid	9	2.5	1500	2.52
Kalimiha	5.5	1.6	1020	1.60
Bazare Morgh	25	7	4166	7
Ishaq Beig	41	11.4	6833	11.49
Darb-e Shade	20	5.5	3333	5.60
Mordestan	55	15.2	9180	15.42
Total	360	100	59438	100

Situation of the Districts in Historical Texture of Shiraz City - Reference: Municipality of the Cultural-Historical Area of Shiraz.

10.Nasr, T. (2004). Shiraz architecture and urban development (First Edition ed., Vol. 1). Shiraz, Fars, Iran/Fars: Rozanekar Press.25-32.



he Districts in Historical Texture of Shiraz City

of the area of Shiraz Historical texture has been dedicated to this district. The district population is 1020 people, encompassing 1.6% of Shiraz historical texture population.

Bazar-e-Morgh District

This district was originally composed of two districts including Shah Cheragh (PBUH) and Bazar-e-Morgh. Some part of the district became a part of the Shah Cheragh District over time, and a part of the Bazar-e-Morgh and its surrounding houses were called Bazar-e-Morgh. Later these two districts were integrated into one. The name of Shah Cheragh district is no longer among the names of Shiraz districts. The name of Bazar-e-Morgh District has been taken from the Poultry Sellers' Bazar. This was a dark Bazar with an area of about one kilometer, the roof of which was covered, and the bottom of which was dished. The district is the eighth extensive district of Shiraz historic texture, with an area of 25 hectares and a population of 4166 people. It encompasses 7% of the total area of Shiraz historical texture, where 7% of the total population of Shiraz historical texture resides. It has been limited to Ishaq Beg, Darb-e-Shazde, Lab-e-Ab, Shah Square, Sar-e-Dozak and Darb-e-Masjid Districts.

Sar-e-Bagh District

The district, as its name suggests (in Persian means at the beginning of the garden), has been located adjacent to the Azodi Garden. This garden, which was unique in its kind, was made by the command of Adud al-Dawla Deylami. Some houses were built and the Sar-e-bagh district was created beside this garden; but later, the garden did not boom anymore over time and it was divided into more limited lands, and now there is no trace of them. Some new buildings have been built instead of them, without coordination with urban morphology of Shiraz historical texture. In the old-time, this district has been limited to the Sang-e-Siah, Darb-e-Masjid, Sar-e-Dozak, and Shah Square districts. The area of the district is 5.5 hectares encompassing 1.6% of the area of Shiraz historical texture. It has a population of 916 people, which equals to 1.55% of the population of Shiraz historical texture.[10]

Urban structure formation based on urban sign focuses

The urban symbols

A city symbol is a visual element and building, which identifies a location, and is a reliable reference point. From Lynch's point of view, the urban symbol is the most important element sense making the perceptual map of the city. Its outstanding feature is that it is unique and prominent. Urban symbols are the most important tools for organizing the spatial and perceptual skeleton of the city. Significant performance of the city symbol is of the proportionate situation in the urban spatial system hierarchy.

In other words, urban symbols have a function in micro to macro levels. Obviously, the scale and visual mastery of urban symbols are determining factors of their situation. A city symbol

11.Lynch, K. (1960). The Image of the City. Massachusetts: Mass Cambridge Massachusetts: MIT Press.

can be both subjective and objective.[11]

Some functions can be defined for each space at different periods of times, and the for-

12.Nasr, T. (2017, spring). The Position of Urban Symbols in the Analysis of Identity and Culture components of the Iranian city face. The City Identity, 29, 24.

components	The components affecting the formation of urban symbols	Urban symbol elements
Natural components	Natural constructional components	Dry river
	Natural field and building components	Ghasr-Dasht gardens in north and northwest of Shiraz, Narenjestans
	Point components	Bamu highlands (North of Shiraz), Drake Mountain range (West of Shiraz), Qibla and Sabzpooshan mountains (Southwest and South of Shiraz), Mount Maharloo (East of Shiraz)
	Liner point components	Dry river(Khorram Rud)
Artificial components	Public landscape	Checkered (organic) streets, seeing the Shiraz plain through the mountain slot, which is visible among the dome covered with colored tiles. After that, the city fence and battlement. Then the gardens around the city with the beautiful cypress trees shine on them, then the Tange-ye Allahu Akbar and Darvaze Qur'an.
	Prominent linear-constructional elements	Shiraz dry river; Bamu Drake, Sabzpooshan and Maharlou highlands
	Focal and point indices	Toopkhaneh square, Mashgh square, Tekye-e Hafttanan, Tekye-ye Cheheltanan, Khan Square, Atiq Grand Mosque, The Atabak Grand Mosque, and its countertop space.
	Liner, point, historical and physical indices	Toopkhaneh Square, Masgh Square, Karim Khani Building Complex, Ali ibn Hamzeh Chah Cheragh, Astana Seyyed Aladdin Hossein)
	Single prominent urban buildings	Monuments: Tombs of Hafez, Khajoo, Saadi, Sheikh Kabir, Sheikh Roozbahan, Shah Shojae, Siboyeh, Darvaze Quran.
		Religious Buildings: Church of the Holy Simon, Khanqah Ahmadi, Adrian (Zoroastrian Temple). Restoration: Shah Cheragh monastery, Astaneh Seyyed Aladdin Hussein, Mausoleum of Shah Daei Allah, Imam Zadeh Shah Mir Ali Hamzeh, Tomb of Sheikh Mohammad Lahiji, New Mosque, Atiq Grand Mosque, Pars Museum, Khan School, Narvangestan Qavam, Eram Garden, Bagh Takht, Bagh-e Delgosha.
	Prominent urban masses, spheres, and spaces	A: Heidarikhaneh Districts including Ishaq Beg, Bazare Morgh, Balakaft, Darbe Shazde, and Shah Square Districts.
		B: Nematikhaneh Districts including Sar Bagh, Sare Dozak, Sang Siah, Labe Ab, Darbe Masjid-e Nou and Kalimiha Districts.

The urban symbol elements or components affecting the formation of urban symbols since the establishment of Shiraz city up to now

mation principles of urban spaces can be identified base on all of them. Natural elements, artificial structures and physical bodies, the combination of political, economic and social ethnic and systems, and historical events are subjects, the comparative study of which at different periods has identified the distinctions of each historical period from another, and created the city morphological identity. Today, the pattern of the spatial organization of the city and its main identity has changed in the traditional cities of Iran, due to the continuous, but dispersed and unorganized development of cities. Also, breaking the cultural continuity has damaged the creation of the linkage of urban functions. Also, the symbolic foundations and urban symbols have been neglected. In recognition of Shiraz symbolic points, to understand the initial structure and formation of the city, some elements such as the dry river (Khorram Rud River which was not so dry at the time of establishment of the basic core of Shiraz) can be noted as an urban symbolic line to stretch the city along a continuous linear path around the river. During its lifetime and at the times of requiring the expansion, Shiraz city has moved along the river towards the west and northwest and shaped the city structure based on this natural urban symbol. The movement of the river along the city side, not entering to urban texture, to protect the city from its seasonal upheavals suggests that the selection of the city construction site has played a fundamental role in the natural locating of the city. The gardens and fields have been also formed as the landscape symbolic points around the city based on the same wisely selection. Components such as the landscape of the surrounding mountains ridge including Bamu (north of Shiraz), the Drake Mountain range (west of Shiraz), Qibla and Sabz Pooshan (southwest and south of Shiraz), Maharlou (east of Shiraz), are other natural symbols that have played a role in defining the city and determining its landscape boundaries. In the formation of Shiraz urban structure, not only natural factors have played a role as urban symbols or determinants of the city conceptual boundaries, but also artificial elements, such as the symbolic buildings of the city and squares, have played a role to determine the urban symbolic points. The city formation in conjunction with urban symbolic points in different periods has made the city morphology and structure to be consistent with a certain system and integrity.[12]

The most important structural elements of Shiraz city in different historical periods

- **The main structural elements and features of the city**
- **The Umayyad dynasty 703**

- Dar-ul Emareh and several mosques and Bazars, formed around the main axis of the city towards the Estakhr.

The Saffarid dynasty 861-915(Shiraz is the capital)

- Establishment of Atiq Grand Mosque
- Starting the main Bazar of the city from the northern door of the mosque and dividing it into various rows.

The Buyid dynasty 932-1055(Shiraz is the capital)

- The Bazar has been tight and narrow and completely joined the Grand Mosque.

- The main passageways of the city are linked through Darvaze Estakhr to a major urban area, government boundaries, and religious center of the city.

- The city main urban Bazars and services were gradually established on the way of the main passageways and created the main skeleton of the city.

- Bifurcation of the Bazar due to the distance between government boundary and religious center.

- Having spot growth in several circular axes under the influence of the main communicational axes (compatible c with the Bazar) and communicational axes between the governmental and religious space corresponding to the city waterways.

The Atabak and Salghurids dynasties 1148-1501

- Establishment of Sar-e Houz Agha and Sar-e Chahar Rah Bazars between Seyyed Mir Mohammad and Mir Ahmad Shrines as well as between New Bazar and Shahcheragh.
- Establishment of The Atabak New Mosque with the governmental function.
- Formation of the checkered skeleton of the city.
- Preserving the distance between governmental and religious centers.
- Establishment of the governmental axis parallel with Azodi Qanat axis.
-

The Safavid dynasty 1501-1722

- Formation of the Safavid city structure based on a new axis along the axes of the Buyid and the Atabak periods.

- Construction of the Khan school, Gheysarieh Bazar and the foundation of the Vakil Mosque.

- Construction of Chaharbagh on the city entrance axis from Tang-i Allahu Akbar to the bridge on the Dry River.

- Zoning as the basis of the city divisions.

The Zand dynasty 1750-1796(Shiraz is capital)

- Urban texture has been expanded rapidly to the north and northeast of Shiraz. (The two new-established Moordestan and Darbe Shazde are the results of this sudden development).
- Zandiyeh era constructional action was mainly carried out during Karim Khan Era (repairing the city fence, creating a ditch, etc.).
- Creation of new organization in the skeletons of Shiraz city.
- Renewal of the main axis for the governmental spaces replacement in Shiraz, perpendicular to the communicational axis and the Bazar. (This axis was transferred on Karim Khan-e Zand current axis at the time of Karim Khan).
- Replacement of governmental spaces on the Karim Khan axis.
- Establishment of new monuments instead of Safavid gardens and flood -destroyed buildings.
- The Vakil Bazar, which was built following the Haji Bazar, because the backbone of the city connected the major urban elements, around which many inns were built.
- The construction of a school near the Vakil Mosque.
- Formation of the city construction in this period is subject to its past pattern of observing the distance between the religious spaces used by the people and the governmental monuments, and the Bazar is located between these two poles.

- The governmental part has its own religious space (the Vakil Mosque) and a Bazar (the Vakil Bazar), bathroom and cistern.
- Establishment of the administrative division's organization of the city in the form of eleven districts.

The Qajar dynasty 1779-1924

- No fundamental change was occurred in the physical structure of Shiraz city, following the decline of Shiraz past importance.
- Construction actions such as the construction of Chaharbagh on the axis of the current Zand Street, the repair of earthquake destructions and the construction of residential settlements of the Lords and powerful families in the city.
- Destruction of the fence around the city and remaining the ditch in the form of a pit.
- Creating the Kal in the city walls and fence (Kal was referred to as the informal small gates made by the people at the fence of the city).

The Pahlavi dynasty (1924-1979)

- The government determined the architectural style that was undergone major changes, following the influence of Western architecture.
- The area still had retained its importance as the city center of activity.
- With the construction of new streets and the creation of improper delimitation, the networks of passages have lost its former continuity and integrity, and the city backbone axis was broke down.
- Ahmadi Street along the northern part of the city backbone defined the backbone up to Shahzadeh Qasem Square (Hezarti Square) through playing the communicational –servicing role.
- The activities were focused on the eastern - western boundaries following the designing of the streets. (The two strong axes of Karim Khan Zand and Lotf Ali Khan Zand are perpendicular to the primary axis of the Bazar and the city).
- The expansion and advancement of the city outside the city fence (this move to the northwest led to the creation of a path for traditional Shiraz gardens in Qasr al-Dasht areas).
- Construction of new streets including Karim Khan Zand, Lotf Ali Khan Zand, Pahlavi (Taleghani today) and so on.
- The works of this period, either continued their activities with minor changes or began their activities with the construction of new buildings in the old ones.

- In order to study the process of building in the built space of historic cities, or in other words, building in the built space of the cities historical textures; analyzing the development trend of the city historical textures in recent or contemporary times, which include the highest percentage of existing buildings is of great importance. The results of previously discussed investigations carried out on the historical texture of Shiraz show that the remaining parts of Shiraz historical texture are belonged to the Zand, Qajar and Pahlavi Eras - due to its destructive earthquakes and the flood between 1824 and 1853 B.C. Therefore, the study of the structure of Shiraz historical texture, which included through the city in that era-Zandy, Qajar, and Pahlavi-could be effective to achieve the goal of this study. Accordingly, the city structure in the mentioned periods would be examined.

The city structure in the Zand Era

- In the Zand era, Shiraz was chosen as the capital of this dynasty. The urban texture was developed rapidly towards the north and northeast of Shiraz following the choosing Shiraz as the capital of the Zand government. The two new-established districts (Moordestan and Darbe Shazde) are the result of this sudden development. The constructional actions of the Zand Era took place mainly during Karim Khan Time. Karim Khan's first actions were to repair and renewal of the city fence, to reduce the city's environment from 9400 meters to about 6300 meters and to create a ditch around the Shiraz fence in order to turn the city into an impenetrable, safe and secure citadel. He created a new organization in Shiraz city skeleton. The main replacement axis of the governmental spaces in Shiraz, which was perpendicular to the communicational axis and the city Bazar at all times, was renewed in this period. This axis was matched with the Sar Bagh alley at the Albuyid Era, with the New Mosque, Sare Chahar Rah Bazar, Daoud Khan Bazar and the Khan School at the Atabak Era and it was transferred on the Karim Khan current axis at the time of Karim Khan The replacement axis does not mean the communicational axis, but the governmental spaces were organized on it. The function of the Zand axis, which was assigned to the communication axis between the city and the Safavid gardens with Bagh Shah in the form of an enclosed street during the Safavid period, was changed during the time of Karim Khan. The Toopkhaneh Square was built on a part of the Safavid gardens and a cemetery located in the area. The Karim Khan Tavileh VA Establ (Bar and Stable) Square was also located on the ruins of the Safavid gardens. The Vakil Bath and Cistern

KAL

The Kal means bald and hairless head. In Shiraz, a container with a fracture of its edge is called Kal. At the peacetime, a part of the fence between tow gates of the city was pierced so that, if a passenger wanted to enter the city at night when the city gates were closed, he could be able to cross these passageways. These sites were called Kal.

became a part of the Safavid royal garden. The Vakil Bazar, which was created at the following of the Haji Bazar as the city backbone, connected the main urban elements, and many inns were created around it. The governmental part has its own religious space (the Vakil Mosque), Bazar (the Vakil Bazar), bath and cistern. The city that was located inside the citadel, surrounded by a ditch, was considered to be smaller than the Safavid period limit due to the damages occurred.

- The city was connected to outside through six gates. The administrative division's organization of the city was formed in the form of its eleven districts. Each district has its own sheriff and held its religious ceremonies in the district mosque. The Heydari and Nemati divisions of the districts, which were established from the Safavid period, was still kept.

The Qajar Dynasty 1174-1304 S.H.

- During this period, the formation of the city construction was also subject to its past pattern of observing the distance between the religious spaces used by the people and the governmental monuments. But, Shiraz lost its importance due to political evolutions and the transfer of the capital from Shiraz to Tehran, therefore no major changes were made to its physical structure. Many parts of the city were destroyed, due to the occurrence of several earthquakes and floods during the Qajar period, the major time of which was dedicated to restoring and repair of Shiraz after damage caused by these events During this period, special attention was paid to the aristocrats and lords, and they were able to create great and magnificent residential complexes, including Basir–al Saltaneh, Ghavam-al Mulk and Moshir-al Mulk complexes, in the city.
- During this period, the city's fence, which was destroyed by the earthquake, was not restored. In some section of it, the people opened the unofficial gates that became known as the *Kal*, some of which can be mentioned as follows:

- Kal-e-Moshir between Bagh Shah and Darvazeh Kazeroon. Kal-e-Teymori between Darvazeh Isfahan and Darvazeh Sa'di. Kal-e-Sheik Abu Zara' between Darvaze Sa'di and Darvaze Ghasabkhane. Kal-e-Shahzadeh Ghasem between Darvazeh Shah Daei and Darvazeh Kazeroon.
- During this period, the Shiraz City had six gates including The Darvazeh Bagh Shah or the Darvazeh Drake, located on the Zand Street between the Rudaki and the Anwari t-stops. Darvazeh Isfahan or Darvazeh Sa'adat near the Dry River Bridge. Darvazeh Sa'di or Darvazeh Fasa, at the end of Zand and Takhti Streets. The Darvazeh Ghasabkhaneh or the Darvazeh Kavar at the end of Astaneh Street. Darvazeh Shah Daei, at the northern part of Dar Al Salam Cemetery. Darvazeh Kazeroon at the Beginning of Siboyeh Boulevard. The Nasir al-Mulk Mosque, Moshir Mosque, and Narangestan-e Qavam mansion can be mentioned as the prominent works of this period. In the Qajar period, there were several squares, no trace of which has been retained at the present time. These squares include Nagare Khaneh Square at the western part of Vaki Bazar, upper than Arg Toopkhaneh Square at its southern part, at the left part of the Arg; Tavileh or Mashgh Square, exactly in front of the Arg.
- The Shiraz districts, up to the beginning of the Qajar sovereignty have been included the Bagh-e Nou, Balakaft,Ab Dashtak,Sare Dozak,Baheliyeh,Sang Siah, Darvazeh Kazeroon, Sar Bagh, Shah Cheragh,Darbe Masjid, Bazar-e Morgh, Ishaq Beg, Shayadan, Darbe Shazde, Moordestan,Shah Square and Kalimiha Districts. During the Qajar era, they have been included Ishaq Beg, Bazare Morgh, Balakaft, Darbe Shazde, Darbe Masjid-e Nou, Sar Bagh, Sare Dozak Sang Siah, Labe Ab, Shah Square, and Kalimiha districts.

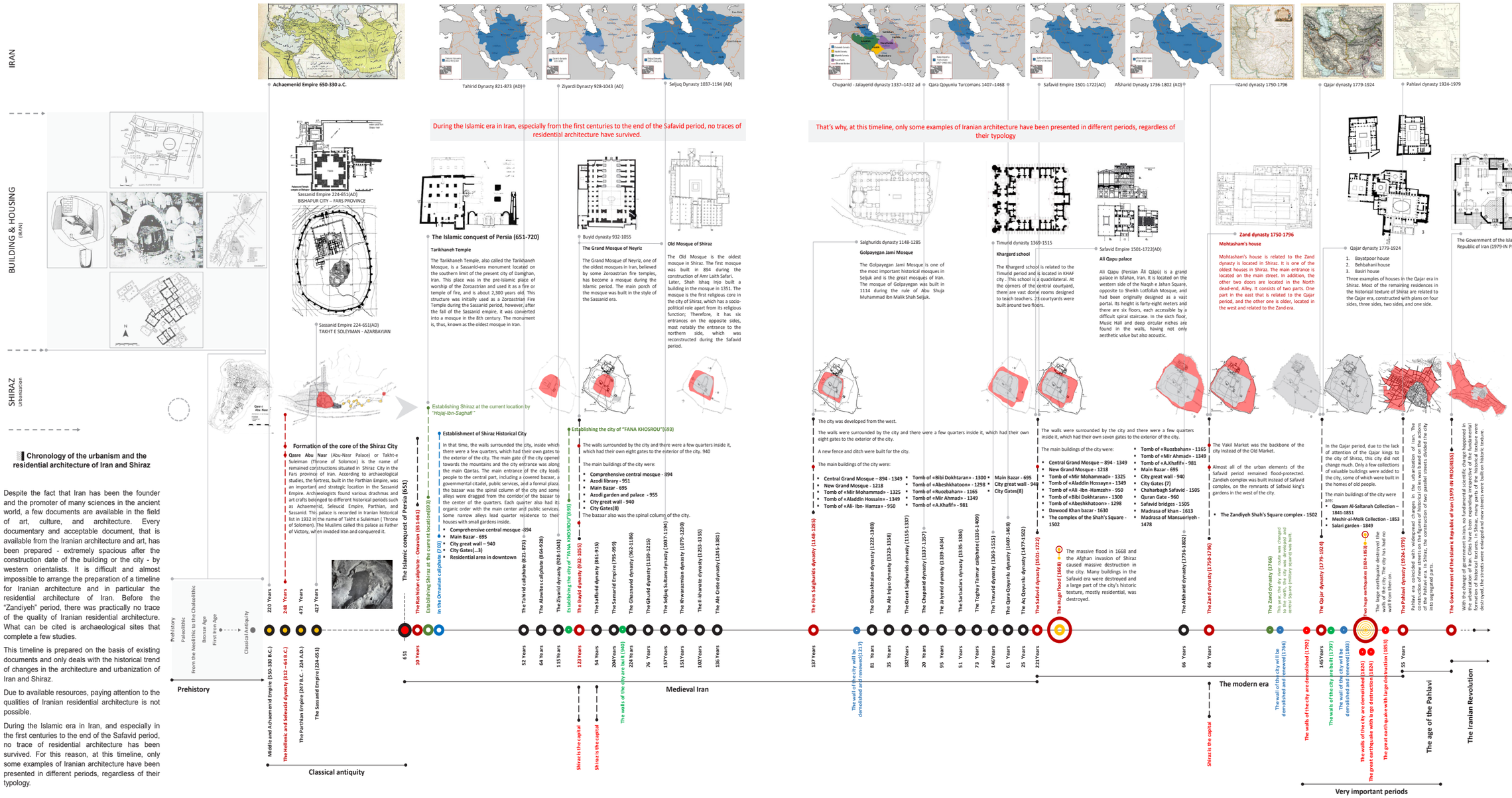
The city construction in Pahlavi Era 1304-1357 S.H.

In the two decades of 1304-1324 S.H, the Iranian government determined the architecture style and was changed under the influence of Western architecture. The first phase of industrialization in Iran was also carried out in the Pahlavi era. At this period in time, though the backbone still retained its importance as the city center of activity, the past continuity and integrity of the passageways network was lost, the axis of the backbone collapsed and its overall cohesion was disappeared following the construction of new streets such as Lotfali Khan Zand and Karim Khan Zand, Ahmadi, Qaani and ...) and the creation of inappropriate delineation. Playing the communicational-servicing role, as a piece of the axis, Ahmadi Street along the northern part of the backbone defined the city backbone up to Hazrati Square. With the new street-designing and the breakdown of the backbone and its dispersion throughout the city, it can be said that the main activities were concentrated in the eastern-western linear range. The formation of two strong axes i.e. Karim Khan Zand and Lotf Ali Khan Zand, perpendicular to Bazar and city primary axis, can be mentioned as one of these activities. The city expansion and development outside the fence led to the movement toward the northwest and along the path of traditional gardens of Shiraz in Qasr al-Dasht area. This can be attributed to the increase in population and the migration of villagers to Shiraz.

Among the streets that were created in the Pahlavi era (since 1305 S.H.), we can mention the Karim Khan Zand, Lotf Ali Khan Zand, Pahlavi (today's Taleghani), Rudaki, Manouchehri, Ahmadi, Dariush (Tohid), Qaani, Hafez, Ferdowsi, Shahpour (22 Bahman), Saadi, Khayyam, Anvari, Hazrati, Vesal, Nader (Enghelab), Moshir Fatemi, Farah (Haeri Shirazi), Janet, Forudgah and Qasr al-Dasht. In addition, the works that existed in this period were subjected to some changes or continued their activities with minor changes, or began their activity with the construction of new buildings in the old ones.

Some of these buildings include:

Chronology of the urbanism and the residential architecture of Iran and Shiraz



Despite the fact that Iran has been the founder and the promoter of many sciences in the ancient world, a few documents are available in the field of art, culture, and architecture. Every documentary and acceptable document, that is available from the Iranian architecture and art, has been prepared - extremely spacious after the construction date of the building or the city - by western orientalists. It is difficult and almost impossible to arrange the preparation of a timeline for Iranian architecture and in particular the residential architecture of Iran. Before the "Zandiyeh" period, there was practically no trace of the quality of Iranian residential architecture. What can be cited is archaeological sites that complete a few studies.

This timeline is prepared on the basis of existing documents and only deals with the historical trend of changes in the architecture and urbanization of Iran and Shiraz.

Due to available resources, paying attention to the qualities of Iranian residential architecture is not possible.

During the Islamic era in Iran, and especially in the first centuries to the end of the Safavid period, no trace of residential architecture has been survived. For this reason, at this timeline, only some examples of Iranian architecture have been presented in different periods, regardless of their typology.

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Formation of the core of the Shiraz City

Qasr- e Abu Nasr (Abu-Nasr Palace) or Takht-e Suleiman(Throne of Solomon) is the name of remained constructions situated in Shiraz City in the Fars province of Iran. According to archaeological studies, the fortress, built in the Parthian Empire, was an important and strategic location in the Sassanid Empire. Archaeologists found various drachmas and art crafts belonged to different historical periods such as Achaemenid, Seleucid Empire, Parthian, and Sassanid. This palace is recorded in Iranian historical list in 1932 in the name of Takht e Suleiman (Throne of Solomon). The Muslims called this palace as Father of Victory, when invaded Iran and conquered it.

Establishment of Shiraz Historical City

In that time, the walls surrounded the city, inside which there were a few quarters, which had their own gates to the exterior of the city. The main gate of the city opened towards the mountains and the city entrance was along the main Qantas. The main entrance of the city leads people to the central part, including a covered bazaar, a governmental citadel, public services, and a formal plaza. The bazaar was the spinal column of the city and some alleys were dragged from the corridor of the bazaar to the center of the quarters. Each quarter also had its organic order with the main center and public services. Some narrow alleys lead quarter residence to their houses with small gardens inside.

Postal, Telegraph and Telephone offices, Municipality, Police Headquarters, Education, Justice Administration, Office of Registration of Documents, Department of Finance, Bank Melli, Bank Sepah, Pars Museum, the National Library, Prison police(Zendan'e Shahr'bani), Shahpur,Namazi and Nazemiyeh High Schools, the Best School of Zand and Physical Education and Scouting Offices.

By examining the evolution trend of Shiraz historical texture from the beginning of the formation of the city primary core to pre-contemporary period, it would be clear that the city has been expanded very slowly and consistent with the population increase or the change in social, political and cultural equations. The important point about these changes is that the main factor of morphology and the architecture language has been preserved in the process of the city expansion. But in the two periods of Pahlavi and the Islamic Republic, the changes have been made very quickly, regardless of the architecture language and urban morphology. Generally, the features of historical texture can be summarized as follows:

- Each era has established the new administration and governmental spaces and elements compared with its last era.
- The process of residential districts genesis has been steadily and progressively ongoing.
- The separation and permanent distance between the religious center and the government center have always been preserved.
- Each group and category has its own religious center (a place for the community of decision-making) such as the religious center of the government, religious centers special for each district, the mosques in the Bazar and so on.
- The Zand and Pahlavi eras are very influential in the process of formation and genesis of the historic region. The former is due to numerous left monuments and works as well as the efforts made to develop the city, and the latter is due to an attempt to modernize it.

Expansion of the city - construction on the margin of the historical city - and its effects on the historical texture of the city

Today's Iranian cities can be divided into two main sections including traditional and modern. The physical transformations of the traditional part can be studied in two periods of per and postmodernism. Also, the new or modern part can be divided into two parts including the physical part, suburbs with principled and planned construction, in which the rich and middle classes of the community reside; and the new self-growth and unplanned districts, in which the poor and rural people reside (marginalized district). The traditional section has its own special elements and features, in terms of the physical body, in tow periods of pre-modernism (the 1300s) and modern (1300's onwards) that are separated from each other. Also, the new section with its own special elements and features has created two types of physical body with unique features.

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14.Beaumont, P., Gerald, B., & Malcolm, W. (1990). The Middle East. (M. Modir Shanehchi, M. Ramezanzadeh, & M. Ali Akhshii, Trans.) Mashhad, Mashhad, Iran/Mashhad: Astan Quds Razavi Press.248.

15.Soltanzadeh, H. (1986). An Introduction to the History of City and Urban Development in Iran (Vol. 1). Tehran, Tehran, Iran/Tehran: Amir Kabir Press.270.

16.Soltanzadeh, H. (1986). as previous, 288.

17.Eckart, E. (2001). Iran (City - Tribes - Village). (A. Saeedi, Trans.) Tehran, Tehran, Iran/Tehran: Monshi Press.66.

The pre-modernism Iranian cities

Cities before the 1300s in Iran contained signs, indicating special samples of the Middle East traditional city.[13] Except for a few cities, the rest were surrounded by protective walls.[14] *The walls provide good weather conditions, in addition, to protect the city against invaders. The only urban element located outside the walls of the city was cemeteries. The Grand Mosque and the Bazar were two interconnected urban elements in the center of the city. The Grand Mosque was the tallest building in the city that was built near the Bazar and served as a place of prayer, court, and intellectual - educational center.*[15] *Also, sometimes the citadel was located next to the Great Mosque and the Bazar, and sometimes next to the battlement. The spaces, elements, and facilities within each citadel were such that allowed the inhabitant to have semi-independent life so that they could continue their life without space for several months if they were encircled.*[16] *The residential areas were arranged in a centralized order around this general structure, dividing the city into several distinct districts with its own features. The districts had the mosque, bathrooms, Bazars, etc., at a small scale in a district level. The alleys were narrow and zigzag that was ended to the Bazar one hand, and to dead-end on another hand. The alleyways were used only for local and district commute. Usually, the rich were settled in the city center and others (the poor, the religious, ethnic minorities, etc.) in separate districts of the suburb. Urban spaces were so arranged that provided the security, shelter, and privacy of the townspeople were. The cities were enclosed and preserved with walls; and, in some cases, the districts also had a battlement. The materials used in the construction were native and of low durability, so that most of the buildings were built by mud and clay, and in some cases the rich people used brick. Small townhouses lacked separate rooms with different usage. Only more affluent houses in big cities had a living room and spacious private living space.*[17]

The postmodernism Iranian cities

Considering new political-economic development, the social development also appeared in settlements, liveliness, and the new urban development; and a new texture began in cities with rapid growth.[18] Following the increase of the city population, the intense migration of villagers to cities, the general

18.Hesamian, F. (1998). Urbanization in Iran (Vol. 1). Tehran, Tehran, Iran/Tehran: Agah Press.64.

19.Eckart, E. (2001). as previous,84-86.

20.Mashhadizade Dehaghani, N. (1994). Analysis of Urban Planning Features in Iran. Tehran: University of Science and Technology of Iran.31.

policy of urban renewal and the centralized rules and regulations, the use of new means of transportation and the establishment of new offices, the old-style district system lost its essence and the districts were emerged, not based on racial-ethnic criteria, but on the basis of economics and social classes. In this period, the Islamic-Iranian cities formed three distinct parts physically: i) the traditional transformed section; ii) the newly planned districts; iii) the marginalized districts.

The new districts were planned according to the construction principles and laws and were created under the supervision of the government, the municipality, and the relevant organizations. These new districts were affected by the principles of contemporary and modern urban development. In this district, the principles of Iranian-Islamic urban development were diminished and replaced by the new models with an imitation from modern Western urban development.[19] In most cases, the districts were created either in remote areas around the city or in the villages nearby the city, with favorable weather and natural conditions, and gradually encompassed the villages and surrounding lands.[20] Some urban elements lost their role and function, following the advent of new functions arisen out of the modernization or technological, political-economic, and social changes. Consequently, some new urban roles and functions appeared at the arena of cities, and they demanded new elements in the cities. With the arrival of cars, the zigzag roads network were replaced by regular and wide checkered streets. The traditional Bazars lost their former role, following the advent of the new trade complexes and buildings in the streets. The new educational centers, including universities and schools, were developed instead of religious science schools. The public baths were left in favor of private ones, following the development of plumbing water. The old-style district system lost its essence and some disintegrated districts were created within the traditional texture. The battlements were also collapsed following the advancement of military technology; the city center has also undergone some changes as a result of the city's growth. The construction and change of usage were taken place; the new elements, such as cinemas, hotels, banks and new offices begun to develop and the traditional texture started to be entrenched in terms of socio-cultural and demographic scales, as a result of leaving the city by the richer inhabitants.

Therefore, some marginal settlements (marginalization) were created in the suburbs of great cities in Iranian-Islamic countries, as a result of several factors such as migration of villagers to cities, investment in the cities in the form of implementing the urban plans and country-specific factors such as land reform, the existence of oil reserves and more investment in large cities.

Physical features of Shiraz City before modernism (until the 1300s S.H)

Shiraz has obtained its vital force mainly from the three factors including commercial prosperity, and political centrality of the government and the sustainable role in the culture of the political Iran land. This was due to the geographical location of this city in the path of the most important commercial way of the ancient world i.e. The Silk Road. This Road has started from China border, joining to the Antakya Port besides the Mediterranean Sea, after crossing Iran plateau and Mesopotamia. A branch of this ancient road was detached from the main road in Rey City and continued to Siraf ancient port through crossing Isfahan and Shiraz.[21] The physical reflection of the three mentioned factors in the body of the city can be observed obviously: A big and rich Bazar, the extensive tribunal (Divankhaneh) and the barracks (Sarbazkhaneh) and military centers around the core of the city during the Zand period.

21.Nasr, T. (2008). An Investigation on the Architecture and Urban Development of the Zand Period (Vol. 1). Shiraz, Fars, Iran/Fars: Navid Shiraz Press.20.

Physical features of Shiraz City after modernism (from the 1300s S.H onwards)
Structural changes and the historical texture skeleton

Once, the Shiraz City has been limited to the walls and a battlement, which now forms a ring around the historical-cultural area. The growth and development of the city have dismantled and expanded the walls. The most important changes in the physical development of Shiraz have begun since the Pahlavi era. In this era, the walls and the old battlement of the city were removed. Regarding the importance of speed as the most important symbol of modernity at that time, the construction of new passages and openings became the priority of intervention programs at that time and continued in various ways over different periods. Shiraz has been limited to the historical area until 1949, of that a map of the city situation, is available. During various governmental periods, there were various administrative-political and religious centers in the city, the most recent of which is Zand government. what is found from the map is that, the new administrative centers including the old justice and the municipality of the city have been established in the same area and correspondent with it, in the 1930s and early of the reign of First Pahlavi; Several important and historical squares, including the Mashgh and Toopkhaneh Squares, have been destroyed and replaced with municipality and justice administration. Another important action in this period is the construction of Karim Khan Zand Boulevard due to political reasons, to facilitate access to the Bazar, to destroy the old structures as the major obstacle to modernity and to reduce the Bazar guilds power. The construction pattern has been perpendicular to the Bazar axis, almost confirming the old main Chahar Bagh passage and connecting to its western and eastern regions along the historic area. In addition to fading the activities from the Bazar and the flourishing of these axes wall, the first new residential lord districts have been formed in the western margin of historical texture.

In 1976, during the second period of the Pahlavi reign, the industrial, military, and servicing elements- the construction of which had no place in historical texture- have been deployed far to the edge of the historical texture and attracted dispersedly some groups of people.

Hafez Street is one of the most important servicing axes of this period. But it has been created in a residential area of the most important forming and emerging zone, on the western edge of the historical texture and around the Karim Khan and the newly- established Lotf Ali Khan street axes. Its access network has been completed by very direct and wide axes and has a very regular structure. Almost, the direction of all main axes of this period have been toward the West and the city has been also expanded in this direction. This process has been continued during later years and in recent decades. Then, Shiraz has been gradually

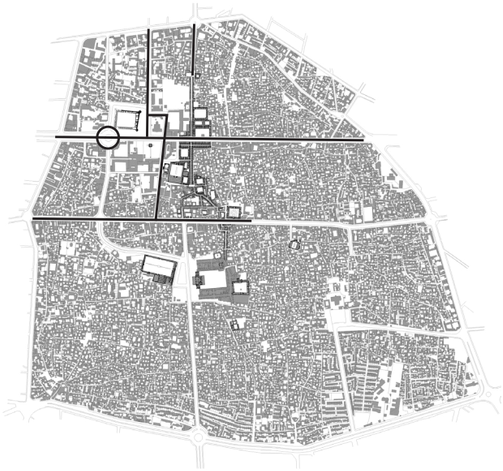
turned to a metropolis, which currently has eight metropolitan areas. The historical-cultural area, or the same the historical texture boundary of the city, is in conformity with district 8 of the municipality.

Classification of interventions and developments affecting the structure and skeleton of historical texture.

Investigations on Shiraz historical texture show that the marginal parts of the city began to develop, and the residential construction, which was somewhat out of control of the government at that time, was developed without regard to urban morphology and architecture language, and the city went beyond its boundaries. This can be attributed to the development of the city in order to create an infrastructure of urban texture to adopt modernity, followed by the entry of more population to Shiraz. The construction on the margins of the city led to more penetration of the marginal unauthorized architecture to historical texture and to alter the morphology and architecture language of urban structures.

Architectural studies on the historical texture show that some parts of urban texture within the old city, which have been destroyed for some reason, have been exposed to constructions that do not have any consistency with urban texture either in terms of architectural language or in terms of urban morphology. This has been done through violating the law and per capita standard of full and empty space, in order to obtain more productivity of the land as well as the economic and commercial resources available in the historical texture. This change in morphology and architecture language gradually expanded to the city historical texture and affected many parts of it as well as a peripheral contemporary urban texture that was expanding to the west and northwest.

At the result of this change and its process, the urban texture of Shiraz became nondescript and disintegrated, so that it was very hard or no more possible to access the architecture basis in urban texture, and particularly in the historical texture. The construction in each ruined space of the city took place without the adoption of Iranian architectural patterns, following the change in urban morphology and the architectural language of historical texture. Interventions affecting the structure and skeleton of Shiraz historical texture in different



A) Shiraz. 1949
The first period of urban development (changing the structure of the streets by creating new streets and widening the old streets).

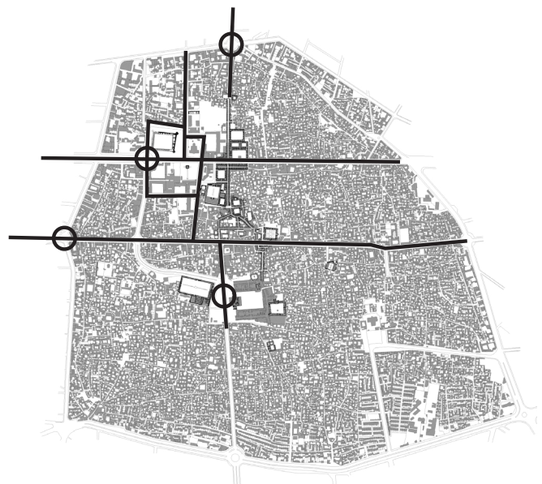
periods can be classified as follows according to their interventional position:

The transformation of the previous pedestrian into an urban ride and the non-automobile traffic through the historical context, due to changes in the nature of historical trails and their expansion to facilitate vehicle traffic.

The transformation of the previous pedestrian axis into an urban riding one and unplanned traffic of the cars through the historical texture, due to changes in the nature of historical passages and their expansion to facilitate vehicle traffic.

The creation of extensive ruined spaces due to constructing the new buildings in historical texture and the change of per capita full and empty space. Changing in regional climate micro-ecosystems and disturbing residential standards in an urban district.

The loss of the private nature of texture and the public unlimited influence on historical



B) Shiraz. 1956
In the 60s S.H, the communications network around the Bazar and the citadel became more complete and its areas completely separated from its peripheral residential texture.

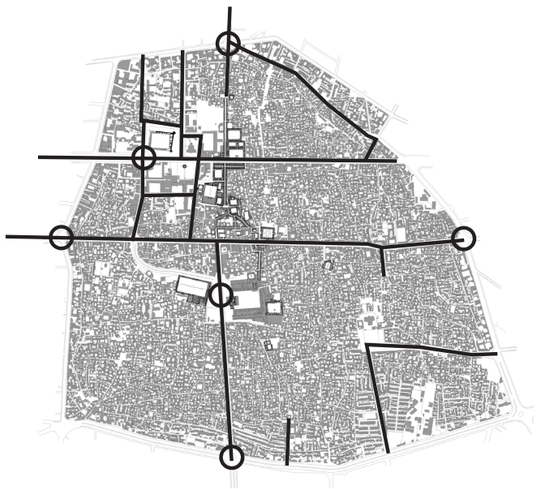
texture because of adopting the influence of the non-indigenous with the aims and motives of economic expediency.

The disintegration of the organic structure of urban passages and confusion of the pedestrian's movement direction, with changes in urban morphology and district structures.

Severe air, environmental, landscape and space pollution at the regional level due to change in the use of the type of materials used in the structure of new buildings. Changes in historical texture at specific periods of time in the contemporary era.

A) Shiraz. 1949

The first period of urban development in Shiraz has occurred in the 30s. During this period, the following axes were built, the main purpose of all of which has been facilitating access to the Bazar. During this period, nothing has happened in the southern part of the texture, which is completely residential:



C) Shiraz. 1971
From 1971 onwards, the historical texture of the inner network has found its current shape.

Construction of Karim Khan Boulevard
Construction of Piroozi Street
Construction of Taleghani Street
Launching the construction of Lotf Ali Khan Zand axis

B) Shiraz. 1956

In the 60s S.H, the communications network around the Bazar and the citadel became more complete and its areas completely separated from its peripheral residential texture. The important event occurred in this period was the construction of the Ahmadi Axis and the Square in front of the Shah Cheragh shrine along with the importance of its pilgrimage role. Other actions of this period include:

Completion of the communication network around the Bazar and the Arg-e Karim Khan
Construction of the Ahmadi Axis and Square
Completion and stretching of Lotf Ali Khan Street

C) Shiraz. 1971

D) The structure of texture in the contemporary era since the 50s onward
The structure of the outer and peripheral movement of the historical texture has been considered. The construction and completion of a ring around the historical texture and the surrounding streets have been emphasized.

From 1971 onwards, the historical texture of the inner network has found its current shape. Some important actions that have taken place over these years include the following:

Connection of the Hazrati Passage to the ring
Completion of the street designing around the citadel
Construction of the Teymoori District
Construction of gardens and empty spaces of texture
The relative development of the Eastern area
Completion of Western area development
Development of Shah Cheragh
Construction of Astaneh and Hosseini passages
Development of Mir Alaeddin Hossein
Construction of Shah Daei Street stretching
Construction of Toopkhaneh Square
Construction and changing the pattern of residence in Moordestan

D) The structure of texture in the contemporary era since the 50s onward

The structure of the outer and peripheral movement of the historical texture has been considered.The construction and completion of a ring around the historical texture and the surrounding streets have been emphasized. Some actions taken during this period include:

Teymoori street
Shahid Dastgheib Boulevard
Sheikh Roozbehan Avenue
Sibuyeh Boulevard
Zeinabiyeh Street

The general approach and procedure of these interventions have been based on demolition and reconstruction, and the desire for extensive reopening within the texture. Other features can be summarized as follows:

The desire to increase the construction density in the historical texture
The desire to destroy the margins of prominent elements and the construction of commercial complexes
The desire to invest in business areas
The desire to expand public servicing spaces in religious buildings

Influence on the structure of the passages network in the historical texture

Adapting the structure of the existing network to the historical structure of the city shows that

Map of Shiraz historical texture passages (before demolition of passages and creation of new streets)

Map of Shiraz historical texture passages (after the demolition of the passages and the creation of new streets)

the regular network imposed on it caused the fragmentation and destruction of most of the old passages. In addition to physical effects, the function and the role of these axes have also been severely influenced. The demand for passing them has been declined, and the passages, which once were the interface between the main entrances and spaces of the city have become subways with a local access function. The effects of the existing passageway networks on the old structure can be divided into two main types:

- The lost origins and destinations and the gates are the most important ones. In addition, a large number of public spaces and hangouts of people have been either disappeared or slackened on the way of passages and in the centers of the districts.
- Adapting the structure of new passages to old ones suggests that, although many parts of the historical passage have been integrated with new ones, their effects on the relationships between different parts of the city are still clear.

Influence on ancient districts

Along the axes, the ancient district's boundary has also broken, some of them such as the Darbe Masjid and Kalimiha Districts have been completely destroyed, and some others such as the Balakaft, Shah Square and Sare Dozak Districts have been divided into several pieces.

Influence on the public arenas

These areas have been generally located on the way of the main passages and in peripheral of prominent buildings, which were the place of interaction between people and different groups, and nothing remains from them currently.

