**Original Research Article** 

## Recognition of the Components of the Urban Landscape Visual System Elements and Values<sup>\*</sup>

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Accepted: 13/01/2022 Received: 03/10/2021 Available online: 21/03/2023 Abstract Urban landscape, as the consequence of the human perception of diverse dimensions of the city, the physical form, action, and meaning, is an objective-subjective phenomenon. Different human senses, including sight, get information about the urban scene as a perceived reality. "Seeing" is a large aspect of how humans get environmental information as part of their perceptual process. Everything seen in space forms the visual system of the urban landscape which makes sense when it is combined with information received through other senses and interplay with the subjective aspect (one's understanding based on experiences, memories, conditions, and personal-social characteristics), and the urban landscape. Many studies on the visual system of the urban landscape have focused on the "physical form," its characteristics, and the way its components are organized, rather than the "activity", which is part of the urban environment as experienced by humans. As a result, the function of activity in forming the visual system of the urban landscape should be addressed. The present study aims to understand the notion of a visual system in the urban landscape by describing its parts and the types of their correlations, which is accomplished through studying the theoretical relationship between the idea of the urban landscape and its components, as well as explaining perception by highlighting the information obtained through the sense of sight. The data of this descriptive and interpretive study were analyzed using documentary and bibliographic analysis and then were categorized and interpreted using logical reasoning. Findings demonstrate that the components of the urban landscape visual system can be explained in terms of visual elements (such as physical form and activity) and visual values (elements and their correlations quality, including the nine qualities of naturalness, sociability, readability, vitality, and dynamism, beauty, coherence and continuity, sense of identity, complexity, diversity, and contextualism) which are conducted through the research.

Keywords | Urban Landscape, Visual System, Visual Elements, Visual Values.

Introduction Urban landscape refers to the inhabitants' knowledge of the city wherein they have lived throughout history and have developed a semantic relationship with the natural and artificial form of the environment, which plays an essential role in the continuation of their rational existence.

Although the urban landscape is founded on the semantic dimension of the city's originality, its functions, and physical form are the city's management and guidance instruments (Mansouri, 2010). By definition, an urban landscape has two aspects: objective and subjective. The focus of this study is on the urban landscape, whose information is being received and perceived through the sense of sight.

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This element creates the urban landscape's visual system, which is combined with other environmental information and the subjective dimension to create the urban landscape. Seeing is how everyone initially encounters the urban environment. The sense of sight is the most dominating sense in humans, and it receives a lot of information from the surroundings. As a result, the individual's perception and evaluation of the city and urban space is based on the visual system of the urban landscape. The sense of sight is used to determine the size and physical features of space, as well as orientation, light quality, color, form and texture, and other environmental aspects, such as the kind and amount of people's presence, communication, and activities. Man's three-dimensional vision of the environment gives him access to data that he/she could not get any other way. Natural elements, power and politics, the economy, worldview, religion, and social and cultural aspects have all had a role in constructing the urban environment throughout history, and the urban landscape has served as a symbol for understanding these situations of the society. A "good" urban landscape may boost a city's competitiveness to attract the target community and increase its economic, social, and environmental value (Golkar, 2008). Cities with a desired visual environment have a significant impact on people's experiences of the environment, and studies have shown that cities with a favorable or quality visual environment can create a sense of contentment, tranquility, attraction, place attachment, and pride (Shahinrad, Rafieian & Pourjafar, 2015, 11). Acceptance as a system of "elements" and "quality of components and their relationship" in the city perceived by the individual is important in creating a visual system. The question of the current study is: what are the components of the urban landscape visual system, and what roles do they play in the perception process? At first glance, the idea of the urban image appears to be close to the visual system of the urban landscape. If we regard the aspects of the city's design as representations of the objective elements of the city that are inscribed in the mind (Pakzad, 2006, 25), the urban landscape contains a larger idea that incorporates form, activity, and meaning. It can be a concept similar to the image of the city if only the visible component of the "physical" elements in the urban landscape is emphasized. However, what is highlighted in this study is the role and place of "form" and "activity" and their visible aspect in shaping the visual system of the urban landscape. So far, available studies on the visual system of the urban landscape have focused more on its physical dimension and the contribution of activities in space, which are a visible part of the landscape, to this visual system has not been addressed. The current study first examines the concept of the urban landscape and its various dimensions, then evaluates the subject of perception and shows how a sense of sight affects the perception, then presents the research framework, which provides a new look at the visual system of the urban landscape. Ultimately, it results in generating a visual elements-based model (urban components whose information is obtained through the sense of sight, such as "physical form" and "activity") and visual values (quality of elements and their correlations). To address the study issue, the hypothesis is that the visual system of the urban landscape consists of the visible portion of the components of the urban landscape, which includes "physical form" and "activity" as well as "element and correlation quality".

