AN INVESTIGATION ON THE INFLUENCE OF LANDSCAPE OF BUILDINGS ON CITIZENS’ PERCEPTUAL CHARACTERISTICS

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Abstract. The subject matter of environment and human has been among the most important arguments raised in Environmental Psychology, as expressed in macro, intermediate, and micro structures. This relationship may involve a wide spectrum of elements from a single building with its internal space to the surrounding site and finally to an entire urban structure. The influences imposed by the environment on humans and their perceptions are argued in either of three forms: determinism, libertarianism, and probabilism. The perception provides the first or say the most fundamental layer for recognition; in this respect, its precedence should be acknowledged over any other layer, e.g. cultural world layer and particularly the science world layer. One of the arenas where perception gains importance is the subject matter of urban landscape and the way it is designed to enhance cognitive perception of the audience in an attempt to raise such concepts as the sense of belonging, space cognition, and navigation. Since urban landscape can deliver, via visual senses, some information to the viewer’s mind and actuates his/her perceptions, it then can impact citizens’ perceptions of the environment, ending up with some changes in their behaviors. As such, it seems reasonable to explore such a relationship in the urban context. The present research looks for exploring the relationship and the influence of urban landscape and façade construction on citizens’ sensual and visual perceptions. For this purpose, the obtained theories and research models in this scope are subjected to content analysis and finally presented in a categorized form. Moreover, in this research, the research steps are taken by content-based classification and content analysis. Façade construction and urban walls can provide the citizens with such perceptions as the attractiveness and excitement of space, identity and sense of belonging, the amount of useful information, hidden discipline and representative flow, life on the streets, explicit delivery of function message, and urban diversity.

Keywords: perception, landscape, citizens, building façade.

1. INTRODUCTION

The subject matter of environment and human has been among the most important arguments raised in Environmental Psychology, as expressed in macro, intermediate, and micro structures. This relationship may involve a single building with its internal space to a surrounding site and finally to an entire urban structure. The influences imposed by the environment on humans and their perceptions are argued in either of three forms: determinism, libertarianism, and probabilism (Emamgholi et al., 2012:34).

Investigation of the roles of all human senses in the quality of the environmental landscape can end up with designs which tend to activate these senses, thereby enhancing attractiveness of the environment in his/her eyes (Dodangeh GhareAghajaghi and Mohammadi, 2016). The environment surrounding the humans are full of potential information (reality). Human being starts with perceiving part of this reality as actual information (objectivity) depending on the level of his/her physical and mental abilities. He/she then organizes some judgments based on his/her perception, and according to these judgments, develops an objectivity of the environment for him/her. Such objectivities serve as fundamental bases of our behaviors (Pakzad and Bozorg, 2012:45; adapted from Modiri and Noorolahi Oskui, 2014:78).

Since early 60s, the subject matter of environmental perception has gained attention and developed in different aspects as an inter-disciplinary field. Perception refers to the process of acquiring information from the environment surrounding the human; it is an active and targeted subject (Lang, 2007) and backs to the direct reactions exhibited by human senses to structures or forms (Nasar, 2011). Perception involves gathering, organization, and understanding of the environmental information (Carmona et al., 2003). Nasar (2011) believes that, three types of environmental perception theories have had ideas for urban design: human adaptability theory (people tend to adapt themselves to the level of dominant actuators); ecologic approach to perception (which recognize the environment as being composed of structure and significant actuators), and probabilistic functionalism (humans’ assessment of environment is associated with probabilities which always accompany physical characteristics of the environment (adapted from Feyzi and Asadpoor, 2013:110). Moreover, another important feature contributing into further perception of urban spaces in citizens’ minds is what is referred to as architectural forms and patterns. These forms not only are beautiful, but also deliver numerous senses and meanings. Form consideration is well exposed when it is observed that the existing state of the cities have resulted in visual turbulences across the environment, so that these turbulences tend to impose direct negative influences onto the viewers’ minds, ending with his/her non-presence (Kaboli Farschi, Gholampoor, Mabhoot, and Ahmadi Rastegar, 2013).

In general, there are two approaches to aesthetic evaluation of urban environment. Referred to as the superficial (objective) approach, the first approach recognizes the beauty as being inherent to the landscape. In this approach, it is believed that, those landscape which are created based on general aesthetic principles will be further perceived by people as beautiful landscapes (Scraton and Hospres, 2010:79; Rorty, 1990:83; Shuttleworth, 1979:14). The second approach to aesthetic evaluation of landscape is based on the viewer’s subjectivity and attributes the perception of beauty of a landscape to the individual’s mind and individual-related factors (Scraton and Hospres, 2010:79; Holm, 2006:342; Solomon, 2005:900) (Adapted from Aminzadeh Goharriz, Sharifi, and Forooghifar, 2014:74).