Read the historical texture as designing in it

The first step in determining the type of intervention in historical textures to create new architecture seeds is to read and understand the urban morphology, construction typology, and the architecture language of the considered urban texture. Formation of the city de-

22.Council for Urban Development, a. A. (2007). Guidance for Identification and Intervention in Worn-out Textures. Deputy of Urban Development and Architecture, Secretariat of the Supreme Council for Urbanism and Architecture of Iran. Tehran: Ministry of Housing and Urban Development - Deputy of Urban Development and Architecture. (p.33).

23.Zaker Haghighi, K., Majedi, H., & Habib, F. (2010). Compilation of Indicators Effecting on Urban Texture Typology. Urban Identity Journal(57), 65.

velopment based on the preservation of existing textures requires the correct reading of the urban texture, in which body the structural interventions are supposed to take place. Indices such as shape and localization, density, the ratio of unchangeable usage area to the block area, the ratio of the area of the largest piece of block to the area of the average pieces of the block, the difference in the number of floors between the tallest block in building and the average block floors, are among the reading parameters of the city historical texture.

The texture of each city is a dynamic and changing quantity that reveals the physical condition and formation of the city over time. It determines the gradation of the city physical space i.e. the full and empty spaces, the ratio of their quantity to each other, how they relate to each other and the extent of their closeness. Also, it reveals the communication network, access mode and the general features of the roads and alleys. Moreover, it would be possible to identify the main and the secondary ways trough the texture In other words, the texture of the city is interweaving and the mode of placement of buildings and their combination with each other in relation to the network of roads based on environmental conditions.[22]

Although the segregation of the city textures is performed according to the needs of design, architecture, urban development and other related disciplines proportionate with specific purposes, generally more than ten factors or feature would be often cited to differentiate and classify urban textures. These factors include formation time, formation rate, urbanization growth rate, land use composition, urban functions deployment, physical cohesion (urban cohesion), communicational network formation, environmental balance, texture composition coordination, demographic density, construction density.[23]

Urban texture created at each time of the formation of each city represents the history of the city past identity and process of change. Identifying and trying to maintain them together with planning for the organization of these textures is one of the most important issues to be considered in dealing with each city and planning for it. The urban planners will be able to follow specific and appropriate planning proportionate with any texture, through identification and segregation of different types of textures, and consequently take measure to preserve the historical past of each city along with keeping the urban identity. Therefore, identifying different types of urban texture in a city is considered as a basic necessity for planning urban development. Urban development planning should be done with respect to urban texture types and features such as breadth, quality, and points of the urban value and try to preserve different city's texture.[24] On the other hand, one of the necessities of reading historical urban textures is to determine its exact delimitation based on the parameters identifying the urban texture and the factors affecting their delimitation. Accordingly, specific planning should be articulated for each texture within the framework of the overall urban development plan. This will have a significant impact on the success of the urban planning of each country. Although different studies have been conducted in Iran cities, none of these studies have addressed the practical and functional aspects of reading the historical or modern urban texture, to design and construct it (urban texture). These studies have been conducted with the aim of theoretical identifying urban textures from the perspectives of urban development

24.Council for Urban Development, a. A. (2007). Guidance for Identification and Intervention in Worn-out Textures. Deputy of Urban Development and Architecture, Secretariat of the Supreme Council for Urbanism and Architecture of Iran. Tehran: Ministry of Housing and Urban Development - Deputy of Urban Development and Architecture.(p.120).

experts, and they are practically incapable of providing the practical solutions for interfering with the historical texture of cities. One of the studies in this regard is the Guidance for Recognition and Intervention in Worn-out Textures (approved by the Supreme Council for Urban Development and Architecture of Iran – June 2007), which attempted to investigate the methods of identification and intervention in worn-out textures of the country; But it is practically incapable of providing a functional instruction.

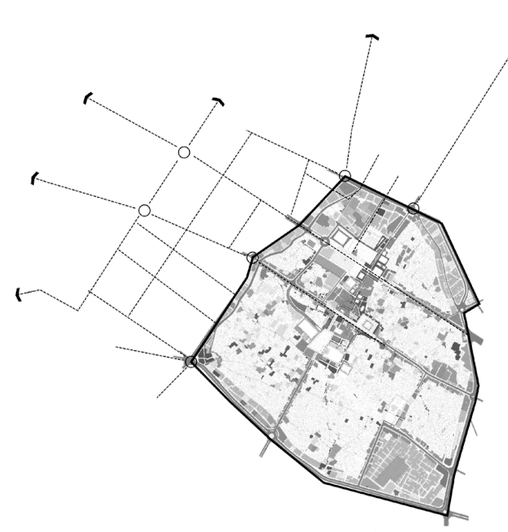
Urban Texture in Shiraz City

According to investigations, the current Shiraz City has the following textures: old texture, middle texture, new texture, peripheral texture, cellular texture, and semi-rural texture.

A) The old texture

formation of this texture dates back to 1300 SH. Residential units and the remaining structure in this area were formed mainly in the thirteenth century. The old texture of Shiraz is referred to as the area located on the sides of the Zeinabiyeh, Sibouyeh, Qaani, Saadi, Fer-

25.Dean of Architecture and Urban Development, o. S. (2004). Revision of Shiraz Detailed Plan. City and Home Consulting Engineers, Architecture and Urban Development. Shiraz: Municipality of Architecture and Urban Development of Shiraz.120.



The old texture of Shiraz and its extension to the west and northwest

The new context of Shiraz and its historical context

dowsi, and Keshavarz and has been situated almost within the area of the last battlement of the city. In the past, this area has been limited to a battlement with six gates, encompassing some districts. The central parts of this texture are much older. This texture is divided into northern and southern parts by streets called Karim Khan Zand and Lotf Ali Khan Zand. Except for two mentioned broad streets, several other subways have contributed to disintegrate the city ancient texture. Changes in the composition of different elements and forms of communication networks of the cavalry, infantry, the city Bazar and valuable monuments adjacent to them, not only provide the original integrated skeletons but also created some abnormalities in the spatial organization (3D) of the city. In general, the structure of this texture is a network of main passages with an average width of about three to four meters and have a relatively specified and in some cases almost straight, axis. Their secondary branches, almost with an average width of two to three meters. In this part of the city, the concentration of commercial centers and the increasing of their in number, have caused other uses, such as residential use, not to have balanced growth; and in some cases, the residential uses play the warehousing role, due to the presence of enterprises and stores. Regarding the aging and wearing of residential usages, and due to the residents' reluctance to build and renew them, they have not been developed; and their demanding populations are of relatively low -income groups.[25]

The buildings in the old texture are generally one-story and rarely exceed two stories. However, four-story buildings were built along the streets that were built to enhance productivity and to provide the historical texture with services. In the current state, the buildings do not follow a certain constructional rule, so that the average segregated pieces of the texture vary from 100 to 300 square meters.

26.Dean of Architecture and Urban Development, o. S. (2004). as previous.

B) The middle texture
formation of the middle texture in Shiraz on the side of west and northwest

B) The middle texture

formation of the middle texture in Shiraz is related to the urbanization evolution of the early decades of the current century. At the same time as the formation and prevalence of the capitalist system in Iranian society, the old texture area could not adopt the added population anymore. Therefore, at this period of urbanization, we observe some changes in the structure of the existing textures, along with the physical expansion of the city.

In the second decade of the current century, the urban face of the old texture of Shiraz undergone transformation to adapt to the new conditions governing on society. Following the construction of streets, the existing routes and passages of the middle texture were formed faster, in the form of fragmented parts and some spots on the margins of the old texture, more in west and northwest; and this texture was formed faster than the old one. The middle texture was formed around the old texture of the city from about 1921 to early 1961.[26]

As the city grew and spread, new physical changes took place in the old part of the cities. The construction of new streets is the first manifestation of the new urban development, after which the margin of the streets was transformed and new buildings were built, but the inner parts of the texture were less transformed. The stage of the destruction of the old texture started by creating squares in the city center, and the perpendiculars checkered streets.

The separation of lands, passages and access networks in the middle texture have followed a more geometric order than the old one.

The access networks of the texture enjoy more orders in this area, and the problem of old texture traffic is not seen in this area.

In terms of spatial texture and aggregation of residential units, the density of units in this area has been reduced than the old texture and the building blocks are more regular. The intermediate texture has more regular and geometric access networks than the old texture, and we can see well, the change from organic design to checkered design and map. The middle texture of Shiraz is often related to the sections built in the period after 1921, and its main feature is the new materials and the use of modern architecture in constructions. This

area of the city is located in regular, irregular and checkered forms in the right, north, and west of the city. There is a hierarchy between the passages of this texture in most sections so that the collector and distributor passages have a width of 8 to 12 meters and access passages have a width of 6 to 8 meters. The segments in the regular checkered section are ordered and their average area is 200 to 300 square meters, while the irregular texture does not follow a particular order and the area of segments varies from 80 to 200 square meters. Land use in the range of middle texture indicates that the mainland user is of a residential kind, and the commercial use is seen much less only on the periphery of the streets, compared to the old texture, is much less.

C) The new texture

This part of the urban texture of Shiraz is related to sections built after 1981 in the northern and northwestern part of the city, where construction has been formed up to the last decade. The network of passages of this range is hierarchical so that the collector and distributor

The peripheral texture and The new texture

network has a width of 10 to 19 meters and access passages have a width of 6 to 8 meters. Most of the buildings formed in this part of the city are more than two stories. The new discontinuous forming texture is checkered due to planning and conducting of construction based on the studies of Shiraz land preparation plan. This texture has been planned more in conformity with regular access networks, to meet the need of car traveling.

D) The peripheral texture

in fact, the peripheral texture that was formed and developed in Iran from 1971 onwards,

essentially encompasses dormitory parts and metropolitan suburbs. It was increased following the increase in population, urban migration, and the need for housing and urban growth. The growth of population, especially caused by overcrowded migrations seeking a shelter to reside, created the middle texture in marginal points or outside the city. The urban textures created after 1981, which included the largest city area and accepted the highest population, were called the peripheral texture.

In some lands, such as the northern lands of the city, where mostly middle-income and the high-income population started construction, have maps with more geometric order and the servicing problem is seen less in this area. But in most of the land that has been under construction during this period of time, some texture susceptible to marginalization have been emerged, which are more vivid in the east of the city and less vivid in south and west of the city. The peripheral texture of Shiraz has been formed in eastern and southern parts of the city; and has no definite system and structure in terms of urban morphology. This range of urban texture is not legally authorized to use urban services and infrastructure. These textures were located within the city and its area has been reduced following the reviewing of a comprehensive plan of Shiraz.

F) The satellite texture

formation of this texture began in 1981, culminating in the early 1970s. This section included many towns around large cities. The rapid growth of the city, the prevalence of unconstrained construction and settlement of the immigrant population created many problems. The imbalance between the shaped spaces, the expansion of social and psychological problems arising from the confrontation between cultures and traditions, are among these problems. In fact, these plans have been considered as a clashing action to respond to the growing need for urbanization. This stage of physical expansion of the city is the only step that has been dominated by planning ideas since the inception of its primary sprout formation. The main idea at this stage of the physical expansion was that the urban development overcomes urban growth and creates a new residential complex with the least problems than the districts formed in suburban. Only one town in Shiraz has been built with this feature (satellite texture). The new Sadra town in the northwest of Shiraz, with a distance of m from the historic core, is the only satellite texture of Shiraz, the construction of which began in 1992.

G) The semi-rural texture

another subset of new urban texture in recent decades has been semi-rural texture, mainly formed through the integration of adjacent villages in the city. Perhaps it cannot be said that these textures are new, but it is better to recognize them as rural and ancient textures. This part of the city is related to the villages that have been located within the limit of the city while it was spreading. This texture in Shiraz includes some parts of the west and northwest of Shiraz, were once inhabited by Talkhdash, Qasr al-Dash, and Koshan villages. Although now these regions are known by their own village name, their texture has changed from a totally rural texture to a semi-rustic and in parts to a totally urban texture. The urban struc-

ture in this texture is completely new and many parts of it have been destroyed and rebuilt in recent years.

Reading the Historical Texture of Shiraz

Reading the historical texture of Shiraz is based on several basic steps.

The first step

The study of documents and investigations on the process of Shiraz formation and growth, in the first step, shows that Shiraz has been formed based on parameters influencing on the formation of Iranian cities, such as defense, trade, and cultural parameters. Although the presence of any of these factors and parameters is not well understood in the urban texture of Shiraz, but based on the existing and hidden evidence in the historical texture of Shiraz, it can be understood that this urbanization system, with its inherent features, has followed a subjective and planned process. You have followed.

The second step

The second step to read the historical texture of Shiraz was to refer to the maps and remnants of the cities that could be considered in a close and defined relation with Shiraz in terms of urbanization. The maps and remnants of the Bishapur and Ghale-ye Abu Nasr were included in documentary and reasonable evidence used to better understanding of the hypotheses of Shiraz formation.

The third step

The third step was to conduct a field study and urban surveys in Shirazhistorical texture, which helped to better understand the historical texture and its changes. Selection of special sections from the historical texture of Shiraz in order to carry out precise studies on the scale of the district and architecture is another action taken in step three. In this process, reading the single architectural seeds and extraction of their data is of great importance.

The Fourth Step

The next step in this process is to scrutinize the findings of the previous steps on the actual scale and to extract the results in order to formulate principles and guidelines for design and action in historical textures.

The structure of Iranian cities formation in recent periods

Prior to the Industrial Revolution, the Iranian cities formation was almost spontaneous due to their economic, political, and environmental status under the influence of their interrelations and system. The growth of the city's population and the needs of the citizens were limited, and the system was being sustainable due to self-regulation and self-correcting processes.[27] The economic, social and cultural relations and systems of the cities were severely transformed following the Industrial Revolution; and the city became the focus of industries, various innovations and consequently changes in population growth, urban expansion, the citizens' needs and making decisions that could minimize the problems caused by the industrialization of the cities. Therefore, the Industrial Revolution made the planned organization of cities necessary. Meanwhile, the old areas of the cities that had been formed on the basis of the functions done before the Industrial Revolution faced the challenges of function change and the resulting transformation.

Also, some fundamental changes took place in the economic, social and cultural organization of the country, and consequently in the indigenous spatial organization of cities and old and current ways of living and production.

So it was obvious that the old urban areas were no longer responsive to new problems and needs, and those new urban spaces with completely new standards and specifications had to be constructed and the old urban areas had to be renewed to meet this problem. So, with considering this need, the physical transformation of cities is on the agenda in the first view, with the hope that physical transformation will bring about fundamental and content changes.[28] Thus, in the face of such modernism, the old texture of the cities, which was then regarded as a traditional area, was interfered with, and many streets were constructed there, as one of the most important symbols of modernism, to facilitate the circulation of goods and capital.

Such intervention resulted in the demolition of districts and the breakdown of the cohesive structure of the old part of the city. Since then, this area of the city, which was formerly the main center of social and functional management of the city, has emerged as a problematic urban area, the link of which with other areas of the city has been broken. As a result, this part of the city has become a socially and culturally evolving area.

The Evolution of intervention in old urban textures in Iran

The evolutions of urban textures in the late Qajar era were considered as the first actions in the body of Iranian cities, known as the modernization era in Iran. The emergence of new elements such as the street and the square and the creation of business centers on the street indicate the impact of new life in the shape and structure of cities.[29] Of course, these actions were spotted and scattered throughout the big cities. Extensive interventions in the ancient texture of the cities

27.Salehi, E. (2009, Summer). Urban Organization. Urban Management Quarterly, Second , 89.

28.Habibi, S. M. (2005). From Shar to City.Historical Analysis of the Concept of City and its Physical Appearance: Thought and Effect (Second Edition ed.). Tehran: Tehran University Press.159.

have begun since the First Pahlavi era. The interval between that era up to the present time is divided into four important periods.

A) The period of initiation of extensive interventions; 1320-1304 SH.

From this time, some interference has been done with the old area of cities, with modernism and imitative attitude, regardless of the historical past, and suddenly the old texture of the city has been subjected to new urban spaces and elements of urban life. The most important measures taken after the renovation of the old areas of the city during this era include: approving the metropolitans map as the streets map, approving the renaming of Baladiyya to municipality in 1309 SH.; demolition of the walls and old battlement of the cities ; construction of squares, streets and ring roads throughout the cities; approving the law on the definition and development of passages and streets in 1312 SH.; renovation of old districts; providing the map for construction and development of urban passages.

B) Second period: 1326-1345 SH.

This period was interregnum in urban textures interference lasted until early 1340. Although two national civil programs (1327-1334 and 1334-1341) were formulated at this time, the set of measures taken was of little achievement, due to the lack of a separate and independent section for urban development.[30] In general, the development and renovation of the districts were neglected in this period from 1947. Also, the construction and renovation of the old districts were no more important in national construction programs from 1327 SH.[31] And the discussion about the allocation of some urban services in the first and second development plans was raised more. Some of the important actions taken during this period include:

- Land Possession Law for the implementation of urban development plans in 1329 SH. , including reconstruction of old and unhygienic districts.
- Starting the urban master plans - Distinguishing between old and new textures in urban designs.
- Continuing to build streets, alleys, and squares; developing the passages; cleaning, maintaining and leveling the roads by municipalities.

C) Third period: 1345–1357 SH.

During these years, the process of migration of the native inhabitants of the old textures was accelerated due to various problems and lack of urban facilities and services. Instead, the rural and low-income peoples migrated widely to the old part of the city due to the low price of the house. Organizing the low-income residential districts and renovating the old districts were considered for the first time in this period, in the form of mater plans, in the framework of the Fourth Development Plan of the Country (1347-51).[32] In which, some proposals were given in terms of prioritizing the renovation, refurbishment, and conservation of the old districts and areas, most of which remained just as a proposal. Other actions were also taken during these years demonstrating that the government and scientific societies understand

29.Shammai, A., & Pour Ahmad, A. (2005). Urban Improvement and Renovation from the Viewpoint of Geography Science (Vol. 1). Tehran, Tehran, Iran/Tehran: Tehran University Press.315.

30.Javadi, A. (2004, June). Intervention in Old and Worn Textures of Cities(Backgrounds and Fields). Attachment of Municipalities Monthly Magazine(69), 61.

31.Kalantari Khalilabad, H., & Pour Ahmad, A. (2005). Planning Experiences and Techniques for renewal of Historical texture of the Cities (First Edition ed., Vol. 1). Tehran, Tehran, Iran/Tehran: Publications of the Research Institute for Humanities and Social Studies of Jihad Daneshgahi.165.

the problems of old textures. These actions include:

- Approval of Urban Renovation and Development Law in 1347, in which some rules and regulations had been stipulated for urban renovation and development.
- Publishing the books and articles; holding seminars, including the first international congress of architecture in 1349 SH., aiming to link the past and contemporary architecture; Seminar on restoration of monuments and historical cities in 1350 SH., aiming to focus on protecting and restoring the physical body; also, the second symposium of Iranian architecture in 1351 SH., aiming to pay attention to historical contexts in urban master plans.[33]

D) The Fourth Post-Revolutionary Period - From 1357 SH. to present

During this period, the planning system of the country was disrupted in various parts, including urban development due to the initial conditions of the revolution and the political evolution of that period, as well as the outbreak of imposed war. One of the most important programs that can be mentioned at this period of time (early in the revolution) is that, a branch named Department of Local Affairs and Urban Development was established at the Ministry of the Interior in 1361 SH , to address the problem of irregular urban development and expansion and the need to preserve , rehabilitate, improve and renovate the old textures , especially in cities where the credits in this regard were notified to the municipality in the form of a circular.[34] The early of the 60s to 70s period is considered a new era of approach to urban textures when the phenomenon of physical disorder caused social anomalies in a wide range of urban centers. During this period, each organization relevant to urban development tried to resolve the problem of its desired position, through practical solutions.

The urban textures live-giving projects at the Ministry of Interior, the implementation of four projects for the Labe Khandaq Crossing in Yazd, the Makhlass Crossing in Semnan, the Coney Crossing in Bushehr, and the Bath Crossing in Isfahan by Department of Housing and Urban Development initiated these measures. The need to address this important issue and to identify solutions to deal with this phenomenon led to establishing some special agencies and offices in relevant organs. The Cultural Heritage Organization was established in 1989, with the aim of protecting, preserving and restoring valuable monuments, buildings, and collections. In 1996, the organization functions interfered, to some extent, with municipalities following the changing of approach from protecting the restoration of individual buildings to preserving and revitalizing urban texture.

In 1991, the Urban Texture Improvement Department was established in the Ministry of Housing and Urban Development, with the aim of expanding the housing construction activities in the city districts and the endogenous development policy.[35] One of the most effective measures taken to protect the city's old textures is the establishment of the Development and Revitalization Organization, the existence of which was defined at the end of 1996 in Ministry of Housing and Urban Development, and the establishment of which was designated in 2006 as the main guardian addressing the old urban textures. Generally, it can be said

32.Javadi, A. (2004, June). Intervention in Old and Worn Textures of Cities(Backgrounds and Fields). Attachment of Municipalities Monthly Magazine(69), 61.

33.Pardaraz, C. E. (2011). Revision of Detailed. Plan of Shiraz Historical and Cultural Area. Shiraz: Shiraz Municipality.

34.Shammai, A., & Pour Ahmad, A. (2005). Urban Improvement and Renovation from the Viewpoint of Geography Science (Vol. 1). Tehran, Tehran, Iran/Tehran: Tehran University Press.333.

35.Izadi, M. S. (1998). Urban Texture Typology. Internal Journal Departments of Restoration, Improvement, Organizing, and Renovation of Urban Development and Revitalization Organization(no.3), 14-16.

that the old urban texture has been dealt with in two ways:

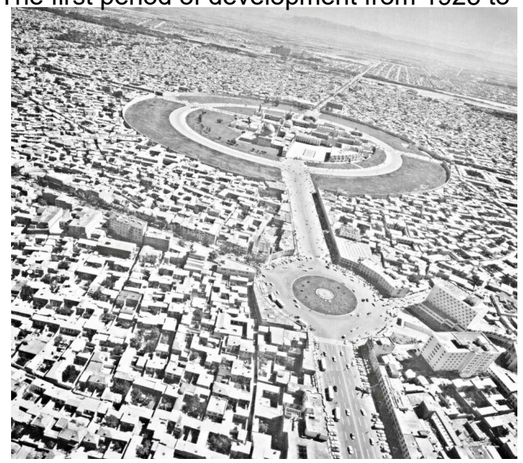
- First: interfere with the texture through street planning and changing the function of many of its elements.

- Second: Not paying attention to these textures and marginalizing them.

Shiraz and its urban formation structure in recent periods

Investigating the formation structure of Shiraz city from 1921 onwards, which is called the recent period in Iran, the development of the city and the formation of its morphological structure can be studied in the following five periods.

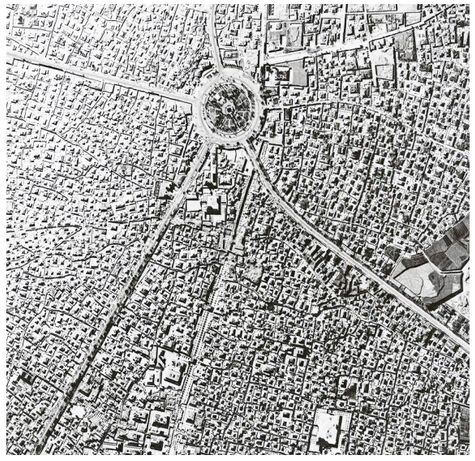
- The first period of development from 1925 to 1956



Mashhad after intervention

Ardakan after intervention

Hamedan after intervention



Kerman after intervention

- The second period of development from 1956 to 1966
- The third period of development from 1966 to 1975
- The fourth period of development from 1975 to 1989
- The fifth developmental period from 1989 to 2019

The first period of development

This period lasted from 1925 to 1956. The Shiraz city expansion did not change until the end of the Qajar era, but it became doubled during this 31 years- period. In 1956, the population of the city was about 170000 people. The city did not expand much until the end of the Qajar period, due to the preservation of traditional life, high mortality rates and not so extensive migrations, but Shiraz was largely expanded during this period, with the advent of manifestations of civilization especially cars, the establishment of military centers and the development of governmental positions .

This period should be considered as the beginning of the expansion of the city, from various aspects of urban services, and its population to the west and out of the old texture. The construction of office of the Governor-General and General Staff at a distance of more than one kilometer from west of the old city margin, along with flat and prone to dwelling -lands in the western margin of the old city, formed the middle texture of the city. The existence of well-defined passageways in this texture created its attraction of residence, followed by the establishment of non-residential land uses.

In this period, the centrality of the city began around the Karim Khan Zand axis in front of the Vakil Market, which has been restored by the construction of Zand Narrow Street, ending to Setad (Imam Hussein) Square. Another important point about the development of the city during this period was its development between the Vakil Market and the former Bagh Shah Gate, ie. The Zand Crossroad. The first administrative and governmental centers of Reza Shah era were built in the vicinity of the Market. The most important centers included: Melli and Sepah Banks, Justice Administration, Finance Department, Prison (Arge- Karimkhan place) and Municipality.

After these centers, the place of supplying the urban services was established privately in the 30s, which affected the city development. These places were: transportation vehicles, cinemas, restaurants and some of the inns, most of which were located in or near The Zand Crossroad. The second half of Zand Street with the axis of Setad Square to Namazi Square was being formed at the end of this period. The construction of the two centers in this district led to more security of Shiraz West, followed by residential centers formation. The increase of business units out of the old textures to offer new non-native commodities- now being offered for the construction of new buildings, vehicles and clothing models-was the pattern of downtown expansion during this period. After the establishment of the new street, the market order was transformed into street order, and the destroyed market shops were moved to the side of the street.

The second period of development

The second period lasted ten years (1956-1966). The area of Shiraz reached 1.8 times of the area of year1946. As well, the construction began at the height at this period. The most important reasons for the development of the city during this period were:

Establishment and development of the university, development of military and administrative centers (military and civil), improvement of access roads to the city and attraction of immigrants, controlling of some fatal diseases and reduction of mortality rate, increase of population , collapse of traditional agricultural system and transfer of the owners' funds from villages to cities. An important point is that no development took place on the eastern side of the city during this period. The first phase of marginalization took place in a very limited area of the south. The Darvaze Esfahan-Darvaze Qoran old axis was noted in the north side. The construction of the Bagh Safa Bridge resulted in the creation of a branch road from Setad Square to the north of the city and limit development to the north began during this period. The main axis of development during this period was the west as well. The construction of the Namazi Hospital about 1.3 kilometers from Setad Square, one of the most equipped and high-capacity hospitals in the Middle East at the time of its inception, led to the expansion of Karim Khan Zand Boulevard to the west. This, together with the construction of a grid of checkered streets known as Hedayat, founded the second phase of the city's development. Numerous uses such as the Poostchi Hospital, Shiraz University of Medical Sciences, Faculty of Engineering, the Red Crescent Organization (formerly named as the Shir-VA-Khorshid) were formed on both sides of the newly extended Karim Khan Zand axis. Qasr Dasht Street, which was a historic road, was located along the axis of Lotfali Khan Zand to the west.

Two sides of the Lotfali Khan Zand axis from the Gode-Araban to the Paramount (Panzdah-e Khordad) crossroad was gradually saturated with business units and other urban functions. Therefore, the expansion of business and service units continued westward, occupying both sides of Qasr Dasht Street to the Cinema Saadi crossroad. In addition to these uses, the construction of numerous hospitals, medical and diagnostic centers in the mid-texture and the historical area formed by other factors, attracted the attention of citizens and continued their presence in this part of the city. This approach had a direct impact on the registration of the area as the new commercial, administrative and medical center of the city. Following these changes, the center of Shiraz was departed from its former center, and its western edge distanced gradually from the primary center. The pattern of city development in the second period was not so much different from the previous period but only accelerated. The remaining vacant spaces were filled and the habitation was expanded around the new administrative and commercial uses. During this period, the city new center moved to the western margin of the city and people followed this move. However, the Zend Crossroads- the starting point of the city's development- was continuing to act as the strongest leisure hub for different groups of the people throughout the city.

The third period of development

This period lasted 9 years (1996-1975). The area of the city and its population reached 2.2 times and 1.57 times, respectively compared to 1996; and it reached 4 times and 2.49 times, respectively, compared to 1986. The area of the city reached to more than 8 times than

the area of its original core (historical texture) in this period. The imbalance between city expansion and population growth is even more striking in this period. The main reasons for development in this periods include: expansion of scientific-administrative and military centers, production of automobiles inside the country and thus increasing its number throughout the city, injection of foreign exchange earnings to cities because of rising oil prices and increasing migration to cities, especially rural people, who failed to adapt themselves to the new agricultural system resulting from land reform. The major change in the urban structure of Shiraz and urban morphology was increasing of marginalization. It was extended to the eastern and southern parts of the city and systematically expanded it to the east and south. The reason for choosing the eastern and southern parts was the low cost of lands in these areas and their situation on the ways of origin migration. The development from the west continued more slowly during the third period. The construction of numerous bridges such as Namazi, Hijrat, Hor, and Pirnia over the dry river increased the development on the north side. This part of the development rapidly penetrated the northern slopes of the city. The construction of the city park also increased the residential area around the park. The construction of Zand Street branches, such as Hedayat, to the south, also increased residential uses. The general pattern of downtown development during this period was the continuation of previous period plans.

The fourth period of development

This period lasts 14 years from 1975 to 1989. During this period, the changes occurred faster than previous ones, but the major changes of the city were along with the third-period changes and expansion of the city to the west. The southern and eastern parts of the city were also expanded, but with a non-systematic structure, like the third Period. Injections of urban facilities and infrastructure increased in the historical texture of the city, destroying major parts of the historical textures. The use of historical parts of residential areas adjacent to the city's commercial axis, i.e market, was changed to warehouses for commercial goods of the market, and the historical texture was desolated. The increasing population of immigrants in this part of the city caused the morphological structure of the city to change due to irregular and unsystematic construction, and to create unequal housing and population per capita. The increasing population of cities and its inadequate distribution during the fourth national development plan of the country created new problems in the urban system and encouraged the urban problem-involved persons to think more seriously about the ungovernable expansion of cities. Therefore, in the fifth plan (1973-1977), coordination of distribution of urban facilities and equipment, as well as municipalities' guidance to remove urban problems were identified as the goals of comprehensive guidance plans and orderly development of cities, reflecting the broader focus of plans on regional issues on the one hand, and the executive ones on the other hand. The act of amending some articles and accession of several articles to municipality law was enacted in March 1966, and major steps were taken to realize the urban planning goals in Iran this year. Shiraz was not also exempted from this plan and made some changes to the physical structure of the city in line with the national development plans of the country. The expansion of the city to the west

and northwest created widespread streets in the north and west, and high-rise building was increased in these areas. Attention to the historical texture was declined and attention to the expansion of the city outside the historical texture was increased during this period.

The fifth period of development

It covers a thirty-year period from 1989 to 2019. Although periodically different from previous periods, changes in urban structure are of the same nature during this period. The city expanded in all directions during this period, but most development and construction continued towards the northwest. The major actions taken during this period include the establishment of industrial estates and parks, satellite residential towns and cities, construction of highways and expansion of existing streets, construction of new streets in the historical texture of the city to lighten the traffic, the development of the Shah Cheragh shrine and the construction of cultural-tourist and commercial complexes in historical texture. The attention to the renovate the historical context was intensified at the end of this period, i.e after the year 2011. As a result, resulting in many residential buildings use changed to residential-accommodation centers to attract tourists. The demolition of the interface residential section between Shah Cheragh and the Astaneh Shrine in order to build a cultural-commercial complex was the most important actions of this period. The demolition of 57 hectares of residential texture around the Shah Cheragh Shrine and the shrine development is one of the most important actions in this period. In addition to the opposition of many urban development and management experts, this action has created many problems for the historical texture. As a result, a large part of Shiraz historical texture was destroyed and the residential, demographic, cultural, economic, and environmental per capita were altered. Accepting the immigrants and the creation of false jobs in historical texture of the city changed the physical structure of the districts within the texture and turned many of its residential units into commercial warehouses. All these actions during this period caused the urban texture of Shiraz and in particular the historical texture to undergo many changes in morphology and architectural grading.[36]

36.Nadim, M. (2015). Karim Khan Zend Street (Vol. 1). Shiraz, Fars, Iran/Fars: Omid Dana Press.60-63.

Chapter Four: URBAN FORMATION IN NEW DEFINITIONS OF ARCHITECTURE

Introduction-Chapter Four

- The Iranian City Formation in New Definitions of Architecture
- Courses and approaches of structural interventions in Iranian urban textures
- City and endogenous development feasibility
- Endogenous development - approach and process
- Endogenous development in Shiraz city

Chapter Four

Introduction-Chapter Four

The right to the city is far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city. It is, moreover, a common rather than an individual right since this transformation inevitably depends upon the exercise of a collective power to reshape the processes of urbanization. The freedom to make and remake our cities and ourselves is, I want to argue, one of the most precious yet most neglected of our human rights.

David W. Harvey
The Right to the City, 'New Left Review', October 2008.

Given the lack of sufficient information about the origin and formation of the primary core of Iranian cities , specifically the studied one (Shiraz), and the impossibility of a systematic study on the city, reading and interpreting its results is the first step to understand Shiraz historical texture, due to the disappearance of all evidences from previous periods. This process, used with the aim of understanding the language of urban architecture and morphology, has been used in the design and architecture of Shiraz urban texture, now known as historical texture. This has been done carefully and scrupulosity. In this method, modulation of the Shiraz urban texture was extracted based on the remnants of the city's primary the core as well as aerial maps and images of cities such as Bishapour, Estakhr, and Persepolis, located in a short distance from Shiraz.

Field Surveys in the Shiraz historical texture and the data obtained from these surveys with those extracted from the historical maps show that the Shiraz historical texture has been designed and constructed according to modules and standards consistent with dimensions of ancient Iran. These data help ensure that future designs on the city's historical texture follow certain principles and processes. The construction of an Iranian city based on specific modular systems helps to separate the spaces, coordinate public and private spaces as well as access.

New construction which has been done in the Shiraz historical texture in recent years, regardless of its historical structure and modulation, has always shown that the lack of attention to architecture language and urban morphology existing in the urban context can lead to an unidentified and non-functioning context.

Urban textures are being destroyed, and residential and urban spaces are being collapsed; urban accesses are unreasonable; textures have become the land of solitude; social participation has diminished and people gradually experience placelessness with moving away from historical texture.

Hussein Azimi
"Evolutions in Urban Development and Architecture of the Country Over Time" Proceedings of the Iranian Congress of Architecture and Urban Development History, volume3,p-65-67.

The Iranian City Formation in New Definitions of Architecture

The city and its relationships with citizens

Given the interdisciplinary nature of urban design and its related new debates, the importance of addressing issues such as the relationship between the city and citizens in various social, cultural, legal, and political fields has become increasingly posed raised. Investigating the type and extent of citizens' relationship to each of these components determines the type of attitude to the modern structure of cities. Every citizen has the right to participate in the determination of each of these parameters. Meanwhile, the role of the urban design process is important to form the living environment of citizens. So, it can be realized in urban dwellings by emphasizing its interdisciplinary nature, the concept of the city and its relation to citizens. Given the new orientations in urban design, today the issue of paying attention to the concept of citizenship (interconnection between cities and citizens) as an interdisciplinary topic in urban design, as well as designing the citizen-oriented and democratic urban spaces has been considered more and more. Attention has been paid. It seems that the public spaces of Iranian cities have been created, relying only on urban plans with the least attention to the demands and needs of citizens. Today, most of the day-to-day life of Iranian citizens is spent in the corner of high-rise buildings and private and semi-private - semi-public areas instead of the urban public spaces. In addition, citizens have little participation in the process of designs formation and construction of public urban spaces and are little considered in the urban design process. In fact, today's lack of social, political and legal perspectives along with an environmental look at urban design is increasingly felt.

In fact, the deep meaning of the citizen word is defined by their rights to their place of residence. To consider these

rights, the concept of citizenship must be redefined based on theories such as the right to the city as well as the concept of urban justice.

The concepts of citizenship and the right to citizenship have been different and constantly changing in relation to different ideologies and historical trend. This issue has always been debated, supplemented and amended from the definition of liberal democracy to the description of critical citizen theory. By mentioning the right to citizenship in this study, we do not mean the expression of human rights from social, cultural, political and legal perspectives, but to their right to the city and its physical architectural structures. Simply put, we meant the relevance of each resident and beneficiary of urban spaces with the architectural works designed and built by architects based on the vision and management of urban managers.

Surveys show that citizens' satisfaction with existing urban and architectural spaces is very low and they are dissatisfied in many cases. Some causes for disruption of the citizens' relationship with the city from the architectural point of view include: changes in building of the systems regardless of climate, change in the creation or demolition of public spaces of the city without regard to population standard per capita, creation of public spaces without observance of productivity standards and fundamental infrastructure, changes in the methods and process of public urban spaces use, change of use without the consent and participation of the public, the lack of formulation of the construction principles in the public walls of the city and the change in the environmental perspective, etc.

Looking at the state of Iranian architecture in the pre-modern era (before 1921), it is would be clarified as well that Iranian architecture has been being defined in a very close and unbreakable bond with its citizens and inhabitants. Constructing the architectural seeds based on citizens' need for living spaces, defining and combining volumes and creating the wall balanced with culture, environment and climate are among the achievements of this interaction and relationship.

The opinions of experts in the process-oriented and product-oriented areas of the urban design show that tangible norms for making citizen-oriented (the city interaction with a citizen) issues are expressed as a set of rights. These norms in the two areas of the right to city theory and the concept of urban justice are:

- The right to eligibility, access, equality, freedom and the use of urban places;
- The right to comfort, security, health, and the human environment;
- The right to belong, to symbolize, and identity theory;
- The right to urban diversification, change, and reproduction;
- The right to environmental beauty and attraction;
- The right to urban life, life, and social interaction and leisure;
- The right to participation, management, information, and democratic control;
- Right to nature and the natural environment.

Meanwhile, the theory of people such as Nabeel Hamdi, Martin Brynskov, Donald Appleyard and Henry Sanoff is regarded in the process-oriented field and the theory of people such as Anton Nelessen, Ian Bentley, Jane Jacobs, and Don Mitchel is regarded in the product-oriented field.

Considering the qualities proposed by urban design experts and their conformity with general citizenship-based norms, the urban design qualitative indicators and criteria in two process-and product-oriented fields can be extracted and defined as follows:

In a general sense;

- Creating enjoyable, attractive and productive urban experiences, create perfection in architectural and urban design, creating the cheerful visual landscapes, creating visual fitness, using contradictory urban forms, controlling axes and perspectives, paying attention to street landscape, stabilizing a suitable floor area ratio, framing of landscapes and views.
- The possibility of social life along with private life, a systematic look at urban interactions, the design of communal environments, the reinforcement of urban life, the creation of public and continuous urban spaces, the emphasis on places more than buildings, the design for pedestrians.
- Considering the public interest, accessibility for all, the ease of use of space for all, honoring citizens' decision-making about places and activities, the right to use space.
- Creating human-environment interaction, adapting to human-environment, ensuring safety, responding to vital human activities and biological needs, respecting historical texture, environmental well-being, and appropriate distribution of facilities throughout the city.
- Building local and indigenous capacity, indigenous ownership of the design process, respect for the cultural context, respect for indigenous knowledge and talent, responding to local features and needs, ability to readout and discover environmental meanings, enhance environmental understanding, permanent maintenance of the urban environment.
- Proportion, diversity, flexibility, and adaptability, focus on various attitudes, attention to people's mentality values and differences, admixture of the use, diversity of activity and use, the right to change in space, modifying and transferring it, multi-functionality of urban environment and raising the potential for its use, contrive to positive changes in the environment, the use of contradictory urban forms, the creation of various buildings in terms of age, condition and style.
- Organic design, using maximum environmental efficiency, climate comfort, biodiversity in the city, attention to sustainability and resilience, protection of the environment and its outstanding features.
- Active participation of all community groups in creating and

managing the environment, evaluating the role of citizens, engaging citizens in the design process, performance-based design process, accepting constraints, integrated attitude in the urban design process, linking designs to contemporary conditions.[1]

The city and the physical needs of endogenous development

The Cambridge Encyclopedia[2] regards development as the kind of change that makes progress (Cambridge ALD 2006). But in modern architecture and urban development, the concept of development is synonymous with modernity, which is considered as one of the important tendencies of the 20th century - which still has kept its fans. Historically, “modernity or modernism”, which emerged from the early second decade of the present century following the industrial revolution and with the expansion of technology and scientism, immediately covered all aspects of human activity. It penetrated from industry to architecture, from architecture to art and from all of these to urban development. By providing all the necessary conditions, the acceptance and right of new urban development were increased day to day.[3] Russian structuralists believe that what is needed to stay in cities is their structure, and we can simply remove forms from previous buildings and replace them with new ones.[4] Such a tendency justified practically the ambitions of modern architecture and urban development. The most important he reasons for welcoming the tendency for textures destruction and regeneration can be traced back to the prevalence of economic benefit-based approaches in the present era. One of the most important reasons for the tendency to destroy and rebuild the textures and old parts of cities is the desire for modernism and the appearance of progress.

Nahoum Cohen believes that “no building should be demolished before there is a plan for it and its territory and refers to as “demolition policy.” According to the UN charter, such a concept is referred to as sustainable development, meeting today’s needs without hurting the ability of future generations to meet their needs.[5] Hasted development does not represent a particular school of development but rather represents an approach in which development is applied without regard to the long-term benefits of society and often results in irreparable harm. There are many examples of hasted development under the pretext that a district is outdated, but not only the results are very poor, but the new situation is even worse than the previous one. Practically, hasted development is a kind of approach based on economic-benefit that neglects other human and cultural aspects of cities. In some development-based approaches, there is a kind of haste along with disregard for environmental, cultural, social, and human infrastructure resulting in the destruction of cultural heritage and valuable urban textures.

1.Heydari, F., & Zarei, M. (2019, March 31). The concept of the right to the city and its relation to urban design. Manzar Magazine, 16.

2.Cambridge, A. L. (2006). Cambridge Advanced Learner's Dictionary. Cambridge, Cambridge, England/Cambridge: Cambridge University Press.

3.Bahreini, S. H. (1999). Modernity, Post-Modernity, and Later on Urban Development (First Edition ed.). Tehran, Tehran, Iran/Tehran: University of Tehran Press.1-2.

4.Zevi, B. (2001). How to Look at Architecture (First Edition ed.). (F. Germain, Trans.) Tehran, Tehran, Iran/Tehran: Development Publication.20.

5.Cohen, N. (2001). Urban Planning Conservation and Preservation. New York, New York, USA/New York: Mc Graw-Hill.

Nahoum Cohen

A senior lecturer (emeritus), an urban planner, researcher and artist in Technion Israel Institute of Technology, Architecture and Town Planning, Emeritus

Necessity and needs assessment of endogenous development - Shiraz historical texture

The critical growth of the city began at the end of the Qajar and the beginning of the Pahlavi era due to social, political, economic, and other issues at the national and global levels. The end of the Qajar rule and the beginning of the first Pahlavi rule along with major political developments in the world, the introduction of cars into the Iranian city, the widespread connection of Shiraz to the outside world, especially to India, and the transfer of new views and ideas to the city, as well as the central government’s efforts to give a new face to major Iranian were some reasons influenced the image of the cities. This, changed generally the spatial typology, physical structure, and composition of the constituent elements of urban texture in Iran, and introduced it into a new era and very different from the past several hundred or thousands years ago. Old and organic urban textures have been replaced with the regular checkered ones and the old meandering lanes and streets have become long and narrow streets and lanes suitable for the crossing of the cars. The Shiraz area, which had been confined to the fence since Zandiyeh’s time, needed expansion. The modernization era began in Shiraz in 1921, following the creation of the first urban streets on the ruins of the new Moshiri Garden, west of the historical fence of Shiraz.[6] Until the early Pahlavi rule, the historical texture of Shiraz had a very important residential function, where different groups, especially the lords and aristocrats class lived. Shiraz Old City, now referred to as the historical texture, did not initially have a large population but became so populated by natural and geographical reasons that could not accommodate it. With the construction of new buildings and gardens and the conversion of wastelands and gardens into homes and alleys, immigrants’ habitation increased in historical texture. In 1941, Shiraz neither had more wasteland, nor could tolerate a large population that could easily survive, and the first damage to the historical texture occurred at this time.

During the reign of Reza Shah also Shiraz was overcrowded, without any housing and new cars and vehicles, and once again made major changes. These actions included the expansion of the city and the construction of Ferdowsi, Rudaki, Qaani, and Moshir streets, as well as widening and stretching of the Zand street.

