

Original Research Article

Façade Design Recommendations for New Constructions in the Surroundings of Valuable Urban Qajar Houses of Guilan ProvinceMojtaba Pour Ahmadi^{1*}, Tina Hadi Pour²**1. Assistant Professor, Department of Architecture, Faculty of Architecture and Art,
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Abstract

Problem statement: Despite repeated legal emphasis, during the last few decades, new constructions in the historical urban fabrics of Guilan province have generally been built without observing the necessary harmony with the historical architecture of these cities. The problem that the current research examines is what characteristics are recommended in the façade design of new constructions within the surroundings of valuable Qajar houses in the cities of Guilan province to reach visual compatibility between new and old facades.

Research objective: The present research aims to develop some design recommendations that seem to help to achieve visual compatibility between the façade of new buildings and the adjacent valuable historical buildings. This can be considered a step towards developing façade design guidelines for the relevant historical districts.

Research method: The current research uses a combination of interpretive-historical and logical argumentation strategies. Research data were collected from archival sources and field visits, including 74 valuable Qajar houses located in the cities containing registered historical urban fabrics in Guilan, consisting of Rasht, Lahijan, Langroud, Anzali, Amlash, and Roudsar.

Conclusion: By looking at the upstream regulations for the protection of the historical fabrics of Iran, placing the Semes' classification as the basis, and considering the specific realities of the research scope, the acceptable design approaches regarding the infill buildings were determined to include "literal replication" and "invention within a style". The "abstract reference" approach was also permitted in a limited way. By examining the character-defining features in the studied architectural samples, the headings of the façade design guide were determined, including eight titles as follows: Overall dimensions of the façade ;general composition ;openings ;the roof ;semi-open spaces ;gates ;materials ,coloring ,and decorations ;and the boundary wall .In the end ,a set of twenty façade design recommendations are presented.

Keywords: *Qajar architecture, Conservation, Historical urban fabric, Infill architecture, Façade design guidelines, Guilan province.*

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Introduction

The current research examines the issue of new constructions in valuable historical fabrics from the perspective of the development control system. In the statute of the Cultural Heritage Organization, the preparation of “specific architectural and design regulations” for construction within the surroundings of the registered buildings, collections, and historical sites is determined among the duties of this organization¹ ([Law on the Statutes of the Cultural Heritage Organization of the Country, 1988](#)). On the other hand, in the “Regulations for the Conservation of Historical Fabrics of Iran” regarding new constructions in historical fabrics, “the homogeneity of the pattern of the new building with the original types existing in the historical fabric and with continuity of the past” is emphasized. ([Council of Historical Fabrics of Iran, 2010, 10](#)).

Despite these legal emphases, the problem that the current research seeks to investigate is that new constructions in the historical fabric of the cities of Guilan province are generally built without observing the necessary homogeneity and harmony with the historical architectural characteristics of these fabrics, and as a result, the physical unity and integrity of these fabrics is being severely damaged ([Fig. 1](#)). Since 2010, when the boundaries of historical fabrics were announced for six cities of Guilan province (Rasht, Lahijan, Langroud, Roudsar, Amlash, and Bandar Anzali), drawing up and notification of specific construction regulations for these historical fabrics have been delayed. Therefore, among the various reasons that can be listed for the lack of proper protection of the historical fabrics of the cities of the province, the present research focuses on the lack of efficient design guidelines concerning the design of new buildings in these fabrics and intends to especially examine the design of the facade of infill buildings. In order to achieve the necessary harmony between new and old buildings in historical fabrics, various criteria must be formulated and enforced, such as criteria for the building coverage ratio and



Fig. 1. An example of the lack of proper protection of the area and surrounding of registered national monuments in Guilan province: the state of the Daryabeygi mansion in Langroud over time. Photo: Authors' Archive.

building placement patterns, the number of floors and permitted building density, setbacks, and the like. However, in the current research, based on considering the realities of the target community, the criteria for the design of the facade of new buildings located in the primary protection zone of registered buildings has been prioritized as the most urgent measure to protect the endangered historical fabrics of the province. The main question of the present research is: “For new constructions in the primary protection zone of the valuable Qajar houses to be designed in harmony with those works, what characteristics are recommended in the design of their facades?”

The present research is carried out in several steps. In the first step, a review of related scientific literature is carried out, during which the role and importance of design guides in historical fabrics in today's world are highlighted and an attempt is made to present a brief picture of the characteristics and methods of drawing up these guides. In the following, a general view of how to write a facade design guide for the historical fabrics of the cities of the province is drawn. In the next step, the urban Qajar architecture of this province is studied and an effort is made to identify the patterns and rules governing the facade design of these buildings. Then, an example of facade design rules and recommendations that can be used in a design guide for the desired textures is presented.