In general, there are three main types of movement in urban spaces and routes, which develop different environmental and mental conditions for perceiving characteristics of the surrounding environment and aesthetic qualities. These three types include: driving movement, walking movement, and movement via public transportation. Continuous mixing, combination, and translation of these three types of movement ends up with different spatial and perceptual conditions for the urban viewer who looks into the environment from different viewpoints (Mahdizadeh, 2006). However, what is recognized as a stationary body and influences citizens’ perception is the subject matter of urban bodies and landscapes.

Objective elements along with subjective concepts comprise urban landscape, and the objective face expresses the position for a newcomer into an urban area, while the objective and subjective faces serve the same role for the one who resides within the site. The indices and elements affecting the quality of urban landscape include: objective elements (e.g. façade, walls, urban furniture, penetrability, restrictedness, skyline, readability, land use mix,
diversity, consistency, etc.) and subjective elements (e.g., security, memories and events, sensual richness, sense of belonging, spatial identity, and social solidarity).

Various and different definitions have been proposed for landscape (see for example Lang, 2007; Taylor, 2006; Mahmoodi, 2006; Mansoori, 2003; Farjami, 2006; Golcar, 2006; Barak, 2008). In macro scale, landscape comes into play when the viewer views the entire city or an extensive part of that as he/she presents at a particular place. On this scale, urban landscape is specifically related to natural, cultural, and historical characteristics of the city, which refer to the general configuration, urban context and its order and deployment, building masses, main open spaces, color, skyline form, or highlighted natural elements (Mahmeli Abyaneh, 2011:96); in this research, the emphasis is on the urban bodies.

Since urban landscape can deliver some visual senses to human mind via the senses, thereby actuating his/her imaginations, it can impose influences onto the citizen’s visual perceptions of the environment, finally ending up with modifications in his/her behavior. As such, the possibility of exploring such a relationship within urban context seems to be reasonable. The present research looks forward exploring the relationship and the effect of urban landscape and façade-building on and with citizens’ sensual and visual perceptions. For this purpose, the existing theories and research models in this respect will be subjected to content analysis and presented in a categorized form.

2. RESEARCH BACKGROUND

Numerous research works have been performed on the effects of urban landscape and walls, some of which seem to be closely related to the present research, as detailed below.

In their research on the factors affecting the perception of the quality of public areas Mashhad, Lashkari et al. (2016) expressed that, when it comes to the perception of quality of public spaces, individual and social tendencies of the users are significantly and strongly related to the developed environmental perceptions (Lashkari, Rafiani, and Andalib, 2016:449).

In a research by Maleki and Ahmadi (2013) in order to investigate visual quality of urban landscape and face of Ilam city (Iran), urban façades, façade attachments, abandoned façades, skyline, horizontal and vertical lines, materials and balconies were recognized as the factors affecting visual quality of this city (Maleki and Ahmadi, 2003:5-10).

Feyzi and Asadpoor (2003) undertook a research to examine citizens’ perceptions of façades of tall urban constructions, and presented four solutions to enhance the citizens’ perception of urban tall construction projects: A) further attention to innovative and creative aspects in physical design of the tall buildings, B) the use of materials with diverse and creative compositions and colors in façade design, C) visual harmony with natural and physical context of the city, and D) preserving understandable meanings and concepts and identity of tall buildings and avoiding meaningless and identity-less constructions (Feyzi and Asadpoor, 2003:107).

Results of the research by Faraj-Mohammadi and Eskandari (2012) shows that, strengthening the links between the three arenas of aesthetics (e.g. color, form, and elements), i.e. regulations and procedures for monitoring and intervention of design and maintenance of constructional façades by urban management, and the interactions among thoughts in urban design, architecture, landscape architecture, urbanism, environmental psychology, and people’s perception in relation to proper insight into construction façade, finally ends up with enhanced environmental quality and improved urban face and landscape (at local level to urban level and special buildings) (Faraj-Mohammadi and Eskandari, 2012).