Since the emergence of the modern age, i.e from the Pahlavi era, major changes in Iran’s historic cities, with the centrality of the power in the cities, have weakened their socio-physical structure, and many of Iran’s historical cities have been subjected to irregular interventions in the unstable sense of development.

6.Fahimizadeh, H. (2005, fall and winter). Physical Transformations of the Shiraz Old Texture (from Genesis to the End of the Qajar Period). Guzaresh Journal, 47-48, 65-66.

Expressions of Concepts and Attitudes to Question - Shiraz Historical texture

Does the existence of some differences in the historical texture of Shiraz confirm the existence of society different from its perimeter? Is the ultimate goal to create structures similar to historical ones to be implemented, for example, by population reform and the like?, or is it intended that the existing structures in the historical texture of Shiraz have appropriate new structures, or functions consistent with the position and role of the historical texture in the Shiraz contemporary city?

Therefore, several goals can be stated for expressing goals and necessities of endogenous development within the historical texture of Shiraz:

- Updating some social-historical structures that can be retained, revived and upgraded based on pieces of evidence.
- Upgrading and empowering the existing social-physical structures in the historical texture of Shiraz to play the role that they will play in contemporary and future urban life.
- Updating and combining the existing social-physical structures in the historical texture of Shiraz in the structures created during the growth of urban crisis and urban development.

Understanding the historical time and evolution of its collective memories is not a phenomenon that precedes historical events in all ages as well as in all cultures, but people have a different understanding of time in different times and places, the cultural foundations of which can be understood.

One of the important and effective tools in social autopsy is to establish a suitable time structure for historical periodization. Accordingly, the success of urban redevelopment and renovation of historical centers projects rests on a large-scale planning system that can identify the historical boundaries of historical and traditional cities from a temporal and spatial perspective, can examine these capabilities within the framework of targeted national and country programs and can identify each one's position in macro-country planning. Certainly, the regional plans and policies, with the above-mentioned policy making, will be able to control unforeseen actions caused by population growth and related activities and prevent their indirect pressure on the historical city body. The need for endogenous development the historical texture of Shiraz has always been justified by general demolition and development policies rather than sustainable development. However, development with the meaning of updating the physical-social structure of the historical texture in order to empower it and to incorporate it into the daily life cycle of its inhabitants requires a holistic approach with emphasis on the preservation and revitalization of the historical texture.

Courses and approaches of structural interventions in Iranian urban textures

Reviewing the past experiences of urban interventions in Iran, it can be understood that seven distinct periods of interaction can be introduced in development-based approaches in the contemporary urban management area of Iran. These periods are:

The first period) 1787 – 1906

- The "demolition and renovation" model is considered as the most important approach in this period. The concept of protection is keeping the royal expensive goods and is not essentially a matter of protecting valuable buildings or textures.
- Development is also a concept independent of protection, and physical development of cities is followed rapidly, although some improvement and renovation activities can be considered a type of protection-based development.

The second period) 1906-1922

During this period, the development rate is slower, but still plays a role more active than protection. The stagnation of development plans and programs during this period should be attributed to the turbulence of the political situation in the country, the lack of managerial coherence and financial weakness. In addition, the wave of demolition and renovation of valuable buildings and textures remains limited due to the lack of financial resources.

The third period) 1922-1944

During this era, the urban development, with the priority of street and car, was considered. The law of "Construction and Development of Roads and Streets" was passed on November 14, 1933. This law paved the way for the massive destruction of the city's textures and monuments. It is basically considered as a hasty-development-based measure which is contrary to the expediency of the city, causing a lot of damage to valuable urban textures. Panzdah-e-Khordad Street in Tehran, Imam Khomeini Street in Semnan, Zand Street in Shiraz or other main streets of the city have brought about major transformations, that are still visible, through cutting the historical texture, especially the bazaar. The street planning of the first Pahlavi era exposed many historical areas of the city to damage. For example, even the Hegmataneh Hills were attacked and some parts of it were destroyed in the geometric design of Hamadan City. Technological progress and the emergence of new materials such as steel and cement, the prevalence of nationalism and the tendency to modernism, provided new conditions in the country. The type of intervention with the textures was accompanied by the demolition and renovation approach. In addition, the city fence was demolished, providing the basis for hasted development for new urban areas. The most important characteristics of this era are the tendency to modernism and imitate the West as a symbol of development.

The fourth period) 1944 – 1987

During this period, This passage of a bylaw requiring the preservation of historical buildings during the expansion and renovation of passageways allows the government to take over in order to implement the development plans. The law intensified the process of demolishing the central textures of cities. Implementation of takeover law damaged the textures and reduced the quality of their active urban life. The concept of protection in this era is to buy and preserve valuable buildings. The first development plan (1948 -1327) destructed the texture extensively, focusing on widening the streets and axes in historic textures.

The fifth Period) 1987 – 1996

During this period, the Fourth Development Plan (1968- -1972), with the centrality of urban

renewal, destroyed many parts of the historical texture of the city. During this period, the life-giving plan was implemented in a number of historical textures in 1977, which practically sought to improve the access network and passage of the cavalry. Hasted development and presentation of maximized services in urban renewal areas and lack of providing valuable textures with enough facilities reduce the viability and quality of cities' cultural and historical textures. In spite of increased safeguarding actions, many valuable buildings were demolished by the owners in order not to be subject to related legal restrictions.

The sixth Period) 1996 – 2007

During the war years of this period, the issue of protecting valuable urban buildings and textures was considered unnecessary and of no priority. The legal vacuum and the weakness of the supervisory bodies destroyed easily the monuments of historical value.

The seventh Period) 2007-2018

During this period, too much focus on demolition and renovation caused many of the valuable urban textures to lose their viability. Since 1997, the Urban Development and Improvement Organization has been established in the Ministry of Housing and Urban Development, aiming at focusing on improvement and empowerment of the textures. The Urban Reconstruction and Development Act was passed in 1995, which paved the way for widespread action in the urban texture. Textures consolidation programs were hasted after the Bam earthquake. Of course, new damages were still imposed on textures, due to a lack of understanding of the problem and an over-orientation towards development-based approaches. According to such a model, large projects such as the shrine to the shrine were implemented in Qom and Shiraz cities, which faced serious failures. Preventing the restoration of buildings or enforcing strict rules for existing buildings in the texture has significantly reduced the desire to reside there.

City and endogenous development feasibility

Discussions on development and its possibility in the historical texture of the city are one of the topics that have been discussed since the beginning of the modernization era in urban

development and has always been considered by experts. Determining the type of intervention and selection of development approach in historical textures with an emphasis on endogenous or exogenous development of old textures - jointed or disjointed - formally and on the outskirts of the city informally or marginally are among the key points discussed. Studying the experiences of interventions in urban textures in contemporary Iran indicates that hasted development has damaged extensively the valuable textures of Iranian historical cities. Practically, the streets that were supposed to promote the growth of old urban textures had a negative impact on the quality of life of the residents, following the destruction of a large part of these textures and altering their infrastructure.[7] Since the endogenous development is not done outside of urban areas and without contact with the urban texture, the appropriateness and coordination of this type of development with the adjacent texture are very important. It should be noted that although the endogenous development is in communication and harmony with existing texture, it is also concerned with the development and growth of the status quo and seeks to glorify and improve total historical texture through changing the status of housing and public transportation, as well as increasing the congestion and accesses.

The feasibility can be evaluated from the following perspectives:

- Evaluation of the spatial capacity of urban endogenous development in historical texture.
- Evaluation of historical texture permeability.
- Evaluation of access to public transport in historical texture.
- Evaluation of quality and antiquity of the building in historical texture.
- Evaluation of the existence of waste, unused and industrial-workshop lands, transportation and warehouses in historical texture.
- Evaluation of the floors number and Floor area ratio in historical texture.
- Evaluation of the structural status of buildings in historical texture to increase floor area ratio.
- Evaluation of the public's potentials in historical texture for endogenous development.
- Evaluation of the environmental, socio-economic and physical quality of arenas suitable for endogenous development in historical texture.

7.Hanachi, P. (2007, Winter). Protection and Development in Iran (Analysis of Restoration Experiences in Valuable Textures of Iranian Historical Cities). Journal of Fine Arts, 32, 51-60.

Endogenous development - approach and process

In dealing with modernity, Iranian civil society completely neglected the time, space, and content, and never found the opportunity to think, enlighten, and localize it. Appearance aspects affected the social and content factors and sought to compensate for the backwardness and to achieve the developed society more through imported technology and putting the historical experiences and achievements away. This measure was taken without explaining the depth of developments, the process of intellectual and philosophical changes and developments, and subsequent consequences.

During the Pahlavi era, interventions in the urban textures of the country, especially large cities, were considered as a serious strategy to facilitate capital working and to import Western productions. With the passage of the Second Baladiyeh Law (in 1930), the executive power of the municipalities increased and the townspeople gradually experienced the manifestations of modern urbanization such as streets, passageways, and squares for terrific distribution. Since then, the traditional and inefficient urban context has been subjected to heavy intervention compared to modern western society, without any fear. The architecture has also undergone a transformation during this process. The plans and facades were also gradually transformed by factors such as global patterns, building materials and systems, construction technology, new biological patterns, advanced communications and commerce, and so on.

With the onset of the Second Pahlavi rule (1941), urban development activities were slowed by almost two decades, due to the outbreak of World War and financial and administrative problems. Although external factors, such as consulting engineers, experts, and the like, were present desultorily at the highest levels of urban planning and architecture, interventions in financial, administrative and political problems and so on were not very widespread. However, western-origin urbanization patterns, such as conductive and comprehensive designs, were used with the pattern of “review, analysis, and presentation of plan” were used. The patterns were sewn in every way possible to the frail and introverted stature of the traditional city.

The urban development activities gradually flourished in the 40s, following the establishment of relative power, improvement of revenue generated from oil sales and the centrality of the city as development entry. The activities culminated in the 60s. During this period, the city saw the population growth and increasing of rural-urban migration more than ever. The result was the formation of three urban development axes around new-established streets of the textures, outside of old textures (formally jointed or disjointed) and around the city (informally with marginalization), each with its own physical and spatial features.

Contrary to the West Industrial City process, the growth of Iranian urban society was due to the natural increase in population, especially the rural-urban migration; and later, some cities owned the imported industry, to the best of their limited ability. All of these measures were taken in a situation where physical interventions did not comply with an acceptable logic for reasons such as considering the social and economic reality as neutral and the high haste resulted from urbanization. Traditional communication networks lost their hierarchical order and were disrupted without any spatial or physical connection. Local uses, such as residential areas were located adjacent to arterial crossings and major travel-making uses were located along the bystreets. In such a situation, the urban transport system was clear. Regardless of the functional displacement of the types of vehicles, traffic efficiency was minimized despite significant street planning and no more than a historical mentality remained from the spatial organization of the city’s historical texture.

Since 1978, the development of the city has not been changed much compared to the past, and the city was developed in exogenous modernist patterns, without theoretical discussions and formulation of a suitable endogenous development pattern, as in most social phenomena. Today, with passing more than sixty years of urban planning history, the prospect of community, city and urban development is not so every day as an important part of social realities.[8]

8.Mohammadzadeh, R. (2009, Spring and Summer). Investigating the Effects of Western Modernity on Iranian Urban Development. Sefeh Journal, 48, 86-92.

Endogenous development in Shiraz city

The Shiraz City continued its expansion that had already begun westward, to coordinate with this wave of development, but the development was not so wide and fast ad rapid in other respects. The streets became wider as the population grew and cars entered the Iranian cities. At the beginning of entering the historical texture of the city, the wide streets collapsed the texture of the city and caused extensive demolition that paved the way for its physical disruption. An example of this type of intervention was the streets such as Karim Khan Zand and Lotfali Khan Zand, as well as other bystreets such as Ahmadi, Hazrati, Noh-e- Dey, and Astaneh.

As mentioned earlier, the historical texture of Shiraz has been always undergoing change since the beginning of modernity in Iran (1921). These changes have been in the form of an endogenous development process that has led to extensive destruction of the historical texture. The most important measure has been taken in recent years in a project called the development and equipping of the Shah Cheragh Shrine.

Prior to this, another project called the Shrine to Shrine - which theoretically and purposefully sought to expand the cultural and religious sections between the two shrines of Shah Cherag and Astaneh Seyed Mir Mohammed - failed practically to achieve the set-out objectives. The construction of Noh-e-Dey Street along with the demolition of valuable sections of Shiraz's historical texture to facilitate the citizens terrific and, as interpreted by urban infrastructure development experts, is another demolition with the policy of endogenous development within Shiraz's historical texture.

Although the endogenous development has been proposed as a comprehensive strategy to counter the sparse and low-density expansion of suburban areas and has been implemented in many developed countries, its use has not yielded good results, as a long-term strategy to organize urban areas in Iran. However, considering the endogenous development strategy in Shiraz urban planning and utilizing it in the present situation can help significantly to improve the approaches of urban development methods. But what should be noted is that endogenous development has not merely focused on physical issues and attempted to analyze all social, economic, environmental and physical issues together.

Chapter Five

Chapter Five: INTERVENTION PROCESSES IN THE HISTORICAL TEXTURE OF CITIES

Introduction-Chapter Five

- Intervention processes in the historical texture of cities
- Processes of development and formation of infill buildings in the historical textures of cities
- Contemporary urban planning and its impact on urban interventions in the historical texture
- The history of superior urban plans in Iran and its impact on historical textures
- Interventions in the historical textures of Iranian cities (examples and studies)
- Interventions in the historical texture of Shiraz based on master urban plans
- Intervention in the historical texture from the perspective of national and international conventions and treaties
- The single document for the preservation of historical-cultural textures
- Approaches to building infill structures in the historical texture of cities

Introduction-Chapter Five

As an architect, you design for the present, with an awareness of the past, for a future which is essentially unknown."

Norman Robert Foster

As one of the intervention strategies in the historical textures of cities to sustain their physical- social life, building in built space is an indispensable necessity. But today, the intervention and its processes have become one of the most fundamental challenges facing professionals, especially in developing countries- and in a better word, in those countries which have not been by themselves the producer of the theoretical and intellectual foundations of development and intervention in historical textures. This has been due to the fundamental needs of historical texture development. Given the sensitivity and importance of protecting the historical buildings, textures, and cities, some international-level statements and charters have been formulated and published that are accessible to organize and guide interventions in historical textures.

A review of these national and international charters and guidelines raises the question of whether these documents have paid attention to the issue of building in built space of historical cities. If yes, what are these guidelines, and to what extent do they agree with the intervention in historical textures?

This chapter seeks to extract effective options in the subject matter strategy and to formulate principles and basics of building in built space through analyzing and interpreting the content of this matter, and taking a closer look at urban morphology and architecture language.

Accordingly, the following items are discussed in this chapter to obtain the principles and basics of building in built space.

- Reviewing the processes of development and formation of infill buildings in the historical textures of cities.

-Researching on urban planning in the contemporary era and its impact on urban interventions in the historical texture.

- Reviewing the interventions in historical textures of Iranian cities (samples and surveys).
- Reviewing the interventions in historical textures of Shiraz based on master urban plans.

- Reading out the methodology of intervention in historical textures from the perspective of national and international conventions and treaties.

Large-scale expansion in the vicinity of historic sites, historical textures incorporation plans, the presence of new buildings in vacant lots or as an alternative to monuments existing in historical textures (infill buildings), construction of buildings in the vicinity and in frontage of monuments or, on a smaller scale, the incorporation to the monument (for the development of the monument and as a space to meet new physical needs for its rehabilitation) are all examples of architectural interventions for the presence of new structures in the historical texture.

Shah Teymoori, Yalda.
Design guidelines for new structures in the historical texture
Journal of Fine Arts, 2012.

Intervention processes in the historical texture of cities

Processes of development and formation of infill buildings in the historical textures of cities

Undoubtedly, the first step towards harmonizing and updating the historical textures in which the life - physical life, not social life - is passive or decaying, is the awareness of the capacities and potentials in the context and body of the historical texture, either obvious or hidden. The capacities and potentials determine and define the processes of development and acceptance of infill buildings or architectural elements. The meaning of infill word indicates that there are many definitions to describe it. Examples include definitions in Oxford,[1] Cambridge, and Longman dictionaries. The Oxford dictionary considers infill as the act of filling the space with something or a matter, in particular filling a space with a building. And Longman's[2] dictionary defines the word infill as what fills a space and the process of filling a space with a building. The Cambridge dictionary defines the word infill as follows:

Development of new houses, business buildings, etc. on land between other buildings in already developed areas.

In an urban conceptual expression, Robert Cowan[3] regards infill in the form of infill development and as a building on a small site linked to existing buildings. The strategy of action in historical textures to create an infill structure is subject to conditions and parameters that define the morphology and structure of the historical texture. The architecture language, as a common language among all different types of buildings in terms of performance, can determine the type of intervention and its extent and scale. The process of examining and explaining the influential components on selecting the type and strategy of intervention in historical textures can only be made by reading and interpreting the remaining parts of the historical texture around the vacant lot in the historical texture.

Although contextualism debates have emerged since the 60s and discusses the incorporation of new components into the city form, its concepts and components in solving the problems of lack of cohesion and urban visual turbulence It can be seen in harmony and intertwined with traditional architecture. Among the historical textures of Iranian cities, there are valuable but problematic areas that affected every day by crises caused by functional-physical congestion of new uncontrolled structures. Understanding the qualitative properties of such areas is essential to create their interaction and compatibility with infill buildings.

1.Oxford, A. L. (2010). Oxford Advanced Learner's Dictionary (8th edition ed.). London, London, England/London: Oxford University Press.

2.Longman, D. o. (2008). Longman Dictionary of Contemporary English. London, London, England/London.

3.Cowan, R. (2005). Dictionary of Urbanism. Tisbury, Wiltshire, England: Streetwise Press.195.

When a part of the historical texture is destroyed by various factors such as human, environmental, climate, and empty space factors, and empty space is created, it has to adopt a new element in order to accommodate a wide variety of approaches and qualities. These qualities follow the same proportions and scales in the historical texture without a direct relationship to quantities and represent a structure that was formed far beyond the time of the advent of their adjacent buildings.

The texture of historical cities in Iran is made up of buildings with different functions, dimensions, and scales that all together create a vibrant city that provides the living space for their residents. Iranian cities are among the cities that always consider and observe the components and proportion of the architectural elements and the citizens' needs. "When you look at the most beautiful cities of the past, it's always felt that these cities are alive. This is not a vague feeling, but an accurate picture of a particular structural quality, while many of our contemporary cities lack such quality. Urban cohesion and complexity have always been one of the most fundamental structural qualities and central principals and concept in the city; structures that are interconnected at every level of magnification and at different levels of scale with a strong, tightly knit bond on the basis of a suitable plan ".[4] The emphasis on the architecture language and adherence to the principles of urban morphology to create infill structures in historical textures is regarded as the use of a set of rules that define and present orderly physical behaviors in the arrangement of architectural elements. These behaviors stem from the language of the civilizational paradigm of people who have left certain cultures and techniques throughout their lives. "Attempts to co-ordinate, create contrast, neutral interaction, feeling of being transient and temporary, and the like qualities and approaches, are examples of co-existing, interacting and affecting the existing segments with midrange seeds in the empty segments".[5] The architecture language in these urban textures pursues some goals as following:

- A way to understand and control complex systems.
- Use template language as a tool for achieving structural and functional cohesion.

The structural and morphological pattern in urban texture is the deepest experience of order hierarchy in two functional and physical dimensions that is of a unified, coherent, yet

4.Mohajeri, N. (2008). Physical Sustainability in Traditional Iranian Cities (Coherence and Complexity Principle in Urban Design - Fractal Structure). Environmental Science and Technology, (10)3, 121.

5.Masoud, M., & Bigzadeh Shahraki, H. R. (2014). Principles Formation of Infill Monuments in Historical Textures Based on International Declarations and Charters. Urban and Regional Studies and Research, 6(22), 25.

dynamic totality. Such a definition of the structural pattern, and how the components relate to the scaling hierarchy, can be explored in various phenomena based on the pattern language of that phenomenon. In achieving the basic principles for formulating development processes in historical textures and for creating infill buildings, the criteria outlined in the World Charter emphasize the cases as intervention priorities. These criteria are:

- Attention to setting;
- Paying attention to the city's landscape and cohesion;
- Attention to historical continuity;
- Inspired by the past without requiring to imitate;
- Avoid unification;
- Improving the quality of residence;
- Prioritize the complementary role of the new work in its original historical texture and its absorption into the context;
- Inspiring traditional architecture and the city in shaping infill architecture while still being creative;
- Design unity in successful context-based design approaches;
- Creating past and future cohesion.

Referring to the concept of integration and its necessity to protect cultural landscapes, Yuka Yukilto (1999) points to three types of this concept under the heading of functional cohesion, structural cohesion and visual cohesion so that cohesion, integrity, and solidarity are social and cultural concepts before to be a physical and visual concept and emphasizes the creation of integrated structures from a sociological perspective.[6] Such continuity is achieved not merely by imitating the physical appearance of past architecture but by the continuity of the worldview and the kind of looking at the environment at the physical, structural, and semantic dimensions. Accordingly, the criteria for urban texture readout with emphasis on the language of urban architecture and morphology are as follows:

- The criterion of historical continuity and conjunction;
- Adhering of the texture constituents to specified and stable rules over a long period;
- The continuation of the past morphological order;
- Adaptation of the shape from a texture without requiring to imitate the past;
- Receiving repeated aesthetic geometry of texture and associating it with contemporary language;

6.Taleiban, M. H., & Falahat, M. S. (2006). Cultural Landscapes. Tehran: Parseh Research Foundation in collaboration with Cultural Heritage, Handicrafts and Tourism Organization.19.

It should be noted it is necessary to address the discussion on cohesion and continuity in the following four parameters:

- Criteria for activity cohesion and perceptual cohesion;
- The criterion of historical continuity and consistency, including the generational continuity of individuals' presence.

In the semantic dimension that includes:

- The criterion of the continuity of activity over time and the search for aesthetic order followed by successive generations;
- Common mental image criterion due to the continuity of generational values.

Contemporary urban planning and its impact on urban interventions in the historical texture

The planning process is of great importance to direct the activities that have been destroyed or destroyed or declined in the historical-physical structure of historical texture. Since the second half of the nineteenth century, as urban restoration discussions between architects and urban planners have begun, discussions of new construction in old urban settings have been arisen and attracted many different opinions. In this period, which coincides with the Industrial Revolution and the rise of modernity in architecture, the obvious contrast between historical cities and the concept of new development is clearly understandable. This apparent contradiction led to the formulation of guidelines in the form of numerous seminars and conferences. "A joint meeting was held in Rome in 1983 by ICOMOS*(International Council on Monuments and Sites)* and ICCROM*(The International Centre for the Study of the Preservation and Restoration of Cultural Property)* in collaboration with UNESCO's Cultural Heritage Sector, and the results were published in 1993 as guidelines for cultural heritage sites. In a part of the ninth section of the book of "Management Guideline for World Heritage Sites", entitled "City Planning and Cities with World Antiquities ", the results of nearly ten years collaboration of conservation expertise and world heritage managers from around the world were exposed to everyone use by ICCROM. have given. In this book, for the first time, the term "infill buildings" has been proposed and characterized to present new structures in historical textures.[7]

In superior planning, in order to provide a suitable texture for the incorporation of historical texture into the urban life cycle, it is necessary to consider new structures in the old or inner parts of the city that are now out of the urban life cycle. Signing in the setting lacking social-physical life of urban historical texture, include:

- Physical designing of destroyed and worn out parts of historical texture;
- Designing of widening and explicating the old alleys to traffic lightening;
- Downtown historic design to bring life back to downtown;
- Designing centers of historical texture for the revival of social life;
- Redesigning streets and squares of historical texture and incorporating them into urban life;
- Inject new needed functions and synchronize them with new physical changes in the historical texture.

Examination of successful design examples in historical texture on a global scale shows that new structures can be used as a driving force to improve and restore old structures and restore the lost social life in them. Using the strategy of infill structures for interstitial structure development or endogenous development is one of the ways to deal with the exhaustion of historical textures and changes in large-scale city morphology. Experiences of development and expansion of Iranian cities show that the lack of use of the hidden and accessible capacities of the historical texture of cities has led to the ungovernable expansion of urban areas and increased urbanization in informal urban areas.

Also, the study of the intervention experiences in the historical texture of Iranian cities such as Shiraz shows that the lack of attention to standard per capita in the use of empty spaces in urban textures to create infill buildings is also one of the cases that have made contemporary urban plans unsuccessful and to have a favorable impact. Practically, the goals formulated for these schemes are very different from that resulted from creating infill structures.

In contrast, the experience of creating an infill building in countries like France shows that adopting the strategy and setting the right goals in endogenous development projects can be effective in revitalizing urban life. The Georges Pompidou Cultural Center in Paris 1977 is one of the successful examples of creating infill structures in the historical texture of cities.

This is the same "center theory" in which centers, as well-known special systems are emerged to create "stimulate the development" of the collection wider generality of the ancient texture as the innate and salient parts and act as a result of a whole.[8] But nowadays, the incorrect understanding of the expected strategies for creating infill buildings in the historical textures of cities has made these historical textures to be inactive and the social-physical life to be decayed. Therefore, it seems that the synchronization of urban superior designs with the mid-scale district or architectural micro-scale designs will become more realistic to create an infill building and renovate the historical textures.

Therefore, it is recommended that the following actions be considered as the main pillars of endogenous development plans or the creation of infill structures.:

- Providing local and short-term solutions rather than broad and long-term actions;
- Creating basic living conditions and meeting the basic needs of residents dwelling;
- Prioritize action on a district and architecture scale rather than an urban scale;
- Designing and creating new infill structures in worn-out textures;
- Improvement and renovation rather than demolition and renovation;
- Implementation of development incentives and influential factors;
- Doing consistent and localized interventions rather than extensive intervention in historical textures;
- And the correct selection of intervention centers in historical textures.

7.Shah Teymoori, Y., & Mazaherian, H. (2012). Design guidelines for new structures in the historical texture. Journal of Fine Arts - Architecture and Urban Development, 17(4), 30-32.

8.Alexander, C. (1998). The Search of Beauty. Stanford: Stanford University.87.

The history of superior urban plans in Iran and its impact on historical textures

The history of urban plans in Iran goes back to the 70s. Following the changes in the social and economic situation since 1921 and the issue of development and its process based on industrial development and service expansion, the cities have also adopted rapid development. Urban issues and problems in Iran since the 1961s and the anomalies of the urbanization and urban development system have led the authorities of the Iranian management system to take measures in the form of master urban plans in order to organize the process of development of the city and urbanization in Iran.

This made it even more necessary to consider cities and urbanization as the dominant form of life in the country and to plan for their development to prevent physical, social, and economic and the like.

Although it has been more than four decades since the first urban plans were developed in the form of master plans in Iran, despite the goals foreseen in these plans to prevent the uneven and abnormal development of cities and to provide solutions to regulate urban development (endogenous and exogenous development) ,these projects failed to achieve their goals completely, although they also had many positive points.

Studies show that the failure of endogenous urban plans in the field of endogenous development and improvement of function and performance in historical textures can be described in three main parts:

- The type of content and concept of master plans for intervention in historical texture and the creation of infill structures.
- The process of reviewing and approving these designs in non-development related forums in historical textures.
- Implementation method and executive organization of superior approved projects by unrelated bodies.

Each of these items influences on each other in the form of an interconnected system and pushes the outcome of the intervention in a historical texture in a direction that does not pursue the goals set forth in the plan. The following items can be mentioned as the reasons for the failure of the above plans with the type of content and concept of such plans in the context of intervention with historical textures and the creation of infill structures:

- Lack of indigenous knowledge to formulate and present the basic principles and concepts of urban superior plans with urbanization and urban development characteristics in Iran. Different geographical, social and economic characteristics are considered in Iranian cities.
- Insufficient understanding of the content of urban complex plans in Iranian cities and the necessity of field studies and reading of historical textures to formulate the principles of structural-social intervention in them.
- Emphasize the process of linear planning rather than cycle planning to achieve the plan's expected objectives.
- Not paying attention to the social, economic, political and cultural dimensions of the historical texture in creating infill structures to blend in with contemporary urban environments.
- Failure to incorporate physical goals with social, economic and environmental goals in urban master plans – the sections related to the historical texture of the city are considered.
- Adopt uniform methods and descriptions of services to define a variety of problematic urban texture outside the urban life cycle - old texture, developing texture and marginal texture-.

In the process of reviewing and approving superior urban plans, the following can be identified as contributing factors to the failure of these projects:

- The lengthy process of reviewing and approving superior urban plans and the incompatibility with the physical and social content of the city due to the large time difference between the time of preparation and the time of project approval and execution. Sometimes, it takes several years to approve and implement the plans.
- Non-participation of residents and beneficiaries of historical texture in the process of preparing, reviewing and approving master urban plans with their implementation process and executive organization.

How to implement and executive organization of master plans without having to deal with the content of the plan have the following weaknesses:

- Developing a plan based on the consultant and employer's field of thought and ignoring the needs, wants and priorities of the residents and thus the lack of public participation in the implementation of plans and programs due to their lack of justification for the goals of the plan and its content. (People as those who are going to have project proposals directly affect their lives).
- Lack of attention to the capabilities, facilities, and priorities of the executive bodies and agencies involved in urban development issues in the process of preparation and review of plans from the financial, technical, objectives and plans point of view and as a result of the lack of implementation of many urban planning proposals.
- Lack of integrated urban management network in the execution of superior plans and lack of coordination between the plans of the organizations and institutions responsible for urban affairs with the approvals and regulations of the master plan;
- Lack of clear and well-structured urban laws and regulations regarding urban historical textures and ambiguity in how private and public ownership and existing and proposed land uses are concerned.

The analysis and conclusions of the above discussions show that the major urban superior plans of any scale and any purpose they pursue have failed to deal with the issue of creating infill structures in the historical texture of the city. These designs, and in particular urban designs, have not only succeeded to solve the problems of historical textures but also as a dilemma to address the creation of infill structures in historical contexts from a physical and not a semantic point of view. The ways to achieve successful endogenous development plans are known. One of these projects, which was implemented in a separate plan but with the support of a master urban plan in the historical texture of Shiraz, was the connection of the Astaneh shrine to the Shah Cheragh shrine, known as the "shrine to shrine". Also, the development plan of the Shah Cheragh shrine which resulted in the destruction of more than 57 hectares of historical texture around the Shah Cheragh shrine in order to develop and build religious tourism infrastructure is also one of the plans that led to its decline and the loss of standard capitals and urban morphology, despite its stated goals to promote social life in the historical texture . Other endogenous development plans in Iran include the Imam Reza shrine development plan in Mashhad, the Masoumeh shrine development plan in Qom and the revival of the Atigh Square in Isfahan.

The effect of superior urban plans on the historic texture of shiraz

Interventions in the historical textures of Iranian cities (examples and studies)

Iran's decades-long history of intervening in urban historical textures shows that approximately none of the large-scale - the urban scale - intervention plan have actually succeeded. The early years of the present century were transformed by the many ups and downs caused by changes in urban foundations, the needs of modernization, and the policies of modernization over plans and programs in Iran. The street planning at the beginning of the century, in addition to imposing a new organization on the shape of the city, contrasted with the structure of the old texture. These new urban elements have been incorporated into the development of Iranian cities, and are still present, in addition to their functional counterpart to the spatial organization of the old city texture - each with a completely different look to its true nature. Exogenous development thinking and hasty development of cities with the announcement of open-door policy by the government of the time was also one of the most important factors influencing these changes. In these years (the40s and the50s), the urban development of Iran imitates the west by merely copying it in the following parameters:

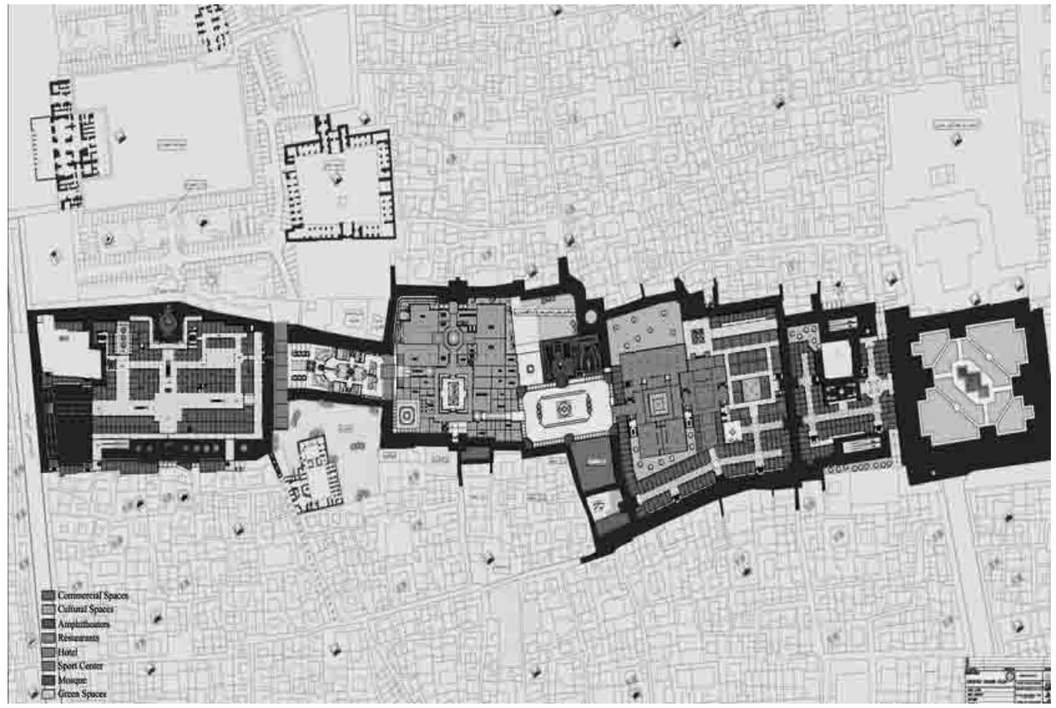
- Copies of its forms without going through the conditions of transition to modernism and modernity;
- Accepts Western modernism but lacks the prerequisites for its acceptance in the semantic and functional sense;
- It does not conform to the form and concepts of Western modernism with the culture and morphological structure of Iranian urban development but copies it.
- It does not have a proper understanding of the theoretical foundations of Western modernism and its manifestations but accepts it.

Destroy a large part of Shiraz's historical context in order to build a new cultural-commercial complex.

On this basis, and with such an understanding, heavy intervention with the historical texture of the city and the construction of existing urban foundations does not only mean the creation of new foundations, but also the negation of the existing foundations. This can only be explained in a process of values and counter-values.

Investigation of intervention plans in urban historical texture in Iran indicates that intervention in urban textures - even on the basis of predetermined and approved plans by relevant organizations - has an increasing disturbance in the following different dimensions:

- Removing internal concepts, hasty planning, and projects in urban development plans;



The connection of the Astaneh shrine to the Shah Cheragh shrine, known as the "shrine to shrine".(One of these projects, which was implemented in a separate plan but with the support of a master urban plan in the historical texture of Shiraz).

- Adopt laws and policies that are incompatible with the principles of development and ultimately the prevalence of land and housing business;
- The dominance of the land and housing economy overall decisions at different levels of planning and decision-making;

The plan not only of the meaning of social relations but also in terms of function and structure has visual chaos. Failure to adhere to the features of hidden urban structures in large-scale designs as well as disregard for direct and indirect communication of urban elements with the historical texture and surrounding environments, and ultimately failure to satisfy users and residents of urban historical textures, are the obvious signs of this turmoil.

During the half-century of planning for intervention in Iranian historical textures, numerous actions have been undertaken with various titles. Many of these projects have not only failed to articulate goals but have failed to comply with the principles of urban restoration and have always raised issues for the city and its citizens. Reconstruction of a part of the first ring of Hamedan by the bank, reconstruction of the texture surrounding Shah Cheragh in Shiraz and the streets planning affected by the plans of the 40s and the 50s centuries, in particular, the development plan around the Imam Reza shrine in Mashhad have been of the direct actions taken in ancient urban textures during this period.

A few projects, such as the plan for organizing the texture of the Oudlajan and the Tehran market districts, the Dardasht market reconstruction plan in Isfahan, the plan proposed by French architect -Michel Ecochard- for the texture around the Imam Reza shrine, the detailed design of the old Shiraz texture, the reconstruction plan for Imam Square and Hafez Street texture in Isfahan and the detailed plan of Isfahan old texture were prepared in the

40s and 50s but never implemented.

During the mid-years of intervention periods in Iran (1981 to 2001), some issues can be mentioned including unbalanced effects of previous years' interventions in the historical texture of cities, the unrestrained growth of cities in order to achieve the manifestations of a new civilization and urban modernization as the main factors influencing on the process of designing, approval and implementation of intervention plans in the historical texture of Iranian cities in the following years.

This has led the city to become a widespread area for the emergence of abnormal phenomena in social, economic, and physical areas. These have led to a series of actions and plans to address the emerged phenomena. These plans focus on the subject of historical urban textures in the following sections:

- Life-giving to urban historical texture;
- Improving urban problematic textures;
- Revitalizing cultural-historical axes removed from the urban life cycle;
- Renovation and reconstruction (aggregation) of textures without urban life;
- Lightening and revitalization of the urban problematic texture;
- Acting on urban development and improvement.

Following the overwhelming expansion of cities and the need to preserve historical texture, especially urban centers, the issue of reconstruction and improvement of urban problematic areas was focused by city officials; and some plans as the deterrent or local actions, which were ineffective ideas, only reopened or improved the urban textures arteries.

Shortly thereafter an action influenced by the view of Iran's first socio-cultural development plan (1983-1987) was formed, with a more comprehensive idea, giving special attention to urban development programs in the country's planning system. Accordingly, the following topics were included in these plans: 1- urban development planning 2- the creation of protective installment in the cities 3-improving the traffic of the cities 4-improving the urban environment 5-creating other urban facilities and installment.

It should be noted that the plan was not implemented due to the specific circumstances of the country caused by the imposed war, and the first plan was designed and implemented completely different during 1989-1993.

The lightening plans, within the framework of the superior urban plans, only created or widened the crossings and arteries of the historical texture, without paying attention to the physical-social structure of the city.

The following actions were taken in the framework of lightening plans during the 1985-1987:

- Plan of "Sabouran" and "Martyr Moqalsi" axes in Semnan.
- Plan of "Fahadan" district and "Lab-e Khandagh" crossing in Yazd.
- Plan of "Kuti" district and "Sheikh Saadoun" crossing in Bushehr.
- Plan of "Jamaleh" district and "Jamaleh" crossing in Isfahan.
- Plan of Imamzadeh Noor in Gorgan.

The above experiences are the result of thematic and local planning of urban restoration in the old urban texture and its executive action is lightening one of the anticipated axes in the above plans. These experiences, despite all its problems from implementation to exploitation, remained in the form of a measure and could not impact on the surrounding environment, due to failing to determine their structural position in the historical texture area and then in the spatial organization of the city. Between the years 1987-1990, the urban texture

improvement plans began with a new approach to urban restoration in this period. During this period, the preparation improvement plan for 12 cities was on the agenda:

Dezful, Ardebil, Bushehr, Gorgan, Nain and Mohammadieh, Zanjan, Moojen, Bandar Gang, Bandar Anzali, Semnan, Yazd, Bafgh. In spite of providing a special look to standardize construction in the area of ancient textures, the plans prepared during this period were not implemented except in a very limited number. The lack of a structural relationship between these plans with the city and with urban development plans has been the main reason for the non-realization of these plans. The only plan developed by consulting engineers in this period is the Shushtar Ancient Texture Improvement, which was notified to the municipality after approval.

In 1990, some projects called Revival of Cultural-Historical Axes were included in the programs of urban development, conservation and restoration of Iran, which was the beginning of a period of a new approach to the historical textures of the country. Prior to this, the historical textures, which were always considered as a separate part of the city's body and were subject to local-thematic planning in urban planning, were examined and planned with a structural integration with the city and its surroundings. The continuation of this process in 1992 resulted in the adoption of a plan that listed a number of cities with valuable historical texture as the major cultural and historical cities of the country. These cities included: Isfahan, Shiraz, Tabriz, Kerman, and Hamedan. Based on a program called Balancing and Decentralization of the Historical Texture of the Country, some projects within three scales of city and land, texture and components, and prioritization of intervention were planned. Although the two main goals include "paying attention to the structural pattern of the old texture and providing a model for linking the old urban texture skeleton to the new foundations of the city" as well as "providing the primary pattern of urban planning for prioritization of intervention in historical urban texture" were mentioned as the most important objectives and axes followed in these plans, the result was ineffective and unsuccessful. In spite of this, in the next years, the areas created by the above plans reinforced the foundation of future implementation plans. Some plans resulted from this action include the plan to revitalize the Karimkhani complex in Shiraz, the plan to revive Hamadan Bazaar and the plan to revive the Old Square and the Atigh Grand Mosque of Isfahan. The expansion of housing construction activities in the internal districts of the city has introduced a new strategy for urban restoration resulting from the renovation and reconstruction(aggregation) perspective in 1991. The new construction strategy in urban historical texture has created a new way of intervening in the historical texture of the country, leading to a fundamental change in urban morphology and architecture language in the urban structure.

The sharp decline in construction quality and the lack of urban infrastructure have reduced the economic value of this part of the city. And forced or persuaded the inhabitants to migrate from the historical texture following the decline of residential per capita in historical texture and the destruction of many architectural seeds, the planning to appropriate these lands and integrate them so that allows reconstruction in these areas, formed the basis of the plans and projects of this period. Aggregation plans in Semnan, Gorgan, Yazd, Bushehr, Shiraz, and Kashan are an example of this attitude in the area of urban districts. The Mashhad Downtown Reconstruction and Renovation Plan with an area more than 360 hectares,

is the most prominent plan in this period. The large -scale intervention of this plan in one hand, and the lack of separation of the characteristics of each part of the urban texture-whether the elements of design be structural or covering- in the other hand in the designs, caused inconsistency of the urban texture with the spatial organization. Tissue improvement plans for urban centers textures in Dezful, Rasht, Bushehr, Gorgan, Ardebil, Kashan, Semnan, Shahrekord, and Langroud cities were among the measures that occurred following the process of intervention with Iran's historical texture in 1991. The objective of the above plans was to regulate the historical urban textures that remained suspended in the urban development plans. However, due to the lack of fundamental solutions and strategies in the structure of the plans, the aforementioned plans were confronted with issues of urban texture through different designs. The development plans in Dezful, Rasht, Gorgan, and Semnan were approved and implemented by the municipalities of each city because of their compliance and coordination. The plans of Kashan and Shahrekord cities took a strategic-structural framework and were never pursued, and the other plans remained uncertain and suspended for different reasons. Intervention policies in urban historical texture, referred to as the organization of problematic urban textures, have been considered by policymakers and decision-makers of urban management since 1991, and specifically considered by policymakers and decision-makers of urban management since the beginning of 1994, paving the way for new experiences to intervene in historical urban textures. Attention to endogenous development and planning to achieve the goals formulated in this plan have given local attention to the historical texture of the country.

Some of the endogenous development plans are:

-The districts of Moordestan in Shiraz, Qaleh in Kerman, Davood Gholi in Zanjan and Hamdollah Mostofi in Qazvin in 1994.

- The turbulent texture of Bandar Abbas, Turbulent texture of Birjand, the districts of Jolan in Hamadan, Joybareh in Isfahan, Abshouran in Kermanshah and Saghari Sazan in Rasht in 1995.

- The districts of Uch Ducan and Sheikh Safi in Ardebil, Koti in Bushehr, Sheshgolan in Tabriz in 1996.

But the above plans were unsuccessful for the following reasons:

- The policy of repulsive intervention in the areas of gradual construction rather than attraction policy;
- Problems arising from the appropriation policy in practice;
- Designers' disregard for the characteristics of historical texture in the social dimension;
- Lack of coordination between the organizations involved in the design and implementation process of plans;
- Not paying attention to the role of people in planning, designing and implementing plans;
- Not paying attention to the budget and capital needed to fully implement the plans;
- And...

The change in intervention policies in urban historical texture has been pursuing other goals since 1997.

The stated goal of intervention in the historical texture of cities is developed to improve the quality and quantity of urban living for the present and future life in order to create economic growth - functional balance -, social health and preserve and enhance the urban environ-

ment.

On this basis, a look at the city and its organizational structure is a comprehensive view that intervenes in areas that have the capacity and feasibility of implementing a spatial organization plan of the city.

These plans have been programmed and implemented under the following axes:

- Macro planning and designing (strategic - structural) to formulate goals, strategies, and solutions of interventions in the generality of the urban historical texture;
- Urban Executive Plans - Local Detailed - in order to legalize the urban historical texture and to liberalize the construction process and to guide the implemented plans and programs at various scales;
- Planning, designing and implementing special plans - urban design - Considering the need to renovate the city's structure and body;
- Design and implementation of flagged plans - Modeling - to promote index and applied samples;
- Restoration of elements (space and building) of functional revitalization and new life for the continuation of the physical life of urban historical texture;
- Cultural, legal, financial, social and managerial contextualization to provide the grounds for the continuity of the city's life and dynamics.
- Empowering the textures with informal settlements, managing and directing the existing potential forces.