## **Literature Review**

Various publications and articles have examined the concept of the urban landscape and its visual system. Cullen addressed the issue of the urban landscape and its objective aspects in a codified manner for the first time in The Concise Townscape, emphasizing the physical form of the landscape in the form of the theory of "Serial Visions" and a series of visual spaces and sequences, which is placed in front of the man with the movement of him in space (Cullen, 2013). Turner's book City as Landscape offers a distinct approach to the city, seeing urban planning and urban landscape design as two intertwined challenges, treating the city as a landscape, and considering the most fundamental part of the city to be something we term a landscape (Mansouri, 2010). Bell highlighted the point, line, surface, and volume as the basic components of the landscape, and the qualities of these elements, as well as their pattern of composition and organization, as the physical dimensions of the landscape in his book "Elements of Visual Design in the Landscape" (Bell, 2015). In his book "Introduction to Landscape Design" Motloch discusses numerous aspects of landscape, such as visual qualities, with a focus on light and color diversity. Lynch explores the numerous subjective characteristics of the urban environment in his book "A Theory of Good City Form", focusing on the variables that lead to the formation of a good urban landscape. The notions of visual physical quality of the city such as corridors of vision, cohesiveness, discipline, and visual gates are discussed by Zakavat (2006) in his paper "Strategic Framework of Visual Urban Management." In their paper "Recognizing the ideas of the visual system in the obsolescent urban textures," Ansari, Pourjafar, Sadeghi & Haghighatbin (2009) focused on the many features of the urban landscape that are impacted by visual physical elements and the quality of relationships between these elements. The complexity, coherence, disturbance, stewardship, imageability, visual scale, naturalness, historicity, and ephemera are proposed as useful indicators in visual evaluation by Ode Sang et al. (Ode Sang, Tveit & Fry, 2008). In addition, Hemmati and Sabounchi (2021) studied numerous ideas and acknowledged the landscape as a perceptual relationship, as well as the relationship between the three notions of the perceiver, perceived, and

the outcome of this relationship. Furthermore, Eiter (2010) explored the impact of the type of activity and use of space in audiences' evaluations of the urban landscape. Researchers like Förster et al. have investigated the notion of landscape in several multidisciplinary fields (Förster, Großmann, Iwe & Kinkel, 2012) due to the semantic diversity of the concept of the urban landscape (which should be addressed to describe its visual system). However, the necessity to consider the presence and role of humans as the primary factor in the development and perception of the landscape is something that all of these notions have in common. Gerber and Hess used a phenomenological approach to landscape, examining the theoretical underpinnings of the concept of landscape values and achieving three elements of landscape use, existence, and intrinsic values (Gerber & Hess, 2017).

## **Research Method**

The present study is qualitative and examines the concept of the urban landscape and the sense of sight as one of the senses through which information is received from the environment to accomplish the components of the urban landscape visual system. In line with the research objectives, views and approaches related to these concepts were collected and analyzed using content analysis. The visual components of the urban landscape, comprising aspects and attributes in the urban landscape (whose information is gained through the sense of sight), were described by logical M. Karimi et al.

reasoning through a descriptive-interpretive investigation (Fig. 1).

## **Theoretical Foundations**

## • Urban landscape

The landscape is a spatial entity that exists as human habitation and is the outcome of human interactions with the environment, human communities, and culture (Seyedkalal & Pourdeihimi, 2012, 22). The urban landscape defines a city's form and character, as well as its sense of place, by aesthetic and functional aspects, and can serve as a divider or connector between various uses and activities in a neighborhood and city (Memlük, 2012, 282). The urban landscape examines citizens' fluid perceptions of symbols and physical instances regarding the historical and social events, and in a realistic view, it regards the functions and form of the city as a tool to manage and steer the landscape of the city, acknowledging the hierarchy of perceptual realms of space in connection to the social, historical, and functional life of the city (Mansouri, 2010, 32). It also contains human perception of the city, which is revealed via experience and through man-environment interactions. The notion of city landscapes is a typical occurrence among bodies, events, and people's attitudes (Majidi, Mansouri, Sabernejad & Bartai, 2019). The urban landscape is an "objective-subjective" and "human-physical" phenomenon as well as a "sociospatial" structure (Zakavat, 2006) that is perceived by people



Fig. 1. Research model. Source: Authors.