Results of another research by Sayafzadeh, Mirei, and Nude Farahani (2013) indicated a significant correlation between the two variables of spatial identity and urban landscape quality, so that these variables respond to an increase/decrease in one onother (Sayafzadeh, Mirei, and Nude Farahani, 2013:29).

In their research on the perception of urban symbols and their effects on urban landscape, Torkashvand and Majidi (2013) found that the aforementioned criteria can be divided into two main categories: distinction to the surrounding context, and common implication among users (Torkashvand and Majidi, 2013:2013).

Rashnofar and Sadeghi (2015) stipulate that different elements can affect citizens’ identity and social affairs in relation to the urban spaces. Of the most important one of these, one may refer to urban symbols which are used in urban architecture and landscape (Rashnofar, Sadeghi, and Arefi, 2015).
Based on the research performed on the influence of urban landscape and façade construction on citizens’ perception, one can stipulate that, comparing the results of this research to those of similar research works performed in Tehran can largely help extending the results to a theoretical consensus, so as to finally present a qualitative, comprehensive and consistent summary, which represents one of the specific objectives followed in the present research.

Table 1. Research works performed on urban landscape and citizens’ perception.

<table>
<thead>
<tr>
<th>No.</th>
<th>Researchers</th>
<th>Findings related to urban landscape</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lashkari et al. (2016)</td>
<td>There is a relationship between tendencies affected by individual and social characteristics of the users and perception of meanings of the constructed environment.</td>
</tr>
<tr>
<td>2</td>
<td>Maleki and Ahmadi (2013)</td>
<td>Urban landscapes, attachments, abandoned façades, skyline, horizontal and vertical lines, materials and balconies are among the factors affecting visual quality.</td>
</tr>
<tr>
<td>3</td>
<td>Feyzi and Asadpoor (2013)</td>
<td>A) Further attention to innovative and creative aspects, B) the use of materials with diverse and creative compositions and colors in façade design, C) visual harmony with natural and physical context of the city, and D) preserving understandable meanings and concepts.</td>
</tr>
<tr>
<td>5</td>
<td>Sayafzadeh, Mirei, and Nude Farahani (2013)</td>
<td>Spatial identity and urban landscape quality are significantly correlated.</td>
</tr>
<tr>
<td>6</td>
<td>Torkashvand and Majidi (2013)</td>
<td>Two factors play the main role in the perception of urban symbols: distinction to the surrounding context and common implication among users.</td>
</tr>
<tr>
<td>7</td>
<td>Rashnofar and Sadeghi (2015)</td>
<td>Importance of urban symbols in enhancing the citizens’ identity and social affairs in relation to urban spaces.</td>
</tr>
</tbody>
</table>

3. RESEARCH METHODOLOGY

Research methodology refers to the means or ways to determine how a research statement can be either confirmed or rejected; that is, research methodology provides a framework for operations or exploratory actions to achieve the research goal in terms of testing the research hypotheses or addressing the research questions (Bazargan, Sarmad, and Hejazi, 2006).

3.1. Data gathering method

Knowing that research methodology is always a function of the research subject, considering the subject of the present research, a main approach has been followed for data gathering: library and documentary method.

3.2. Research methodology

In the present research, a qualitative methodology is used following a descriptive – analytic approach, with the data been gathered via library searches and field surveys. In this methodology, note-taking serves as the main research tool, so that the researcher referred to a set of pre-identified references to take notes of important and required information together with details of the used references. Following with the research, the researcher used, as research tools, observation and interviews in the environment. Finally, the gathered data were subjected to qualitative content analysis (Statistical Yearbook, UNESCO 1998:116).
3.3. Research variables

The considered variables in the form of a conceptual model along with a description of the variables examination and measurement are presented in the following:

A. Dependent variables included:
   - Citizens’ perception

B. Independent variables included:
   - Physical face
   - Buildings façades, and
   - Urban body

3.4. Research questions

In order to undertake the present research, we began with raising some questions about the subject under study, so as to develop the research on the basis of these questions and achieve the goals. These questions are as follows:

- What role is played by urban body and face in the formation of citizen’s perception?
- What impacts do buildings façades and urban walls impose on citizen’s positive and/or negative perceptions?