This process, with the goals set above, is the latest intervention strategy in Iranian urban textures that have shaped the basic structure of all intervention plans in Iranian historical texture so far. Plans approved, executed, ongoing, or never implemented have pursued the policy of intervening in the historical texture of the city for the purposes previously stated, but failed in practice to preserve the social and even physical life of urban historical cities related to their peripheral environment. Historical textures of different cities of Iran such as Kashan, Isfahan, and Shiraz have experienced hasted demolition in recent years as a result of large scale development projects. Isfahan Antique Square Revitalization Project, Shrine to Project in Shiraz, Shah Cheragh Shrine Development Project are among the unsuccessful projects that have been designed and implemented from 1996 up to now. Undoubtedly, a comprehensive study of the effects of intervention designs on the historical texture of Iranian cities requires a comprehensive study of all aspects of the subject. But what we can get from a general review of the designs carried out in the historical texture of Iranian cities can yield the following conclusions. These results are e of urban historical texture in relation to their surroundings.

Although all of the plans have been largely achieved in their executors and designers point of view, the experience of living in the historical texture and interacting with established structures and interventions occurred in the historical context shows that, not only they have not achieved their goals practically and failed to improve the living process of the inhabitants and the beneficiaries of the historical context, but also they have been the source of many physical and structural problems in the historical texture. Undoubtedly, a comprehensive study of the effects of intervention designs on the historical texture of Iranian cities requires a comprehensive study of all aspects of the subject. But what we can get from a general review of the designs carried out in the historical texture of Iranian cities can yield the following conclusions. These results are:

- Lack of coordination of new structures with the historical texture structure and noncompliance with its social and cultural functions;
- Incompatibility of new architecture grading with urban morphology and standard urban per capita;
- creating disproportionate changes in the economic structure associated with the historical texture due to over-injection of commercial activities in order to make the historical texture profitable and justify the intervention plans economically;

- The inability to create a sense of belonging to a place in citizens and beneficiaries of the space built inside and outside of new structures;
- Incompatibility of the new architectural body with the social structure existing in urban districts - historical texture districts and their organizational structure –.
- Inability to meet the needs of users and beneficiaries of new structures in the historical texture;
- causing uneven changes in urban morphology due to changes in the scale of construction and mismatch of function and body;
- Creation of new population centers without regard to existing capacities and as a result of lack of resilience of the urban texture to the burden imposed;
- And so on.

nterventions in the historical texture of Shiraz based on master urban plans

Documents and physical development plans of Shiraz:

- Master Plan of Shiraz (1996-1972)
- Shiraz Master Plan (1989)
- A detailed plan of Shiraz city (1994)
- Master plan (structural-strategic) of Shiraz (2009)
- Overview of the Detailed Design of Shiraz City (Preparing 2011, Approved 2014)

As noted in previous sections of this study, interventions in the historical texture of Shiraz, like other historical cities in Iran, have been done in the context of master urban plans and with the titles , such as: lightening the historical textures, improvement of problematic textures, revival of cultural-historical axes have been removed from the urban life cycle, renovation and reconstruction (aggregation) of non-urban living textures, lightening and revitalizing urban problematic textures.

The most important and most effective intervention plans in urban historical texture in Shiraz include the Sang-e-Siah Passage Revival Plan, the Malek Passage Revival Plan, Construction of Nikan Cultural, Commercial and Residential Complex Plan, the Establishment of Shrine to Shrine Cultural Complex Plan, Development Plan,Shah Cheragh Shrine Development Plan and several other small-scale plans.

Extensive demolition in the historical texture of Shiraz, followed by the increasing inefficiency of the historical texture, as well as the existence of many problems for the residents and beneficiaries of the historical texture, resulted in the creation of a plan entitled “Revision of the Detailed Plan of the Historical-Cultural Area” which specifically addressed the issue of historical texture and ways of exiting from mentioned problems .

Pardaraz Consulting Engineers submitted a review of the detailed plan of the Shiraz Cultural and Historical District in November 2011. The plan was approved by the Ministry of Roads

and Urban Development in 2014 after three years of review.

Based on the latest information available from the plan (revision of the detailed plan of the Shiraz Historical and Cultural Area, 2011) (Report on Sections 4 and 5 and Supplementary 3rd Sections-the Suggestive Objectives, Strategies, Policies and Models), the actions in the historical texture to scrutinize and analyze objectives, strategies and policies - macro-management programs -, how to intervene in the historical texture and finally solutions and suggestions for intervening in the historical texture have been defined and proposed as follows;

The following content is taken directly from pages 90 to 94 of a detailed plan review of the Shiraz Historical and Cultural District

Pardaraz Consulting Engineers, 2011. Revision of Detailed. Plan of Shiraz Historical and Cultural Area, Report of Sections 4 and 5 and Supplementary Sections 3 (Proposed Objectives, Strategies, Policies, and Patterns), Shiraz Municipality.

- Determining the macro strategies for revitalizing the historic area

The most important and common challenge in the historical region is its gradual decline and burnout so that many parts of it became physically burnout and abandoned due to social burnout and stagnant. The macro strategy and orientation of this plan are Urban Renaissance with emphasis on changes in the structure of the activity. This principle can be achieved through the following strategies:

- creating Attraction, authentication, differentiation at city scale
- Overcoming artistic cultural aspects over other tendencies of intervention and restoration
- Physical-socio-economic contextualization of the environment
- Emphasis on the dynamics of urban spaces
- Cultural-artistic payback of the historical texture through an emphasis on shifting activity orientation (especially in the eastern and southern half) towards cultural.
- Leisure activities.

The emphasis on culture should be done as a motive to the regional economy. The impact of this will be very tangible on the future orientations of the operating system and new development capacities.

- Macro strategies and approaches for resolving the housing crisis

Emphasis on residential development and upgrading of services and its supporting infrastructure with regard to unique historical texture capabilities (valuable history and body, spatial identity, social identity, tranquility of environment, pedestrian-based life, architectural richness and spatial qualities, etc,), will be realized if the facilities and capabilities of historical texture are also developed alongside their competing fields in the areas of facilities, services, infrastructure and most importantly social security. In this regard, two main strategies to improve the quality of housing and capacity of the residential environment should be considered to improve the renovation coefficient and to reduce the burnout flow in the area. The following actions must be done to realize each of these strategies:

- To improve the quality of accommodation
- Providing infrastructure
- Providing services
-providing Security
-changing social construction

Increasing the capacity of the residential environment

-Widening the roads
-Increasing the profit margin
-Modifying the construction pattern

- Macro strategies and approaches for resolving the crisis in the field of activity

Given the current shortcomings as well as the conceived prospects for historical texture in economic activity and economic performance, the future orientations of activities in this area should be towards:

- The need for performance at Shiraz City scale with a focus on the city's current population of 120000 people.
- The need for specialized and basic areas that are capable of shaping the leakage and consequential effects.

- The need for activities with centralized performance in relation to the city.
- Need for activities that can deliver a complete cycle of production, supply, training, repair, and sales in a metropolitan arena.
- The need for a performance that has been shaped, based on the spatial advantages of texture
- The need for a performance to maintain its produced surplus in the historical texture
- The need for performances that are not centrally located in other areas of the city.
- The need for performance that can be concentrated in a zoning system in the western half of the historical texture.

It should be noted that today, the uneven development of activities in the historical texture has not only has little impact on the patterns of conservation and development of the texture but has also created major challenges along this path. For example, the market with frequent annual turnover and the high volume of traffic and population that attracts to the area causes unbalanced and disrupted residential cycles in the area and in return transfers the surplus money and capital generated to other urban areas. These (capital)funds stimulate construction activities in these areas, and in the face of historical texture become the residence of workers in the market, who are generally indigenous and are not only unaware of the value of historical texture but also are unable to renovate and repair their own home.

On the other hand, the urban economy makes available vacant and cheap shops suitable for activities that have nothing to do with the historical and cultural spirit of the area. What is found from the results of consulting studies and survey researches shows that the historical boundaries in the pattern of metropolitan work- sharing have inclined to the poverty-related services and not only has no benefit for the region but also reduce its prosperity and credibility.

The third important and functional role of the studied area was the establishment of the Shah Cheragh shrine, which invites large numbers of people from all over the country, especially at religious occasions and festivals. For this reason, it also needs to develop and supply its own infrastructure, competing with market and housing according to current restrictions.

The third major revenue-generating activity is the historical tourism area, which is generally restricted to visiting the Karim Khan citadel, the historical market, and other numerous historical and cultural sites and buildings remained unknown and unused. In this regard, the major capital and financial are attracted to the adjacent areas, and tourism activity is limited to short trips to the area. In a general summarization, we concluded that generally, the basic activities in the status quo of the historical texture lack the dynamics and effectiveness needed for its future development.

Given these conditions, the following macro strategies are suggested to revive and enhance the activity structure of the historical texture:

Improving the pattern of work -sharing with the city through:

- Consolidation of the pilgrimage role
- consolidation of business role
- Strengthening the historical-cultural –tourism role by emphasizing the dynamic nature and creation of conditions for production and service delivery

- Increasing the functional environmental capacity through:

- Increasing space through congestion
- Providing sufficient access
- Create functional synergy

According to the existing capacities and difficulties, there are limitations to increase congestion and to provide availability, but creating functional synergy, i.e the establishment of a set of complementary harmonious functions would be possible through planning measures.[9]

9.Pardaraz, C. E. (2011). Revision of Detailed. Plan of Shiraz Historical and Cultural Area. Shiraz: Shiraz Municipality.90-94.

Based on the previous studying(Shiraz Detailed Plan):

To read and more information the relevant sections of the Shiraz Detailed Plan, see the Appendix no.1 to this study

1. A detailed plan of Shiraz historical-cultural texture, In order to take measure towards its stated goals, the historical texture is divided into four areas, each with a separate definition. In addition to the definitions associated with each arena, the types of actions defined in each of these arenas to interfere with the historical texture of Shiraz are as follows:

- Type of action in the first arena (the main skeleton of historical texture): Absolute protection, improvement, restoration, reinforcement.
- Type of action in the second arena (accumulation of valuable artifacts): Active protection.
- Type of action in the third arena (valuable structure area): micro-scale renovation and reconstruction
- Type of action in the fourth arena (conventional urban areas): renovation and reconstruction.

2-The study of the previous mentioned sections of the “Detailed Plan Review of the Shiraz Historical and Cultural Area” Project, and field studies in the historical texture of Shiraz, specifically on plans such as the “Shrine -to-Shrine Cultural-Commercial Complex”, show that many specified goals and perspectives in the plan have not been successful practically, and in the above design could not present a suitable replacement for the demolished architectural elements. Failure to comply with parameters such as the urban architecture language and morphology as well as non-compliance with standard environmental and architectural per capita are among the reasons for the failure of these plans. although the detailed plan of the Shiraz historical and cultural area , has tried very carefully and obsessively to pay attention to all the issues in the historical texture, and to achieve a comprehensive and accurate understanding of the needs assessment and feasibility of the architectural proposal, it could not respond the physical and social needs of beneficiaries and residents to present suggestion and architectural plan. Existence of traffic problems, social delinquency, unwillingness to settle in historical texture, lack of adequate housing and productivity infrastructure despite the implementation of urban regeneration plans, unbalanced distribution of the economic value of land and property in various parts of historical texture and others factors indicate the failure of superior urban plans related to historical texture.

Content related to the research topic	Responsible entity	Letter of Recommendation, Treaty, Convention	Year
Preserving the character of the urban area and beautiful landscapes -Not using old styles -Including neutral building and without any special attraction, so as not to overwhelm the size, color, and shape of the surrounding buildings - Observing aesthetic requirements, so as not to imitate traditional forms while coordinating with surrounding buildings. - Maintain beautiful scenery	4th International Congress of Modern Architects	First International Congress of Architects and Technical Workers of Historical Monuments - Athens Charter.	1931
- No change in the relationship between mass and color - no damage to the interesting parts of the monument, the traditional atmosphere, the balance of its components and its relationship with its surroundings, when joining the monument	UNESCO	Conservation and protection recommendation for the beauty and character of landscapes and views	1962
- applying Supervision of the type and design of new structures, in the shape of preserving the surroundings of historic districts - Preservation of historic spaces and status of historic districts - Lack of harm to the relationship between the size and color of the cultural heritage with its surroundings - The need to pay attention to architecture as a symbol of its age -Using traditional techniques and materials - attention to volume, scale, rhythm, and appearance, so as not to affect the structural and aesthetic qualities of the ancient sites - Avoid any imitation that affects the artistic and historical value of monuments	UNESCO	International Charter for the Protection and Restoration of Monuments and Landscapes; The Venice Charter	1964
-Use of modern architecture, subject to considering the existing textures, proportions, faces, sizes and existing scales -formulating laws and regulations related to volume (height of buildings, land occupancy level criteria), location of buildings, in a coordinated manner - The contemporary architecture of the highest quality available - Not harming the authenticity of monuments by avoiding unnecessary joining - lack of Damage to historic site landscapes features, and views - Harmonious blending and combination - Synchronized with urban rhythm and morphological pattern of texture - Mass balance of new building in texture - Paying attention to the local- traditional features in façade design - Use of traditional materials or compatible with traditional materials - The unjustifiability of imitation architecture - The need for enforcing laws for plans related to the new buildings and plans that affect the environment around monuments - Observing the existing spatial arrangement, especially in terms of the scale and size of the land Respect for the scale and spatial structure of a place, as well as the relationship of any building or place with the larger environment around it - allowing contemporary designs in harmony with the environment	UNESCO	Recommendation for the Conservation of Cultural Assets Endangered by Public and Private Activities	1968
	UNESCO	National Conservation Recommendation for Cultural and Natural Heritage	1972
	ICOMOS	Symposium Resolution Incorporating Contemporary Architecture into the Archaeological Collection	1972
-Use of modern architecture, subject to considering the existing textures, proportions, faces, sizes and existing scales -formulating laws and regulations related to volume (height of buildings, land occupancy level criteria), location of buildings, in a coordinated manner - The contemporary architecture of the highest quality available - Not harming the authenticity of monuments by avoiding unnecessary joining – lack of Damage to historic site landscapes features, and views - Harmonious blending and combination - Synchronized with urban rhythm and morphological pattern of texture - Mass balance of new building in texture - Paying attention to the local- traditional features in façade design - Use of traditional materials or compatible with traditional materials - The unjustifiability of imitation architecture - The need for enforcing laws for plans related to the new buildings and plans that affect the environment around monuments - Observing the existing spatial arrangement, especially in terms of the scale and size of the land Respect for the scale and spatial structure of a place, as well as the relationship of any building or place with the larger environment around it - allowing contemporary designs in harmony with the environment	Countries member of Council of Europe	European Architectural Heritage Charter	1975
	Committee of Ministers of the Council of Europe	Resolution of the Amsterdam Congress	1975
- Not affecting the appropriate visual position such as scale, color, texture, and materials	ICOMOS	Australian Charter to protect major cultural sites; Bora Charter	1996
- thinking of the aesthetic, social and cultural aspects, as well as the cultural, natural, environmental and cultural and superior manifestations of the heritage; - Preference to use local materials, styles	ICOMOS	Cultural tourism charter; Tourism Management in the Bay Area	1999
- Not using quasi-historical designs - Cultural connectivity through qualitative interventions	UNESCO	World Heritage and Contemporary Architecture Note: Managing the Natural-Historical Urban Landscape	2005

International recommendations, treaties, congresses, and conventions that addressing the issue of interference in the historical texture of the city, with emphasis on the creation of new structures in them. [10]

10. Shah Teymoori, Y., & Mazaherian, H. (2012). Design guidelines for new structures in the historical texture. Journal of Fine Arts - Architecture and Urban Development, 17(4), 30-32.

Orientations	Recommendations and guidelines	The behavior towards historical texture	Type of perspective towards historical texture	Date of holding, performer	Title	Period
Establish a series of regular conferences	Theoretical; education	Preservation and revitalization	Idealist-physicalist	September1970-ministery of housing and development	The first international of congress of Iran architecture	First period (1970-1976
Raising the issue of conservation and restoration of historic buildings and cities as an effective factor in the development of the country	Practical; legislation, the establishment of a research and supervisory institution	Preservation and revitalization	Idealist -pragmatist	December 1976- Tehran university	Seminar Restoration of Historic Buildings and Cities	
–	Practical; observing the general principles of the proposed plans within the framework of urban plans	Tendency towards renovation	*	January 1976- Ministry of Housing and Development	The first symposium on architecture and urban planning	
Plan for the necessity of public education along with training of specialists in urban issues	Theoretical; education Practical: Legislation, studying the process of comprehensive urban plans	Preservations and revitalization	Idealist-pragmatist	March 1977 - Ministry of Housing and Development	The Second Iranian Architecture Symposium	
The development of a civic approach to the problem of urban texture improvement	Theoretical; study of past experiences Practical: Establishing a research institution, setting up a supervisory body, paying attention to the cause of public participation, forming a council of relevant bodies	Preservation and revitalization	Multidirectional(considering physical, economic, social, cultural Aspects, etc.)	1388- Iran University of Science and Technology	Seminar on the continuity of life in the ancient texture of Iranian cities	Second period (1988-1999)
Strengthening the civic approach to urban texture improvement by focusing on people participation and focusing on its issues	Theoretical; Studying and evaluating past experiences, training, organizing specialized literature Practical: Pay attention to the cause of public participation	Preservation and renovation	civic**	1997-- Department of Housing and Urban Development	Specialized Conference on Urban Textures	
Emphasis on defining and consolidating the theoretical basics of intervention in the urban texture	Theoretical; Organizing specialized literature Practical: Pay attention to the cause of public participation, legislation	Preservation and revitalization	civic	1999-Ministry of housing and urban development	Specialized seminar on the basics of intervention in the urban texture	

* The mentioned conference addresses the issue of housing in five areas: land and utilities, architecture and urban planning, general issues and planning, credits and executive issues. As such, a specific approach to the subject of traditional texture cannot be extracted.

** Civic Attitude is a vision that seeks to take into account all aspects of urban life.

Evolution of National Charter of Urban Conservation, Restoration and Improvement in Iranian Historical Urban Textures - National Conferences and Seminars in between 1349 and 1999. (Honror, 2001: 29)

Honarvar, N. (2001, spring). Examinating the Evolution of Urban Restoration Resolutions in Iran. Seven Cities Magazine, 2(no.3), 14-30.

Intervention in the historical texture from the perspective of national and international conventions and treaties

The distinction between features and characteristics of urban texture (architecture language and urban morphology) in different parts of the world demands a different attitude towards their intervention and management field. International charters and conventions, which generally address issues of historical texture in different countries, refrain from providing practical solutions at the national and local level and entrust the formulation of practical principles related to these charters with countries that are using these treaties.

Investigating the history of formulating the international treaties and charters with the subject of historical textures around the world shows that the issue of building in the space built on the historical texture of cities, despite the long history of restoration doctrines, has no long history and no definite orientation. This issue has been addressed only in particular cases. In the years following the beginning of systematic thinking about the restoration of architectural monuments, scholars opinion about the architecture and urban restoration formulated principles that addressed the issue of intervention in historical urban textures. The opinions of persons such as Eugène Viollet le Duc, John Ruskin, Camillo Boito, Camillo Sitte, and Gustavo Giovannoni, either directly or in the form of international charters addressed the issue of intervention in the historical texture of the cities. The opinions of Eugene Violet Luduk and John Ruskin, who were very extremist in their concern for the preservation and restoration of monuments, initiated the movement for the preservation and restoration of monuments. Ludock believed that in order to preserve the historical monuments, it should be reverted to its original form while recommending demolition and reconstruction in areas where it was a lightness of the building. Referring very cautiously to the conservation and restoration of the monument from another viewpoint of view, John Raskin believed that for the survival of the monuments that are remainder of destruction, they must be preserved in its current form and any intervention in their structure must be prevented. The two theories were exactly the opposite. Bowie put forth ideas that would add new buildings to the monuments to make them more efficient. He believed that in constructing new structures in historical texture, one should avoid any mere imitation of the same and should not imitate previous styles. He also emphasizes that it is necessary to differentiate between the old and the new style to create new structures alongside the monuments, Contrary to the views of these scholars, Camillocytes considers that it is necessary to pay attention to the characteristics of historical texture in order to achieve the principles and restoration basics. It is possible to say that his theories were the first architectural ideas focusing on architecture language and urban morphology to create new structures in the historical texture of cities. But Giovannoni is the first person who put forward his formulated theories about new structures. Giovannoni insists on not building a modern building alongside the monument because of downgrading to its style, while at the same time insists on taking the style of the monument and presenting it in a simplified and succinct way. The Athens Congress, held in 1931, the charter of which was published in 1932, was based on the views of thinkers such as Giovannoni. In the years

following the development of the Athens Charter, some favorable grounds for discussing the issue of creating new structures in the historical texture and formulating international standards were gradually provided. But each of the international recommendations, charters, or formulated treaties in this area has looked at a particular part of the topic. There are some views to subject, from the conservative to cautious views that formulate and complement the recommendations letter provisions. But what is common in all these instructions is emphasizing on the presence of contemporary architecture alongside historic architecture. In a better sense, all of these recommendations point out that the presence and survival of the new structure in historical texture should not affect their environment, but it should cause continuance of life and enhance their spirit of life . The presence of new elements of contemporary architecture alongside the monuments, considering the volume, color, shape, proportions, scale, materials and functionality, in compliance with field and surrounding environment of the monument can provide conditions that guarantee its survival, while respecting important landscapes and views. Lack of mere imitation of past monuments and architectural styles and respect for the features and characteristics of the historical field are among the key points emphasized by international recommendations.

Instructions like:

- ICOMOS Symposium 1972, European Architectural Heritage Charter 1975, Amsterdam Congress 1975, ICOMOS 1976 Recommendation, ICOMOS and ICCROM 1983 Joint Meeting, 1985 European Architectural Heritage Preservation Congress, Washington 1987 Charter, 1992 US City and Historic Preservation Charter , Bora Charter 1996, Tourism Charter 1999, Natural Landscape Management Charter of Historic Cities 1995 and ....,

Some of them deal with the issue of construction in the historical texture of cities. But as noted earlier, none of the above guidelines provide practical solutions to intervene in the historical texture of cities. Rather, it is sufficient to determine the extent of the intervention and the deterrent criteria. Although it is the responsibility of the national organizations of each country to determine the executive instructions so as to identify the regulations, intervention instructions and constructing in the built-up spaces of historical cities-through considering all the conditions and architectural features of their cities- many countries have been unable to present a comprehensive instruction that can maintain the preservation and survival of historic structures at the time they intervened to create new structures. It seems that the lack of structural and basic studies, as well as the lack of a comprehensive understanding of the subject matter of historical textures in Iran, caused a significant portion of Iranian historical textures to be destroyed or subjected to anomalous physical changes in recent years. These actions have eroded the physical structures and social structures existing in Iranian urban textures and completely transformed the urban morphology and language of architecture. Inefficiency and resilience in Iranian urban textures are the effects of not paying attention to constructing based on the urban morphology that has caused the physical ungovernability of Iranian cities.

The national charters that are developed by the competent authorities and institutions in Iran for the purpose of formulating intervention instructions in the historical texture of cities

include:

Other conferences and seminars related to Architecture and Urban Development 1972-2019include:

-First International Symposium on Clay building Conservation, Yazd - December 1972

-Third Iranian Architecture Symposium / Ministry of Housing and development, Tehran – June 1973

-The Second International Congress of Iranian Architecture

- The Role of Architecture and Urban Development in the Industrializing Countries, Ministry of Housing and Development, Shiraz (Persepolis) - October 1974

- Second International Symposium on Clay building Conservation, Yazd, 1975

- International Congress of Women Architects, Ramsar - October 1976

- First Seminar on Housing Development Policies in Iran, Ministry of Housing and Urban Development (National Organization of Land and Housing Tehran - October 1994

- Second Seminar on Housing Development Policies in Iran, Ministry of Housing and Urban Development, National Organization of Land and Housing, Tehran, October 1995

- Third Seminar on Housing Development Policies in Iran Ministry of Housing and Urban Development (National Organization of Land and Housing), Tehran – October 1996

-The First National Conference on Theoretical basics of Iranian Cultural-Historical Axes / Qazvin – July 1997

-First Congress of Iranian History of Architecture and Urban Development / Cultural Heritage Organization, Kerman Arge Bam - March;1997

-The Second Congress of Iranian History of Architecture and Urban Development / Cultural Heritage Organization, Kerman Arg Bam - April;1999

- Third Congress of Iranian History of Architecture and Urban Development / Arg Bam - Kerman 25 - 30 April 2006

- Provincial Congresses The 4th Congress of Iran history of Architecture and Urban Planning was organized by the 31 headquarters of Cultural Heritage, Crafts and Tourism from September to February 2016 over a five-month period.

These conferences in most cases have mainly focused on research papers and researchers' findings in the field of architecture and urban planning. These conferences did not provide instructions and did not address the issue of intervention in historical texture. In recent years, instructions on various aspects of conservation, revitalization, restoration, exploitation, and change of use have been developed in the historical and historical sites of Iran under the following headings:

-General Instruction on Protecting the Handicrafts (Engraving, Inscriptions, Grave Crypt, Stone Sculpture)

- instruction for Preservation of historical event locations

- instruction for Preservation of ancient roads

- Instructions for the conservation of the hills and the collection of historical-cultural hills

- Document for the restoration and exploitation of historical - cultural sites

- Single Document for the protection of historical-cultural textures

It is noteworthy that none of these instructions and documents dealing with the creation of new structures in historical texture or endogenous development. Following the rise of protests in Iran's historical textures, a single document on the preservation of historical-cultural textures was approved in 2016 by the Supreme Council of Iranian Urban Development and Architecture in 13 clauses. The document deals with the following:

The single document for the preservation of historical-cultural textures

Adopted on 2017.05.1 by the Supreme Council of Urban Planning and Architecture

The subject of the approach of readout and regeneration valuable urban areas and the need to provide instruction for achieving this goal, the Supreme Council of Urban Planning and Architecture, at its meeting dated 2016.0.2.1, adopted the following Resolution in thirteen clauses as the main approach for the preparation of the Document for the Preservation of Historical-Cultural Textures.

- Pay particular attention to the historical

-cultural boundaries of cities with regard to morphological features, their constituent elements and cultural-social structures in the urban development policy-making, planning, and planning system.

- Pay attention to all historical periods in the historical range of the cities

- Concurrent attention to the conservation of intangible cultural heritage and historical-natural heritage within the texture of the historical range of the cities

- Developing a comprehensive approach at the city scale and peripheral land in the process of preserving the historical range of the cities and strengthening and sustaining the comprehensive relationship of historical ranges with the whole city.

- Preserving the authenticity and integrity of all aspects in the process of preserving and revitalizing the historical range of the cities.

- Avoiding any intervention in the historical range of the cities , specially physical intervention including destruction of buildings , widening of the roads increase in heights and population congestion that will destroy its integrity and devastate the identity and the observatory evidence of historical , social , cultural and physical values and will eliminate the possibility of recognizing its hidden values

- The need for accurate discovery of historical context values for use in formulating strategies, policies, as well as conservation and restoration with regard to cultural and climatic and territorial richness.

Granting new uses and roles for the reuse of monuments respecting the originality and integrity of the work and preserving the dominant use of the historical texture as one of the key policies of conservation and restoration plans.

- The need for the participation and presence of all relevant and effective instruments and actors, including relevant bodies and institutions, the people organization Agents and academics, in the process of preserving and restoring historical-cultural boundaries as a multidisciplinary and cross-cutting issue.

- Providing the conditions for the presence and participation of residents in the historical areas of the cities, given their central role in the process of conservation and restoration, and attracting their full participation.

-Addressing the issue of specialized and integrated management in protection and revitalization of historical

-cultural areas appropriate to the capacity of each city, with emphasizing on the central role of urban management (councils and municipalities) and with regard to the need for to create a coordinated, Integrated management space, and with comprehensive and sufficient authority.

- The generalization necessity, internalization and promoting the approach to protecting and revitalizing historical

-cultural areas through education, discourse, information, and cultural-promoting activities in all aspects and levels of the profession, management system and the academic community, and the general public.[9]

9.Pardaraz, C. E. (2011). Revision of Detailed. Plan of Shiraz Historical and Cultural Area. Shiraz: Shiraz Municipality.90-94.

The single document for the preservation of historical-cultural textures also addresses only holistic subjects and without giving details on the type and way of action - in the historical texture of cities that are related to urban improvement or renovation. What has been clear from reading all these instructions since 1970 is that the issue of building in built spaces of the cities has never been the concern of city planners, architects, renovators, or city managers; or they never could pay attention to the above subjects. In recent years, with subjects, such as the utilization of existing capacities in historical texture and consideration of the issue of urban resilience, the subject of endogenous development has been the focus of discussions. But so far, no reference or no specialist has made any action to endogenous development principles in Iran's historical texture. Addressing this issue by emphasizing the formulation of practical instruction for the building in built spaces of the cities, at both urban and architectural scales, is an issue that its place has always been vacant in urban planning of Iran's historical cities.

Approaches to building infill structures in the historical texture of cities

Infill structures created from different approaches in historical texture. These approaches are:

- Facadism
- Zero Degree
- Integration
- Contrast
- Derisive and Temporary
- Analogy
- Invisible
- Complex

Each of these approaches can be different depending on the conditions governing the historical texture and the type of attitude toward the efficiency of creating infill structures. Adoption and implementation of any of the above approaches, in addition to that it can be effective in achieving the desired result or failure in achieving objectives of the plan, they will always be endorsed or criticized by experts. Parameters like:

- Providing final design requirements in accordance and harmonious with the historical context in terms of color, volume, materials, form, texture, scale, and dimensions.
- Communicating with the historical texture in terms of coordination with urban morphology and language of architecture.
- Creating Balance space efficiency in terms of per capita of urban standards.
- Creating a socio-cultural relationship with the beneficiaries and residents of the surrounding texture
- Providing functional - physical needs of the environment according to needs assessment studies.
- Creating a sense of belonging to a place in citizens and persistence as an element of contemporary and infill architecture.
- Creating a sense of citizen participation in order to accept the plan in the social structure of the city.

Most of these will guarantee the rate of success and viability of the plan in establishing endogenous and infill development structures. Acceptance of the conditions and characteristics of the historical texture by the infill structure in order to co-ordinate and adjust with the actions of the historical environment can be effective in providing a contemporary and appropriate response to the needs of the inhabitants. Therefore, adapting to the spirit of the place and expressing the physical features of contemporary architecture along with the cultural values and traditions of historical structures are of the most important in order to create infill structures in historical contexts. Due to differences in the characteristics and nature of historical textures, it is almost impossible to provide a single solution and equal instruction for the creation of infill structures. Therefore, the factors and options which are considered in the design of infill structures are not constant and will vary according to the characteristics of the environment and the body. Influential features in the design of infill are two main subgroups as follows:

Main characteristics

- features of the historical texture accepting the infill structure;
- Positioning in the urban texture around;
- Suggested User
- Infill Structure Scale
- Designed shape and form
- Materials and details

Side Characteristics

- Features of the historical texture accepting the infill structure including morphological structure and language of architecture, elements and of the architectural environment, plan context and architectural and existing urban development
- positioning in the urban texture including type and number of urban accesses, neighborhoods and accessible services, visual values, sequential and various sights, climatic orientations, grading and physical structure of architecture, economic values , and Financial Additions
- Applied – suggestive includes: social, political, cultural, commercial and ...
- Infill structure scale including height, volume, density, proportions.
- Designed shapes and forms include style, adaptation, and differentiation, interface spaces, form contrast and inconsistency, rhythm and balance, symmetry and balance.
- Materials and details including color, material, texture, composition, executive details, visual motifs.

Chapter Six

Chapter Six: STRATEGIES FOR CREATING INFILL STRUCTURES IN HISTORICAL URBAN TEXTURES

Introduction-Chapter Six

- Methods and types of interventions (infill buildings) in the historical textures of cities from a global perspective
- Exploring the global experience of creating infill structures in the historical texture of cities
- Process of Studied Sample Selection (Shiraz Historical texture)
- Preliminary studies, reviews, and responding to theories (study, data analysis, conclusion)
- Scrutinizing of the study's findings with the existing studied cases
- Interpretation of the information and receiving final data
- Discussion in this study (formulation of intervention principles based on findings interpretation (creation of infill structures))

Introduction-Chapter Six

There are 360 degrees, so why stick to one?

Zaha Mohammad Hadid
1950 – 2016

Undoubtedly the creation of an infill structure in the historical context is always accompanied by many questions and criticisms. Questions that can either question or completely negate the existence of the new structure. In contrast, there are criticisms that may be made to confirm the conducted process and to achieve the final product (the built infill structure) or conversations that fundamentally refuse to create the new structure. In all of these cases, what can be responsive is a very rich field of studies that justifies and explains the reasons for creation, type of structure, suggestive function, dimensions and scale, and other effective parameters.

For this purpose and to provide methods and instructions to create infill structures in the historical textures of Iran, Shiraz City was examined and analyzed as a studied case. In this process, it was found that different parts of Shiraz historical texture have their own morphology but the same architectural language.

Although each section of Shiraz historical texture has its own characteristics to be studied, a part of the texture that better expresses the studied parameters was chosen as the studied section, due to limitations in the process of studying the entire Shiraz historical texture. In this chapter of the study, the historical passage of “Haj Zeinal” in the southwestern part of Shiraz historical texture was selected and studied because of its unique structural and social features.

Methods of intervention in historical texture of cities in order to create infill structures from a global perspective, examining global experiences of creating infill structures in historical texture of cities, the process of selecting the studied case (Shiraz historical texture) are some of the early parts of this chapter of Study.

The explanation of the methodology of responding to the data obtained from studies in previous parts in order to formulate the principles of structural intervention in the historical textures of the city will form the final part of this chapter, emphasizing on the language of urban architecture and morphology.

Architecture is a language: new projects should respect the grammatical rules to avoid dissonance with existing structures

Prince Charles in The Architectural Review

Methods and types of interventions (infill buildings) in the historical textures of cities from a global perspective

Endogenous development, which expresses the concept of “building in built space in the historical textures of cities- through creating an infill structure - is always trying to transfer the physical values of place to the future, and this transference is always accompanied with adding contemporary value to the constant historical values. What is considered and contemplated in this process is the preservation of hidden and evident material and spiritual values in the body and soul of the place, which means contemporization of needs in the historical body. Obviously, in order to keep the body of the historical city alive, modern structures need to be harmonized with the historical spirit of the place and to create a new body with the spirit of history, in a logical process of birth and emergence. Different approaches, methodologies, and principles have been proposed to achieve the principles of sustainable design in historic textures in order to create an infill structure.

These solutions are presented differently in accordance with hidden and evident features of different historical texture structure.

The methods that were mentioned also earlier include:
- Facadism
- Zero Degree
- Integration
- Contrast
- Derisive and Temporary
- Analogy
- Invisible
- Complex

Facadism approach: Creating new structures behind the historic facade

The Facadism approach focuses on preserving the historic building’s appearance and explain some actions that improve the use of the historic building and that fall into the urban life cycle. Things like: construction of air conditioning system, installation of elevator or staircase, interior renovations and painting, restructuring and interior areas.

In order to achieve the goals defined in the plan, his approach may either destroy the ceiling and maintain all facade, or destroy the ceiling and maintain only one facade. Proponents of the Facadism doctrine believe that: The exterior facade of the buildings that make up the walls of the exterior rooms are more exposed to sight than the interior and is compared to the surrounding facades. Therefore, it is more important in terms of architectural protection.

In addition to specific technical issues from architects and designers, this doctrine has been faced by many theoretical and philosophical questions. They believe the entire monument should be preserved.

The use of Facadism approach as a means of integrating preservation in historical architecture with the need to new constructions became common in the early 1970s.

This method is more expensive than the restoration, demolition or reconstruction, in terms of technical considerations, structural complexity, applying the constraints of the need to maintain the facade. But this method has many advantages in terms of preserving the values embodied in the face of the city history, gaining more infrastructure area, and the like.
Basically, there is a wide range of different types of physical intervention in old buildings to achieve their performance to the optimal point as outlined below:

- Maintaining the entire structure of the existing building with its internal subdivision.
- Maintaining the entire exterior covering, ceiling and most of the interior parts with standard changes to the interior structure.
- Maintain the entire exterior covering including the roof along with major changes to the interior structure.
- Preservation of all interior walls of the building and complete destruction of the roof and interior structure followed by the construction of a new building behind the historic facade.
- Preserving only one side, that is, the wall of the existing building's facade and the complete demolition of the rest of the building, followed by the construction of a new building behind the remaining facade.

Zero Degree Approach: Creating structures unharmonious with the surrounding structures

The approach of creating an infill structure incompatible with the structure of the surrounding environment from the physical-spatial aspect is called the zero-degree approach. This is one of the neutral approaches from conceptual aspect when interacting with the historical texture of the city, and absolute inattention to it. In this way, the created structures lack coordination with the surrounding structures. Unfortunately, there are many pieces of evidence and examples of this kind of approach in the history of contemporary architecture. The only advantage of this method is the quick providing of the functional needs of historical textures. But unfortunately, this

would end at the expense of sweeping something under the carpet, i.e the historical texture.

This approach only seeks to respond to the physical needs - not the semantic and social needs - of the inhabitants and beneficiaries of the environment, without regard to structural studies of the environmental context and without considering the parameters effecting on creating the semantic harmony and homogeneity and architecture language. In many cases, this kind of response is interpreted as a temporary response to existing needs. The infill structure created by the zero degrees approach is never considered to be part in harmonious with historical texture.
The creation of this approach can be attributed to:

- Production and supply of the building with the lowest quality and actual cost
- Advise and encourage the demolition of historic architectural seeds and renovation instead of improvement.
- lack of visual knowledge and understanding of environmental quality and architectural landscape;
- Limitations and financial difficulties to implement the projects with approaches consistent with the principles of architecture in historical urban textures.

Integration approach: Creating a structure with the most harmony between existing buildings

Given the existing structure of historical texture, Integration approach proposes an infill structure that is most harmonized with the structural - physical and structural-semantic dimension. In this approach, it is attempted to design and create the infill structure is attempted to be designed and created in a manner so that that it would be most harmonious with its texture around. Accordingly, it is important to recognize and readout the foundations of historical texture formation and its physical and conceptual features.

The goals of this approach include companionship of new architectural seeds with contemporary architectural features - in the historical texture, establishment of a balanced communication that respond to the needs of residents and beneficiaries in the best way. This approach is expanded from traditional architecture, through integrating well-defined indicators or, in a simpler word, the replication. The approach is

actually modeled from old buildings. Overall, this approach is a baseless and Non-fundamental reference to past architectural practices. Although it requires fundamental research on the formation of the historical architecture in which it is located. Readout and study on the theories of urban thinkers in the field of urban renovation reveal that: what is considered by the experts is that the creation of infill structure with Integration approach requires observing the rules and characteristics, transmitting the spirit of its time to viewers and users. Therefore, it is emphasized that the Integration approach must always have an indication of its real-time, that is the real-time of construction.

Contrast Approach: Create a structure independent and distinctive with it's around buildings

The Contrast approach attempts to show off the infill structure apart from its context (historical texture and surrounding environment). In this approach, It is attempted to deliberately and independently show the infill structure (the new building) completely and independently apart from its historical texture and the surrounding environment. This approach is commonly used in large and luxurious urban buildings. Creating the contrast in the facade, volume or interior design can be considered in this approach. Expressing specific goals to create infill structure with the contrast approach can be done by applying and contrasting each of the architectural elements or changing its characters. Buildings such as the De Toneelschuur Theater in Haarlem, the Boiler House Museum in London and the Pompidou Center in Paris are among the buildings created with the Contrast approach in the historical setting. Some people believe that the construction of new buildings with this approach can lead to the destruction of the surrounding area, and some even approve its application with due caution.

Derisive and Temporary approach: Creating a very derisive and temporary structure

A Derisive and Temporary approach aimed at meeting the socio-physical needs of residents and beneficiaries of historical texture strives to make the viewer understand that the new temporary structure - from a structural-physical perspective is not in contrast to the originality of the monuments around it. Yes, a short and cross-sectional response to physical - spatial and social-cultural needs of residents and beneficiaries of, historical textures that can be removed from the life cycle and function after meeting anticipated needs. But this is not the only reason for this approach to be chosen by urban professionals and managers. Rather, it is the creation of an infill structure to meet the needs anticipated in the plan; regardless of considering the parameters such as coordination, adaptation, and interaction with the existing structures of the surrounding environment. In this approach, parameters such as proportion, equilibrium, balance, harmony, scale, style, materials, etc. are not measured with the existing structures of the surrounding environment. According to a group of architecture critics, choosing the Derisive and Temporary approach may be aimed at expressing contemporary architectural mistakes or events that have altered the morphological structure of the city. The group considers the infill structures with the Derisive and Temporary approach as irrational and unreasonable. Although emphasize the identity, sustainability, and originality of historical structure, this approach can never be used as an efficient method, due to creation of a temporary structure alongside permanent historical structures; The Arts Center, Università of St Andrews building is an example of infill structures with the Derisive and Temporary approach.

Analogy or Similarity approach: Creating an infill structure while preserving the physical appearances and architectural indications of the present time

The Analogy approach creates structures that have evidence of contemporary architecture, in addition to preserving the physical aspects of the body. This approach try considers a number of factors influencing the process of creating an infill structure in historical textures, while creating a building that meets all the needs anticipated in the plan. These parameters include items such as contrast, simultaneous contradiction with the existing historic structures, and preserving the integrated visual characteristics of the surrounding environment. Because of observing the above items, this approach is more adaptable to its surrounding texture and environment and is more satisfying to citizens. This method is based on the creation of a new historical structure based on morphological and archaeological studies of the existing historic structures of the studied area.

ARCO Building, Saint-Germain l'Auxerrois tower, and IBA Social Housing are among the buildings built using the Analogy approach.

Invisible approach: Creating an infill structure with the aim of hiding within existing buildings

The Invisible approach is designed to create an infill structure in historical environments so that has the least impact on the landscape and the environment around it. In order to respect the spirit of the monuments and the intellectual background of the historical texture inhabitants, this approach seeks to address the needs expressed in the endogenous development plan - to create an infill structure – and to minimize the impact on the surrounding

environment. This approach is designed and implemented in the form of various methods. Choosing of type and procedure of action is directly related to the physical features of the environment.

The procedures are as follows:

- Underground construction to reduce the actual height of the building;
- Using transparent elements such as glass and metal frames;
- Designing and creating a green fence using trees around the new building;
- Using the reflection of historical environment images by the mirror;
- Multiple methodologies (combining several methods above).

Each of the above methods is selected according to the prevailing conditions in the considered area and responds to the needs of the project accordingly. It is very important to be careful to select the procedure. Because choosing the wrong method from the operational, functional, physical, economic and climatic aspects can lead to success or failure of the project. Buildings such as Carré d'art, Maison européenne de la photographie, Palacio Real de Olite, Louvre Pyramid are designed and built with Invisible approach.

Complex approach: Creating an infill structure using a combination of multiple approaches

In fact, the complex approach, which is chosen itself as a distinct and independent approach to creating an infill structure, is a combination of different approaches and methods, selected and acted according to the requirement and necessity of the plan. In this approach, the designer focuses mainly on visually harmonize the new structure with the historical background. Consideration of the executive, economic, social, and sometimes political factors determines the extent to which each approach is involved in the complex approach.

The main principles emphasized in this approach are:

- Creating a consistent structure in terms of shape and form but in harmony with the environment;
- Creating an infill structure in a modern method, coordinated with the day technology, observing the landscape and physical frontage and respecting for the environment around it;
- Expressing the presence of the new structure in such a way that its existence does not distort the existence principle of historical structures.

Exploring the global experience of creating infill structures in the historical texture of cities

Building in the built space of historical cities can be included in two definitions of endogenous development or the creation of infill structures, in terms of the size and scale of intervention. Where the complex and the totality of the historical city and its surroundings (contemporary

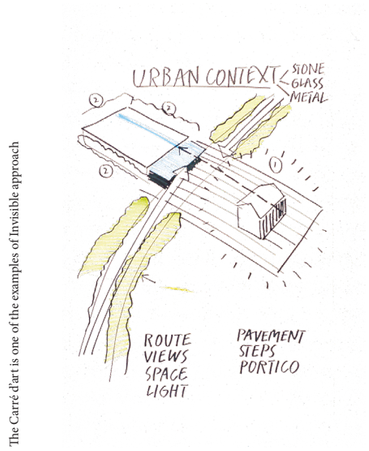
city)are faced in a rotational process with problems including the unrestricted and uncontrolled expansion of the city, abandoned spaces, vast ruins amidst the historical texture of the city, and the incompatibility of the architecture with the daily needs of the inhabitants and the beneficiaries of the city - in the urban context; May the definition of endogenous development be the best option for addressing the proposed solutions in this area. Whereas the intervention scale is at the level of urban districts to replace or build at the scale of architectural units; expressing the issue with the scale of creating infill structures would be a good option.