Research Background

Hover and Morrison (2012) present this brief definition of design guidelines: "Design guidelines are a preservation and redevelopment management tool used to help retain the historic character of a designated historic district". According to them, the use of these documents in conjunction with other measures to protect historical structures "help ensure that historic properties are protected and that new construction respects district character." (ibid.). It is usually stated in the design guides for historical districts that the infill building should be visually compatible with its historical context. Pointing out that "compatibility" is one of the variables that can affect the perception of order in the environment, Nasar (1994, 385) defines compatibility as "low contrast between elements or between the building and its surroundings". Usually, in the design guides for historical fabrics, an attempt is made to explain the compatibility of the new building with the historical context with the help of some variables or concepts and provide a more or less operational definition of it². To make a professional judgment about whether a new building is visually compatible with its context in terms of some criteria or not, it is necessary to carry out the necessary stylistic studies on the target context and the common "historical styles" in the area and their "character-defining features" (Nelson, 1988) should be identified³.

Preferred design approaches in facing a specific historical context are another issue that should be considered in preparing design guidelines. Deciding on this issue depends on the values, goals, and specific conditions of the related society. The difference of viewpoints of different stakeholders in the field of design in historical fabrics has been considered in some research. Gharebaglou, Nejad Ebrahimi, and Ardabilchi (2019) pointed out the difference in views and priorities of architects, urban designers, and restoration experts in this regard. Naeeni and Soheili (2019) observed in their research that while architects are more interested in the intentional opposition approach, urban

designers and restoration experts are more inclined to the approach of literal replication. In their article, Sotoudeh and Abdullah (2013) concluded that from the viewpoint of ordinary people, the approaches of literal replication and invention within a style are most popular.

In the publications related to important institutions related to the cultural heritage of developed countries, one can see a variety of approaches to the permitted or preferable ways of designing in historical fabrics. The Preservation Alliance for Greater Philadelphia (2007) uses the classification provided by Semes, according to which the architectural approaches that can be used in infill buildings are categorized as follows: 1. Literal replication, 2. Invention within a style, 3. Abstract reference, and 4. Intentional opposition. It is stated in this document (ibid, 30) that the first or second approach should be used for historical areas with a single architectural style, and in areas where a variety of architectural styles is seen, depending on the specific conditions, each of the first to third approaches can be used.

Today, in many associations for the conservation of architectural heritage, it can be seen that by looking from a designerly point of view, emphasis is solely placed on achieving visual compatibility between the new and old buildings, and less emphasis is placed on the manifestation of a certain set of stylistic and historical aspects (see: EH & CABE, 2002, 5; Historic Scotland, 2010, 5; NSW Heritage Office and RAI NSW Chapter, 2005, 3; English Heritage, 2008, 59). On the other hand, in many cities of the world, an imitative approach or the so-called "fake historic architecture" is promoted (Levi, 2005, 150)

Theoretical Framework

In the current research, trying to look at the problem from different perspectives of the related specialized disciplines (see: Naeeni & Soheili, 2019) is not evaluated to be a useful method. Instead, by considering the specific conditions and realities of the study area and the general goals of the conservation of historical fabrics, we can decide on the preferable

design strategies. Nasar, who looks at the issue of design review from the perspective of aesthetics in urban design, suggests “aesthetic programming” as the basis for writing design guidelines (Nasar, 1994, 377). Based on this point of view, in the current research, it is believed that concerning historical fabrics that owing to good conservation measures have preserved their historical identity well, it is possible to allow more free design approaches. Even, it may be possible to welcome exciting projects in Nassar’s term (see: Nassar, 1994). This image is far from the reality of urban conservation in Guilan province. In the historical fabrics of this province, which due to irregular constructions suffer extensive visual disharmony and their physical integrity and coherence have been exposed to complete destruction, it is better to emphasize visual peace and order in the environment. Therefore, regarding new buildings’ design, conservative approaches should be promoted.

It can be said that this view is in harmony with the general view of the upstream conservation policies of Iran. In the “Regulation on the Protection of Historical Fabrics of Iran”, thirteen principles are set as mandatory criteria in the formulation of protection and restoration criteria for the limits of the registered historical-cultural fabrics. One of these principles is about “the form and type of architecture and urban Patterns” (Council of Historical Fabrics of Iran, 2010). This principle emphasizes “maintaining and revitalizing the criteria, patterns, and proportions of the architecture of the context” and “the homogeneity of the pattern of new buildings with the original types existing in the historical context and in the continuity of the past” (ibid., 10). This approach is also emphasized in the publication 102 of the Historical Context Studies Working Group related to the Office of Preservation and Revitalization of Historical Buildings, Textures and Areas regarding urban development and regeneration projects (see: Historical Context Studies Working Group, 2017, 7-8).