4. FINDINGS AND DISCUSSION

4.1. Relationship between façade construction and citizens’ perception of urban environment

There are two main concepts in an urban space: urban landscape, which is seen physically, and urban face, which refers to the influence of urban space on people’s minds – a direct effect of façades of buildings. Strengthening the links between the three arenas of aesthetics (e.g. color, form, and elements), regulations and procedures for monitoring and intervention of urban management in design and maintenance of constructional façades, and the interactions among thoughts in urban design, architecture, landscape architecture, urbanism, environmental psychology, and people’s perception in relation to proper insight into construction façade is important and finally ends up with enhanced environmental quality and improved urban face and landscape at local to urban level and special buildings (Eskandari, 2014).

Investigation of different conceptual theories indicates some general concepts. Perception is neither a purely passive process nor a strictly creative one.

The principle of perception priority: The perception provides the first or say the most fundamental layer for recognition; in this respect, its precedence should be acknowledged over any other layer, e.g. cultural world layer and particularly the science world layer (Spielberg, 1969: 544). Sensual perception is not an act, but rather a context from which any act may arise. Merlopioni believes that, neither the denial by empiricist nor the one by rationalists could acknowledge the involvement of body in perceptual experiences (Piravi-Vanak, 2010:95). Sensual perception does not express itself as an event to which one can attribute casualty (the same: 96). Perception is a multi-basis concept and movement plays role in environmental conceptions. Based on their experiences, people learn to distinguish between general elements and fine details of environmental phenomena. The way humans see an environment is based on their attitudes and prior experiences, so that the assumption that perception is solely determined by external motivations is doubtable. In addition to the theories presented on perception, various dimensions have been recognized for the perception so far. For example, Eitelson (1978) has recognized four different dimensions of perception and believes that these four dimensions act at the same time. These include sensual, cognitive, interpretational, and valuation dimensions (Bibak Sereshkeh, 2015:5).
Façade of urban bodies, as building blocks of the urban face, restrict urban spaces and can provide citizens with a pleasant environment by creating diversity along with harmony.

When it comes to external façades, not only aesthetic concepts, but also such things as technical specifications and stability, environmental aspects, and also socioeconomic features are of importance and highlighted positions and contribute largely into the utility and enhanced visual and technical qualities of urban face (Ha’eri, 2014:1).

A research by Tazieh et al. (2015) shows that, the further the height-code differences between buildings along the same horizon line, the further will be the irregularity across that horizon line, further complicating the perception of that urban landscape for citizens (Tazie, Sheykh, and Sepehrifar, 2015).

Furthermore, lateral faces comprise the volume of external skin of the building; the principles of proportionality and harmony (which are among the most fundamental architectural principles) must be observed across this face which somehow presents the building and its function. Comprising the building, these surfaces are recognized as parts of urban landscape, and the lines delineating these surfaces form some segments of the urban skyline, so that, being exposed to viewers, these surfaces should be in harmony with and proportional to other surfaces and carry some details and information for the viewers’ minds. It can be stipulated that, firstly and most importantly, streets are expected to be readable, easily perceptible, and provide a dynamic and comfortable space for a viewer to attend at them (Jafari and Ramezani, 2013).

Moreover, with three dimensions (sensual, cultural and ecologic) (Sheybani, 2010:20) (adapted from Tazikeh, Sheykh, and Sepehrifar, 2015), urban landscape presents a novel type of floating urban identity which is directly related to the perception.

The visual dimension is also an influential dimension of buildings across a city and plays an important role in urban views. The followings are some of the most important criteria used to evaluate visual effects of tall constructions (LVMF, 2009):

1. Scale, grading, and volume of the building in relation to urban landscape
2. Manifestation and materials (including texture, color, scale, etc.)
3. Effect of skyline
4. Blockage of landscapes or any disadvantage to front frames or symbols
5. Help forming view corridors toward front frames or symbols
6. Visual harmony and relationship with the surrounding environment
7. Effects at night/lighting and its impacts on the surrounding environment and symbols (Karimi, 2012:75)

4.2. Investigation of the effects of citizens’ perception of urban landscape at the city of Tehran

Considering the fact that wall forms play the main role in urban space and citizens tend to start with considering the building forms once they visit an environment, then it is necessary to provide them with an appropriate mental image of the environment, and this can be achieved if the space is of adequate vitality and diversity. Urban environment and spaces shall be capable of meeting citizens’ needs, because the appearance of physical body of urban space affects individuals’ subjectivities. Once a human observe a thing (environmental form or pattern), he/she begins with developing a particular subject within his/her mind,
without knowing that thing, and then combines this mentality with his/her previous experiences to come with a particular attitude toward that thing. That is, humans begin with objectivity, then arrive at subjectivity and finally end up with some sense. For example, once a newcomer enters a new city, since he/she has not seen the city before, he/she starts to view the city through his/her eyes, without any subjectivity regarding the city in his/her mind. However, he/she always keeps some experiences of the places he/she visited in the past. As such, these experiences affect human’s mind (Davari Nejad Moghadam and Rahimian Moghadam, 2016:10 and 14).