according to the definition of the European Landscape Convention, and its nature is the result of interaction between the natural and human factors. Cullen argues that the sense of sight, sense of place, and substance of the environment in which the individual is located impact each person's experience of the urban landscape (Mahmoudi, 2002, 59-65). The landscape is a type of place and outcome of human-environment interaction in public places, as well as a result of human experience in space and middle arenas, and the interface between architectural and natural space. The landscape has been generated through the interaction of man and the environment throughout history by society and within the context of natural and historical conditions. The landscape is the macrocosm of human existence in the natural world (Mansouri, 2010). Physical features, activity, and meaning are three fundamental parts of place identity in human interaction, which can range from a tiny room to a continent, according to Edward Relph (Relph, 1976). It views the physical setting and its activities as objective, and meaning as a significant aspect in their correlation (Heidari, Motalebi & Nekoeimehr, 2014, 16), (Fig. 2). David Canter (1977) proposed the place model, which views the urban environment as a place made up of three linked dimensions: physical form, activity, and images (Fig. 3). Other environmental specialists have provided numerous narrations of the model influenced or altered by Relph and Canter's models due to its efficiency. The "Ralph-Panter sense of place" model is based on physical form, activity, and meaning, whereas the "Canter- Montgomery's" place model is based on the form, activity, and images (Kavoshnia, Bandarabad & Modiri, 2017) (Fig. 3).

Augustin Berque considers the environment and the landscape to be two distinct dimensions of place, with the environment referring to the physical and actual dimensions of space and the landscape to the interpretation of these physical and real dimensions. Also, he considers landscape to be a phenomenological, sensory, and symbolic component of the environment since these two dimensions are indistinguishable (Gerber & Hess, 2017). The landscape is a type of correlation with the environment and a location whose existence is dependent on the subject's relation and the living thing's subjective aspects. Reality is the outcome of combining objectivity with a condition that reveals that objectivity is in its true form (Mansouri & Shafia, 2019). Tudor considers landscape as a blend of natural, cultural, social, and perceptual-aesthetic characteristics in his Landscape Character Assessment study (Tudor, 2014), (Fig. 4). Descartes introduced phenomena objectivism and subjectivism in the 17th century, and a distinction was made between the soul and the body of value, as well as between objective and subjective reality, which has continued to be the source of many objective and subjective attitudes (Mokhtari & Nazari, 2010, 56).



Fig. 2. Place components based on Ralph and Panter theory. Source: Montgomery, 1998.



Fig. 3. Creating a sense of place based on Montgomery theory. Source: Montgomery, 1998.



Fig. 4. The concept of landscape. Source: Tudor, 2014.

The atomistic attitude arises from the discretization of perceptual and palpable components, as evidenced by cases in which attention is focused solely on the form while the social components serve a complementary role. However, what is now recognized regarding landscape is a holistic approach to the nature of the landscape, explaining the model of continuous perception, which states that the subject and object of perception are always interacting, and views landscape as a reciprocal and continuous objectivity-subjectivity relationship. Recognizing the product of the relationship of landscape as an objective-subjective phenomenon implies that space is construed as a spatial phenomenon that has not only external dimensions, but also subjective aspects that are created in the audience's perceptual system, and the landscape appears not in one of the two but its continuous and dynamic relation (Hemmati & Saboonchi, 2021). The perception of city residents is based on signals delivered and received by all senses, as well as their processing and analysis with an attitude toward experience and individual and socio-cultural qualities. Humans are constantly faced with the urban landscape, which is a mix of the city's form and its activities, as well as recognizing, assessing, judging, and eventually the audience's impression of it, through being present in the city and the urban spaces. The urban landscape, which has two "simultaneous" objective and subjective components, makes meaning through gaining information from physical factors in the city and human activities through their senses, as well as repeating and generating memories, highlighting identity, culture, and human experiences.