By reviewing the experiences of drawing up

construction regulations in historical fabrics of Iran, it can be seen that the legislator’s approach to architecture in these contexts, while following the general regulations of the Ministry of Cultural Heritage, is a good match with approaches number one to three of Semes. In these regulations, regarding the design of the facade of new buildings, the use of local building materials and ensuring harmony with the nearby historical buildings is generally emphasized⁴.

Therefore, in the present research, regarding the unfavorable situation of architectural heritage conservation in the cities of Guilan province, only design approaches bound to specific historical styles (literal replication and invention within a style) are permitted for the major character-defining features of the facade of new buildings located in the primary protection zone of registered Qajar houses and regarding more minor elements, abstract reference is acceptable too.

Research Method

By examining the methodology of similar research on developing design guides for historical fabrics, it can be seen that the identification and classification of character-defining features in the historical architecture of the area plays a central role⁵. Based on this, to formulate the rules and recommendations of the facade design for the research area, several steps were taken as follows: First, the samples were studied to identify and categorize the character-defining elements and characteristics of urban Qajar houses in Guilan province. It is necessary to mention here that regarding the urban Qajar architecture of this province, contrary to what is observed in Western countries, there are no well-documented architectural styles in the relevant literature that can be used as a base in preparing the facade design guide. Therefore, in the absence of such stylistic references, it is tried to use the general characteristics of Qajar houses as the basis of the research. In the following, based on the classification of Semes (2007), and taking into account the conditions of

the research area, the acceptable design approach or approaches regarding infill buildings will be determined, in the next step the major issues of the design guide are determined, and finally, the content of the design guide, including architectural design rules and recommendations, is presented (Fig. 2).

To define the statistical sample of the current research, an effort was made to identify and gather information about a set as large as possible of valuable urban Qajar houses in Guilan province. The authors managed to get access to the required data from 74 Qajar houses in the cities of Rasht, Lahijan, Langroud, Anzali, Amlash, and Roudsar, which were duly used in the rest of the research (Figs. 3 & 4).

General character-defining features of the sample facades

In the current research, from the examination of sample house facades, it was concluded that the facade design recommendations should be arranged under the headings as follows: 1. General dimensions of the facade; 2. Overall composition; 3. Openings; 4. roof; 5. Semi-open spaces; 6. Gates; 7. Materials, colors, and decorations; 8. The boundary wall. Considering the variations in the way of building houses adjacent to the public thoroughfare (see: Pour Ahmadi, 2018; Pour Ahmadi & Dolatkah, 2020), in the present study, the main elements that make up the facades facing the road in the urban Qajar houses of Guilan are classified and named according to the following diagram (Fig. 5).

By studying the urban Qajar architecture of Guilan, it can be seen that some general principles governed this architecture. For example, we can refer to a principle that can be called the “ranking system for

the importance of subjects”. In the tradition of façade design in the urban Qajar architecture of Guilan, it can be seen that there was a specific system for prioritizing the importance of different subjects, based on which each physical element received its appropriate status. For example, it can be said that according to this ranking system, the inside is considered more important than the outside, the top is more important than the bottom, the entrance gate is more important than the rest of the exterior walls, the landlord is more important than the servants, and the guest is considered more important than the residents, and so on. Today, to infill architecture to be visually compatible with the Qajar buildings of its context, it is necessary to pay attention as much as possible to these principles in the design of facades and to create compatibility in this sense between new buildings and the old ones.

General dimensions of the facade (height and length)
One of the important factors in creating visual compatibility between the new building and the adjacent historical monuments is to pay attention to the height of the historical monument. In the regulations of the Cultural Heritage Organization of Iran, the maximum height of new buildings within historical-cultural fabrics is determined to be ten centimeters lower than the adjacent existing buildings (Historical Context Studies Working Group, 2020, 8). In the “Height Regulation for the Buildings of National Register in the Arena of Adjacent Properties (General Regulations)” (2020, 2) regarding buildings with sloping roofs, it is stated that the height of the roof of the new building should not exceed the height of the roof of the registered monument (Fig. 6).