In the following, examples of the effects of façade construction and urban landscape on citizens’ perception from the viewpoints of theorists; in some cases, the façade construction has been manifested on walls in the form of graffiti.

Table 2. Indices of perception of urban façade construction – case study: Tehran.

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Citizens’ perception</th>
<th>Façade constructi on quality</th>
<th>Distinct</th>
<th>Citation</th>
<th>Photo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel (1998)</td>
<td>Perceptions of personal and social meanings of the space</td>
<td>Transcendence and plasticity</td>
<td>Distinct</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Czech (1991)</td>
<td>Perceptions of identity and sense of belonging</td>
<td>Sense of belonging</td>
<td>Use of color and distinction with repeating element patterns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rogers (1995)</td>
<td>Perceptions of the amount of useful information</td>
<td>Permeable complexity</td>
<td>Perception of various architectural and physical elements with regard to the façade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modak (1995)</td>
<td>Perceptions of the sense of the flow of life through streets</td>
<td>Discipline in regularity</td>
<td>Use of various architectural patterns with various façades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Venturi (1997)</td>
<td>Spatial definition of functional message</td>
<td>Explicability</td>
<td>Freedom of the façade in providing the religious significance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bahmani (2010)</td>
<td>Perceptions of diversity across the city</td>
<td>Diversity</td>
<td>Use of mass and space, lack of excessive decay which has ended up with spatial diversity</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Continuing with the research, based on the performed studies, the following solutions can be proposed to enhance citizens’ favorable perception of façade construction and urban landscape:

Table 3. Proposing design solutions regarding urban façade construction based on field surveys.

<table>
<thead>
<tr>
<th>Perceptual effects of façade construction</th>
<th>Variables related to façade construction and urban landscape</th>
<th>Perceptual effects on citizens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfaction with the environment</td>
<td>• Combined urban landscape within the scope of façade construction</td>
<td>• Mental security should be related to the width and proportions of alleys and streets, and physical factors along the façade construction margin so as to have it not too imbalanced.</td>
</tr>
<tr>
<td>• Absence of visual disturbances in the vicinity of the façade</td>
<td>• Background buildings in the vicinity of façade and wall</td>
<td>• Environmental attractiveness of margins of façade construction should take part in satisfying citizens with its role, and these two shall be combined using green elements and appropriate urban furniture.</td>
</tr>
<tr>
<td>Promoting social interactions</td>
<td>• Presence of gathering spaces such as urban furniture to pause in the façade surroundings</td>
<td>• Usefulness in façade construction is necessary, for example, to manifest a particular usage or event.</td>
</tr>
<tr>
<td></td>
<td>• Infatuation and social actions in the space in the vicinity of the façade</td>
<td>• It is necessary to have related activities and physical bodies alongside the façade to promote citizens.</td>
</tr>
<tr>
<td></td>
<td>• Availability of main roads and pathways for people via which to attend at the green way, and for increasing interactions among</td>
<td>• Type of activity and cultural and age diversity of citizens affects the utility of these façade constructions in terms of the ability to establish life and vitality in different aspects.</td>
</tr>
</tbody>
</table>
people and enhance the effect of façade on them.

<table>
<thead>
<tr>
<th>Sense of security</th>
<th>Effect of façade construction on simple routing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Presence of places in the vicinity of façade to spend relaxed and safe hours</td>
<td>- The use of important nodes, symbols, edges, and walls along the margin of façade construction to provide orientation and attract attention to the façade</td>
</tr>
<tr>
<td></td>
<td>- Possibility of visual penetration into the façade construction area and surrounding zone</td>
</tr>
<tr>
<td></td>
<td>- Location of façade building at intersections and spaces where one can pause.</td>
</tr>
<tr>
<td></td>
<td>- Use of lighting and highlighting the place wherein the façade is located.</td>
</tr>
<tr>
<td></td>
<td>- Possibility of nighttime activities and public traffic in the vicinity of the façade.</td>
</tr>
<tr>
<td>• Presence of moral security along wall margins</td>
<td></td>
</tr>
<tr>
<td>• Effect of façade construction on simple routing</td>
<td></td>
</tr>
<tr>
<td>• Development of a sense of belonging and attachment</td>
<td>- Some factors affect the sense of attachment to the place of the façade, as follows: location of the place, functional factors, environmental factors, and aesthetic factors</td>
</tr>
<tr>
<td>• Individuals’ tendency toward attending at the wall side</td>
<td>- Identity and history of the location wherein the façade is designed plays an important role in reducing or increasing the sense of attachment to the façade.</td>
</tr>
<tr>
<td>• Tendency toward stepping at the wall side</td>
<td></td>
</tr>
<tr>
<td>• Cleanliness and health within the scope of façade and wall</td>
<td>- The use of meaningful signs in the vicinity of the façade or the use of local cultural elements contribute to its design.</td>
</tr>
</tbody>
</table>