With their different scope of impact, each of these strategies will have a distinct and special impact on the functioning of the district or city. The endogenous development that affects the scale of the city in order to improve the existing conditions, prioritizes some situations such as economic function, while the intervention with the definition of infill structure at district scale prioritizes some parameters such as social and cultural conditions. Infill development can be very sensitive and technical depending on the specific circumstances of the action. Given the definitions available for infill development in cities, taking measure for infill development in historical textures is of multiple complexities. Due to the presence of its inhabitants and beneficiaries at the time of auction, as well as the unique features of historical textures limiting the scope of action, the infill development is a complex, multi-faceted, intersectional and even cross-sectional position, which is not only physical but also has strong social, cultural, economic and environmental dimensions.

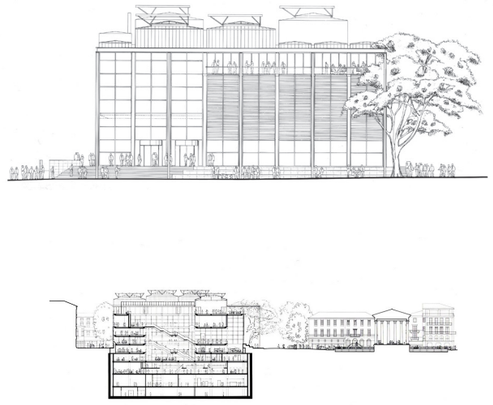
On the issue of endogenous development, the expansion of urban infrastructure level in historical textures approaches the level of accountability of residents and beneficiaries but will never achieve 100% accountability. In this process, most attention is focused on meeting the needs expressed in the plan by filling the vacant (demolished units) of the historical texture of the city, moderate increasing of renovating congestion, and rebuilding abandoned and worn-out areas, restoration and change the application of unused buildings in the historical texture. In other words, endogenous development seeks to modify the urban standard per capita to achieve a sustainable and participatory city by utilizing the potential and actual capacities of the historical texture. It upgrades all the social, physical, political and economic structures of the historical texture to achieve a quantitative and sustainable balance. This process is done by employing vacant cells in the historical texture of the city and creating new places on the mentioned lands to provide urban facilities. At the scale of creating an infill structure that is limited to the area of influence of the city's historical texture districts, The goal is to balance and harmonize the efficiency of the physical spaces of the historical texture, through cycling the architectural seeds, which have been gotten out of the urban life cycle. These architectural seeds have been destroyed or physically worn out by human factors - intentionally or unintentionally – and have been gotten out of the cycle of life and urban life. Given the governing condition, different approaches to endogenous development or the creation of infill structures have been adopted in a number of countries to meet the needs. This can be considered as an efficient experience. Studying the experiences of different countries with different approaches in this field can be effective in the process of formulating principles of building in the built space of historical cities. A number of these experiences are summarized and highlighted below, with an emphasis on their strengths and weaknesses.

Carré d'art

The Carré d'art is one of the examples of infill structures in the historical texture created by the Invisible approach in Paris, France. This building has been able to make a rational relationship with the environment by locating in front of the La Maison carrée monument. Using the method of mirror reflection of historical environment images is a technique chosen by Norman Foster as the architect of the building. Being located on it's beneath the ground, the building has been able to create much of the space needed without exposure to the citizens. This response to the physical needs with the Invisible approach is one of the approaches that can be applied to historical textures with no archaeological remains. In this approach, it is important to choose the type and quality of materials, dimensions, and sizes, scales as well as the precise selection of angles for the new construction volume. Incorrect selection of any of the above can have a direct impact of the building on the historical setting. Designed and made in a very simple form, the Carré d'art is actually a large glass cube with perfectly pure lines, the main feature of which is its transparency. Observing the principle of respect to historical surroundings landscape is the main feature of this infill building.[1]



The Carré d'art is one of the examples of Invisible approach

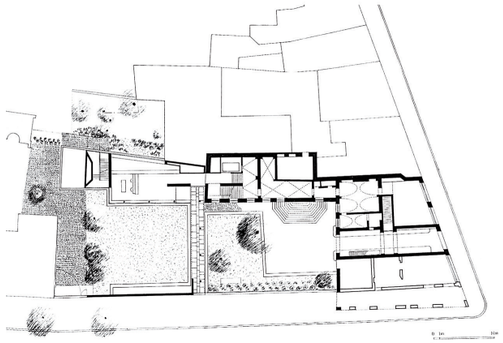


1.Free interpretation from:
contemporain, C. d.-M. (2019, march 5). the-building. Retrieved from carreartmusee: https://www.carreartmusee.com/en/museum/the-building/

Maison européenne de la photographie

The Maison européenne de la photographie primary building is actually a hotel built-in 1706. The architecture of the new part of this building has been designed by Yves Lion Architecture Co. The project included the restoration of the main building and the addition of a new wing on Fourcy The view overlooking the street, ironworking of that period and central stairs are all examples of classical architecture. The complex has an exhibition center, a large library, an auditorium and a film viewing center with a wide selection of films. Visitors can also enjoy a café under the 18th-century arches and a specialized bookstore. The Maison européenne de la photographie building, which has the cultural use now, has tried to respond not only to the needs of the residents and the environment users around them but also to serve other French or foreign institutions. Invisible approach, using the transparency method, has tried to respect the surrounding buildings and not distort the landscape. This approach has actually helped to enrich the environment and add value to the monuments surrounding the hotel's original building by applying the transparency approach. The use of simple geometric shapes and the avoidance of any form complexity to design the new part of the building have helped to its further harmonize with the original part and minimize the conflict in the environment.[2]

The Maison européenne de la photographie primary building is actually a hotel built-in 1706. this building is one of the examples of Invisible approach



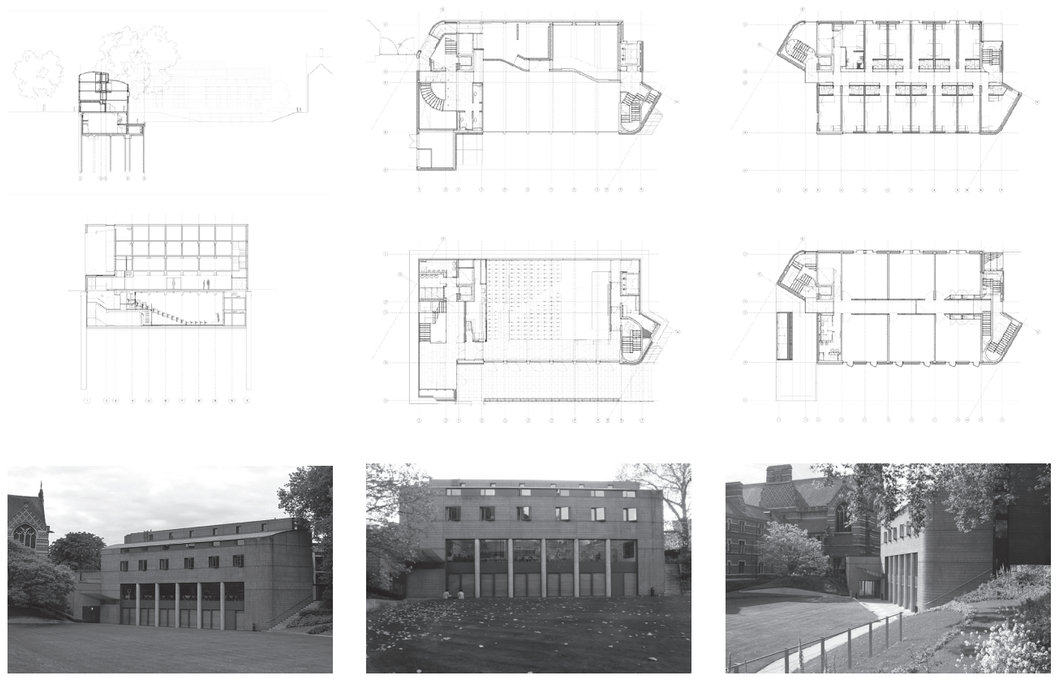
2.Free interpretation from:
MEP. (2019, April 20). Le projet. Retrieved from MEP: https://www.mep-fr.org/la-maison/le-projet/presentation/

ARCO Building, Keble College, Oxford, UK

The ARCO building, which is, in fact, the Oxford University student residence with 93 rooms on 4 floors, has been established in the environment with Analogy approach. The architect of the building, Rick Mather, tried to create a building that most closely resembled the surrounding area, using the Analogy approach. Using the surrounding environment and paying attention to the Fermi-shaped structure of the historical monuments of the environment, the architecture has created buildings that, have the most resemblance to the surroundings, with some contradictions in form, in addition, to use the architecture language. Creating a new structure with the knowledge of the day and making the building efficient, is one of the features of this infill building. The building is described on the University website as follows:

> "... One of the 'greenest' buildings in Oxford, using advanced insulation and heat exchange mechanisms to control the temperature of the building. The ARCO building also houses several teaching rooms, which open out onto a terrace and Newman quad. These are frequently used both for tutorials and, out of term, as meeting rooms for conferences."

Choosing the Analogy Approach In this case study has created the best possible choice. Form-Physical reviews of this structure suggest that the choice of other options is in doubt to choose an infill approach.[3]



ARCO Building, Keble College, Oxford, UK

The ARCO building, which is, in fact, the Oxford University student residence, has been established in the environment with Analogy approach.

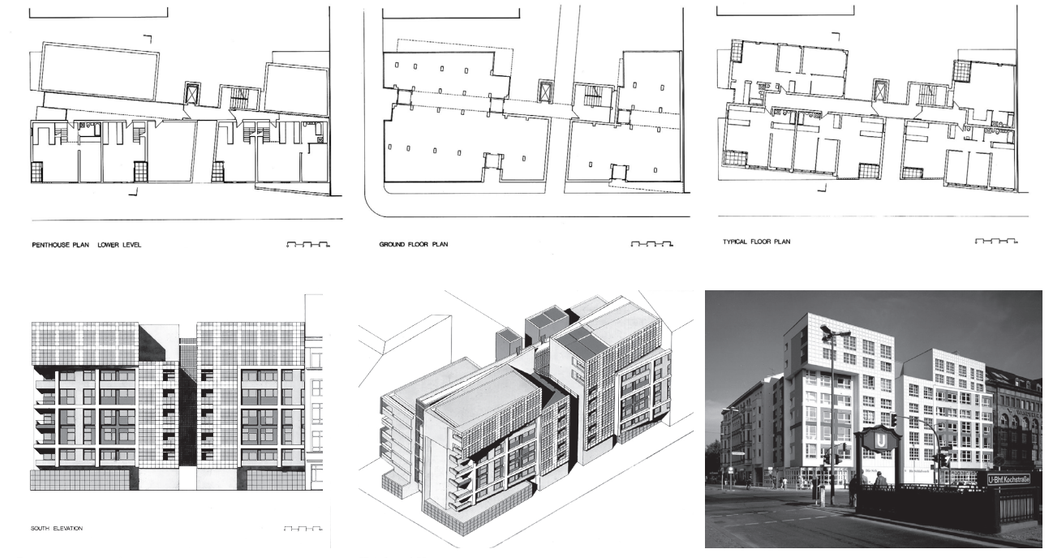
3.Free interpretation from:
Mather, R. (2019, march 5). ARCO Building, Keble College, Oxford, UK. Retrieved from manchesterhistory: http://manchesterhistory.net/architecture/1990/arco.html

IBA Social Housing

Analogy's approach was chosen by its architect- Peter Eisenman- to the design and construction of the IBA Social Housing building.

The site of creating this structure, which had two different strategies, was the intersection of Friedrichstrasse and the Berlin Wall. Value-based strategies based on the collective memory of the residents influenced the design process. The first strategy was to revive the history and its memories, and the second one emphasized that Berlin is a four-way of a place, and yet no place. On this basis, and in order to realize this strategy ambiguity, the project sought to create a monument and to erase the effectiveness of memory. Peter Eisenman tried to choose the redesigning and reconstruction of the building in Analogy approach, with a proper understanding of the conditions in the environment and the need to meet the needs of residents. He tried to achieve this goal by choosing this approach and by applying materials, relatively homogeneous to the environment, as well as utilizing simple and non-complex

geometric forms. To continue the historical trajectory without creating a nostalgic or emotional feeling. The project has achieved both of these goals: building and removing previous hierarchy through an artificial process of excavation, land consolidation and replacement by the ancient site.[4]



IBA Social Housing

4.Free interpretation from:
Eisenmanarchitects. (2019, April 20). IBA SOCIAL HOUSING. Retrieved from eisenmanarchitects: https://eisenmanarchitects.com/IBA-Social-Housing-1985

Analogy approach for the design and construction of the IBA Social Housing building with two different strategies: The first strategy was to revive the history and its memories, and the second one emphasized that Berlin is a four-way of a place, and yet no place.

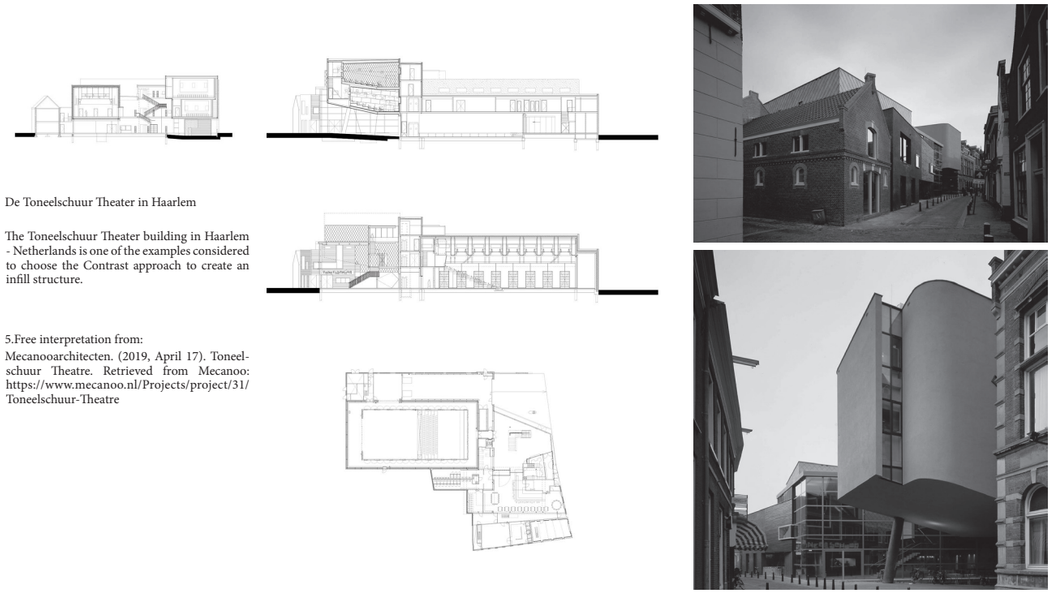
De Toneelschuur Theater in Haarlem

The Toneelschuur Theater building in Haarlem - Netherlands is one of the examples considered to choose the Contrast approach to create an infill structure. The selection and design were done by Mecanoo Co. and Joost Swarte, a graphic designer and cartoonist. The building is a pioneer place for theater, dance, and film. Placing this building in its special location limits accessibilities and requires a smart choice of design, and its approach is to meet the design needs. Stricter urban regulations for loading and unloading restrict collections to reduce the disturbance to surrounding residents. To address this, the technical facilities are planned and organized in a central area of the building. The glass facade was selected to visually expand the indoor of the building. The Toneelschuur Theater building integrates with urban texture grading, creating a contrasting yet harmonious structure. The change in height and shape, as well as the use of glass, brick, plaster, wood, and copper, allow each structural element to express its particular personality. The Toneelschuur Theater's official spaces have been set in several historical buildings that have been merged with the new complex.[5]

Michael Lee-Chin Crystal

The Michael Lee-Chin Crystal Building in Ontario city is another example of infill structures built using the Contrast approach. The building architect, Daniel Libeskind, inspired the crystalline forms of the Department of Mineralogy of the Royal Ontario Museum to shape his

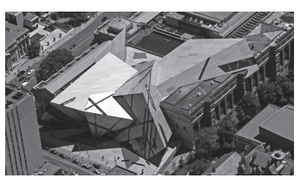
project; and Turned the museum into a glittering center by creating an organic and interconnected structure consisting of prismatic forms and by prioritizing the public space. Designed as a modern extension to meet the spatial-physical needs of the Royal Ontario Museum, this infill building has been named in honor of Canadian billionaire Banker, Michael Lee-China, for honoring his donations to support art. This new extension was designed in 2007 by Daniel Libeskind with the collaboration of Bregman + Hamann. With its new appearance, the Royal Ontario Museum is attempting to eliminate the “power” or “castle” label, often used to refer it, into a hub of contemporary urban life in Toronto. This infill structure, which has greatly emphasized the Contrast approach, has been accompanied by opponent and proponent views and criticisms. Some critics have gone so far as to rate it as one of the ten ugliest buildings in the world. The project also took a lot of budget and construction time. However, there is no question that Michael Lee chon Crystal China has achieved its goal i.e. to create a modern image for one of North America’s most important museums.[6]

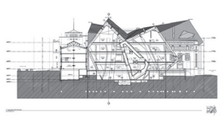


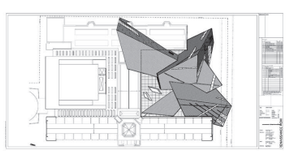
De Toneelschuur Theater in Haarlem

The Toneelschuur Theater building in Haarlem - Netherlands is one of the examples considered to choose the Contrast approach to create an infill structure.

5.Free interpretation from:
Mecanooarchitecten. (2019, April 17). Toneelschuur Theatre. Retrieved from Mecanoo: https://www.mecanoo.nl/Projects/project/31/Toneelschuur-Theatre







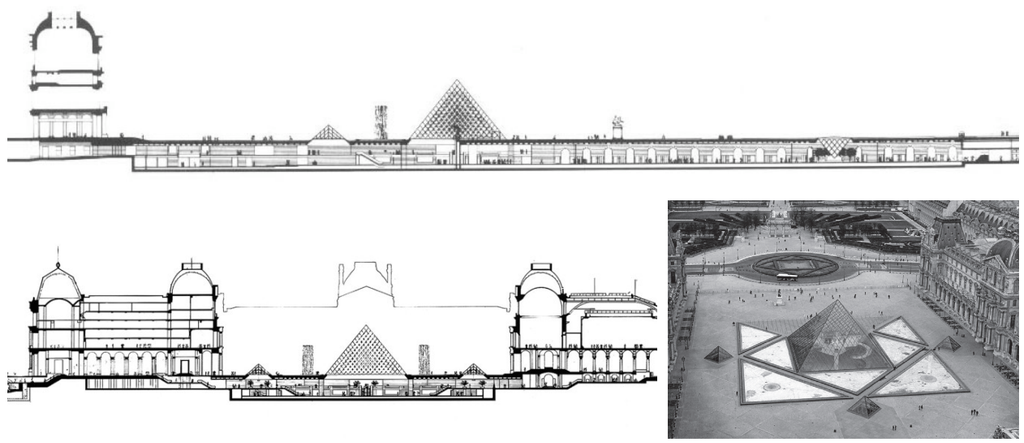
Michael Lee-Chin Crystal
The Michael Lee-Chin Crystal Building in Ontario city is another example of infill structures built using the Contrast approach

6.Free interpretation from:
Birmingham, R., & Matthews, L. (2019, April 20). Royal Ontario Museum. Retrieved from Canadian encyclopedia: https://www.thecanadianencyclopedia.ca/en/article/royal-ontario-museum

Pyramide du Louvre

Pyramide du Louvre is one of the world’s most successful and highly acclaimed and well-known infills. This infill building, which was built to meet the Louvre Museum’s physical-spatial needs, chose the Invisible approach to accompany the museum’s historical building, in addition to well and appropriate responding to design needs, and using the basement space that led to the museum’s exhibition space is doubled. Ordered by François Mitterrand, the Pyramide du Louvre was constructed in 1988 by Ieoh Ming Pei, an American-Chinese architect - winner of the Pritzker Architecture Prize and one of the most famous architects of modernism. But building a modern pyramid right in the heart of a historical palace was not welcomed by the public. Some people considered this glass triangle as an insult to the culture and architecture of past centuries, while others considered it a beautiful mixture of modern and ancient art.

Ieoh Ming Pei hoped to gain that a clear underground space that he desired from the outset, by constructing a transparent pyramid, while creating the least visual disruption to the complex’s old buildings view. During the evolution of this idea, he could to connect this space to the three directions of the Louvre through three underground corridors. These paths provided visitors with direct access to various parts of the museum. Using the three smaller glass pyramids on these paths, he directed light into the corridors and provided a faster and better orientation for visitors inside. Regardless of all the opponent and proponent ideas about this extension, that disagrees with historical context, it can be said that the correct use of the elements and their proper location not only did not disrupt the historical landscape of the museum building, but also it is considered as a significant turning point in the environment. The use of clear, reflective materials has imposed the least interference in the historical perspective of the viewer. An invisible approach using transparent materials may be the best approach and method to meet the plan needs.[7]



Pyramide du Louvre
Pyramide du Louvre is one of the world’s most successful and highly acclaimed and well-known infills. The Invisible approach chosen to accompany the museum’s historic building.

7.Free interpretation from:
Afsharian, F. (2015, November 21). The glass pyramid of the Louvre Museum of Paris, modern architecture at the heart of classical architecture. Retrieved from chidaneh: https://www.chidaneh.com/blog/post/38211

Centre Pompidou – France's Museum of Modern Art

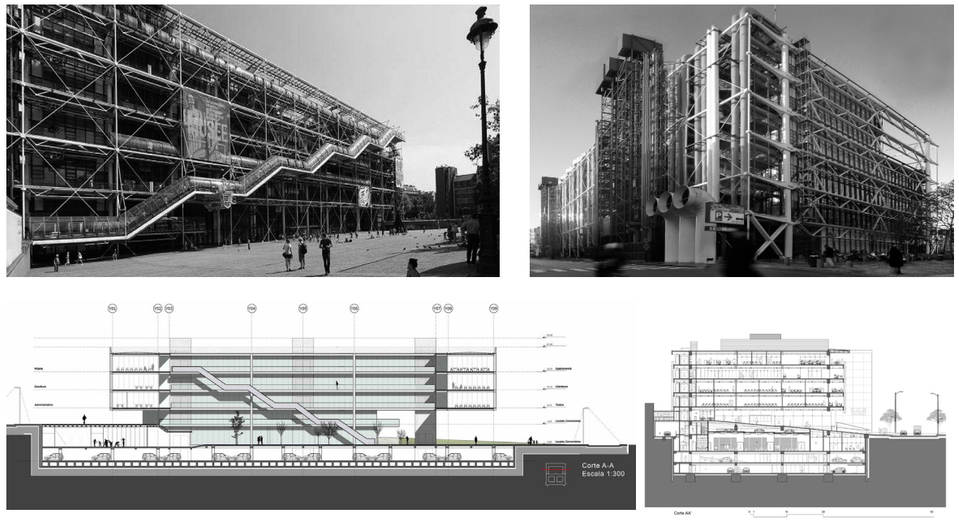
The name Center Pompidou always evokes boldly the image of an infill structure with a Contrast approach. The visual and contrasting features of this building are significant because they are the result of the thoughts synergy of several leading architects and designers such as Renzo Piano, Richard Rogers, Peter Rice, Gianfranco Franchini, Su Rogers, and Mike Davies made in high-tech architecture style. The contrast between the buildings, built using the latest technology at the time of its construction, and the historical texture of the Paris city has been faced with varying opinions of critics and scholars. Although the twentieth-century metal and modernism architecture was praised only slightly, it became an exemplary building and was regarded as the last great modern building and the first great postmodern building. Although the consideration of the Contrast approach to the design and constructing this infill structure has emphasized on the cultural and historical values of the Beaubourg district in Paris, which has always been the place of art creation, The critics' opinions have questioned the building existence even after many years.

- Some believe that this form of construction destructs the surrounding environment.
- Others believe that the spaces provided for the exhibition are not so usable.

Almost all publications used the following headlines.

- Beaubourg is an excess of metal and technique that has nothing but soulless surfaces.
- Beaubourg is an injury to Paris.
- Beaubourg is a monster.
- Oh God, what an ugly thing.
- King Kong-type giant.

But it's designer architect, Richard Rogers has a different opinion; he believes that we should live in modern buildings over the modern era.[8]



Centre Pompidou – France's Museum of Modern Art
The name Center Pompidou always evokes boldly the image of an infill structure with a Contrast approach.

8.Free interpretation from:
Moore, R. (2017, JAN 8). Pompidou Centre: a 70s French radical that's never gone out of fashion. Retrieved from Theguardian: https://www.theguardian.com/artanddesign/2017/jan/08/pompidou-centre-40-years-old-review-richard-rogers-renzo-piano

The studied sample selection process (Shiraz historical texture)

Based on the studies conducted and the aforementioned materials, the historical textures of cities have been shaped according to parameters such as climate, culture, politics, and commerce. The structural and zoning system of the city, the existence of different morphological patterns in different districts and the formation of different urban management systems in historical periods, etc. are all factors that shape the physical-morphological features of the city and the organize the social structure system. Historical cities of Iran have a common structure in the morphological system of the city, despite having obvious and hidden differences in the social system. This property of the physical-morphological structure enables each of the architectural seeds with every function and title to follow their original structure and develop, at the time of expansion. In other words, the sustainable principles in Iranian architecture make this possible. The five principles of Iranian architecture (introversion, avoidance of futility, diplomacy, autarky, selfishness, self-indulgence, niaresh) have always made the morphological, architectural, cultural, economic and social richness of Iranian architecture.

Introversion

Introversion seeks to protect privacy by thinking, meditating and worshiping in order to achieve one's own essence and to find genuine internal peace. Generally, based on Eastern thought in Islamic lands, the essence of space is in the interior, and the inner yard creates the origin of space.

Avoidance of futility

In Iranian architecture, it was tried to avoid prodigality and futile work in construction. This principle has been observing both before and after Islam.

Pivotal diplomacy

Diplomacy means keeping the fit between the building organs or the human organs and paying attention to their needs in construction work. In Iran as well as elsewhere, artistic architecture is dependent on life. The width of the bedroom is about equal with the size of a bed, the height of the niche is easy to access while sitting and standing on, and on the other hand, the guest room is large enough to good reception.

Self-sufficiency

Iranian architects tried to get the materials they needed from the nearest places and build such buildings that they did not need the materials elsewhere and be "self-sufficient". This made construction work more expeditious, and the building became more "compatible" with its surroundings.

Niaresh

The word "Niarash" has been widely used in Iranian past architecture. It has been referring to stagnation knowledge, construction technology, and materiology.[9]

On this basis, finding solutions and methods of intervention in Iranian historical textures can only differ in climatic characteristics. Finding a solution based on historical texture studies does not mean reading and reading out construction techniques and methods; rather, reading means retrieving the principles that define the layout methods of each architectural seed in its context. Reading as an understanding of the basics of intervening in the histori-

9.Pirnia, M. K., & Memarian, G. (2017). Iranian Architecture Methods. Tehran, Tehran, Iran/Tehran: Institute of Islamic Art Publishing.15.

cal texture in order to rediscover missing elements (spaces destroyed or abandoned in the historical texture) is the first and most fundamental step to face the problem of building in built space of historical cities. The subject of this study, which deals with the building in built space of historical cities, required to select a case and to study its context in order to find out the principles and methods of this type of intervention (creating an infill structure) on a real scale.

Shiraz in southern Iran is one of the examples of morphological values to study the processes of urban texture genesis, formation, and development.

The following are some factors causing Shiraz's historical texture to be a good case for study.

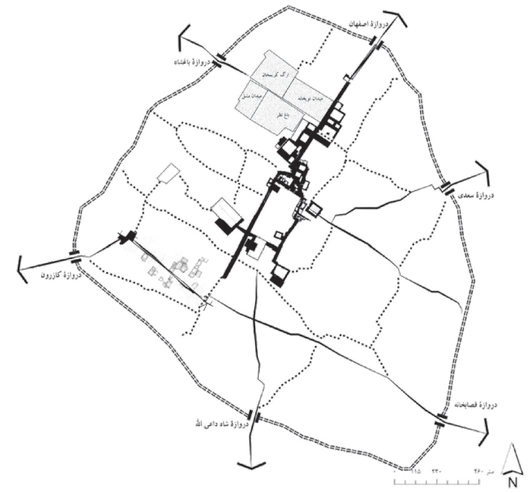
- 360 hectares area of this historical texture and the existence of 11 districts in it;
- Extensive demolition to create urban infrastructure;
- Lack of formulated and practical basis for intervention in the historical texture;
- The presence of significant and valuable historical elements as urban landmarks in the historical texture;
- The strategic and morphological conditions of the historical texture to attract fluid capitals in the contemporary city.

The extent of Shiraz's historical texture and its non-normative destructions and interventions and consequent lack of integration in the morphological structure of many parts of it have made the studied area narrower at urban and architectural scale and the studies are limited only to one selected area with high morphological values. Accordingly, preliminary studies on the historical texture of Shiraz to identify the considered area for a detailed study on urban and architectural scale identified that the southwestern area of historical texture-that has the highest congestion in terms of architectural aggregation is the most suitable studied area. "Haj Zeinal" historical-commercial axis (commercial in terms of function from the beginning of formation to the present), formed between two distinct points in the region, the studied axis and its surrounding range to the parts that form its pervasive domain, were selected as the studies zone. The Haj Zinel axis, which is a horizontal axis with a 47-degree angle to the north direction and an 8-degree horizontal angle difference to the overall morphological structure of the historical texture, connects two important points of the city. Morphological studies have shown that this axis has taken a position to the overall texture structure, not for climatic reasons but for cultural and religious reasons. The 47-degree angle of rotation of the axis corresponds to the Qiblah angle in the important and historical mosques such as "Vakil", "Moshir" and "Imam Ali".

The existence of a complex and high valuable "Basir al-Saltanah" or "Basir al-Divan" residential complex in the pervasive domain has been one of the special points to choose this part of the historical texture as the studied area. The presence of demolished parts without architectural seeds with a specific location in this axis and its pervasive domain is another factor effecting on a selection of this axis as the studied case. The existence of sub-lanes leading to this axis formed based on the modules discussed in this study, and can be cited to explain the urban modulation dimensions, is another feature of this area as the studied case.

Many studies have been influential in the process of studies on Shiraz historical texture. The items shaping the results of this study include:

- The method and type of selection of historical texture;
- Methods for achieving urban modulation to form urban morphology;
- Methods to readout and match the data obtained;
- Scrutinizing and matching the data with samples in the Shiraz historical texture in order to achieve the basics of modulation-based intervention;
- Extracting analytical diagrams and matching and scrutinizing them with the urban morphological structure of the historical texture;
- Interpretation of data and extraction of intervention instruction on the urban and architectural scale in the form of declarative orders;
- Extraction and formulation of the principles of intervention in the historical texture in order to create an infill structure in the historical texture in the form of executive orders,
- Providing a design sample in the studied axis (Haj Zinal) using declarative and executive orders.



Shiraz Historical Context and the Position of the Study Axis (Haj Zeinel Axis)

The Haj Zeinel axis is studied as the sample of choice

Basir al-Divan complex (Basir al-Saltanah) as a model of choice for adaptation modulation

Process of Studied Sample Selection (Shiraz Historical texture)

Scale One: Urban texture

Despite exposure to modern and of course non-normative urban development interventions to increase tissue productivity by residents؛ and its introduction into the economic life cycle of the city, the Southwest quarter of Shiraz historical texture still one of the areas of high morphological value for conducting urban development studies in Iran Islamic era.

The studied area in this section of historical texture includes the two “Sang-e Siah” and “Sar-e Dozak” districts, which have been studied and described in previous sections of this study.

The first measure taken to determine the morphological structure of Shiraz historical texture was to determine the main lines of historical texture orientation. To do so, identifying the Shiraz city formation process based on available historical texts and documents was limited, due to lack of field studies and reliable historical maps.

Therefore, the use of aerial imagery along with field surveys and the study of historians’ texts and writings created a scientific and appropriate process to enable the morphological study of the Shiraz historical texture. The investigation of Shiraz formation background led us to the formation place of the early Shiraz core. According to archaeological studies, Abou Nasr City / Castle is the site of Shiraz’s formation and initial core before its foundation at the present site. In 1933, there was still many remains of this place. A map taken from it shows that its morphological structure is based on a regular checkered system, conforming the module developed based on Iranian architectural measurement systems (GAZ).

> In order to investigate the dimensions, sizes, and proportions used in the urban morphological system of Shiraz, a modular system was drawn based on the Gereh and Gaz sizes. This system, which has standard dimensions of Gaz, can be generalized and expanded by Fractal method. But what examined in this study has been the building blocks’ urban development and segmentation system and the total dimensions of architectural seeds - generally houses and residential architecture -.

“Module”, not only affects the map and size of pedestals and columns across the width and length of rooms and hallways, but also determines the state of the door and the window and the relationship between them, and after all affects the doorways, porches, arches, and domes. This effect would become evident where the Iranian architect can safely add, by using Cast added module do design, calculate and execute it at once, without any instability.[10] The module allows an architect to use the same size and scale. Thus, it diversified in architecture, so no trace of imitation can be found in any of the buildings.

10.Pirnia, M. K. (2013). Introduction to Islamic Architecture of Iran. Tehran, Tehran, Iran/Tehran: Soroush Danesh Publications.93.

Module or scale of construction in Iranian architecture includes three types:

- Little module
- Great module
- Trinket module

In Iranian architecture, Module is as wide as the door. A small module is fourteen Gereh in length, equivalent to 93 cm; a large module is eighteen Gereh in length and a hundred and twenty centimeters. On the other hand, the measuring tool in architecture has been the “Gaz”. Each architecture “Gaz” is equal to 1/0666 meters and its components are:[11]

Equivalent to centimeter	Equivalent to Gereh	Random straightforward equations	Equivalent to centimeter	Equivalent to Gereh	Equivalent to Gaz
20	3		106.66	16	1
40	6		53.333	8	1/2
60	9		26.66	4	1/4
80	12		6.66	1	1/16
100	15		3.33	2/1	1/32
120	18		---	---	---
160	24		---	---	---
200	30		---	---	---
Architectural Dimensions in the Great Module System			**Architectural Dimensions in the Small Module System**		
Architectural element	Equivalent to centimeter	Equivalent to Gereh	Architectural element	Equivalent to centimeter	Equivalent to Gereh
The door width	120	18	The door width	93	14
Vizor width	26.6	4	Vizor width	13.3	2
Wall diameter	73	11	Wall diameter	60	9
The door height	200	30	The door height	187	28
Window height	60	9	Window height	60	9
Architectural element	**Equivalent to centimeter**	**Equivalent to Gereh**	**Architectural element**	**Equivalent to centimeter**	**Equivalent to Gereh**
Double doors facade	293	2.75	Double doors facade	213	2
Triple doors facade	440	4.1	Triple doors facade	320	3
---	---	---	Five doors facade	533	5

Equivalence of Gereh, Gazaz and Centimeter units in Iranian architecture.

11. Pirnia, M. K. (2013). Introduction to Islamic Architecture of Iran. Tehran, Tehran, Iran/Tehran: Soroush Danesh Publications.93.

In the systematic urban studies section, two complexes include Abu Nasr city/Castle and the historic city of Bishapur were selected as case studies for comparative studies.

City/Castle Qasr-e-Abu-Nasr

Qasr-e-Abu-Nasr (Abu-Nasr Palace) or Abu-Nasr City / Castle is a remnant of the Shiraz old city, located northeast of Shiraz. The city / Castle complex was formerly located six kilometers from Shiraz but is now part of Shiraz due to the city's expansion. Based on excavations, pottery specimens and fragments of Achaemenid period rock, as well as coins and other relics of the Sassanid and Parthian period have been discovered at this site. According to the information obtained, it was determined that the site has had an urban structure during the Parthian period, that it was still prosperous during the Sassanid period and that the people lived there. The presence of Chinese and Greek coins and marbles in the area indicates that the city / Castle had a thriving trade during its lifetime and was probably a commercial highway in Iran, connecting the southern ports of Iran to the center and north of the country and from there to other countries.[12]

John Limbert believes that the primary site of Shiraz was the Abu-Nasr Palace, which is the same site of the Tirazis or Shirazis castle mentioned in Persepolis tablet. Then, after the present city of Shiraz was established near the castle, the city derives its name from the castle around the city. The University of Chicago's excavation team, along with Professor Richard Nelson Frye, has also conducted archaeological excavations in the collection during 1931-1933 and confirmed the validity of John Limbert's statements.

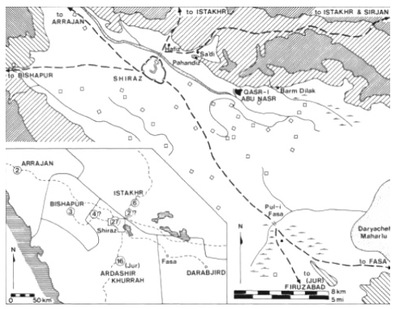
Archaeologists at the New York Metropolitan Museum also suggest these fortifications and possibly surrounding villages as Shiraz's pre-Islamic sites, given the results of their excavations at the Abu Nasser Palace. They quoted Ibn Balkhi in the twelfth century AD, as saying: "In the area where Shiraz is located now, there was an area with several castles in the extensive plain."

They (archaeologists at the Metropolitan Museum of New York)[13] comment on the story of the founding of the new city of Shiraz and its relocation to a new location, suggesting that the transfer of a city also took place in many other places such as Neyshabur and Cairo. In this case, the city was relocated to a place near the old city after political evolutions, and the old city was abandoned to be altered to a suburban or ruined city.[14]

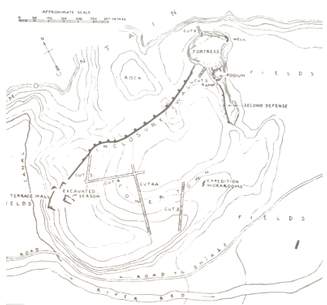
12.Retrieved from the:
Limbert, J. (2004). Shiraz in the Age of Hafez: the glory of a medieval Persian city (Vol. 1). Washington: University of Washington Press. p. 4-20.

13.Retrieved from the:
Winlock, H. E., Hauser, W., & M. Upton, J. (1933-1934). The Persian Expedition. The Metropolitan Museum of Art Bulletin, 29 part 2(12), 3-22.

14.Afsar, K. (1978, Spring). From Abu-Nasr Palace to Persepolis. Journal of Iranian Monuments, 1, 12.



The map of position of City/Castle Qasr-e-Abu-Nasr



See Appendix 3 for further reading

Bishapur [15]

Bishapur historical city with a distance of 140 kilometers from Shiraz, is one of the ancient cities of Iran, built-in 1887 on the orders of Sassanid King, Shapur I. After Shapur's victory over Roman Emperor, Valerian, Shapur ordered the city to be built in a pleasant climate on the way of Persepolis of Ctesiphonphon. During the Achaemenid era, this road connected the Persepolis and the Estakhr cities to Susa. Shapur gave its name to this city. Based on a checkered urban development system built by Hippodamus, the Bishapur city was designed at the intersection of two major commercial highways - the Estakhr to the Persian Gulf and the Gour to Ctesiphon - in an almost rectangular terrain, so that its four gates crossed its two streets. One of the streets was built from the north to the south and the other from the east to the west, each leading to one of the city gates. The western gate was the main entrance to the city. Bishapur has been explored and studied by Iranian, European and American archaeological groups since 1940. The results of these activities have been to identify parts of the city' history and its architectural and urban system. Much of this historic city's area is still buried beneath the soil. Bishapur was a developed residential area until the thirteenth century and has been destroyed later.

The results of the comparative studies of the modulation system plotted on the of these two studied samples (Abu-Nasr City / Palace and Bishapur Historical City) show that:

15.Retrieved from:
Ghirshman, R., & Karimi, A. (2000). Bishapur (First ed., Vol. 1). Tehran, Tehran, Iran/Tehran: Cultural Heritage Organization (Research Institute).

For more information about Bishapur Urban Design Pattern, see this article:
Shah Mohammad Pour, Ali Reza. "Bishapur Urban Design Pattern". Iranian Journal of Architectural Studies. No. 1.Autumn and winter: 2014. 107-125.

Bishapur

Bishapur historical city with a distance of 140 kilometers from Shiraz, is one of the ancient cities of Iran, built-in 1887 on the orders of Sassanid King, Shapur I.

The dimensions of the houses in both case samples are approximately 11 to 15 Gaz equal to 12 to 16 meters. These dimensions and proportions can be generalized and form larger buildings if they are incorporated into the Iranian architectural modulation system. As illustrated by the examples of public and government buildings in Abu-Nasr and Bishapur, With a proportion of 1/4 as a multiplicity of architectural modulation numbers (Gereh and Gaz), these dimensions form the larger buildings dimension. Validation of Modulation Network adaptation on historical maps of Bishapur and the maps have taken in 2004 by the Cartographic Center, resulted in a single answer i.e 5.5 in architectural units structure and 20 to 22 meters in the structure of the urban unit of the streets.

This validation was also performed in the studied sample of Abu-Nasr City/Palace and similar results were obtained.

After ensuring the validation of the modulation system, this modular network was adapted to the historical texture of the Shiraz-studied area sample, and significant results were obtained. These data indicate that the morphological structure of Shiraz was being organized geometrically in checkered form**,** before its formation based on an organic and endogenous system. The adaptive maps also show that although this structure does not follow a perfectly symmetrical system with perfectly parallel lines, its systematic and proportional blocking structure has made the structure of the city still maintain its geometrical system. having all facilities of the district and easy access to urban landmarks are some features of this structural system. We should not forget that regular geometric checkered systems, despite

balancing the visual forms and urban forms, cause Monotony and non-dynamics of the urban landscapes. Change in communication paths has caused changes in the environmental landscape, leading to sequential views. This feature was created in the historical textures of Iran by changing the space syntax of access paths. For this purpose, and in order to faster and more dynamic access to urban landmarks, the cross-roads have been created in some parts of the historical texture. These paths orders have a completely different nature in business. Generally, the routes with commercial use are straightforward and unaltered in environmental landscapes. This lack of alteration and direct communication between the two urban landmarks was generally intended to facilitate commercial activity. The morphological structure of shiraz historical texture shows that the physical-spatial organization of building units with the approach of caring the climate and its orientation has influenced, not only on residential buildings - which make up the majority of the population statistically - but also on buildings such as mosques- in which the Qibla orientation determines their building direction-. The existence of dead-end streets in many parts of the historical texture and formation of the entrances in relation to each other in direct access route indicate another important factor shaping residential morphological structure in the Shiraz historical texture is the culture effective parameter (such as privacy and confidentiality principle). As a result, it can be said that the morphological-physical structure of Shiraz historical texture has used several effective parameters to organize its morphological structure (climate, religion and culture effective parameters have had the most impact).

Process of Studied Sample Selection (Shiraz Historical texture)

Second scale: Architectural works

Undoubtedly, it is almost impossible to investigate the morphological structure of urban historical texture without analyzing any of its constituent architectural elements. Therefore, in order to conduct the studies and to obtain the required information, a total of 25 valuable monuments registered in the National Iranian List of Monuments were selected and analyzed, resulted in the following data:

- The morphological structure of the historical texture with the ratio of 3to1 has the highest rate in terms of construction on different facades of the earth.
- The ratio of the construction pattern, on three sides, to total studied buildings is 1:3.
- The ratio of the square pattern to the rectangle pattern is 1: 2.
- The ratio of spatial organization based on water and plant pattern to other organization pattern is 3: 1.
- The ratio of the home entrance from open space (yard) to entrance from other parts is 1:5.

The 25 selected buildings based on maps available in the Fars Province Heritage Archive. These buildings, which have been selected for further studies on the historical texture of Shiraz in order to achieve a modular system of houses' expansions, are the only landmarks remaining in the Shiraz historical context - within the study area.

Although it is important to examine other houses in the historical context of Shiraz in order

to obtain methods of intervention in the historical context of cities, it is important to consider these houses without regard to the principles and foundations of Iranian architecture and without observing the urban morphology and language of architecture. Have been made, and their study is beyond the scope of this study.