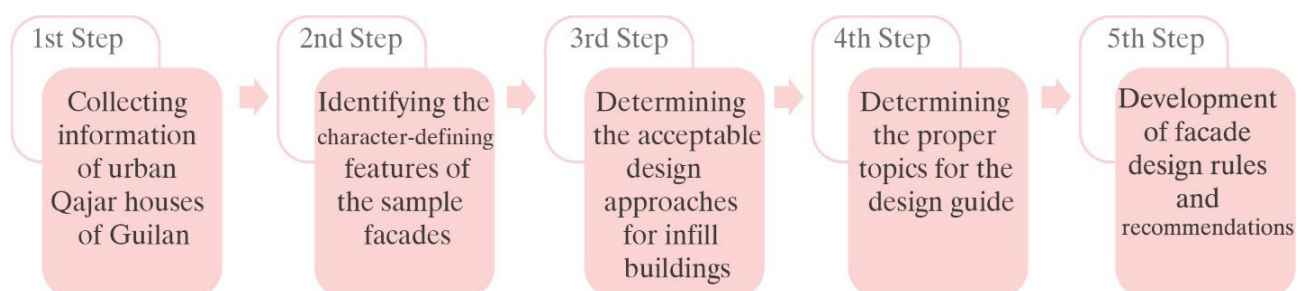
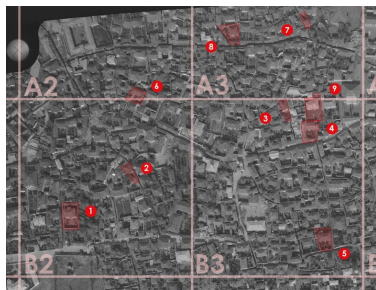


Fig. 2. Research steps. Source: Authors.



Fig. 3. The location of the cities and the number of sample houses examined in each city. Source: Authors.



No.	House Name/ Location
1	Saffari
2	Nowroozi
3	Afkaneh
4	Sami'ee
5	Mostashari Alley
6	Eshkevari
7	Savar Rakhsk
8	Sookhteh Tekyeh
9	Badi Allah Mosque

Fig. 4. The location of a number of sample Qajar houses in the area of Haji Abad, Badi Allah and Sukhte Tekyeh of Rasht city in the aerial photo of 1956. Source: Authors.

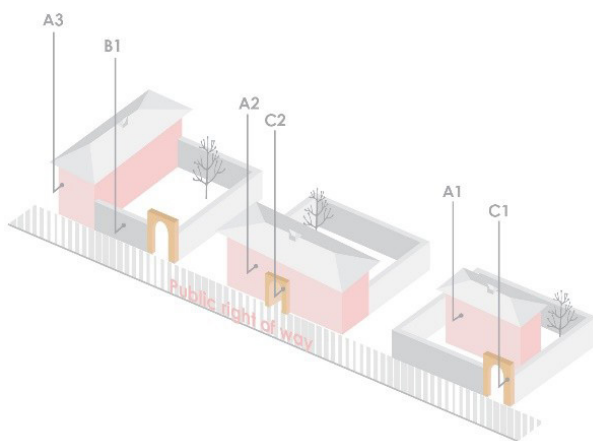


Fig. 5. The regulated components of the facade (A1: main facade facing the courtyard or the private facade, A2: back facade connected to the passageway, A3: side facade connected to the passageway, B1: boundary wall, C1: main entrance gate as separated from the building, C2: main entrance gate connected to the building). Source: Authors.

By examining the examples of Qajar houses in Gilan province, it can be seen that in terms of building height, these buildings had one to three floors (94% of the houses studied in the present

study were two-floor houses). In terms of the length of the facade of the building, no specific limit was found in the examination of the samples. Based on this, in the construction of a new building within the protected zone of a specific historical building, the maximum permitted height of the new building must be determined in accordance with the criteria mentioned above and based on field studies.

• The overall composition of the facade

In the urban Qajar architecture of Gilan province, usually, the most care is taken in designing the main or private facade (A1), and usually less sensitivity is observed in the design of other facades. Observations indicate that the main facade of the house is divided based on the main load-bearing walls. Depending on the number of parts of the building plan, the facade of the building could have a one-part, two-part, three-part, etc. composition. In this way, a clear reflection of the structure of the floor plan can be seen in the facade of the building (Fig. 7). Usually, the surface decorations of the piers visually emphasize this division.

It is worth mentioning that this pattern is usually visible only in the main or private façade of the building, and other elevations generally lack such legible organization. In the side or back elevations connected to the passage, usually, there is no trace of trying to create interesting visual order and special composition, and it can be clearly noticed that those façades are not the main façade of the building (Fig. 8).

• Openings

One of the very important character-defining features in the urban Qajar architecture of Gilan is its openings. A variety of openings can be seen in the Qajar architecture of this province, of which the orosi can be considered the most exquisite. Based on the “ranking system for the importance of subjects”, it can be seen that the most exquisite openings were used for the most important spaces, and more mundane openings were used for less important spaces and locations.