5. CONCLUSION

Facade of each building contributes to the formation of the urban complex within which it is located. If façade of any building is considered in isolation from the façades of other buildings across the city, harmony of the urban landscape will be lost. The contradiction between individual urban aspect and individual manifestation of the façade may be addressed if the building is seen as a part of the city with multiple relations to the surrounding environment. Since the objective is to address the research questions, the findings are presented in terms of the relationship and effects of the two main research variables:

According to the findings of this research, one can stipulate that, façade construction and urban walls can provide the citizens with such perceptions as the attractiveness and excitement of space, identity and sense of belonging, the amount of useful information, hidden discipline and representative flow, life on the streets, explicit delivery of function message, and urban diversity; and this is only part of such behavioral effects in the audience, as extracted from experts’ opinions and classified in this research.

In the final part of this research, some factors were identified from field surveys, including satisfaction with the environment, promoting to social interactions, sense of security, and sense of attachment to the environment which are boosted in citizens directly via façade construction and graffiti.

For future researches, researchers are recommended to translate the model proposed in the present research into a questionnaire, distribute it among citizens, and present quantitative and accurate reports on the results. Such a questionnaire can be distributed separately among different clusters of citizens and experts, so as to undertake a comparative study.

Of the limitations faced in the present research, one may refer to the difficulty of accessing all of the related research works performed so far, many of which were theses which are not cited here and only related textbooks and papers were cited.

REFERENCES

Barak, Augustin (2008), Landscape, place, history; translated by Maryam-al-Sadat Mansoori, Bagh-e-Nazar Magazone, No. 9.


Bibak Sereshkeh, Seyed Fa’ezeh, 2015, Role and importance of building façade with urban walls and its effects on citizens, International Conference of Civil, Architecture, and Urban Infrastructures, Tabriz.


Holm, Ivar (2006). Ideas and beliefs in architecture and industrial design, Oslo: Oslo School of architecture and design.


Kaboli Farshchi, Seyyed Amir; Mohammadreza Gholampoor, Mohammad-Reza Mahboot, and Ali Ahmadi Rastegar, 2013, Analysis of the effect of architectural patterns and forms on citizens’ perception of urban spaces – Case study: Sajjad Street (between Bozorgmehr Intersection and Bahar Intersection) National Conference on Architecture, Urbanism, and Sustainable Development, with an emphasis on “from local architecture to sustainable city), Mashhad, Khavaran Institute of Higher Education.

Kalen, Gordon, Summary of Urban Landscape, Translated by Manuchehr Tabibian, Tehran, University of Tehran Pub.


LVMF (2009), London View Management Framework.


Mire, Mohammad and colleagues (2012). Pathology of urban face and landscape in Tehran and proposing a reorganization plan for that – Case study: Navvab-e-Safavi Highway (between Hagh-Shenas Sq. and Helal-e-Ahmar St.) Urban landscape research group, executor: Institute of Culture, Art and Architecture.

Modiri, Atusa; and Nikoo Noor-Allahi Oskuei (2014), Evaluation of visual-spatial perception of Imam Hussein Square, 11:77-86.


Rashnofar, Ayat; Mohammad Sadeghi, and Moslem Arefi, 2015, Investigation of identification in architecture and urban landscape with an emphasis on urban symbols, 3rd National Conference on Architecture, Restoration, Urbanism and Sustainable Environment, Hamedan.


Tazieh, Iman, Hossein Sheykh, and Ali-Asghar Sepehrifar, 2015, Methodologies for perceiving urban facades in urban face – Case study: physiological perception of Emam Khomeyni Street, Gorgan, International Conference of Civil, Architecture, and Urban Infrastructures.