Therefore, only those that have architectural values in terms of physical and urban morphology have been investigated (monuments).

This study has been the basis for studies to achieve fundamental principles in the physical structure of buildings in the historical context of Shiraz, - houses, or to be more precise, residential buildings -. The choice of this type of building was simply due to their multiplicity and abundance per unit area of the square.

Further surveys based on existing maps of Shiraz residential buildings show:

- The sustainable element in them is the central courtyard, which, despite changes in size, retains its proportions and provides a stable and commensurate structure.

- Construction on different fronts has been based on climatic conditions and the need for space and proper use of space.

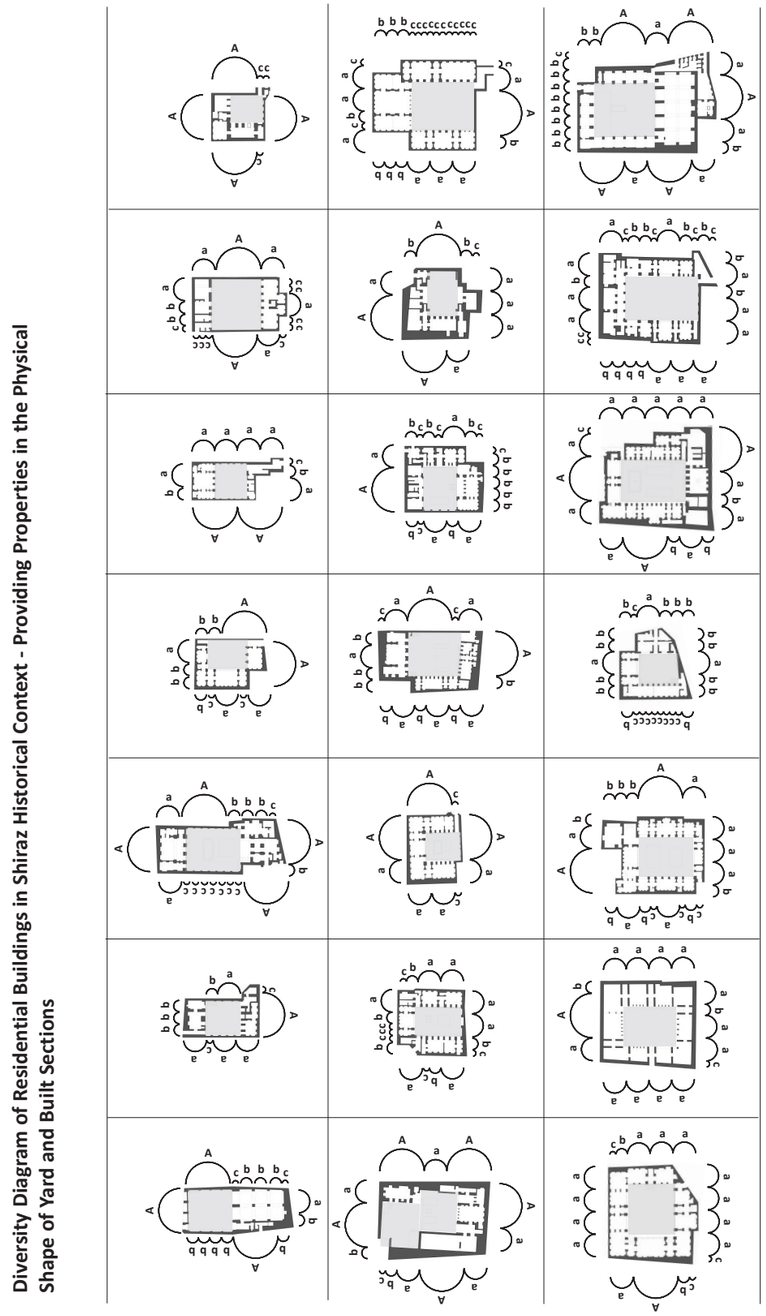
- Orientation was based on climatic conditions and urban morphology. (See Ron's description and diagram of Islamic architecture in Iran)

Based on studies on existing maps and systematic analysis of the formation, orientation structure, dimensions and proportions, function and performance of existing buildings in the historical context and specifically residential buildings, the following diagram can be provided to distinguish the type of building structure.

This diagram is presented to help better analyze and achieve the principles of intervention and design in historical contexts.

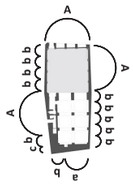
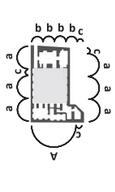
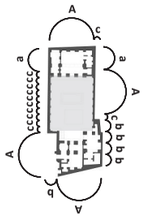
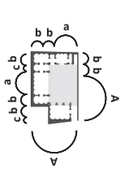
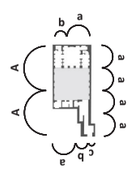
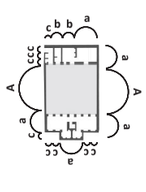
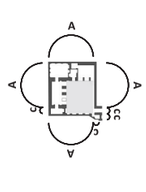
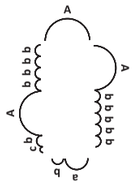
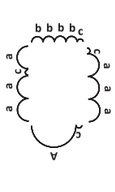
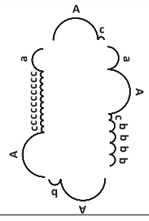
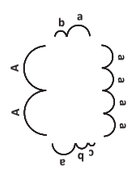
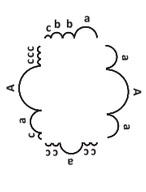
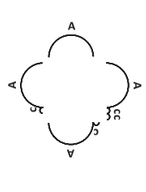
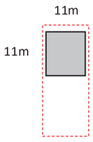
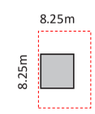
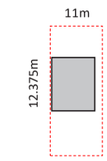
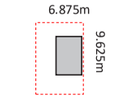
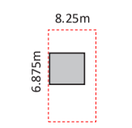
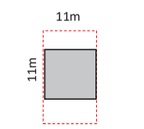
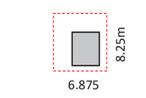
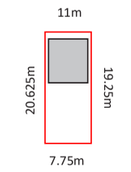
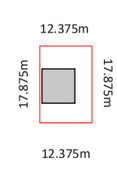
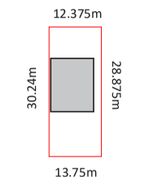
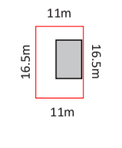
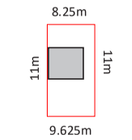
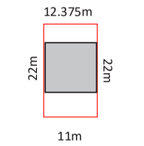
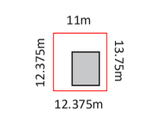
This diagram, which covers the 25 selected buildings understudy, illustrates a general approach to use throughout the historical context of Shiraz and other similar cities. Following this research, one of the most prominent residential complexes in this area has been studied more closely (Basir al-Saltanah or Basir al-Divan complex).

It is noteworthy that the presented diagram could be changed depending on the type of historical texture and its morphology. This means that the type of grading, the proportions, the function and application of the monuments in the historical context determine the type and form of intervention in their form-physical structure.



Diversity Diagram of Residential Buildings in Shiraz Historical Context - Providing Properties in the Physical Shape of Yard and Built Sections

a2=**A**= 11 m = 10 Gaz
a=**a**= 5.5 m = 5 Gaz
a/2=**b**= 2.75 m = 2.5 Gaz
a/4=**c**= 1.375 m = 1.25 Gaz

Sample							
proportion							
Court yard							
Building							

Diversity Diagram of Residential Buildings in Shiraz Historical Context - Providing Properties in the Physical Shape of Yard and Built Sections

a2=**A**= 11 m = 10 Gaz
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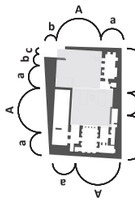
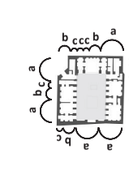
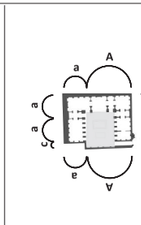
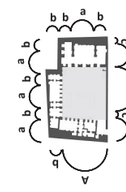
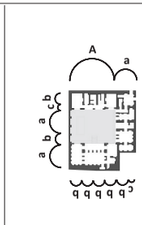
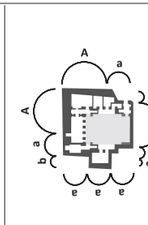
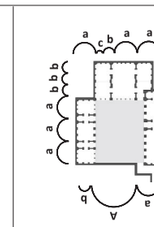
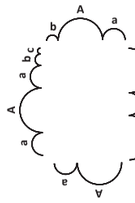
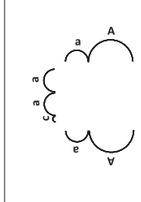
Sample							
proportion							
Court yard							
Building							

Diversity Diagram of Residential Buildings in Shiraz Historical Context - Providing Properties in the Physical Shape of Yard and Built Sections

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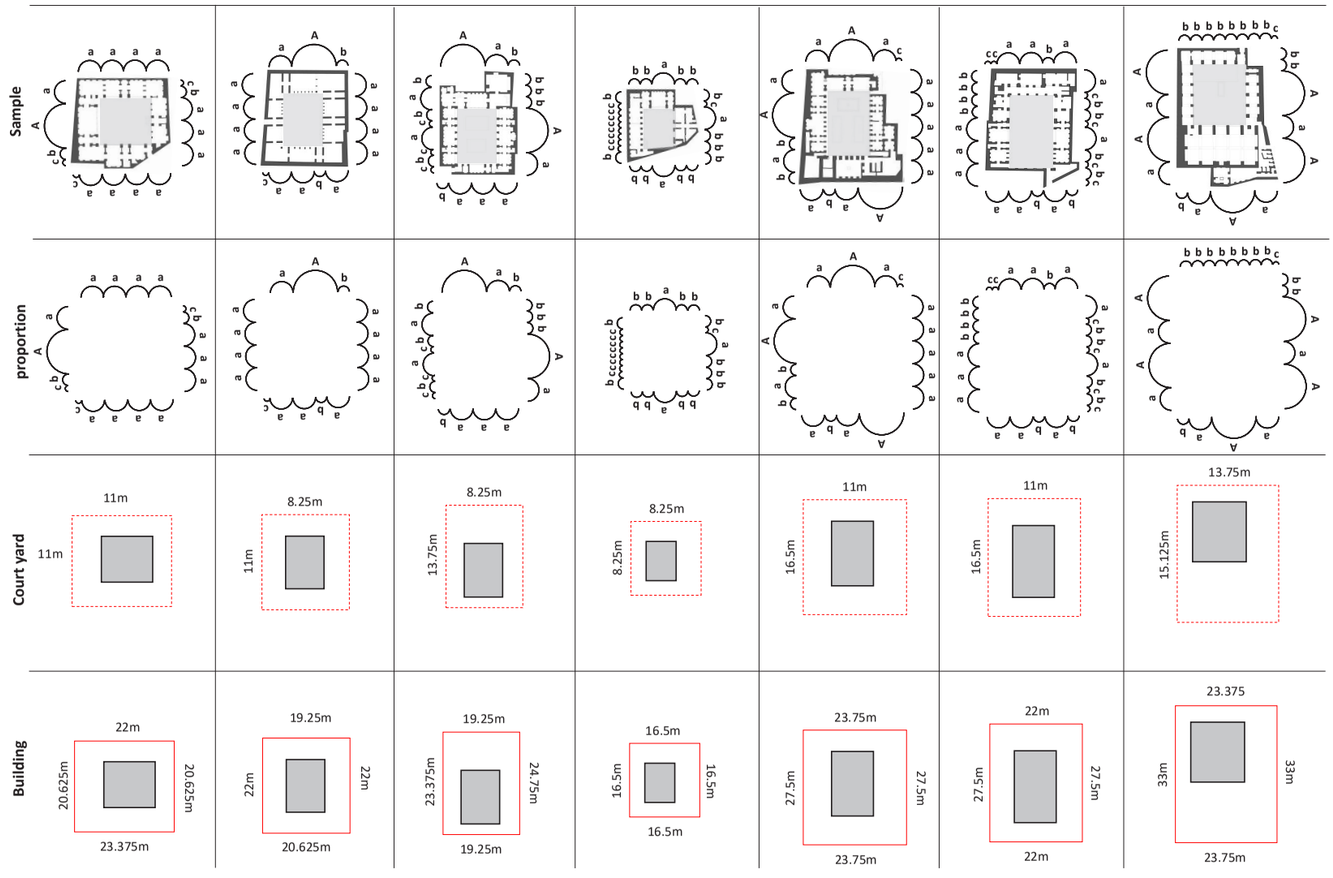
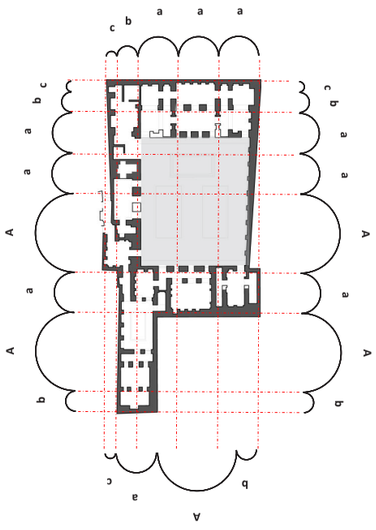
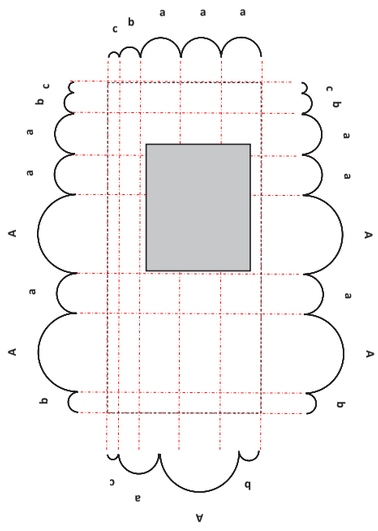
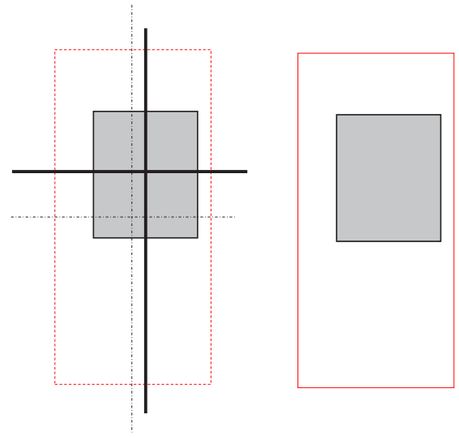
a/2=**b**= 2.75 m = 2.5 Gaz
a/4=**c**= 1.375 m = 1.25 Gaz



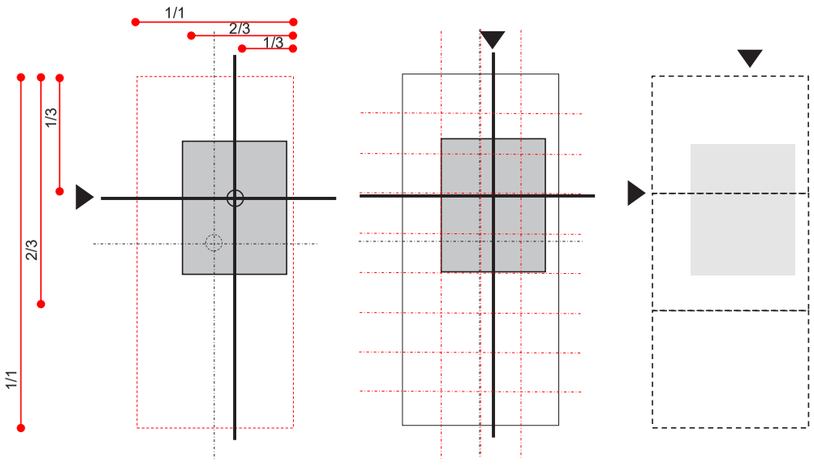
Diversity Diagram of Residential Buildings in Shiraz Historical Context - Providing Properties in the Physical Shape of Yard and Built Sections







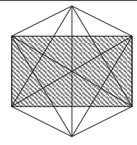
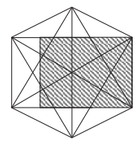
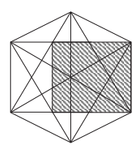
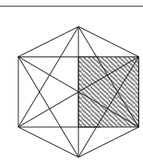
a2=**A**= 11 m = 10 Gaz
a=**a**= 5.5 m = 5 Gaz
a/2=**b**= 2.75 m = 2.5 Gaz
a/4=**c**= 1.375 m = 1.25 Gaz



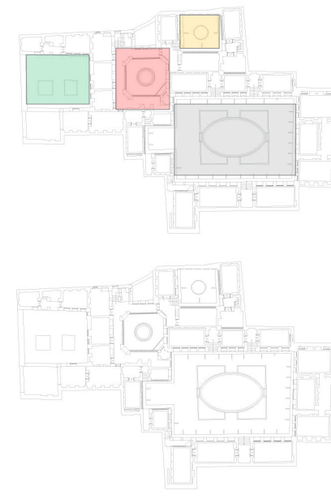
A sample of historic residential buildings in the historical context of Shiraz - the study area

In this diagram, which analyses the dimensions and structural proportions of a residential building, it is shown that the ratio of the overall dimensions to the dimensions of the yard is determined by the structure of the surrounding spaces.
The proportion of one to three that corresponds to the principles of the Golden Dot is prevalent in most monuments in the historical context.
This diagram shows that despite the multiplicity of dimensions and sizes in the structural and form structure of monuments, its shape and spatial structure are shaped according to the needs of the inhabitants and according to the principles of aesthetics.

The proportion of courtyard in Shiraz historic houses - Study area – BASIROSALTANE HOUSE COMPLEX

Real Proportion		Proportion based on hexagonal fit
1.73 / 1		1.73 / 1
1.26 / 1		1.29 / 1
1.13 / 1		1.15 / 1
0.86 / 1		0.86 / 1

The hexagonal fit, which underpins the architectural design of Iranian architecture, has played an important role in the formation of the historic courtyards of Shiraz.
This issue consists of two stages.
first stage:
An examination of the courtyards of the historic houses of Shiraz shows that the hexagonal proportions contributed to their formation.
second stage:
At this stage, using hexagonal geometry, new ratios were introduced that were very close to those in the monument structure.



BASIROSALTANE HOUSE COMPLEX

"RON"

"Mohammad Karim Pirnia" describes the orientation of traditional Iranian architectural space in terms of climate, namely "sunshine and wind direction" and names three fundamental "Ron":

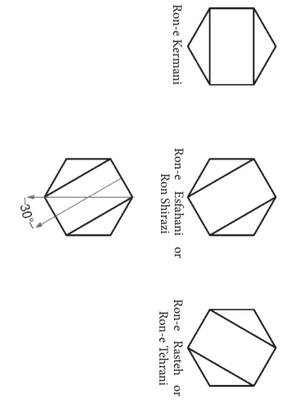
- Ron-e Kermani
- Ron-e Esfahani or Ron Shirazi
- Ron-e Rasteh or Ron-e Tehrani

According to Pirnia, traditional architects used a rectangle in a regular hexagon to choose the orientation of a building. The choice of hexagon, according to Pirnia, was because this geometric shape is made up of three equilateral triangles, and since this triangle cannot be drawn incorrectly, so the hexagon is a precise shape and is a golden ratio.

According to the picture:

The hexagonal rectangle in the Ron-e Rasteh and Ron-e Esfahani is 30 degrees south to west or east. The northeast-southwestern Ron Rasteh is roughly represented in the Qiblah order, which is considered in the architectural design of the cities of Tehran, Tabriz, Yazd, and Jahrom.

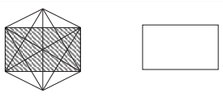
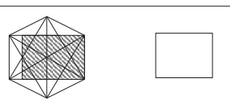
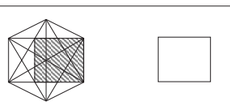
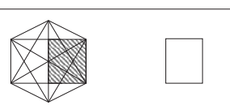
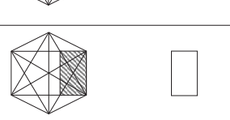
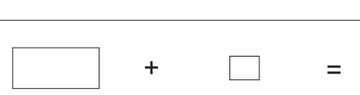
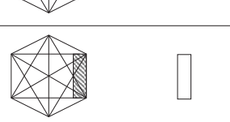
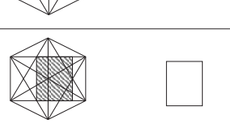
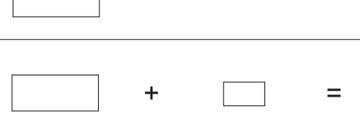
Pirnia for Yazd considered every orientation except right Ron very inappropriate. Ron-e Esfahani, also known as the Naghsg-e Jahan Square, is in the northwest-southeast direction of Isfahan and ancient cities such as Persepolis, Pasargad, and Iatakhr. Ron-e Kermani is the East to West, there are in the cities of Kerman, Hamedan and in the territory of Urartu in West Azerbaijan.



Mohammad Karim Pirnia (1920 –1997)

Was a prominent architectural historian and architect. Born in Nain city, Iran, he studied at what came to be Tehran University School of Fine Arts. His textbook on the history of Iranian architecture used in universities across Iran.

Shapes from hexagons and similar Shapes in historical houses of Iran - Shiraz

A		Three Doors, Five Doors, Garden Composition		Hall, courtyard and Garden Composition
B		Three Doors		Three Doors and seven Doors
C		Three Doors, porch, Garden Composition and courtyard		Five Doors, Hall and Porch
D		Three Doors, porch, Garden Composition and courtyard		Five Doors and Main Hall
E		Corridor, Garden Composition and courtyard		Five Doors and Main Hall
F		Corridor		Five Doors and Main Hall
G		Three Doors, porch,		Five Doors, Main Hall, courtyard and Garden Composition
H		Three Doors, Porch, courtyard and Garden Composition		Five Doors, Main Hall and platform

Among the building samples selected for analysis, the Basir al-Saltanah building complex was considered as a separate sample. The results are as follows:

Basir al-Saltanah Building Complex

This building complex consists of three houses: “ Basiri House”, “Oji House” and “Touhidi House”.

In terms of height levels, all three houses constituting the Basir al-Saltanah complex are of the same level in two floors. One floor is 210 cm at a negative level and the other is 170 cm at a positive level.

The Oji House, which is attached to an alley north of the Basiri house, has served as a place for holding Muslim mourning in Muharram and other religious occasions.

The other two houses were residential. Other attachments of this building complex include the public part of the house known as outdoor. In fact, this space which is located at the outset of the Basir al-Saltanah complex was the crew residence. The other part of the complex is the basement and pool of the house, which is a space, covered with tiled decorations and wooden windows, used as space for to relaxing and enjoying the cool air in summer. Another part of the complex was stable, where the horses were kept. Later, the stable was roofed and its use changed to residential space.

Regardless of the building use and the type of the space used during its life or after its restoration to the urban life cycle – in restoration, revive and user change – we can analyze the formulation and spatial organization of this building as follows:

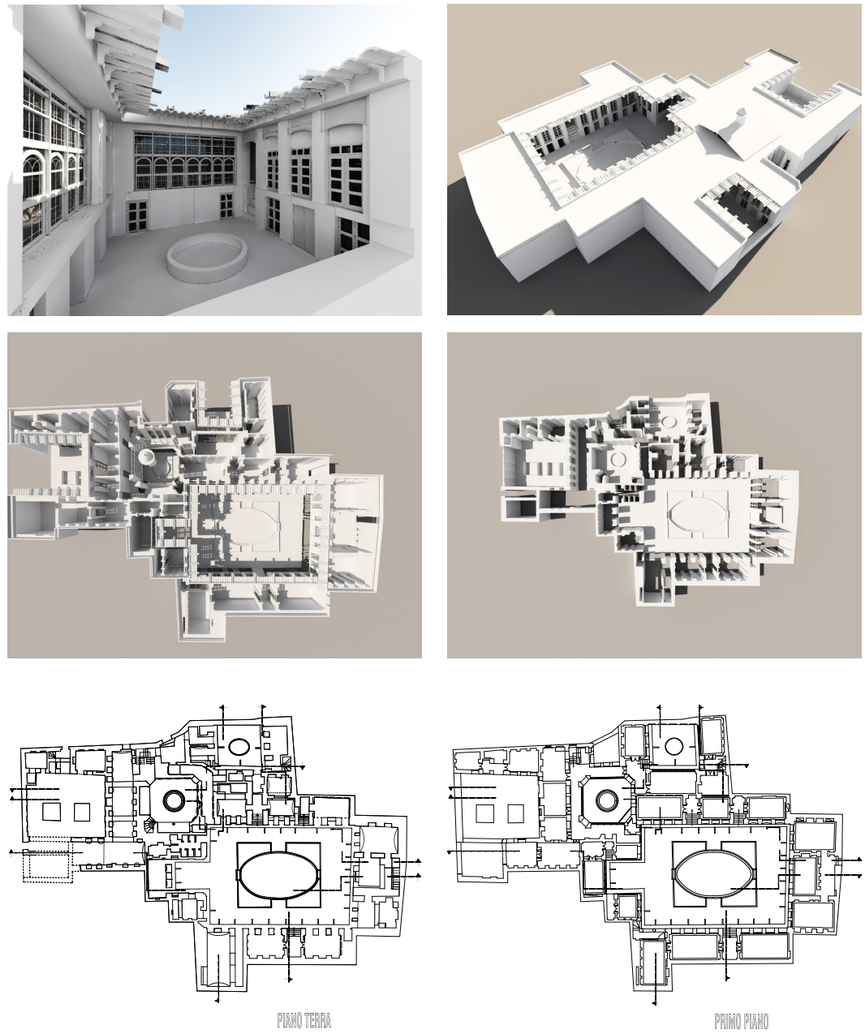
By Conducting the morphological studies on city structure as well as placement of the Basir al-Saltanah” buildings complex, we can refer to the following list:

- The formation structure of this complex has been conducted increasingly during three stages.
-Modulation has been instrumental to form of this building complex.

- The climate influential parameter is one of the most important factors, forming the buildings of this complex.
- It is possible to increase the building units next to this complex using the modular system.

Preliminary studies and reviews and responding to theories (study, data analysis, conclusion)

The process of reviewing the historical texture in terms of formation and development in Iranian cities dates back to less than 50 years. Although a comprehensive study of the historical texture of Iran’s territory – with high cultural and architectural diversity - has intensified during recent years, the lack of information sources and a formulated plan to do so has suggested different assumptions and views on the historical texture formation and intervention. Despite the implementation of some of these theories, the nature of Iranian historical textures is still at risk of destruction and alteration, due to lack of proper intervention plan. Although the theories have not been explicitly mentioned in urban intervention plans, the available evidence suggests that the destruction and renovation theories rather than resto-



Basir al-Saltanah Building Complex

This building complex consists of three houses: “ Basiri House”, “Oji House” and “Touhidi House”.

ration and improvement have been always influencing on targeting the urban intervention and superior plans.

Accordingly, in order to provide the instructions of intervention in the historical texture, morphological studies of the historical texture were focused. The possible alternatives to respond to physical needs on the one hand and social needs on the other will be considered based on these studies.

Meeting Physical Needs:

- Need Assessment of Structural Interventions:

- Statistical survey of field studies and interpretation of its data to measure the extent and percentage of physical-social needs of residents and beneficiaries at the district scale, and the sphere of influence of the project implementation area.

- Feasibility of structural interventions:

Feasibility of the proposed project implementation based on needs assessment data from the perspectives such as implementation and technical, economic and participatory, co-ordination with superior urban plans, adaptation to time conditions and constraints.

Meeting Social Needs:

- Communicating with the environment and understanding the interactions and reactions of architectures and residents.
- Create a sense of belonging to the place and attracting people participation.

In the process of studying the assumptions of grading formation and morphological structure of Shiraz historical texture, it is necessary to review the theories raised in this regard.

British School: [16]

The following points are important to readout the British school:

Studying the process of city development during its lifetime, this school defines some units as plan units and believes that the morphological structure of the city is based on it. In fact, the British school with an emphasis on Conzen's theories explains that the process of city development in the later periods is not a new event, and is the continuation of the same process of change and development in earlier periods.

Italian School:

Italians were the first people who studied urban morphology. It considers the city as the physical crystallization of cultural developments. Saverio Muratori states that the city has been constructed based on traditional processes and that the basic types are the basis for shaping the morphology of the city. Muratori's studies were also followed by other Italian scholars. Gianfranco Caniggia considers the historical process of urban texture formation and adopts an organic approach to urban texture development. The typological process is the relation between the types of buildings and the urban texture that begins with the elementary cell. This process creates pseudotypes that are functionally different leading to basic fabric and particular fabrics.

French School:

- The French school was formed following the Italian school through the revitalization of its sources of thought. Unlike the Italians who had adopted their approach to urban morphology from architecture, the French school believed in interdisciplinary knowledge derived from a series of disciplines in morphological studies. Unlike the Italian school that deals with the study of building types, this school believes in investigating the patterns of urban texture formation in the study process.

Reviewing these schools we can say that, all of them emphasize on three general principles as follows ;

- Urban forms are defined by three components 1. built spaces, 2. open and semi-open spaces, 3. activities and applications located in them.
- The study of urban forms has various levels of clarity such as building, plot, block, street, city, and district.

Urban forms can only be investigated by the changes and displacements occurred for their constituents over the years.

Therefore, any morphological study in order to identify the formation context of urban texture has to pay attention to the above three principles and use one of the analytical methods to synthesize or decompose the information layers based on the current situation.[16]

16.Mahmali Abyaneh, H. R. (2011, Autumn and Winter). Comparative Comparison of Urban Morphology Studies Schools. Arman Shahr Journal, 7, 162-163.

In this study, a methodology was selected based on the Italian school. According to this school, the historical texture of Shiraz was created based on primary core units and expanded with the extension on the walls of building blocks.

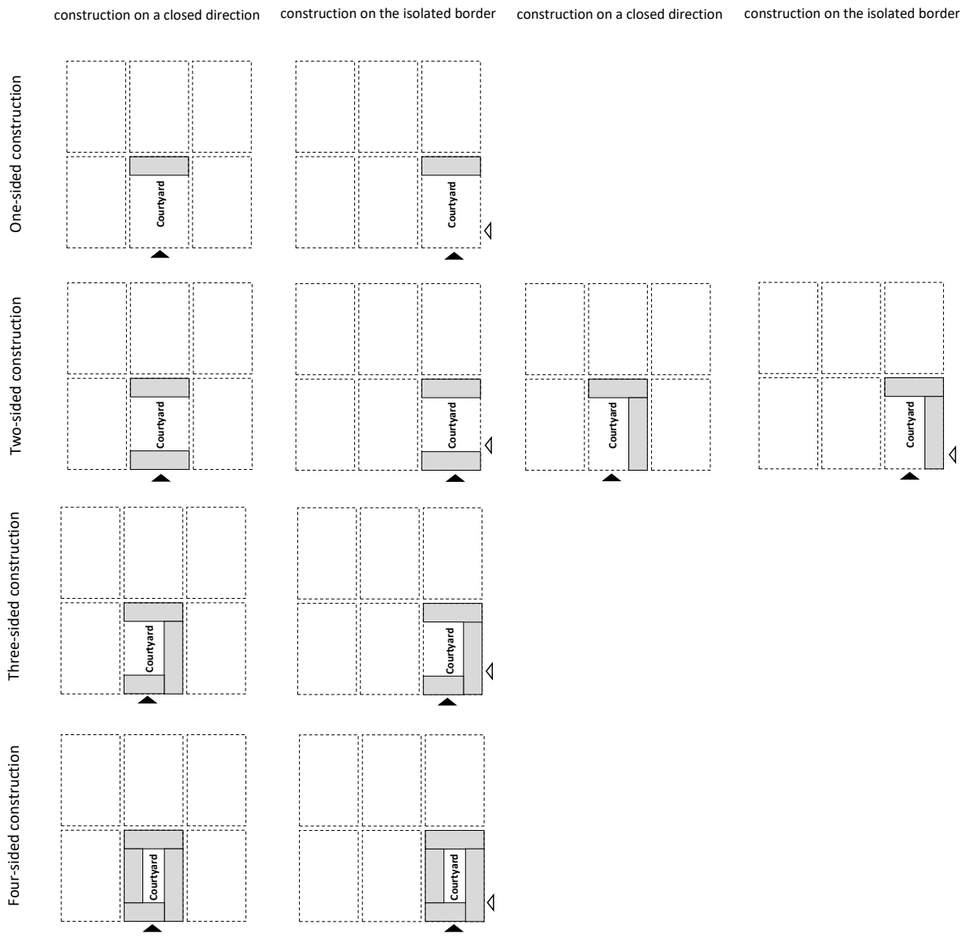
The construction of building units in Shiraz has been formed based on construction is one-facade(one-sided), Tow- facades(two-sided), three-facades(three-sided) and four facades (four-sided) construction. the next step to expand the preliminary units is construction on one side and its counter-facade to take advantage of climatic conditions. Construction in adjacent facades was also done to complete and to further utilize of the land and to regulate the yard.

The next steps to develop and to form the construction units and with construction in four facades (four-sided) were taken in order to complete the construction process and increase the level used in height (generally, the architectural units in Iran have two floors of construction with a maximum height of 7- 8; special buildings such as the palace, the mosque, the Yakhchal (ice pits), the minaret and the bazaar are exceptions. In the formation of urban texture islands (blocks consisting of several building units located within the area of a few streets or alleys), the organization of architectural seeds has been determined by the formation on the main or secondary street and on the main street facades were allocated to the formation of main architectural units (this has not always been the general case and has been changed with cultural and political circumstances). Given that the major commercial activity in Iran was being carried out exclusively in the city market, the formation of commercial units on the wall of urban passages was not traditional.

At the beginning of the Qajar era, with the expansion of cul-

tural relations with the West, and following the emergence of a new concept of the street in Iran, some scattered commercial activities were done in some urban passages of the historical texture. The Haj Zeinal passage in the historical texture of Shiraz, which was selected as the studied case, is one of the passages specifically devoted to commercial activities

Pattern of construction in Shiraz historical context



(this passage has had comfmercial use and has been prospered from its inception until several years ago).

Scrutinizing of the study's findings with the existing studied cases

The following are presented to formulate an optimal model to study the urban morphology and to provide instructions for creating infill structures or building in built spaces;
The study results and interpretation are as follows:

Construction may occur in one of the following four modes (construction pattern).
- One-sided construction closed in one direction

- One-sided construction, on the island border
- Double-sided construction closed in one direction
- Double-sided construction, on the island border
- Three-sided construction closed in one direction
- Three-sided construction, on the island border
- Four-sided construction closed in one direction
- Four-sided construction, on the island border
- One-sided construction closed in one direction

Consider a land on which a building is going to be built. Certainly, the construction would be done on one of its facades in order to make the land more productive. This is the first step to establish a building to form urban architecture units. This building is very simple and established with one or two rooms and some space between them. The orientation made up towards the entrance in this pattern from the front of the facade and the yard is the space between the entrance and the built section. In this pattern, the building direction is selected based on the climate influential parameter. (pattern 1)

- One-sided construction, on the island border

Following the increase of construction by primary model islands would be formed one by one, (one-sided construction, closed in one direction), together forming the district and then the city. On an island consisting of a number of building units with a pattern of construction on one side, a number of these units are located on the island border. These units have a construction pattern on one side and similar to the previous state, except that the accessibility to them can be done from the side or parallel facades. In this model, the direction of the construction is also selected based on the climate influential of the parameter. (Pattern 2).

- Double-sided construction closed in one direction

The need to increase the building area in the primary building units led to construction on the front facade too. Due to the main entrance of the building unit which was placed in the front facade of building, the construction in the front facade was being done, when the climate influential parameter did not prevent the construction. In this pattern of construction, the climatic influential parameter also plays an important role, but in cases where construction is not possible inharmonious pattern with the climatic conditions, the construction would be done on the front or on the side facade. (Pattern 3).

- Double-sided construction, on the island border

In this construction pattern, construction is also done on the front or adjacent facade of the building and the same conditions of the double-sided construction is applied , but because of the location of the building units on the island border, the possibility of utilization to enter the building unit from the adjacent facade of island border is also provided. In this pattern, if possible, the climate influential parameter, more than other factors, plays an important role in the orientation and location of the second facade of the building. If construction in the

facade consistent with climatic conditions is not possible, it will be done in the front or side facade of it. If it is not possible to build on the front in accordance with the climatic conditions, the construction will be on the front or on the adjacent facade. (Pattern 4).

- Three-sided construction closed in one direction

The construction pattern in three facades has been done based on physical need, in order to greater and sometimes economic productivity (in recent decades). The process would be completed in a four-sided pattern and creates a symmetrical central courtyard. In cases where there were no restrictions on the dimensions of the ground to create more spaces on the other facades, the building area was formed on three facades. This process has followed the previous pattern to provide a context in height. (Pattern 5).

- Three-sided construction, on the island border

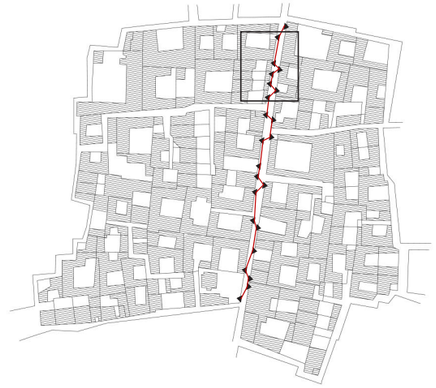
Three-sided construction, on the island border, was similar to the previous pattern (Three-sided) construction, closed in one direction except that due to the placement of the building land on the island border, it was possible to use the entrance in the two facades. In this pattern, if not restricted, the climatic condition was the first factor determining the construction direction of the third facades. (pattern 6).

- Four-sided construction closed in one direction

Four-sided construction can be considered the most complete construction pattern in Iranian architecture. In this pattern, all climatic, cultural, social and economic conditions can affect forming an architectural unit, but the degree of effect will vary for each one. The only factor that will always be constant in this construction pattern is the climate influential parameter. This parameter can be compatible with changing the use on each facade. The four-sided construction pattern can be a context for increasing the building area in height, but it will face some restrictions related to the land dimensions. The four-sided construction with more than one floor is not possible in lands with low dimensions. (Pattern 7).

6- Three-sided construction on the isolated border, 8- Four-sided construction on the isolated border, 7- Four-sided construction on a closed direction, 3- Two-sided construction on a closed direction, 4- Two-sided construction on the isolated border, 4- Two-sided construction on the isolated border, 5- Three-sided construction on a closed direction, 2- One-sided construction on the isolated border, 1- One-sided construction on a closed direction, 6- Three-sided construction on the isolated border, 3- Two-sided construction on a closed direction, 5- Two-sided construction on the isolated border.

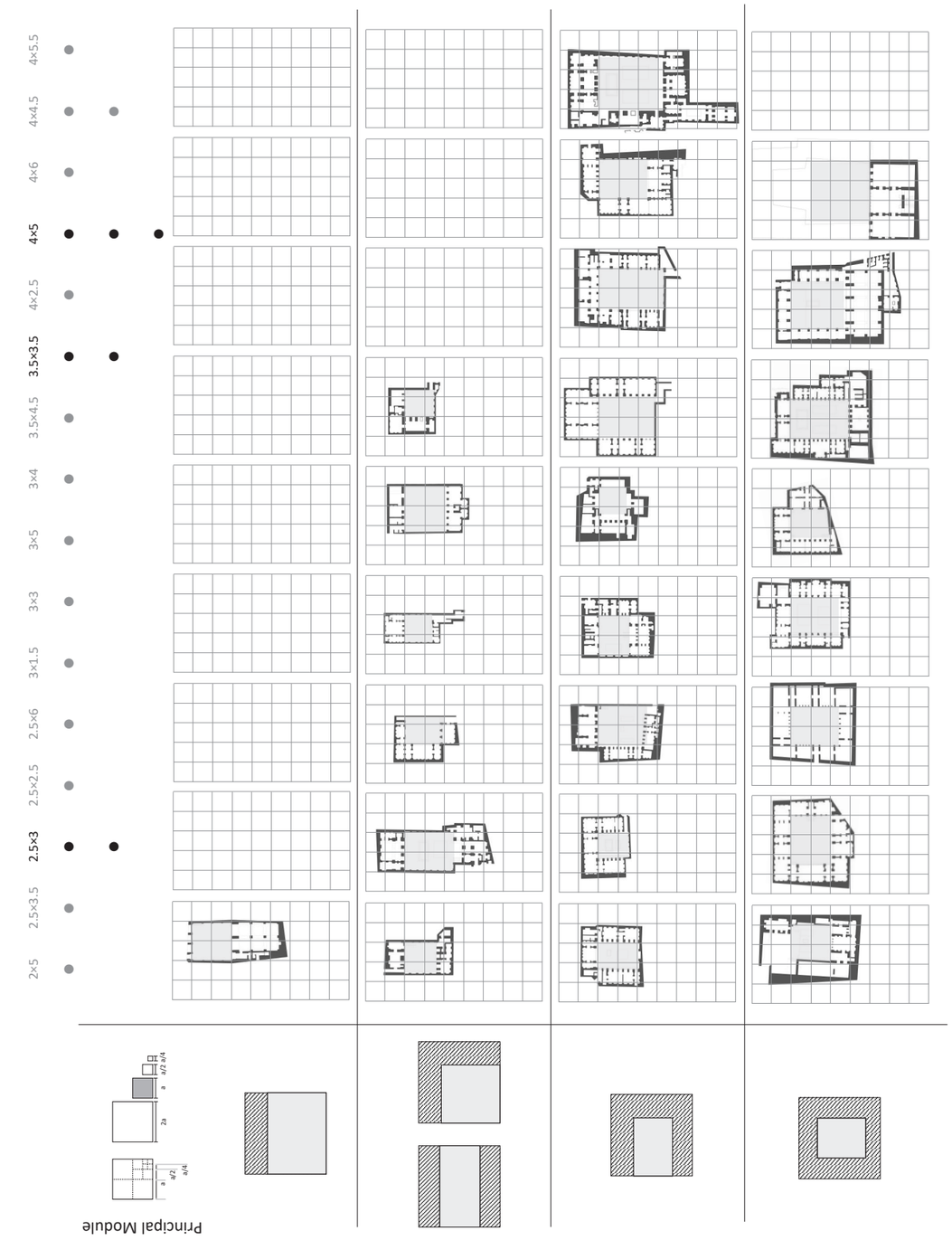
Example of the construction Pattern in Shiraz historical context



How to house entrance in the historical context of Shiraz This is how to arrange privacy

This building classification shows how the architectural modules are built based on the modulation of the architecture. Observance of these proportions in Iranian architecture makes the buildings not comparable in size, but in comparison to proportions and their design is proportions.

In this category, the houses are listed on the basis of the construction direction and their Abundance in each direction. This classification indicates which building categories have the highest Abundance in each construction sample.



This classification shows the courtyard of building units built on the basis of architectural modulation. Observance of these proportions in the design of the courtyard in Iranian architecture makes the home space based on proportions. Formation of the yard by size has not been common in Iranian architecture.

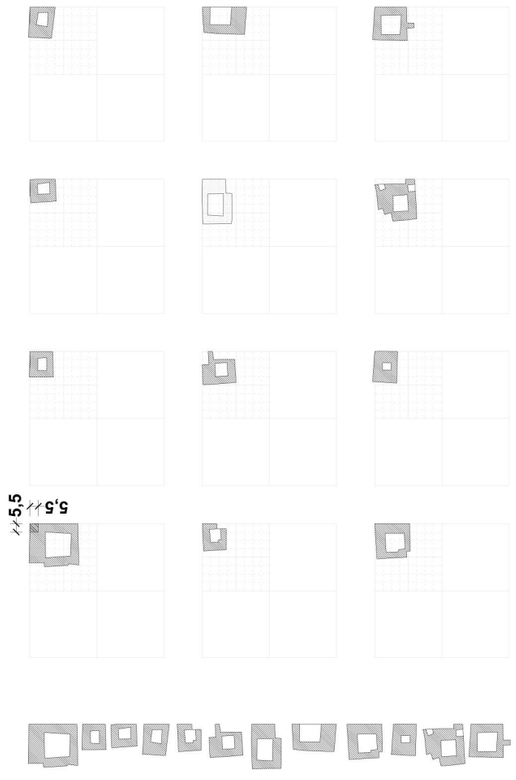
Analysis Selected monuments in the Shiraz historical context (Sang-e-Siyah District) Haj Zeinel passage.

In this analysis, the construction of the building, the orientation of the building with respect to the historical context, the neighbourhood's of the building, the type and form of access to the building are specified.
This analysis helps to better understand the structure of the historical context in the process of reading it.