Most of the openings were used in the main facade

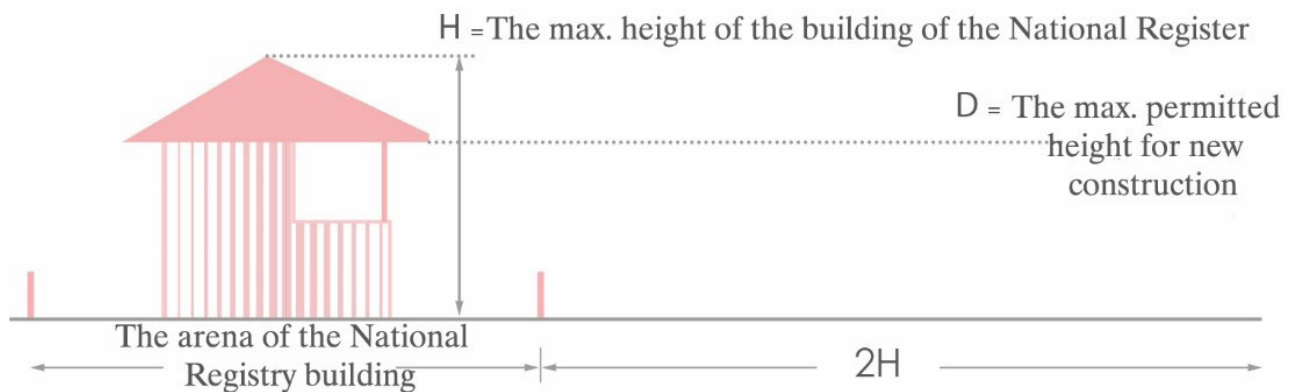


Fig. 6. The permitted height of a new building adjacent to a registered national building with a sloping roof. (Redrawn based on: Height Regulation for the Buildings of National Register in the Arena of Adjacent Properties (General Regulations), 2020, 4). Source: Authors.

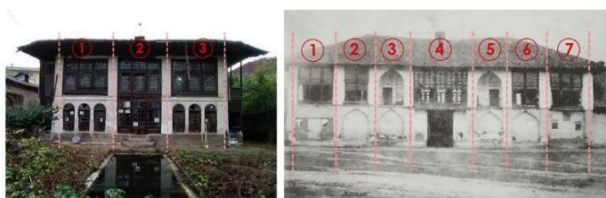


Fig. 7. Right: seven-part division in the facade of the Sardar-e Talar Tavileh. Source: Talebi, 2018; Left: three-part division in Nosrat Rahmani's house. Photo: Hossein Zarifi, 2023.



Fig. 8. Evident contrast between the private and public façade of Kiamousavi's house in Lahijan. The facade connected to the public way (right) lacks any decorations, while the private facade (left) is richly decorated. Source: Authors' Archive.

facing the private yard (A1) and the use of openings in other facades (A2 and A3) was relatively less. This issue is related to the introversion in Qajar architecture of Iran in general and a special type of introversion governing the urban architecture of Guilan province (see: Pourahmadi, 2020). The area dedicated to the openings on the ground floor was less than the area dedicated to them on the upper floor or floors. The most common shape of openings was a standing rectangle. Other shapes such as squares and lying rectangles have been used much less. The main material used in the construction of openings was wood, which depending on the type of opening could have glass surfaces with plain or colored glass.

• Roof

Examining the samples clearly indicates that the hipped roof with cantilevered eaves can be considered one of the most important characteristics of the architecture of urban Qajar houses in Guilan province. The amount of roof overhangs, or as it is called locally, the height of the "damaneh", reflects the local climatic factors and the specific conditions

of the building. The overhangs of the roofs are usually a place for local carpenters to demonstrate their skill and art and use wooden beams called "Shirsar", or "Sarshir" in the local term. These wooden elements can be single-stepped, double-stepped, or triple-stepped and in some cases, they are decorated with paintings. The decorated fascia in the front of the eaves was observable in a number of studied samples. Among the other elements related to the roofs of the houses was the access hatch to the roof, which is called "lujanak" or "lijanak" in the Gilaki dialect. This element is usually located in the symmetry axis of the facade and on the ridge. The chimney is another element that can be seen in the roofs of Qajar architecture in this province and it is generally made with brick, with a square section, and covered with roof tiles.

In the Qajar architecture of Guilan, the precipitation just spilled down the edges of the roof and there were not any gutters. This simple method may not be compatible with today's common construction methods. One of the other challenges of designing a hipped tile-covered roof in the historical context

is that nowadays the right of easement related to the cantilevered roofs, which was recognized in the olden days, has lost its legal stance. Therefore, the use of these features in today's construction requires some special legal support.

• Porches and balconies

Semi-open spaces played an important role in the architecture of Qajar houses in Guilan. From examining the samples, it is possible to see a variety of patterns of installing these spaces on the exterior surface of the building. The greatest diversity in the use of semi-open spaces can be seen in the case where the facade of the building faces the private yard and the semi-open space does not directly face the public space of the city (A1). The semi-open space could take the form of a deep or narrow balcony or porch (Pour Ahmadi, 2020, 155-159). This space could be built on the one side or several sides of the building, on the one floor or several floors of the building. Despite the high walls around the property, these semi-open spaces formed a part of the urban landscape in historical fabrics, and it is necessary to pay attention to the patterns related to them in the infill architecture (Figs. 9 & 10).

In the case where the building of the house is built to the passageway edge (A 2 and A3), the use of semi-open spaces in the façade facing the public passageway can be seen in a more limited way than in the previous case. This issue is related to the degree of introversion in the house. Among the studied houses, in 20% of the to-the-edge houses, semi-open spaces were observed on the upper floor in the form of open or enclosed balconies. If the building of the house is built on the corner of an intersection and has two passageway edges, the semi-open space can extend continuously on both sides of the building. Local decorations used in the construction of semi-open spaces, such as fences with various designs that were made with tooled boards, are considered one of the important character-defining features of these spaces (Fig. 11).

• Entrance gate

In the Qajar houses of Guilan, the gates were

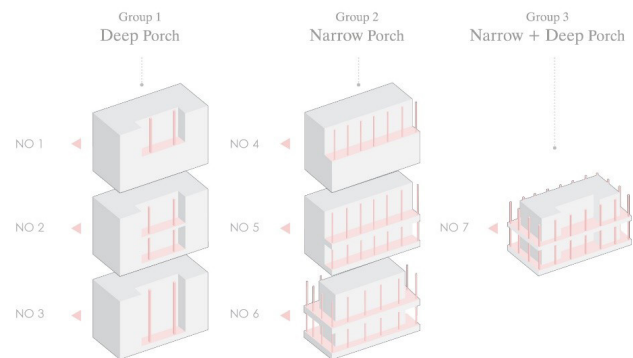


Fig. 9. Patterns of locating the porch/balcony in the house building (A1). Source: Authors.

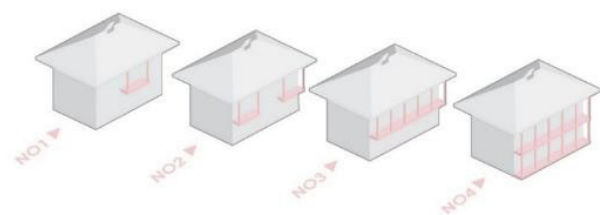


Fig. 10. Some patterns of the placement of the balcony in the main facade of the house. Source: Authors.

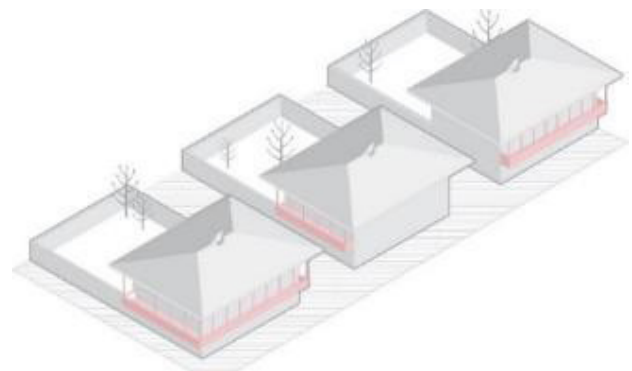


Fig. 11. Types of balcony construction in the public façade of the house. Source: Authors.

usually one of the elements that, unlike other external walls of the building, were not neglected in their decoration, and efforts were made to make them as visually beautiful and rich as possible. This can be attributed to the tradition of hospitality in Iranian culture specifically in Guilan province (see: Pourahmadi, 2019, 106). According to the conditions of the plot and the project, the entrance gate to the property could be located directly in the building of the house or it could be built separately in the boundary wall. In the gates that were directly connected to the house building, the position of the gate could be emphasized by building a balcony or

installing openings on the upper floor above the gate (Figs. 12&13).