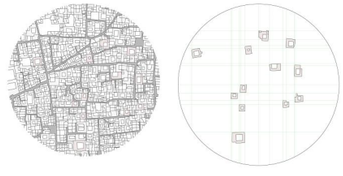
The formation of architectural units in historical context is based on architectural modulation and urban morphology lines.

This analysis shows that architectural units are formed on the basis of a distinct urban morphology system.

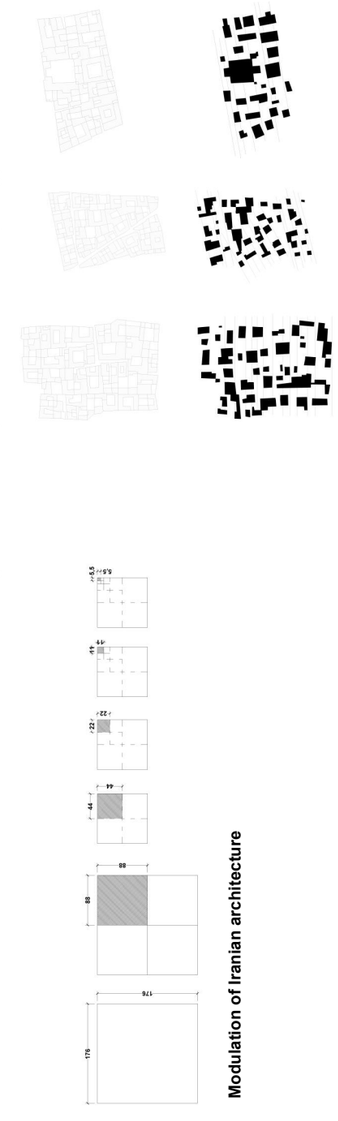
Architectural modulus has played an important role in shaping architectural details. This unit of measurement, which measures about 1.1 meters, is known as “Gaz” in Iranian architecture.



Structural Analysis of Shiraz Historical Texture Based on Architectural Modulation



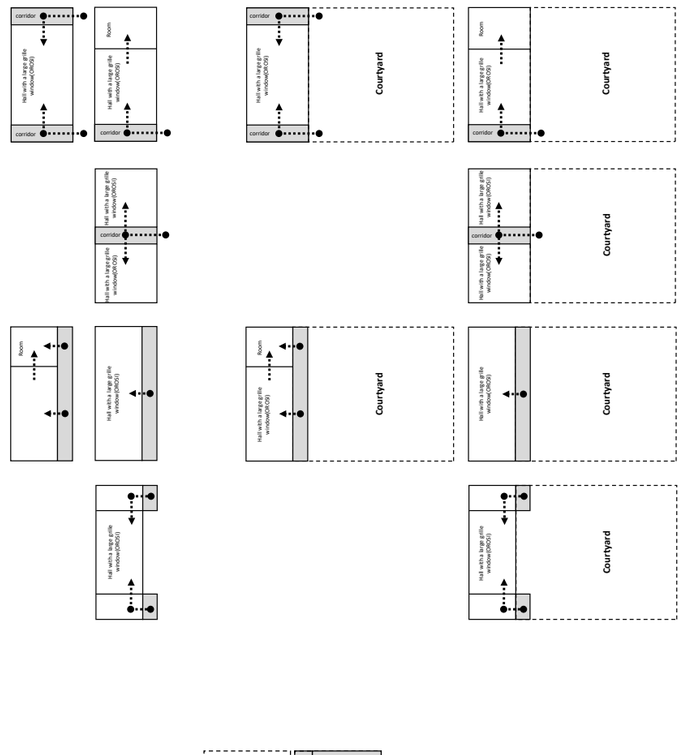
The position of the architectural units under study



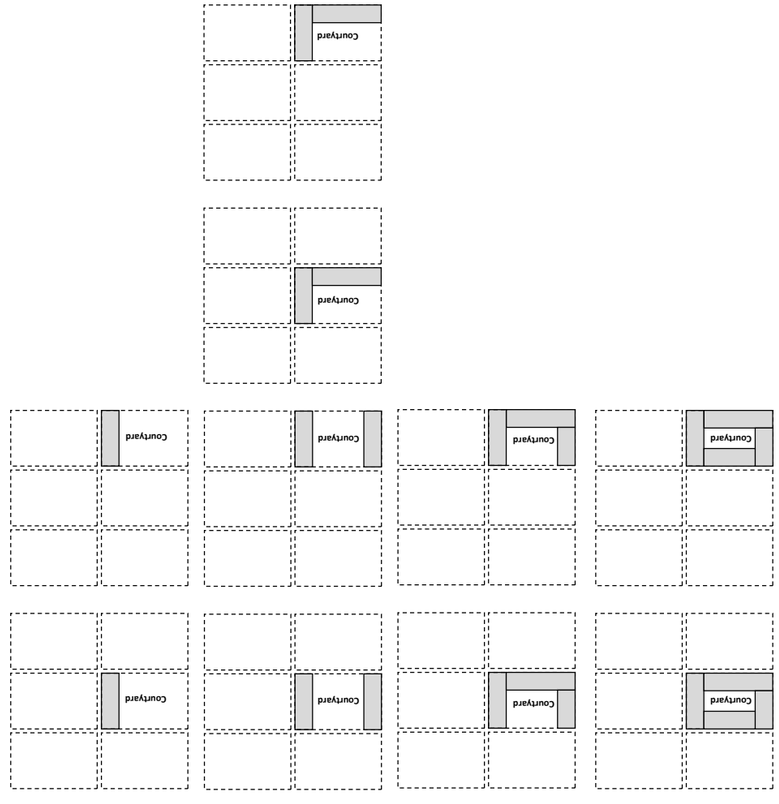
Building units and their layout based on urban morphology

Modulation of Iranian architecture

Adaptation of architectural modulation to a number of selected homes in the study area



How to enter the porch in Iranian houses is shown in this plan. There are different plans to enter the porch.



- Four-sided construction, on the island border

This pattern is similar to Four-sided construction, closed in one direction pattern except that it is possible to access the architectural unit from two facades and sometimes from three facades. (Pattern 8).

Interpretation of the information and receiving final data

Architectural scale:

Each valuable architectural work represents three types of distinct entities:

- Combination of material and its form;
- Combination simultaneous with elements and components;
- Unification of its symbolic and structural form.

The above parameters can be defined and described in the following four headings:

Aesthetic entity 2- Historical (temporal-spatial) entity 3- Structural entity 2- Conceptual content of architectural structures (The conceptual content of architectural structures has by itself the cultural, artistic, historical and technical-scientific value, that always is perceivable and understandable in spirit and body of architectural work by visual and conceptual elements.

These items include the following definitions:

- Cultural value - expresses social and literary values that form environmental - individual and individual - group behaviors, along with a set of local behaviors and traditions.
- The artistic value - represents the innovations and creations in the form and meaning, which the people of every land have made and imagined.

Historical value- which has been realized and formed by defining the three main factors include the type of historical event, the formation space of historical event and the time of the historical event.

- Technical – Scientific value - is a set of engineering-technical methods, techniques, and values , forming the type of approach to the architectural element in terms of usage and functionality.

Interpretation of basic information collected through field and study methods in the above four parameters requires a systematic review. The historical texture of Shiraz, with a very rich civilizational and cultural background, has always been subject to the culture, behaviors, and traditions in the life of inhabitants to form the urban morphology. Some of them include privacy formation in residential and religious areas, respect for citizenship rights in architectural structures. Architectural elements have always considered this parameter in their text and form. Asymmetric and non-geometrical forms in the urban structure of Shiraz, which is the result of cultural thinking, have led to the formation of a special kind of architecture with outdoor and indoor spatial separation.

Shaping a habitable and eye-catching space through the use of artistic elements in architectural spaces, is one of the cases showing that that not only the architectural body is important from functional and meeting the residential need aspect, but also responding to psychological needs and creating the beautiful landscapes have been some of the basic

principles, shaping architectural spaces. What is left of the architecture of the later periods in Shiraz shows that paying attention to the art and its visualization in the architectural space has been of considerable importance in all the architectural spaces formed in the historical texture of Shiraz.

A study of Shiraz history shows that no significant historical event influencing the process of formation or changing of the architectural path has occurred in Shiraz. Therefore, no trace of the location, type or time of the historical event is seen in any of the existing architectural works in Shiraz. It is necessary to explain that those historical events that have had no effect on architecture formation or urban structure are not considered. But, the study of historical value aims to evaluate those historical events influencing on the architecture and structure of the city.

However, in the study of the technical-scientific value of architecture in Shiraz, it should be noted that architecture in this city, like other historical cities of Iran, is full of intelligent architectural techniques and methods, caused the spatial organization and morphological structure of architectural elements to meet desirably the needs of its residents and beneficiaries. Some of these elements include climatic orientations, proper use of materials, optimal utilization of proportionate land dimensions and negative construction.

The above items indicate that the formation of Shiraz historical texture at the architectural scale has all four mentioned parameters and that the planning to intervene in the historical texture at any scale and title requires consideration of these parameters.

City scale:

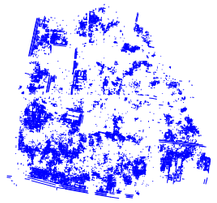
The study of Shiraz historical texture on the city scale shows that the dominant pattern of construction in this texture is generally three- or four-sided. Many historical textures have been demolished in recent years. In addition to the lack of harmony between alternative units and the architecture morphology and language, they have not observed other influential parameters in construction. The crossroads in the historical texture have caused many parts of the residential unit to be lost along the way. However, they have preserved the morphological structure of the historical texture. Crossroads have been usually created between two urban landmarks or two urban nodes, aiming to connect and access these points by increasing their productivity. The connection of gates and the passages leading to them are significant. The passages have a divergent connect from the gates to the city. The city started from the district near the Darvazeh- Isfahan and continued to the Sar-e Dozak district. The more we get closer to the core of the city, the number of passages increases and their length reduces. In other words, the network of passages gets more interwoven, to make a simple connection between main centers and elements of the city. Studies show that all major utility and urban services spaces are organically located around the main axis of the city (the market); in other words, the backbone of the city, or the main market, as a very strong axis has been the organizer of other surrounding buildings. This organization has not followed a fixed pattern, and its shape, like other Iranian cities, is generally linear due to connecting the city gates to each other. The city's functional centers are not so dependent on its geometric center. At least one access to the city center has been built from

each gate, and the market orders have connected the most important gates to each other.
The intracity roads have been linking the districts and dispersed functions throughout the city with downtown.
The morphological orientation of the market is not related to geographical directions but depends on the geographical location of other cities and gates that have been opened to Shiraz. The physical-spatial extent of government and political functions has expanded according to the importance of Shiraz in the Zandiyeh era and remained at the same level until the next periods. The extent of communal and cultural-social spaces are directly related to cultural spirits, social and class requirements, and the like, rather than to the population or extent of the city. Squares and circles (small squares) of historical texture have usually existed in the midst of urban texture districts, not so much traces of them can be found now. Formation based on the climate influential parameter has played an important role to shape the historical texture of Shiraz. Analysis of the historical texture map shows that 46% of the architectural units have been organized in line with the appropriate climate direction. The existence of some spots with different morphology in the historical texture of Shiraz indicates that the considered parts were formed with different morphologies for specific reasons. The Haj Zeinel studied axis, with 8-degree orientation with the general structure of historical texture, is one of the spots that correspond to the Qibla direction of important and

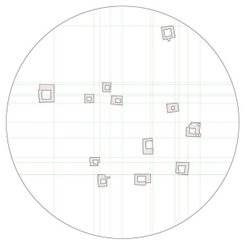
Shiraz historical texture analysis based on the angle of formation of building units

Read at an angle of 88 to 93 degree covers about 46% of the entire historical texture

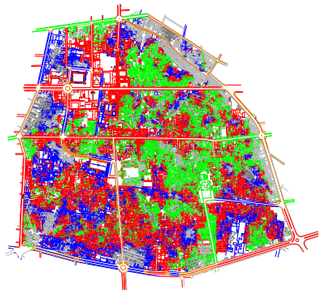
Green at an angle of 75 to 80 degree covers about 5% of the entire historical texture



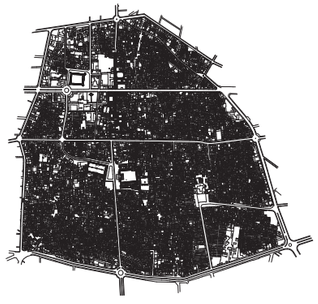
Blue at an angle of 80 to 85 degree covers about 24% of the entire historical texture



Adaptation of historical texture lines to architectural modulation and architectural units



The some of the historic building units is 100%

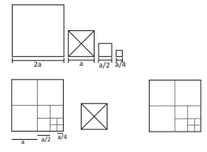


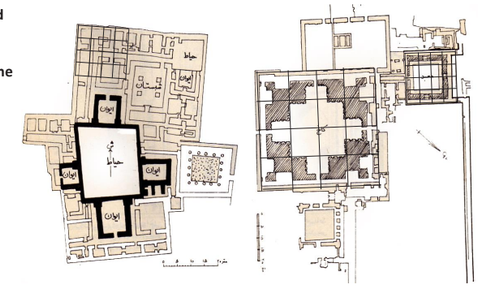
In this study, all units of historical fabric were taken at 100%

Shiraz historical texture analysis based on the angle of formation of building units.
In this chart the historical context of shiraz is analysed by AutoCAD software.
This analysis is based on the dominant angles in the historical context.
The color RED,BLUE and GREEN indicate the abundance of building units based on their angle.

Adaptation of urban modulation to the map of city/Castle Abu-Nasr and Anahita Temple (Bishapur).

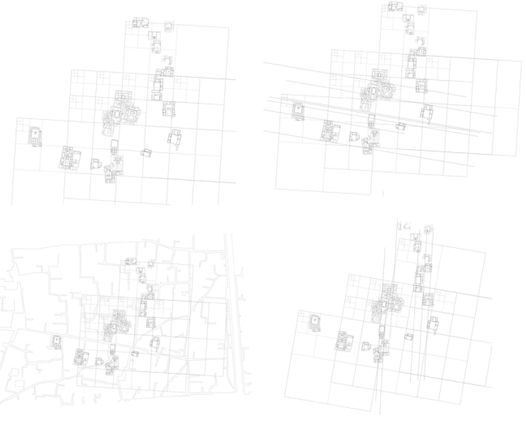
The dimensions of the building units correspond to the modulation of the architecture.



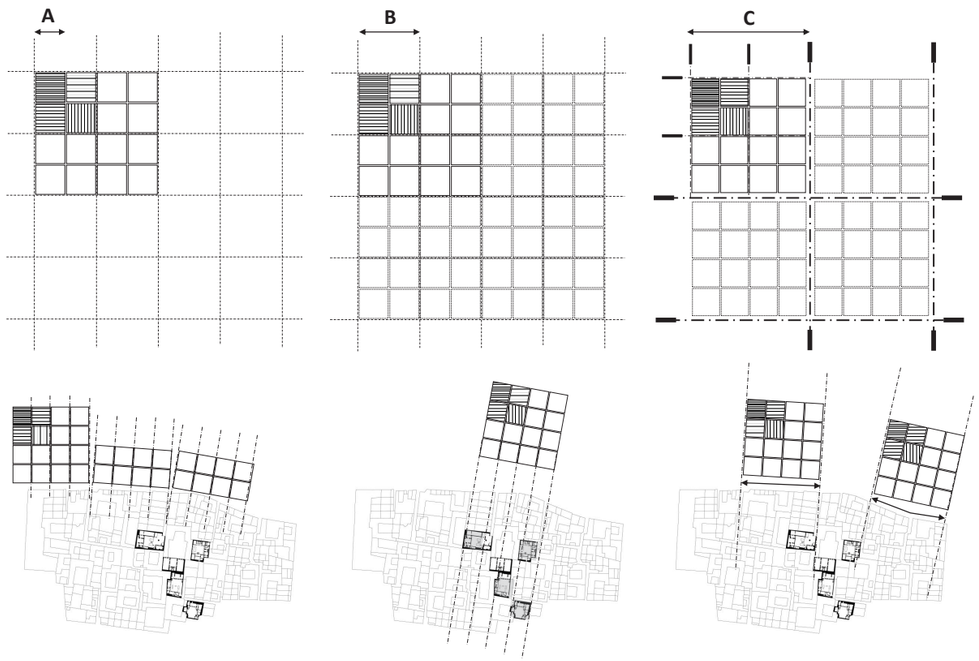


Iranian Architecture Modulation

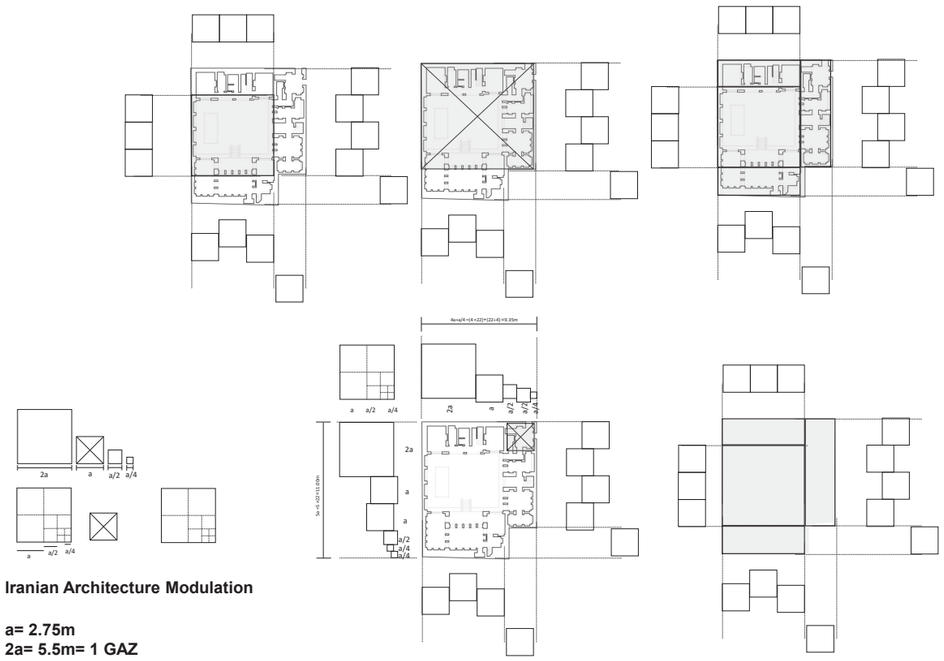
a= 2.75m
2a= 5.5m= 1 GAZ
GAZ has been the unit of measurement in Iranian architecture.



Adaptation of urban modulation to Shiraz historical context.
Building blocking is consistent with architectural modulation.



Analysis of Architectural Building System Based on Iranian Architecture Modulation



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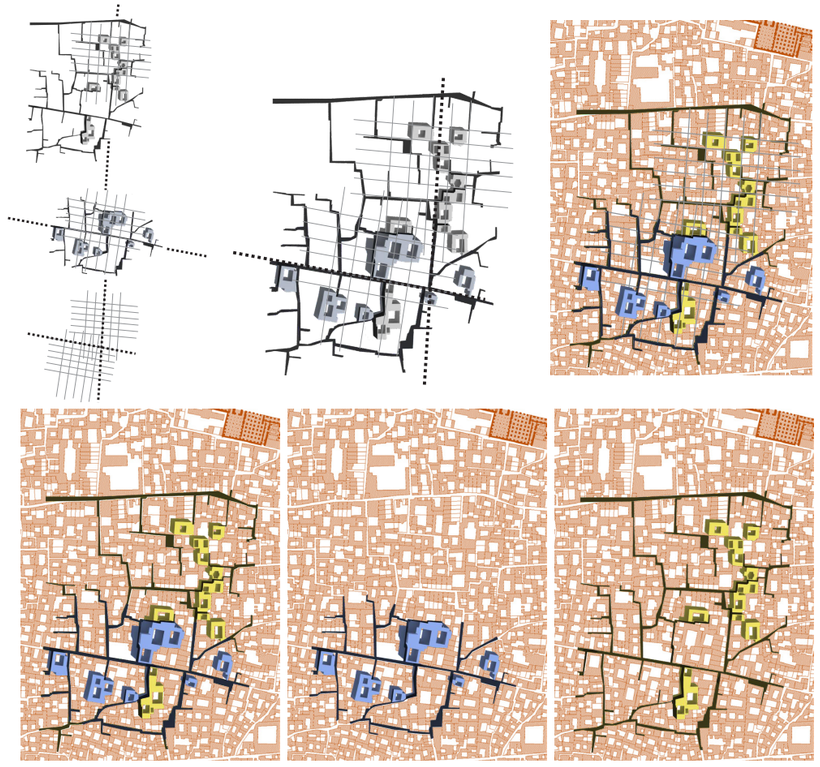


View of Haj Zinel passage and its 8 degree difference with the unique structure of Shiraz historical texture. This axis coincides with the 8 degree rotation of the dominant axis of Shiraz's historical fabric over the Qibla axis of Shiraz's historic mosques.

historical mosques of Shiraz. This 8-degree shift has still been created by the effects of the climate parameter. The organized architectural units around this axis are in harmony with the Shiraz climate. The results of these studies show that reading the texture of the city and understanding its morphological-physical structure can serve as a model for building in the built space of historical cities.

discussion in this study (formulation of intervention principles based on findings interpretation f(creation of infill structures))

The principles provided below deal specifically with the Shiraz historical texture and will generally emphasize all similar historical texture with similar urban morphologies.

Formulating the principles of intervention with this meaning that includes any kind of structural intervention in historical textures requires access to comprehensive, basic and formulated information that considers all influential parameters and different levels of need and opportunity in the process of needs assessment and feasibility. Therefore, according to the purpose and the research level of this study, formulating the principles of intervention in the historical texture of cities, in the three mentioned scales is considered solely on the basis of the type of intervention from the perspective of creating the infill structure. In the preceding sections of this research, we have discussed in detail the characteristics and conditions of historical textures, the history, and types of their interventions, the world-wide agreed theories and styles, and the conditions governing Iranian historical textures.

In order to get a good conclusion and formulate principles that can prevent the excessive destruction of the historical textures in Iran in the first phase, and to enable them in the next phases: The studied axis in this research (The Haj Zinal Passage) which was analyzed in previous sections, redesigned in the missing sections.

The surrounding texture, in the physical sphere of influence of this axis (Haj Zinal Passage) within three rows of the construction license plate, has four sections destroyed by human factors that can be described as urban abandoned spaces. The four areas mentioned above, outlined in historical texture maps, have the potential to accept new land use and return to the physical-social life cycle of the city. Based on the studies carried out on this axis and the formulated designs, the instructions of historical texture readout and the design of the infill structure in the historical textures on two scales: urban landscape and architectural framework, are as follows:

In order to achieve the useful and acceptable results pursued in this study and to formulate the principles of intervention in historical texture to create an infill structure (building in built space), some cases are suggested that only specify the type of intervention and how it will be performed. In this study , we do not seek to provide details with its' engineering approach, but will attempt to mark the instructions that - with a view to historical texture and values embraced in it, comprehensive and detailed studies of reading the historical texture, a proper understanding of urban morphology and their architectural language, intervene properly in the historical texture and on the following two scales. Given the stated purpose of this study (formulating the principles of intervention in urban historical texture- creating infill structures), providing a comprehensive guideline that can meet all possible needs is almost impossible, due to the diversity in the existence and nature of historical texture and their unequal conditions. Therefore, it should be noted that providing an instruction that marks the totality, includes measures that are used before design, during design, and during implementation.

First Scale: Urban Landscape

Considering that the primary purpose of creating an infill structure in historical texture is to update activities in such textures and to create suitable infrastructures in order to increase the architectural spatial and physical level for the optimal use of its residents and beneficiaries in historical settings; and meeting the maximum levels of social, cultural and service activity in the minimum architectural space is also one of the goals of creating infill structures; it is always suggested to consider multifunctional functionality at all stages of study and design of the structures.

First step

- Comparative study of superior urban plans to extract conceptual and executive communalities
- scrutinizing the superior designs with sub-designs to identify important and influential principles of design.
- investigating and collecting information on existing physical organization including (full and empty texture, the method of distribution of each spatial features in the city, main and linear open spaces, enclosures, bodies, squares, axes and urban backbone, method of distribution (of altitudes, symbolic monuments, signs, position of edges, main edges, and main corridors) to provide intervention designs in the scale of micro-spaces of the complex .
- Providing different options related to the juncture of full and empty levels of the complex in order to meet the level and per capita of historical architecture in conditions of creating infill building or joined sections in architectural elements and components.
- Prioritize the executive actions based on the goals and requirements of the implementation in infill structures.
- Pay attention to the native architecture of the region and adapt to the environment in the context of architecture and scale of micro-spaces.
- investigating the features of region native architecture and extracting the prominent elements and components to create the joined sections that can be read and retrieved by landscape studies.
- Considering the land shape and its impact to shape the architectural volume in order to use materials during morphological, not physical, intervention for selecting the most appropriate and suitable approach consistent or inconsistent with the environment in order to make the landscape and environment of historical architectural elements more prominent.

Second Step

- The following should be considered to design the process with the urban landscape scale:
- Removing unbalanced structures in the urban landscape of the designed area.
- Collection and redirection of destructive and ruinous urban infrastructures of landscape in the environment and designed complex.
- Defining the skyline in landscape frontage with a minimum angle of 180 degrees in the complex perspective and formulating its legal provisions.
- Marking inappropriate construction patterns in the landscape privacy of the complex and defining patterns appropriate to the environmental landscape of it.
- Preparing a periodic monitoring program of a complex from environmental dimensions and identifying destructive processes in the environment.

Third step

- Designing based on urban modulation system and adaptable on remaining lines and signs of historical texture prominent elements.

- Utilizing urban landmarks in skyline designing and defining the allowed attitudes.
- Creating sequential and indirect visual paths in order to make the historical texture movement balanced and dynamic.
- Designing based on the appropriate methodology and applying one of the most effective approaches to meet physical and visual needs. As: (Facadism, Zero Degree, Integration, Contrast, Derisive and Temporary, Analogy, Invisible, Complex).
- Designing based on the results of need assessment and feasibility with emphasis on the dimensions and sizes resulting from urban modulation and consistent with morphology, grading, and architectural language.

Fourth step

The fourth step, which addresses the design details in the environment with an emphasis on observing the content of the preceding three steps, contains the items specifying that on which qualities and quantities the infill structure in the history should be established. Accordingly, executive details of it are as follows:

- Floor:

- The floor can be even or staired. The use of single stair is not permitted at the bottom of urban roads with long-distance.
- Change in the nature of space can be caused by changes in material, kinds of stuff, colors, and texture of the floor. -The use of removable and prefabricated flooring in spaces with historical flooring is recommended with regard to its technical issues. (Considering the type of materials and chemical reactions, biological reactions and interaction of new materials available in climatic conditions, is important).
- Change in type of flooring is suggested to show changes in ownership, performances, and type of building with a contrasting approach.).

In defining a separate space, it is suggested to use one type of flooring instead of several types of flooring.

- Using the space change method in flooring to indicate an alerting agent or to indicate a change or event in space or path requires the use of materials, the style used and the approach appropriate to that change.
- Changes in floor attitudes are suggested to create pause points and emphasize the environmental landscape.

- **Body (walls):**

- closed and continuous surfaces are not recommended on the wall of plazas and squares.
- It is recommended that continuous surfaces be coordinated with the surrounding walls by changing the skyline. (Using the same material with surrounding walls is not mandatory, but it is recommended that in choosing the wall materials, particular attention be paid to be matched with the existing wall. (way of connections, abrupt changes to existing and new wall materials should be investigated and the best type of material and approach should be selected).
- To close or block parts of existing historical walls - To change performance or spatial dimensions - It is recommended to use transparent materials with temporary connections. (In areas where visual landscapes are considered, the use of bulky, rigid, and heavy materials that impede vision and distort the landscape is not recommended).
- If there is a need for openings in parts of the crossing paths, it is recommended that the wall of the path built by changes in materials, colors, and textures. (This item is suggested and can be changed according to the selected approach).
- In areas of historical texture that it is possible to use the surrounding space as an urban open space, it is recommended not to create a wall around the building. So that the infill building can be combined with the surrounding environment and can create a single set. if needed to create the wall, it is recommended that Plants or shrubs be used as a space-sep-

arating wall.

- **Size, Form, and Space:**

According to the studies that are carried out in the field of reading and understanding the historical texture - in order to create an infill structure - the type, proportions, scale, and size of the volumes and architectural forms are determined with regard to the historical textures. It is obvious that determining the type and morphological -physical structure of the architectural forms follows the language of architecture in the existing historic structures.

This does not mean that the proposed forms are merely copied or imitated from historical elements, but it means respecting the architectural spirit and essence that is conveyed through the visual language of architecture. Morphological-physical dimensions and proportions in the plan are determined based on urban morphology, and morphological-physical dimensions and proportions in volume (height) are determined and designed based on the architectural language. Volumes in infill structures will be formed based on a selective approach. But the following points are important in designing.

- The volumes should be combined in such a way that the existing attitudes would not be destroyed(creating a city landmark based on increasing the height more than existing monuments is not recommended).
- It is recommended that the volume in parts of the infill building that covers the existing monument, be designed so that look visually lighter than the existing building weight (using pure geometric shapes such as cubes and Pyramid can be a good solution).
- If the new volume of the infill structure comprises several building plates proportionally, it is suggested that the volume of the infill structure be designed in such a way that the common part of building plates be perceptible.
- In designing the required spaces in the infill structure, it is suggested that the designing with any approach be performed in such a way that, the spatial separation in two existing structures and the infill structure be understood well .(the spatial separation can be defined with changing each item of color, material, and texture).

Second Scale: Architectural body

First step

- Conducting field studies based on studies carried out on superior-urban plans to match the plan with the proposed location of the infill structure.
- Conducting field studies to get feedback from residents and beneficiaries, regarding the type and manner of their participation in the productivity of the space that is going to be built. (This item can change the design route based on the needs of the residents- in case of the interval between designing and executing.

Second Step

Given that many items on architecture body scale are defined and designed based on studies carried out in the urban landscape scale and in direct relation with them, the suggestive items in the second step of architecture body scale will be further complementary.

- Re-defining and scrutinizing safety and protection instruction for the construction and productivity of space and body of the infill structure periodically. (defining the conditions of safe and efficient use of historical and infill spaces will be directly related to the type of productivity and spatial dimensions).
- Determining and separating the use of the material type of and forms used to design different parts of the infill structure based on the modulations specified in spatial design and the architectural framework.
- scrutinizing and reading the specific lines from historical texture based on the continuity of paths or volume of existing monuments in order to regulate the physical-morphological structure of architecture.

- Adaptation of attitudes to the existing historical structures and identifying communalities between infill structure and existing historical structure at the architectural scale.
- scrutinizing and reading the remaining lines of buried underground architectural structures readable in order to better understand the historical environment, with appropriate elements and materials at the architectural detail scale.
- Respect for the historic environment and provide an opportunity for archaeological experts and researchers to capture information available on the designated historical site (sections restricted to access due to the infill structure).

Third step

Given that the third step addresses the design method, on the architecture body scale it points out at the following:

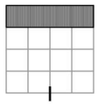
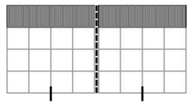
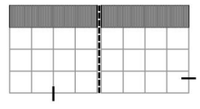
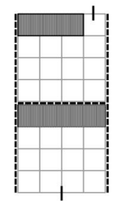
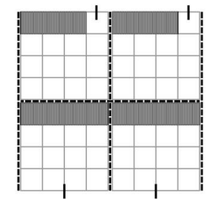
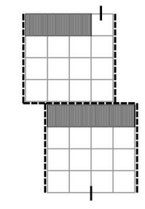
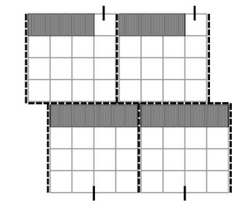
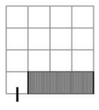
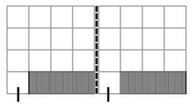
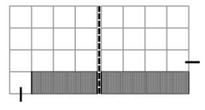
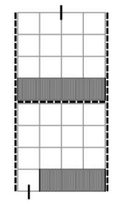
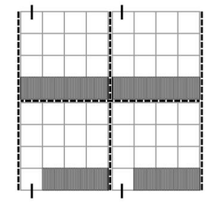
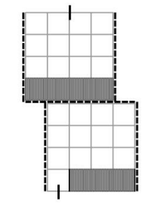
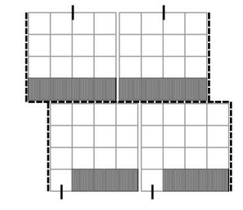
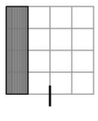
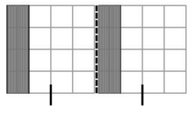
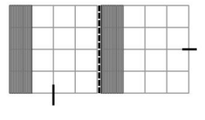
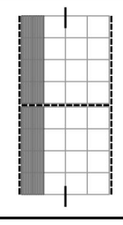
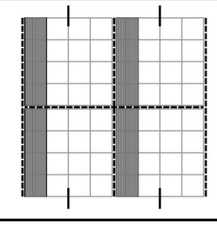
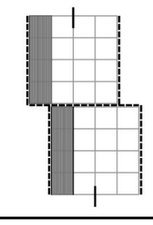
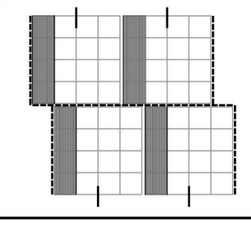
- Design based on a selective approach with an emphasis on the use of materials with non-permanent connections in all segments and based on any approach.
- Emphasis on multifunctional design for space utilization and body architecture at different times of the day.
- Designing based on the performance change and space shift approach using the relocation of several architectural elements.
- Designing and using eco-friendly systems of the environment with the potential to use both environmental, clean and renewable energies.
- Designing based on creating a minimal intervention in the historical structure of the environment using architectural elements existing in the environment.
- Respect for the historical environment by drawing on the pilot if it is necessary to display architectural structures based on negative attitudes.

Fourth Step

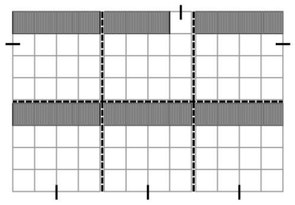
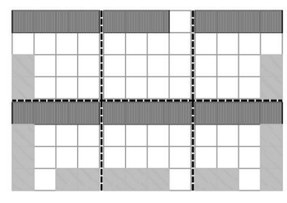
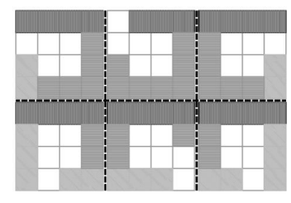
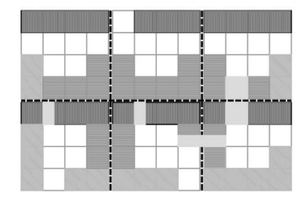
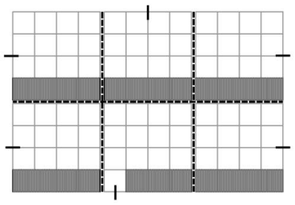
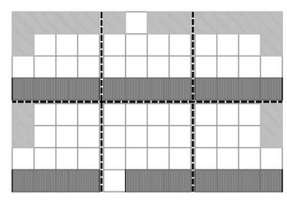
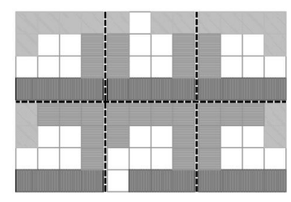
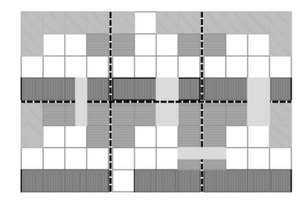
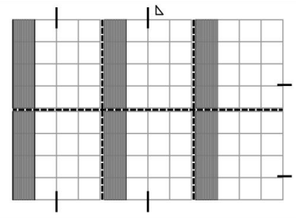
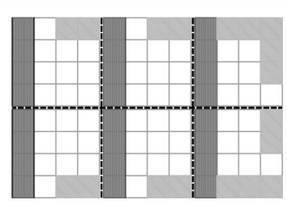
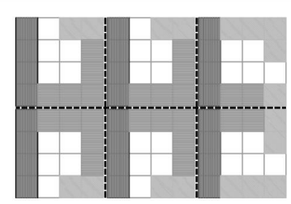
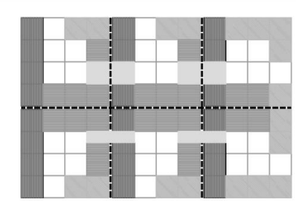
The general principles and policies of infill structure design based on field studies and historical documentation are outlined in the urban landscape-scale step, thus addressing items that can be offered as a suggestion are general. Accordingly, the points that can be mentioned in the fourth Step of the Architectural Scale are:

- As infill structures are created in the historical textures of cities and they are restricted in terms of access to the city's service infrastructures, and in the case of accident the availability of historical texture services comparing to new urban textures is significantly reduced, designing should be based on the nature of the physical and social needs of beneficiaries and users of the architectural space. (creating clear guiding paths for quick access to safe places in case of danger, creating usable signs and paths for disables and creating safe and comfortable structures for the use of children and the elderly).
- Interior design appropriate to the body and function of the architectural space with an emphasis on the multi-purpose use of space at different times of the day.
- Interface segment predictions for space utilization when specific segments of space are assigned to another user (interfaces can be created by temporary components).
- Given that the intervention approach in textures and monuments is considered based on the principle of reversibility with minimal damage, the maximum use of non-permanent elements and connections is recommended in all areas where possible.

systematic variants from elementary cells of the elementary house

	construction on one side	construction on one side - in open series	construction on one side and angle - in open series	Construction closed in a row	Construction closed in a row repetitious	Construction closed in a row doddered	Construction closed in a row doddered and repetitious
Opposite the entrance							
On the entrance side							
Orthogonal to entrance							

systematic variants from elementary cells in the aggregation of more elementary houses

	construction on one side		construction on two side		construction on three side		construction on four side
Opposite the entrance		aggregation in one side		aggregation in two side		aggregation in three side	
On the entrance side		aggregation in one side		aggregation in two side		aggregation in three side	
Orthogonal to entrance		aggregation in one side		aggregation in two side		aggregation in three side	

Sample no.1

Based on the studies in previous sections of this research, schematically drawn schemes are shown to show how interstitial designs can be made in parts of the historical context based on the language of urban architecture and morphology.

These designs can be designed on the basis of architectural modulation and adherence to historical texture lines. The formation of an architectural unit based on urban morphology lines is well visible in these designs.

Sample no.2

Based on the studies in previous sections of this research, schematically drawn schemes are shown to show how interstitial designs can be made in parts of the historical context based on the language of urban architecture and morphology.

These designs can be designed on the basis of architectural modulation and adherence to historical texture lines. The formation of an architectural unit based on urban morphology lines is well visible in these designs.

Conclusion

Conclusion

To create, one must first question everything

Eileen Gray *(*1878-1976)
Irish architect and furniture designer

Construction in Iranian historical texture - by any definition or approach - has numerous challenges and questions, and answering to each of them is by itself a separate topic for research. But what has been addressed in this study is answering a general, yet the crucial question that can help improve the current and future status of historical textures in Iran. The important question that this research seeks to answer is how to read and how to make. In other words, by what principles and basics are it permitted to build in the built space of historical textures of cities? What does “reading as a design in historical urban texture” mean?

unspoken, based on evidence in Iranian historical textures, it is obvious that building in vacant and abandoned spaces of historical textures - or spaces that have been demolished and transformed into unused and desolate urban land deliberately for the purpose of economically abuse of the added value of land in the central texture (historical contexts) of cities - lack any formulated instruction that define and pursue the purpose or strategy of creating new structures. Obviously, in such circumstances, as the rate of destruction of historic textures and the creation of new structures is increasing daily, the need to formulate principles that can make the new structures goal-targeted and organized, while preserving the existing ones is felt more than ever. The distinction of this study with other similar studies is in its view to the construction subject in urban historical textures. Building does not mean creating a body that is, at best, merely responsive to the physical - spatial needs of its users; Rather, it means creating a space that can respond to the physical - visual, physical - spatial, physical - social needs of the residents and beneficiaries, while respecting the visual values embedded in the architectural product. The issue of reading urban textures (specifically historical textures in this study), proper understanding of the type of structure used in it and the process of completing architectural seeds as the single cores forming urban textures, is the first step to think, to make decisions and designed and building in the historical texture of cities, even if the building would be only on a single architectural seed scale

A simple example of restoration is a lost part of a fabric texture without knowing the type of knot and its weaving path. The result of is restoration is a clear manifestation of the intervention without knowing the structure of the urban texture and its intervention. Before taking any action it should be noted that” understanding the importance of reading urban texture”, and “ how to read urban texture” are two completely separate issues that need further study and readout. Obviously, the conditions governing the existence and nature of urban texture, as well as the study backgrounds needed (archaeological and historiographical studies), determine the type of looking at urban texture reading methods; But what is common in all urban textures reading methods is the reading based on the urban architecture morphology and

language, the gap of which is felt in many urban studies in Iran. This research is also based on this need. The growing trend of the demolition of urban historic textures and irregular, unreasonable construction threatens the existence and nature of urban historical texture in Iran. Therefore, the purpose of this study was to formulate an instruction that can organize studies and readings of urban texture and improve the construction process.

Now the question is “how to read in the urban context?”

The answer to this question is simple, yet complex. It is simple because it has a clear answer i.e. the reading based on the historical evolution of the city, and it is complex because the process of time passing in the context of history is not the only factor shaping the city. Rather, the shaping factor is the presence and existence of people who have shaped the city through the relationships, interactions, and contradictions between themselves as well as their surrounding context. Relationships that sometimes have determined the presence or absence of a town or village. This is the same complex answer to the question mentioned. Before answering this question, it is important to consider the city and the presence of the people that are the main determinants of urban morphology, as an influential parameter. The formation of urban neighborhoods based on factors such as culture, religious beliefs, business relationships, kinship, and political relationships are among the factors that have changed the nature of the urban context and created a different morphology. The formation of urban districts based on factors such as culture, religious beliefs; business, kinship, and political relationships are among the changing the nature of the urban texture and creating a different morphology. Therefore, some part of reading the historical texture means reading the interactions of the people who have shaped the structure of the urban context through their habits and behavior. Reading, Designing and Performing are three steps in the process of creating an infill structure in historical texture. Regardless of addressing tow items of the design and implementation, it is necessary to pursue reading on the basis of urban morphology and architecture language and to describe its method and structure. But what is going to be said in the pages ahead is, in fact, a succinct return to what we have addressed in this study. The first step is to read and understand the timeline of the area that we know as a city or a set of cities. Historical study of the process of the formation of the city’s primary core, its morphological structure and the parameters effecting on locating and deploying it have been crucial and fundamental at this stage. Topographic and hydrographic maps of the questioned area, as well as climatic factors effecting on the area in various historical periods, contain valuable and important information that completes the process of data analysis and interpretation. Historical events, such as wars, occupations and climate change altering the structure of the city, are some other issues, the study of which is very important in the first step.

The effects of these actions on a historical line are considered in the theoretical and practical phases. Also, they would follow up the synthesis from theory to practice and vice versa. The second step involves the process of reading and understanding the relationships that have been formed between the people who have shaped their environment based on their habits, customs, and beliefs. The factors have caused conflicts and interactions among peoples to create lines and boundaries creating specific boundaries with special morphologies.

Ethnic contradictions, cultural beliefs, job differences, and so on have all created districts and even some parts in cities, which need to be considered and assessed morphologically based on location and neighborhoods.

These information needs will only be met by reading the urban textures based on these approaches.

The third step in this process (reading and understanding of the historical texture) is to interpret and aggregate the data obtained from the first and second steps, leading to the compilation of the final information to be used in the fourth step, i.e. designing in the built space. What is of great importance in step three is the way of reasoning and deducing the conclusions drawn from the aggregating the existing information. In other words, it can be said that what constitutes the basis and structure of step four (designing) is the result of step three.

Although designed in the built space of historical textures of cities is based on its governing conditions and locational-spatial features, attention to morphological and structural studies of historical texture will always be emphasized. Choosing the proper approach to create an infill structure in the historical texture will guarantee the success or failure of the plan to meet the needs expressed in its implementing principles.

Experience has shown that what is not compatible with the spirit of the people is doomed to failure. This is not only about non-tangible topics, but also includes the architectural structures.

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Appendices

Appendix no.1

A part of a detailed plan review of the Shiraz Historical and Cultural District

The following content is taken directly from pages 85 to 106 of a detailed plan review of the Shiraz Historical and Cultural District.

Pardaraz Consulting Engineers, 2011. Revision of Detailed Plan of Shiraz Historical and Cultural Area, Report of Sections 4 and 5 and Supplementary Sections 3 (Proposed Objectives, Strategies, Policies and Patterns), Shiraz Municipality.