• Materials, colors, and decorations

Commonly used materials in the facade of Qajar houses include brick, wood, plaster or a combination of plaster and lime, and tile. The use of “alvan” (color) tiles and painting has also been popular for facade decorations. In the facade of these buildings, the use of clay or clay-and-straw plaster is also observed in a few cases. The color range visible on the facade of the Qajar houses in Guilan is usually limited to the main color of these building materials, but it is possible to use other painting colors as well (Fig. 14).

• Boundary wall

The boundary wall in the studied houses is generally made of bricks. But it is also possible to build these walls with cheaper materials, such as a combination of brick and mud brick. The height of the walls has been subject to various factors such as the social class and status of the homeowner, security, climatic, and privacy considerations. Therefore, a variety of different heights can be observed in the boundary walls of the studied houses. The tile capping on the walls, in addition to protecting the wall from rain, has been a place for the growth of seasonal flowers (especially iris), which gave a special effect to these walls. The outer surface of the boundary wall is usually without any decoration. Limited brick decoration in the form of a zigzag or a torch handle pattern at the top of the walls is observed (Fig. 15). Apart from this, scarce examples of decorative brickwork and bonds can be seen on the outer surface of these walls. The boundary wall at the intersection of two passages usually has a chamfer which is executed in various dimensions and shapes.

Conclusion

To answer the research question, the paper attempted to first identify and categorize the character-defining characteristics in the facades of valuable Qajar houses in the province, and eight titles were identified in this context. After examining and



Fig. 12. Right: The gate of the Rastgoo-ye-Haghi house in Lahijan is located separately in the boundary wall. Left: The entrance of the Daryabeygi house in Langroud leads directly to the building. Source: Authors' Archive.

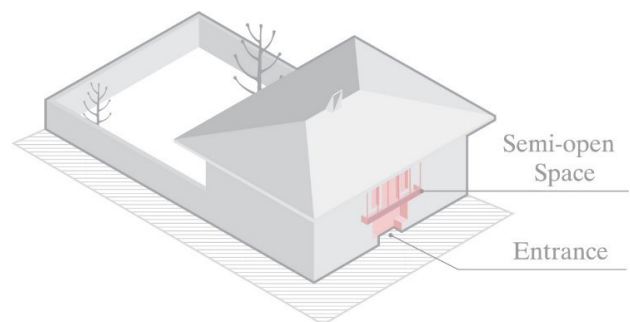


Fig. 13. The combination of the entrance gate and the balcony in the public facade of the building is one of the common patterns in the urban Qajar architecture of Guilan. Source: Authors.

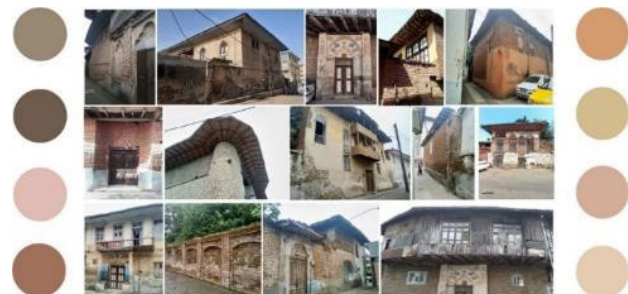


Fig. 14. An example of the common color palette in the public facade of the studied houses. Source: Authors.



Fig. 15. Examples of the boundary wall without significant decorations facing the public passage. Right: The Ghaemi house in Lahijan, Left: A house in Langroud. Source: Authors' Archive.

determining the acceptable design approaches to the identified elements and qualities, a set of recommendations and requirements for the facade design is developed as described in the table below. The contents of the previous part of the article can be referred to and used as a source for explaining the following articles (Table 1).

The present research while using the logical argumentation research strategy, claims that

compliance with the above recommendations and requirements can lead to the creation of visual compatibility between the facades of new buildings and the adjacent historical buildings based on the first to third approaches of Semes. Testing these results and possibly improving them can be the subject of future experimental research. Also, paying attention to the impact of intervening issues and factors, such as related administrative systems,

Table 1. An abstract of the recommendations for facade design for new buildings located in the protected surroundings of valuable urban Qajar houses in Guilan. Source: Authors.

An abstract of the recommendations for facade design for new buildings located in the protected surroundings of valuable urban Qajar houses in Guilan	
1. Building Height	
1.1. The height of the new building should not exceed the height of the adjacent historical building.	
2. Overall visual composition	
2.1. If the main facade of the building can be seen from the public passageway, the overall composition of the main facade is recommended following the Qajar partitioning pattern (one-part, two-part, etc. composition).	
3. openings	
3.1. In the side views connected to the passageway, the introversion limit of the new building should be determined in proportion to the introversion level of the adjacent historical buildings; In such a way that the introversion grade of the new building is not higher than that of the adjacent historical buildings.	
3.2. The openings used in the exterior surface of the building should be visually harmonious with the openings used in the adjacent historical buildings.	
3.3. It is necessary to comply with the Qajar ranking system of the importance of openings in the design and placement of openings (the use of the most exquisite openings for the most important spaces).	
3.4. In the façade of new multi-story buildings, the surface area dedicated to openings on the ground floor should be less than the upper floors.	
4. Roof	
4.1. It is forbidden to design the building roof as flat or with non-local forms in the protected surroundings of valuable Qajar houses.	
4.2. It is recommended to design the roof of new buildings as a hipped roof with protruding eaves covered with tiles.	
4.3. It is recommended to use local Qajar elements of roof design, including lojanak, Shirsar, chimney, and fascia.	
5. Semi-open spaces (porch and balcony)	
5.1. The use of semi-open spaces in the main facade of the building is allowed according to local patterns.	
5.2. In the side or back elevations connected to the public passageway, it is allowed to use semi-open spaces in accordance with local Qajar patterns, subject to compliance with related building regulations.	
5.3. If the entrance gate is directly connected to the house building, it is recommended to design a semi-open space on the gate according to local Qajar patterns.	
5.4. In the design of semi-open spaces, it is recommended to use local Qajar building elements and details (such as shirsar, fences, wooden columns and capitals, etc.) in coordination with the nearby historical buildings.	
6. Entrance gates	
6.1. In the design of the entrance gate to the property, it is recommended to use the traditional patterns of the gate design (tympanum, sloped roof, etc.).	
6.2. It is recommended to use traditional or similar construction materials and details in the construction of entrance gates.	
7. Materials, coloring, and decorations	
7.1. The color palette used in the facade of new buildings is required to be in harmony with that of the adjacent historical buildings.	
7.2. It is recommended to use local decorations on the facade of the building facing the public passageway.	
7.3. It is mandatory to use construction materials similar to historical examples in the external facades of infill buildings.	
8. Boundary wall	
8.1. The height of the boundary wall is determined in harmony with the adjacent historical buildings and should not be higher than the height of those buildings or their boundary walls.	
8.2. It is recommended to use local elements of wall construction such as tile capping, zigzag, and torch handle brickwork, and the like at the top of the boundary wall.	

economic considerations, etc. can be investigated in future research. In the end, it is hoped that with the urgent action of the General Directorate of Cultural Heritage of Guilan Province regarding the regulation of new constructions within the protected surroundings of the valuable Qajar houses of the cities of this Province, we will see an improvement in the conservation of the valuable historical fabrics of these cities.

Endnotes

1. Specifically, paragraph 12 of article 3 of the statute refers to this point.
2. For example, in the design guidelines for the Savannah Historic District, eleven specific factors are defined to help determine whether a building is visually compatible with its historical context or not (Chatham County-Savannah Metropolitan Planning Commission, 2011, 13-15).
3. For example, in the Ann Arbor historic district design guide, the types of architectural styles common in this historic district (including 10 architectural styles including Greek Revival, Italianate, Romanesque Revival, Queen Anne, Colonial Revival and...) are introduced and their character-defining features are described (Ann Arbor Historic District Commission, 2012, chapter 1). Then, in the chapter related to new buildings, after referring to issues such as setbacks, height, building form, roof shape, etc. it states: "When new construction is designed to reference and respect these features of surrounding historic properties, visual compatibility results" (ibid., page 7-2).
4. For example, in the regulations related to the historical context in the detailed plan of the city of Isfahan, it is stated: "Architectural plans of the buildings located in the registered historical area of Isfahan city and their protected surroundings should be in harmony with the historical buildings and the materials used in the facade should preferably be clay-an-straw, brick with white mortar joint, a combination of brick and harmonious materials" (Naghsh-e Jahan-Pars consulting engineers, 2011, 138). In the following, regarding infill buildings, it is stated that "during renovation or improvement operations, the walls and facades of plots adjacent to historical buildings should be implemented with traditional building materials and harmonized with the architecture of historical value" (ibid.). These requirements are literally repeated for Kashan city (see: Naqsh-e Jahan-Pars Consulting Engineers, 2017, 142). Similar requirements can be seen in the regulations related to the cities of Sari (Mazand Tarh Consulting Engineers, 2015, 508-519) and Tabriz (Department of Urban Planning and Architecture of Tabriz Metropolis, 2017, 8).
5. For examples of similar research in terms of methodology, see: (Pourjavadasl & Beyti, 2022) from Iranian context and see: (Stratford-on-Avon District Council, 2002 and Friedman, 2007) as international experiments.

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