Scrutinize and analysis of goals, strategies, and policies

Determine the macro goals of the plan

Macro goals are a set of long-term processes designed to achieve the ultimate perspective. These goals determine the direction of the program and the planning and designing of priorities.
Since the formulation of the objectives alone will not be effective to develop and realize a fully executed plan, their scrutinize reporting will be done in the form of objective and operational goals, and the main plan strategies and policy makings will be extracted from the depth of these objective and operational goals.

Determining the key goals of population and residence

Population and residential function are one of the most problematic and critical areas of decision making in the texture. Targeting in this area has been pursued with great sensitivity and, if realized, one can hope to restore the former life and vitality. The goals of the plan in the context of population and residence in the historical texture are:

- Supply of residential infrastructure and supporting services of residence
- Stabilizing and balancing the population composition and social structure of the inhabitants of the texture
- Changing some part of social construction (Afaghane)
- Changing the demographic indicators of the texture and reaching the averages of Shiraz City
- Planning the growth and promotion of social and civil life

Determining key objectives of housing modernization patterns

- Realization of the natural flow of modernization through normative facilitation.
- Considering the economic logic of construction, changing the level of profit margin and changing the building congestion.
- Upgrading the pattern of historical texture housing
- Facilitation the construction process through technical and financial assistance to homeowners and small scale builders of housing.
- Fulfillment of reconstruction plans in areas affected by severe damage and burnout of the historic texture depth.

Determining the key objectives of the activities system
Increasing the competitiveness of the region through:

- Increasing the infrastructure capacity of work and activity by increasing building congestion
- Changing the function and activity, congestion and elevation orientation.

Shaping the pattern of division of work with the city by:

- The gradual shift of work and activity trends towards patterns consistent with the spirit of historical texture and cultural and leisure tourism roles.
- Refinement of zones and axes having a function incompatible with the spirit of the historical texture
- Relocation of services functions that can be planned in other regional centers of the city

The functionality of a part of the historical texture to reinforce cultural tourism roles

In this regard, a continuous cycle of production, distribution, display, sale, and consumption of cultural products is considered, including:
A) Establishment of arenas for presenting leisure and cultural services, including specialized and public museums, spe-

cialized and premier cultural centers of the city, main libraries of the city, showrooms, cinemas and theaters, exhibition complexes and galleries, etc.

B) Specialized education related to cultural-historical context of historical texture including colleges and workshops of art, architecture, crafts, etc. in the first level educational centers of art, literature and architecture and first-level educational centers of cultural industries, etc. ..... in the first level training centers of arts ,literature , architecture and cultural industries and so on…

C) Creation and development of tourism support services and preservation of surplus produced within the historical texture

Determining key objectives of spatial organization

- Restoration of areas and arenas damaged from later interventions in historical texture.
- Restoration of the concepts of movement, centralities, and boundaries of the old structure (based on the Zandiyeh City construction)
- Rehabilitation of centers
- Restoration of historical orders and passages
- Restoration of the main origins and destinations of the historical texture
- Restoration of discrete zones
- Restoration of historical elements and valuable monuments (active protection)
-Balancing at the regional level with the aim of distributing the flow of work, activity and civil life to the whole range of historical texture thorough revision in the direction of tourism and the creation of new functions of the eastern and southeastern arenas
- Using the opportunity to build subway stations to seriously reform the spatial organization and revitalize the historical texture of activity.
- Integrated planning and design of the movement, activity and space system in the three areas of Business, tourism, and pilgrimage.
- Revision of the monuments offenses and utilization of principal methods of determining perspectives, physical and functional frontage.

Determining key objectives of monuments conservation

- Determining a comprehensive plan for the restoration and reconstruction of the first-class arena
- Changing the absolute protection approach to active protection
- Controlling the bad impact of the Cultural Heritage Organization on the development of historical texture
- The functionality of the valuable monuments through

Step One: historical clusters

- Second step: valuable monuments
- Spatial – Functional revival of historical passages
- Redefining the triple crimes of historical works and formulating the relevant rules (physical, landscape, and functional frontage)
- Adjust the tourism program in the form of cultural tourism

Determining the key objectives of access and transportation

Transport and access are one of the most problematic and influential areas in the process of revival and modernization of the historical texture. As the results of the studies show, renovation in the historical texture has a direct relationship with this factor, so that as we get closer to the margins of the historical texture- - where it is more accessible

- The existing buildings and monuments are of higher physical quality and vitality than the rest of the area. The following goals are considered in this plan to expand the region's transportation facilities:

-Completion of development plans along Vali Asr Square, in the Zinbiyah and Sibuyeh axes to gradually remove traffic crossing within the historical texture, and completion of patterns connecting to the rims around the city.

- Modify the structure of the local and intra-regional network with the approach of lightening the cavalry movement.
- Complete the collecting and distributing network around the historical texture.
- Construction of the required parking complex at the border of Special Traffic Planning Area.
- Planning the flow of pedestrian movement as one of the main forms of movement especially in the western zone of historical texture.
- Access network planning special for crisis management
- Local network planning for key functions of historical texture with service-offloading function.
- Planning thematic modes special for tourism, pilgrimage and for connectivity to strategic arenas outside the region.
- The gradual exit of central traffic-generating functions from the central area and the historical region of the city and the functional refinement of the area with the purpose of controlling the traffic of historical area and moving through historical texture.

Determination of key objectives in the process of managing the development and renovation

The physical status and instability of existing buildings in the historical context suggest the need for restoration and reconstruction in this area. One of the objectives of the detailed plan is to pay particular attention to the revitalization of the area by facilitating its renovation and reconstruction process. To achieve this, the objectives of the plan are set out as follows:

- Establishment of an institution for the permanent restoration of the historical context
-To allocate the executive financial capacity of the municipality to:

- Infrastructure and utilities network with emphasis on a residential area
- reopening and create an access network:
- Public Access Network: Residential area
- Local Access Network: Market and Shah Cheragh
- Special Access Network: Support for crisis management in the region

Providing the historical texture with nonprofit services, of district and region scale.
- Planning for a serious presence of the private sector with the aim of providing a major part of the cost of renovation in the areas of:

- Functionality and refinement
- Creation of new cultural-leisure centers
- Development of the existing functions

Contextualization of security and space safety as one of the foundations of development through cross-sectoral management measures including:

- Directed strengthening of informal control and oversight bodies in the region
- Seriously establishing and strengthening the formal security and monitoring institutions in the region
- Development of cross-sectoral institutions and cooperation and coordination between effective institutions and organizations in the region.
- Contextualization of sustainable financial resources for the historical district municipality.

Determine macro policies and strategies to exit from the crisis

Basic orientation and main approach to present the programs and plans proposed for historical texture based on two basic principles:

- Resettlement based on spatial advantages and development and expansion of historical texture activities
- Increasing the competitiveness of the region and clarifying its position in to divide labor in Shiraz.

Over the past years, the historical texture has been evolving steadily along with the modernization, failing to achieve its goals in recent decades, and has contributed to decrease the development and to increase burnout of the historical texture.

To get out of this burnout cycle, the attitude and planning approach must be fundamentally changed. The various dimensions of this attitude change can be summarized as follows:

Changing the pattern of "City at the Service of History" to "History at the Service of the City" one

Generally, the totality of the city is affected by the historical area and some of its resources are spent on rebuilding and restoring the area. While this may not be conclusively claimed in Shiraz, the presence of a worn-out 300-hectares area with dozens of social and economic problems in the heart of a metropolis imposes costs on its macro-management. If we act wisely in planning to enhance the existing potential, we will see this move in 2 ways at not too distant future. It means that the historical texture alongside the identity and structural values that give Shiraz to strengthen its economic cycles and development, it will also contribute, and in turn, will be protected as a valuable jewel throughout the city. The macro vision of this plan is to strengthen the bilateral relationship between the city and the region.

Contemporization Continuance as a Process of Transforming Material and Spiritual Heritage into Material and Spiritual Wealth

The value and potential laid in the historical texture, used in various countries around the world, not only have not been applied in Shiraz but also costs a lot to their case maintain. Knowing this, we need to look for ways and solutions to utilize most of the available resources. One of the main trends of the present detailed plan is to provide new and reliable funding for the management of the area based on potentials and the historical-cultural values of the historical texture.

The essence and main policy of this historical texture modernization plan are to preserve its original spirit and functions. The aim is to breathe new life into the exhausted body of the historical texture that is extremely difficult, overwhelming,

yet especially delicate and sophisticated. This can be accomplished through a two-step process. As has been emphasized many times, the current status in all areas is critical:

- The residence is being declined;

- The market is heading to lose competitive opportunities;
- Religion lacks planned development facilitations;
- Side activities (especially tourism) are being developed cross-sectorally and without development capacity.

In this case, if we consider the future direction of the region as an axis, which can move in both negative and positive directions if the situation persists, the permanent death of the texture would be certain. And if the planned and purposeful measures are implemented based on the financial-management situation of the area, we can hope that the restoration of historical texture and, to a certain extent, spontaneous improvement and its development will be provided through urgent actions and implementation of life-enhancing plans. These programs and actions have downward impacts on the socio-economic field and, if they are able to raise the socio-economic level segments of the historical texture at least to a degree, its development path will be paved. This area requires the attention and cost of the public sector.

If the proposed measures are realized at a later stage, we can hope that the natural movement of the historical texture will be inclined from gradual improvement toward the realization of its conceived ideas and desires. The conceived ideals for the historical area (landscape) derived from existing or forgotten potentials and capacities are being planned, and achieving them is not unlikely depending on the determination of the public sector and the involvement of the private sector. As said, the beginning of revitalizing process in the historical area should be carried out at the expense of the public sector, but the continuation depends on the presence of the private sector, which should be carried out with the central and supervisory guidance and co-operation of public and state sector trustees.

The strategies are directions and general priorities that determine the achievement of the major goals and objectives of the landscape the best. In this regard, the main strategies of the plan are considered as follows with regard to the strategic problems and the main ups and downs of the scope landscape.

- Increasing competitiveness of historical texture, increasing spatial advantages over competing areas, as well as increase space supply and improve the quality of support services and infrastructure.
- Serious enhancement of the residential environment quality with the aim of realizing a sustainable community model through:
- Providing infrastructure
- Security
- Facilitating the micro-scale modernization process (housing sector) by changing a part of the social demographic structure
- Emphasizing on the simultaneous development in the main functions of the historical texture: residence - business - tourism - pilgrimage
- Strong emphasizing on the presence of the private sector while encouraging the internal forces of the historical texture to continue developing and providing a part separate from the costs of restoring the historical texture.

Functionalization of the historical texture, with the aim of revitalizing the social-cultural aspects in the city scale, and contextualization for the civil life flow.

- Maintain the surplus generated through the contextualization of residence and the formulating of complementary activities of core functions
- Changing the activity orientation of the historical texture towards functions consistent with the historical-cultural spirit
- Shifting the prospect from absolute protection to active protection and shaping the natural and spontaneous flow in the field of housing, activity and removing developmental barriers.

Determining the macro strategies for revitalizing the historic area

The most important and common challenge in the historical region is its gradual decline and burnout so that many parts of it became physically burnout and abandoned due to social burnout and stagnant. The macro strategy and orientation of this plan are Urban Renaissance with emphasis on changes in the structure of the activity. This principle can be achieved through the following strategies:

- creating Attraction, authentication, differentiation at city scale
- Overcoming artistic cultural aspects over other tendencies of intervention and restoration
- Physical-socio-economic contextualization of the environment
- Emphasis on the dynamics of urban spaces
- Cultural-artistic payback of the historical texture through an emphasis on shifting activity orientation (especially in the eastern and southern half) towards cultural.
- Leisure activities.

The emphasis on culture should be done as a motive to the regional economy. The impact of this will be very tangible on the future orientations of the operating system and new development capacities.

Macro strategies and approaches for resolving the housing crisis

Emphasis on residential development and upgrading of services and its supporting infrastructure with regard to unique historical texture capabilities (valuable history and body, spatial identity, social identity, tranquility of environment, pedestrian-based life, architectural richness and spatial qualities, etc,), will be realized if the facilities and capabilities of historical texture are also developed alongside their competing fields in the areas of facilities, services, infrastructure and most importantly social security. In this regard, two main strategies to improve the quality of housing and capacity of the residential environment should be considered to improve the renovation coefficient and to reduce the burnout flow in the area. The following actions must be done to realize each of these strategies:

- To improve the quality of accommodation
- Providing infrastructure
- Providing services
-providing Security
-changing social construction

Increasing the capacity of the residential environment

-Widening the roads
-Increasing the profit margin
-Modifying the construction pattern

Macro strategies and approaches for resolving the crisis in the field of activity

Given the current shortcomings as well as the conceived prospects for historical texture in economic activity and economic performance, the future orientations of activities in this area should be towards:

- The need for performance at Shiraz City scale with a focus on the city's current population of 120000 people.
- The need for specialized and basic areas that are capable of shaping the leakage and consequential effects.
- The need for activities with centralized performance in relation to the city.
- Need for activities that can deliver a complete cycle of production, supply, training, repair, and sales in a metropolitan arena.
- The need for a performance that has been shaped, based on the spatial advantages of texture
- The need for a performance to maintain its produced surplus in the historical texture
- The need for performances that are not centrally located in other areas of the city.
- The need for performance that can be concentrated in a zoning system in the western half of the historical texture.

It should be noted that today, the uneven development of activities in the historical texture has not only has little impact on the patterns of conservation and development of the texture but has also created major challenges along this path. For example, the market with frequent annual turnover and the high volume of traffic and population that attracts to the area causes unbalanced and disrupted residential cycles in the area and in return transfers the surplus money and capital generated to other urban areas. These (capital)funds stimulate construction activities in these areas, and in the face of historical texture become the residence of workers in the market, who are generally indigenous and are not only unaware of the value of historical texture but also are unable to renovate and repair their own home.

On the other hand, the urban economy makes available vacant and cheap shops suitable for activities that have nothing to do with the historical and cultural spirit of the area. What is found from the results of consulting studies and survey researches shows that the historical boundaries in the pattern of metropolitan work- sharing have inclined to the poverty-related services and not only has no benefit for the region but also reduce its prosperity and credibility. The third important and functional role of the studied area was the establishment of the Shah Cheragh shrine, which invites large numbers of people from all over the country, especially at religious occasions and festivals. For this reason, it also needs to develop and supply its own infrastructure, competing with market and housing according to current restrictions. The third major revenue-generating activity is the historical tourism area, which is generally restricted to visiting the Karim Khan citadel, the historical market, and other numerous historical and cultural sites and buildings remained unknown and unused. In this regard, the major capital and financial are attracted to the adjacent areas, and tourism activity is limited to short trips to the area. In a general summarization, we concluded that generally, the basic activities in the status quo of the historical texture lack the dynamics and effectiveness needed for its future development.

Given these conditions, the following macro strategies are suggested to revive and enhance the activity structure of the historical texture:

Improving the pattern of work -sharing with the city through:

- Consolidation of the pilgrimage role
- consolidation of business role
- Strengthening the historical-cultural –tourism role by emphasizing the dynamic nature and creation of conditions for production and service delivery

- Increasing the functional environmental capacity through:

- Increasing space through congestion
- Providing sufficient access
- Create functional synergy

According to the existing capacities and difficulties, there are limitations to increase congestion and to provide availability, but creating functional synergy, i.e the establishment of a set of complementary harmonious functions would be possible through planning measures.

Providing solutions and suggestions

- A preface to process and content of the solutions and suggestions section

Achievement and end result of collecting all available information and data that should pave the way for the future of the historical region to preserve and enhance its functions are defined in this section: Determining the arenas and methods of intervention in the historical texture, explaining the overall structure, spatial and physical structure of the region, zoning the land use pattern, proposing a constructing congestion in the historical-cultural area with respect to urban planning and restoration arenas, the basic pattern of functional-servicing centers system, adjusting and improving the traffic network, and providing communication structure of the complex are the most important issues in this section. In the last phase, according to the planning problems and objectives, the organization plans for different parts of the spatial and functional structure of the area are considered. From these plans, the basic structure of the proposed plans in the region that have the greatest impact in terms of socio-economic and functional impacts is presented in the physical section. Theoretical foundations and ideas derived from global experience yield three types of zoning, which are classified on the basis of the severity of the physical and functional problem in the various domains.

- Basic layout zoning

The following three steps have been taken to provide basic layout and primary zoning of the plan and identify the areas with the most physical and socio-economic problems:

Step One: Determine the synthesized layers

The principal layer analysis method has been applied to provide zoning that can explain the approach and method of intervention in historical-cultural texture. The following main layers have been analyzed in this process, and the arenas with the most social-physical problems have been identified:

- Social layer
- Demographic layer
- Functional layer
- Physical layer

-the earth structure quality layer

At this step, some variables that have the most impact on the analysis of each layer have been identified and analyzed. The variables used in this step include:

- Indicators determining the status of body and structure

- Life of the building

-Type of structure and construction technology

- Construction quality

- Indicators determining the land bed quality

- Formatting form the perspective of being organic

-Grading

- The Passage width
- Calvary accessibility
- Existence of renovation history
- Indicators determining the activity status

-Congestion of active unit

- Price of land
- History and amount of construction

-Building congestion

- Number of vacant shops
- Net activity infrastructure

- Indicators determining the quality of residence

- Outflow rate

-History of residence

- Afghan settlement rate

- The social harm rate
- The rate of dissatisfaction with physical issues

-The rate of the tendency to leave the historical texture

Step Two: Layers of integration pattern

In the second step, the four main layers have been compared with each other in pair groups and finally, the integration of the paired groups has resulted in two analytical layers for the quality of the social demographic structure and the quality of the land and buildings bed which is the most optimal combination of social, economic and physical indicators are in the studied area.

Step Three: Determining the chosen pattern for final integration

The final zoning to determine the intervention approach in the historical texture has been obtained by combining the demographic and social structure quality layers with the land and buildings bed quality layer.

This step yields three main areas as follows:

- Texture with the critical condition in terms of residence, activity, and body
- Texture with the critical condition in terms of the body, but non-critical in terms of residence and activity

Texture with the critical condition in terms of residence, but non-critical in terms of body and activity.

The intervention approach in the first arena is to improve a residence, physical and activity conditions. In fact, the first arena is the most critical and worn-out part of the historical texture that shows the worst situation in the study of all socio-economic and physical indicators. This area is the most impenetrable and impoverished part of the historical texture that is commonly used by non-native residents. The second arena has physical problems that are generally caused by impermeability and limiting criteria for Cultural Heritage Organization and municipality. The main purpose of dealing with these arenas is to facilitate the renovation criteria and to enhance the permeability coefficients, which are considered as the most important drivers of renovation if realized.

The third arena represents the conventional urban areas, lacking the valuable historical and cultural heritage, which are generally burned down due to inadequate proximity and poor financial power of the owners. The edges of the historical texture and the Moordestan districts and some part of the Balakaft district are in these conditions. The purpose of the intervention is to revitalize or inject activities, the economic return of which, given their potential, can also draw renewal to these arenas.

Step Four: Prioritizing of the planning and intervention in the historical texture based on the model

The purpose of using the analysis model is to determine the intervention approach and planning priorities. In this regard, based on the results of the previous steps, the priority of intervention in the region 8 has been obtained as follows, which will be planned and scrutinized in detail in the next steps:

- Priority 1: texture with the critical condition in terms of resident, activity, and body
- Priority 2: Texture with the critical condition in terms of the body but non-critical in terms of residence and activity.
- Priority 3: Texture with the critical condition in terms of residential and activity, and non-critical texture in terms of body.

Determining arenas and methods of intervention in the historical texture

Collection of social, economic and physical layers and results of analysis and examinations on one hand, as well as considering macro perspective and goals set for the region, on the other hand, identify the historical texture intervention pattern as follows:

- Absolute protection arena
- Renovation and restoration arenas
- Active protection, restoration and improvement arena
- Modernization arena, with preserving the historical spirit of the historical texture

As the proposed map shows, the degree of sensitivity and accuracy of the intervention patterns increases from the margin to the historical texture, so that the center of historical texture as the absolute protection arena, is undergone the least changes and interventions very carefully through presenting technical and justification designs. In this respect, a large part of the area that generally placed on its outer periphery is located in the renovation arena, preserving the spirit of the historical texture. The intervention method in this arena is conservation-sanitation measures, so that restoration of

the historical texture body, along with the development of accessibility and permeability, provided with consistency with historical texture sprit, can be conducted with the aim of responding to the demands of the day. In addition, if this pattern is realized, it can be hoped that the texture of considered districts will be contemporary and up-to-date and that a new spatial structure will be achieved. Depth of residential districts and historical passages also fall under the active protection - restoration and improvement- area. In this range, taking the local and subjective actions would be possible commensurate with the value and importance of the intervening area. Since the discussion on accessibility to the interior part of residential districts is a very important issue in this area, and in fact, the restoration of the housing system depends on it, it is necessary to revitalize the old (pedestrian movement) system with minimum accessibility (cavalry movement).
After absolute protection and active protection arenas, it would be the turn of renovation and restoration arenas, that require protective-sanitary measures. As the title implies, although preserving the historical texture, is important, given the extent of burnout and the multiplicity of existing destructions, capacity building for the creation of its texture renovation contexts, and partial provisions of accessibilities are of priority.

Principles of formulating the criteria for restoration and revitalization of the historical area:

Basic approach: Criteria setting
Basic Objective: The least change in the body of historical texture spaces and arenas, and the greatest change inactivity

The basic theory of design in formulating the criteria is:
-Planning for adaptive arenas:
- It refers to the areas that, with least change, are responsive to the greatest variety of activity.

Creating Flexible Areas:

- They are ready to make any changes to accept the new activity. Moving from adaptive to flexible areas is inherently in danger of gradually losing the structural value of the historical texture. The regulatory model must, in the course of development, preserve the structural features of the historical texture. In formulating urban planning rules, depending on different topics, the structure of the land and the contents of the structure are the two most important and influential foundations of the work process.

Structure concept:

A set of morphological features that are not found in other conventional textural arenas and areas of contemporary urban development include:
- Being organic and spatial richness
-Passage function and role
-vision and prospect
- proportions

Content concept:

Content refers to the building in the first step. A building, the content of which is valuable in terms of history and architecture, includes:
- Historical, registered, cultural value
- Form and pattern of construction

By examining the above items, the main differences between the approach and viewpoint of this plan to formulate the criteria of architectural and urban planning in the region, in comparison with the usual planning patterns, can be summarized as follows:
- Lack of function: it does not mean a lack of physical value, that is, the type of viewpoint and attitude is different in the field of reconstruction.
- Reconstruction: Allowing reconstruction is different from the need for reconstruction.
- Renovation and Improvement: Renovation and improvement are two of the most common regulatory decisions in the micro-scale restoration area.
According to Proposals of this plan, we should focus on improvement and renovations as leverages of protection. According to all of these and the stated principles, four main areas have been identified to formulate the criteria in the historical texture. The details of each and the type of action are as follows:

First Arena: The main skeleton of historical texture
-Type of Action:
-Absolute Protection, Improvement, Restoration, Reinforcement.
- We have no change in body and function.

- Space organization is maintained.
- Non-functional buildings in accordance with the spirit of the site and development goals are protected actively.

Second Arena: Accumulation of valuable works

Approximately these arenas have valuable artifacts in more than 50 units of area.
-Type of action: Active protection
-Valuable buildings, passages and adjacent buildings located in the physical frontage:
-Absolute physical protection, improvement and renovation, reinforcement
-Functionality- Case renovation
No-value buildings: precise renovation and restoration with preservation of space organization, height and existing proportions based on the necessary documentation
- Design of exterior wall and shell according to local rules and designs
- Changes in the body are at least possible.
-Displays only in the specific modes provided in the plan layout.
The purpose is to preserve and reproduce the volumetric image of the historical texture, the existing body and spatial values of the historical texture.
These special areas are valuable and unique examples, conservation of which is of priority.

Arena 3: Valuable structure

There are valuable structures in these areas, but the remaining buildings lack rich architectural values. The purpose is to preserve the organic structure of the historical texture.
-Type of action: micro-scale restoration and renovation
-construction conducted based on specific regulatory patterns (bilateral, tripartite, etc.), but it is not mandatory to work on these patterns.
- The passageways are widened so that the spatial concepts and resilience of the historical texture not to be harmed and the spatial structure is preserved. (Passage width; status quo: up to 6meters)
- Preserving resilience of historical texture
- preserving strategic visions
-preservation of consistent views of proportions is based on the human scale
- The criteria are planned very rigidly to form the wall. (Materials, design pattern, exterior shell architecture, extensions, elements, etc.)
These criteria are based on patterns of arena No.2.

Arena 4: Conventional urban arenas

They lack structural values and valuable architectural elements.
- Action Type: Renovation and Restoration
- Physical changes and widening will be done depending on the need for development. (Width of passage is between 4.5 to 8 meters)
- The regulatory pattern is consistent with R122 and R121 arenas (based on technical maps)
- Shell and wall criteria are relatively considered in terms of architecture and materials.

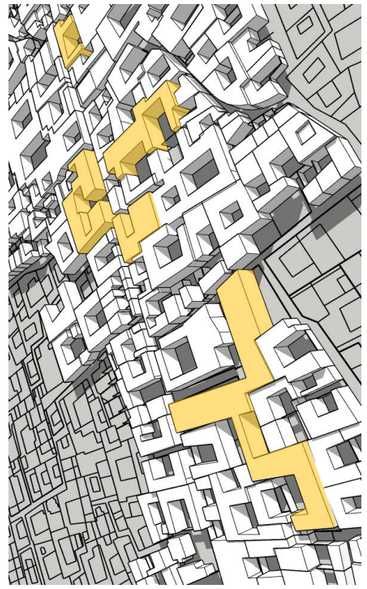
Appendix no.2

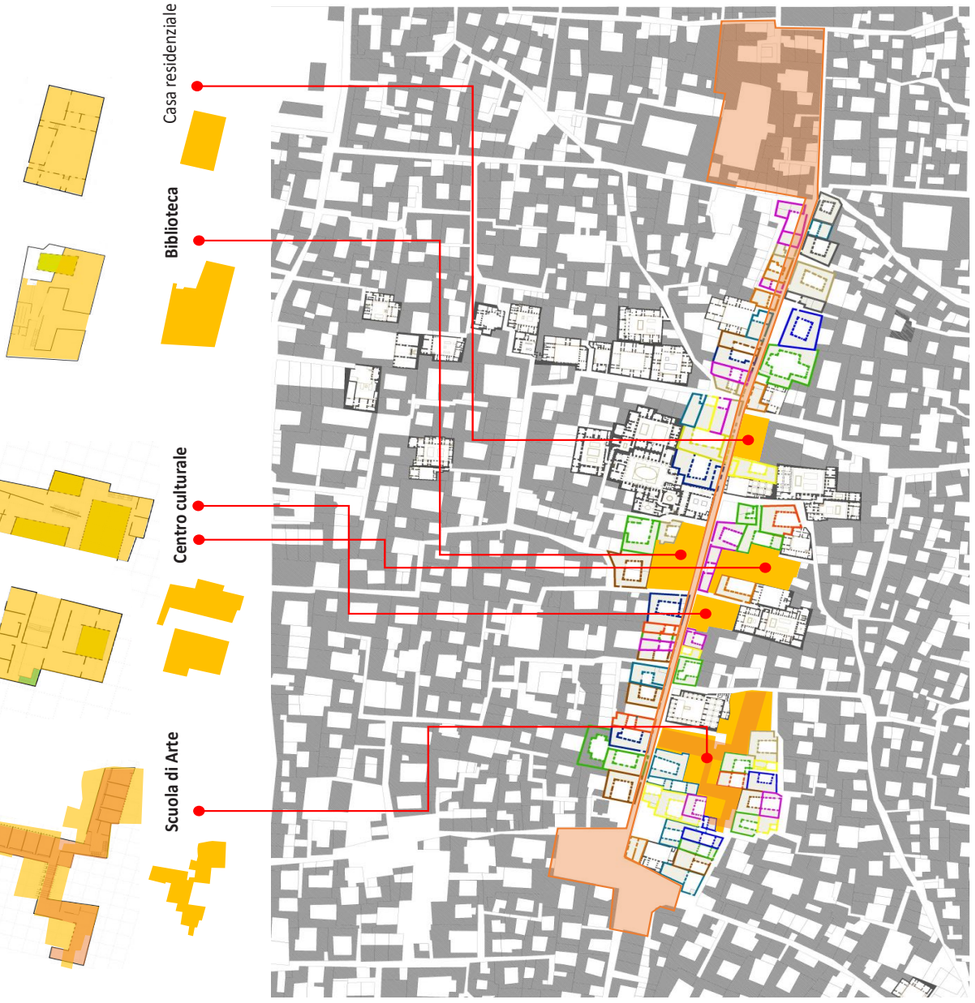
Examples of Design in the Historical Texture of Shiraz (Case Study - Haj Zinel Pass)

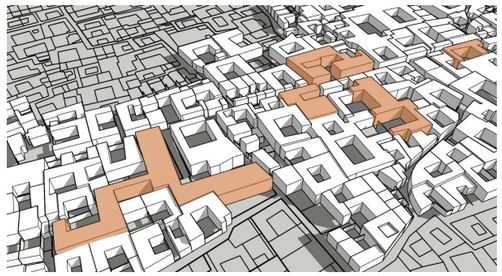
NOTES

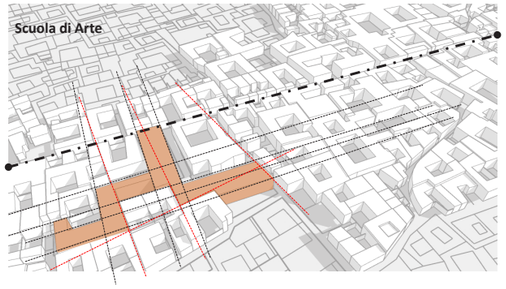
What would be presented in the following pages as examples of the application of “reading historical textures methodology”, and “building in the built space based on urban morphology and architecture language”, are just examples of this method. These examples are not practical and absolute and cannot be used as a definitive answer to the design options available. In these examples, it has been attempted to illustrate how the morphological information is aggregated and how the infill structure is formed. These will help the reader to better understand the results.

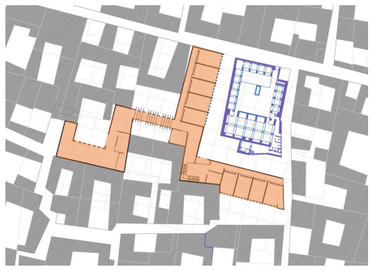
Obviously, designing of the infill structure in historical textures - as noted in this study - requires morphological studies, historical evolution and other influential parameters required by any practical project.

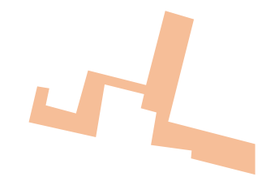


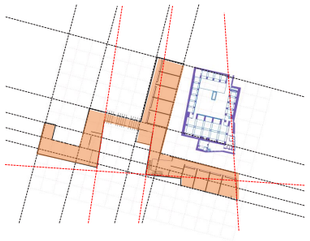








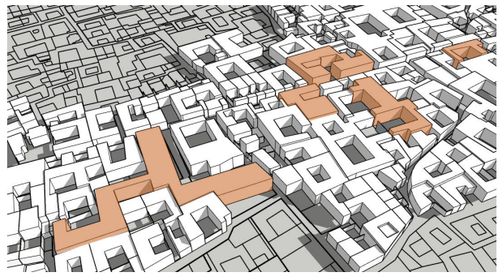


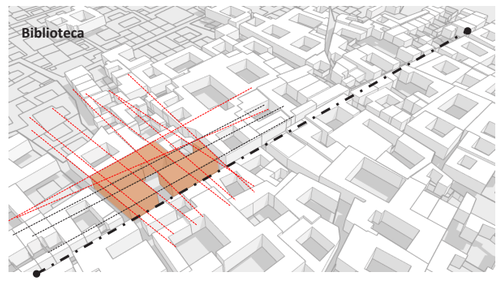


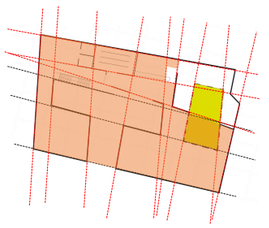
L'asse principale

Linee corrispondenti al modulo di trama urbana

Linea corrispondente alle linee di trama urbana



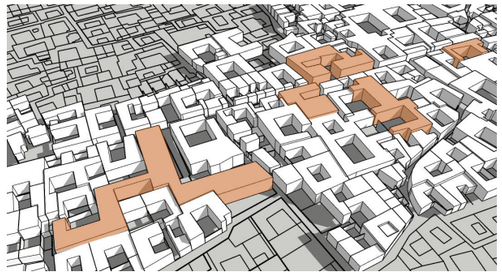


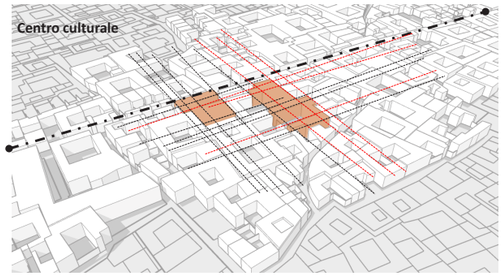


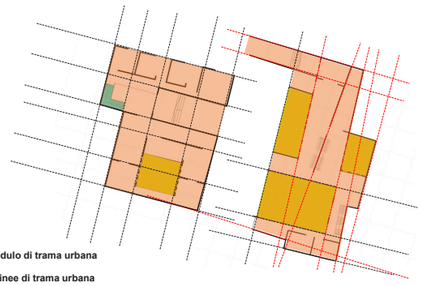
L'asse principale

Linee corrispondenti al modulo di trama urbana

Linea corrispondente alle linee di trama urbana







L'asse principale

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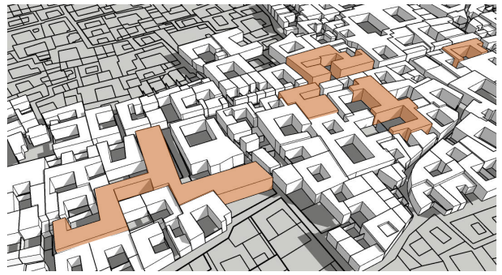
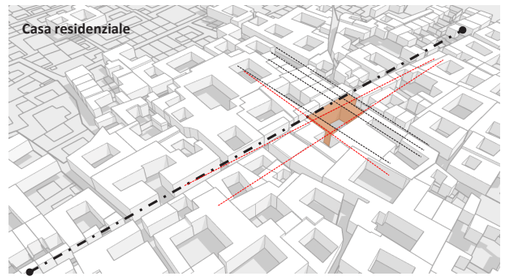
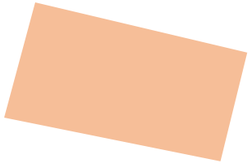
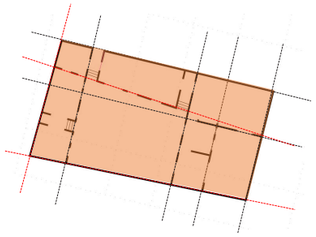








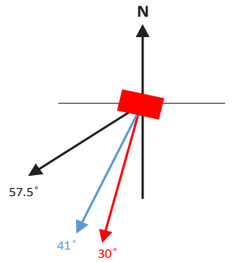
L'asse principale

Linee corrispondenti al modulo di trama urbana

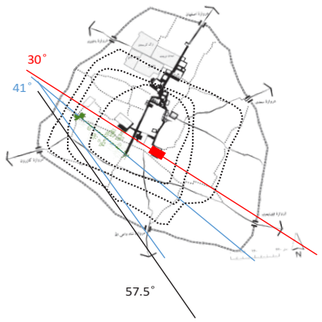
Linea corrispondente alle linee di trama urbana

Appendix no.3

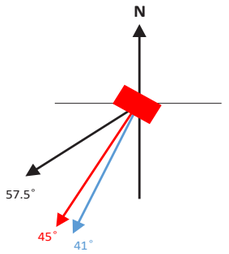
Establishing Shiraz at the current location 693



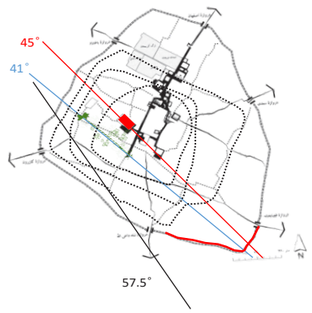
The angle of Qiblah in
Atiq mosque 30˚
Atiq mosque(central mosque) 894



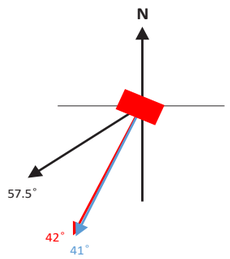
Alawites caliphate 864-928



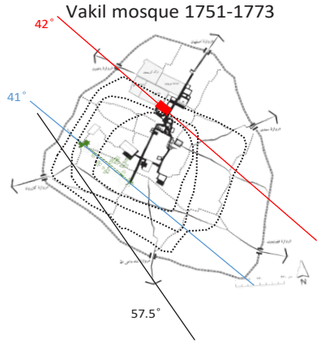
The angle of Qiblah in
New mosque 45˚
New mosque(Shohada mosque) 1218



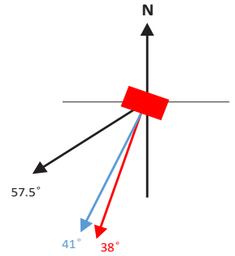
Salghurids dynasty 1148-1285



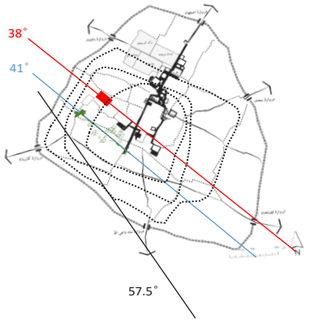
The angle of Qiblah in
Vakil mosque 42˚
Vakil mosque 1751-1773



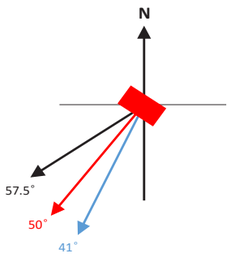
Zand dynasty 1750-1796



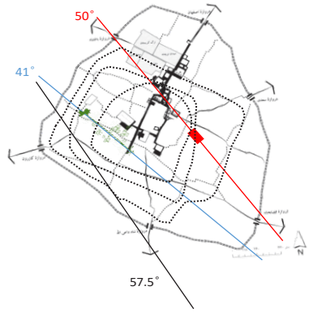
The angle of Qiblah in
Moshir mosque 38˚



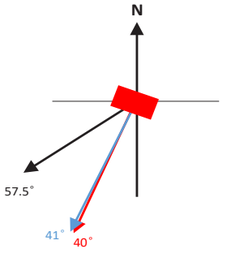
Qajar dynasty 1779-1924



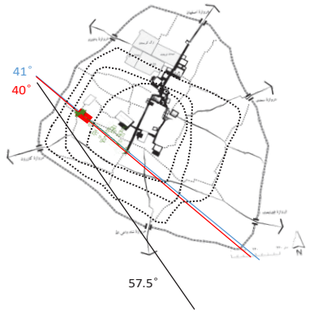
The angle of Qiblah in
Nasir ol molk mosque 50˚



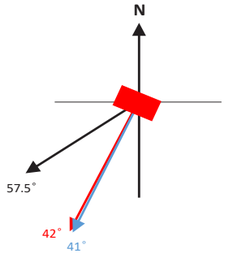
Qajar dynasty 1779-1924



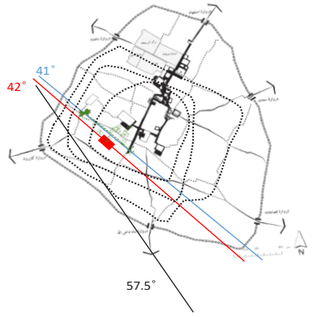
The angle of Qiblah in
Siavashoon mosque 40˚



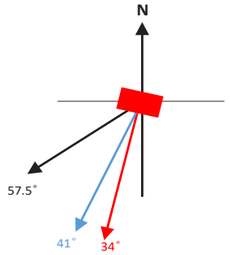
Qajar dynasty 1779-1924



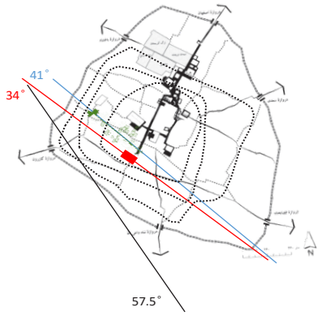
The angle of Qiblah in
Emam Ali mosque 42˚



Qajar dynasty 1779-1924

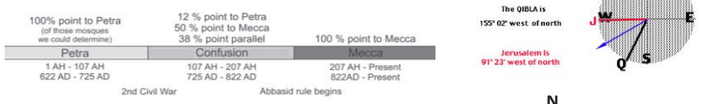


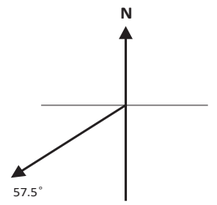
The angle of Qiblah in
Baghdadi mosque 34˚



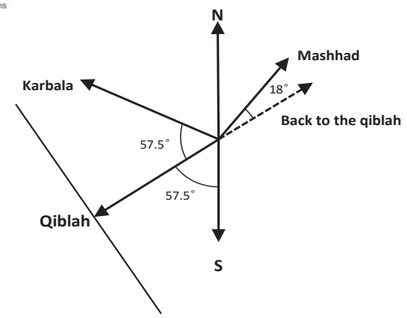
Qajar dynasty 1779-1924

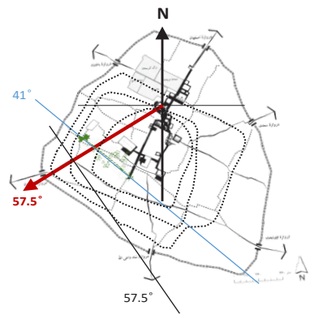
The Changing of the Qibla

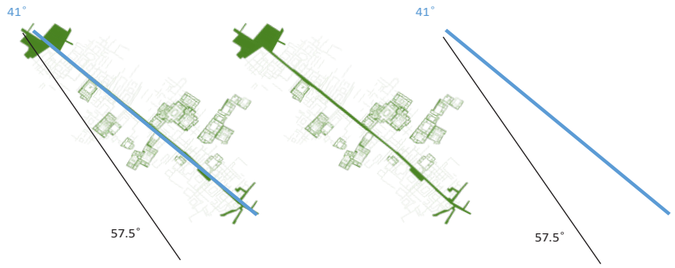




The angle of **Qiblah** in Shiraz 57.5˚







The selection axis for further study

With the study of urban morphology in the historical context of Shiraz, it has been determined that this urban texture has a morphology-specific, but diverse structure .In each section of this urban texture, different angles are chosen to orient the construction. An important part of this historical texture is the part that has a 45-degree angle to the geographical north. This axis, known for its contemporary local marketplace, is known as the “Hajj Zaynal” Pass. In this research, the axis was selected for further studies. By examining historical mosques in the historical context of Shiraz, it became clear that the orientation of the Qibla in each of these mosques is slightly different from the current direction of the Qibla in Shiraz. Although the Qibla orientation in the Shiraz mosques is slightly different from the exact direction of the Qibla, a number of historic texture mosques are aligned with the “Hajj Zaynal” study axis.

Based on the information obtained from historical studies, it seems that the change of angle in this axis is based on the alignment with the Qibla axis of several major mosques in Shiraz. Moshir Mosque, Vakil Mosque, Siavashun Mosque, Baghdadi Mosque, Imam Ali Mosque, and the New Mosque are among the mosques that are oriented toward the Qibla direction (Haj Zainal Pass).

Ali, Sokhanpardaz
A dissertation submitted for the degree of DPhil in Architecture and Construction
University of Sapienza
Department of Architecture and Project
“Feb 2020”

This research(As a dissertation of DPhil in Architecture and Construction) focuses on building in built spaces of historic cities - and specifically the historical texture of Shiraz in southern Iran – and attempts to read the historical texture appropriately and to find its constituent components as an organic and integrated urban texture, in the formation of which, various environmental and peripheral factors have played a role. Accessing to a clear picture of the formation method of Iranian historical texture – especially the historical texture of Shiraz - will help the formation of new elements -that have been designed and constructed in the historical context as replacing elements of the missing parts (degraded by many factors) –to have a regular process consistent with urban morphology and architectural language.

This research develops principles, according to which, building in historical texture of the city would be done, not only on the basis of the functional-physical needs but also on the need of unification between functioning with morphology and the physical body with architecture language.

Ali Sokhanpardaz