## • Receivable Information by the Senses

The objective and subjective features of the urban landscape include spatial characteristics and urban place (objective), as well as a unique form of the spatial and functional arrangement of nature and urban culture (subjective which is made by the presence of man in space and his beliefs and culture) (Aminzadeh, 2016). The urban landscape is the result of the interplay between its constituent elements and is made up of two perceptible objective and subjective elements of the environment. The notion of the urban landscape is formed by three simultaneous components with the interaction of form, activity, and meaning, according to Relph and Panter's model. The landscape is created by the continual interaction between the components of the environment and the human mind, as well as their interplay. The landscape, according to Olwig (2002), is a historical document that provides indications of a protracted interactive process between civilization and its physical environment (Eiter, 2010, 340). The urban landscape is the consequence of witnessing and interpreting the different and concrete expressions of the city, encompassing buildings, spaces, activities, sounds, and odors, while a person experiences the phenomena of the city (Salehinia & Niroomand, 2018). When information is received from the environment, it is processed subjectively and viewed by the individual based on personal and social qualities, memories, feelings, and experiences. The five senses acquire information about the urban scene, and sight receives a significant portion of it. The physical form and activities that are observed owing to the existence of the material body and the presence of people, as well as their interaction in space, are what exists in the external reality in the urban area, and a significant portion of its information is obtained by human beings through seeing (Table 1). In some circumstances, activity takes precedence over the physical form in terms of seeing it, and it becomes the most significant factor in the visual system and human sense of space; The stronger the action in space, the bigger the visual impression on humans. Figs. 5-8 depict the impact of activity (caused by human presence in space) on the perception of the landscape.

# • The Role of "Seeing" in the Urban Landscape Perception Process

Landscape visual quality is a wide notion that allows a general evaluation of the public perception-based landscape (Watmann, Frick, Kienast & Hunziker, 2021). Perception is an active and deliberate process in which information is obtained from the human environment. It is a point when cognition and reality collide (Lang, 2007, 97). According to Lynch, the city is defined by its residents' lives and the idea they have about the city, in addition to its physical structure. The city is made up of people and their activities, which are the moving parts of the city, as well as the stationary elements. People's perceptions and mental images of the city are influenced by its visual features and their impact on mental representation. Legibility and clarification, along with other variables such as the feeling that colors, shapes, mobility, and variety of light generate for the eyes, smell, sound, and sense of touch contribute to recognizing and detecting the environment and nonverbal communication with it, are very important

Table 1. The dimensions and components of the urban landscape. Source: Vahdat, Sajjadzadeh & Karimi Moshaver, 2015.

Dimensions and components of the urban landscape					
Objective fac	ctors	Subjective factors			
Aesthetic components (objective-subjective)	Functional-activity component	Semantic-perceptual component			



Fig. 5. Hefdah Shahrivar walkway, Tehran. Source: www.mehrbox.ir.



Fig. 6. Hefdah Shahrivar walkway, Tehran. Source: www.mehrnews.com.



Fig. 7. Esteqlal walkway, Istanbul. Source: www.topinturkey.com.



Fig. 8. Tarbiat walkway, Tabriz. Source: www.touristgah.com.

in understanding the city, generally cause the observer to form an image of the surroundings in his or her mind (Lynch, 1997). Arnold Berlint (1998) argues that when a person is in the environment with his body and moves in it, the environment stimulates all of his sensory faculties; in contrast to art, where just part of the human senses is aroused. The environment is a heterogeneous concept, and man is a sociocultural entity. He argues that the physical-cultural domain, in which individuals participate in activities, is responsible for the entire fabric of human life, including its historical and social patterns (Nishimura, 2019, 114). Perception is the physiological and psychological process of getting information from the environment (Lang, 2007, 89; Porteous, 2012), and it is an indispensable component of the urban landscape, with most of the basic information produced by the human senses (the most important factor in establishing manenvironment interaction) readily available. In Table 2, the hypotheses connected to perception are displayed.

Almost all of the senses of sight, hearing, smell, and touch are influenced by urban living in urban areas. Humans receive the most information through their senses of sight. Sight is the sense whereby a person thinks, and the other senses fulfill the observations and validate or strengthen the message's reception. The sense of sight receives 87% of human information from the surroundings (Bell, 2001). The sense of sight receives the visual features of the landscape directly, and the sensory impulses are turned into subjective natures. Individual emotions will influence perception in this multi-stage process, creating a relationship between hidden information in the viewer's mind and other components of the surroundings that will result in a three-dimensional and spatial experience of the landscape (Shakibi, 2011). As a result, the majority of research in environmental perception, as well as landscape evaluations, concentrates on the visual aspect of the perception process (Kaymaz, 2012, 253), (Fig. 9).

#### Urban Landscape Visual System

In their study, Hemmati and Saboonchi (2021) examined the perspectives of many philosophers on the elements of the perceiver, perceived, and their interaction, as well as the phenomenon's result and stressed the simultaneity of all components using a holistic approach, and regarded landscape as a perceptual interaction between man as a perceiver, environment as a perceived with a continuous relationship, and a product with an objectivesubjective character. Landscape perception is a sensorybased process that occurs without the need for any mediators (Mansouri., 2004). In this study, we regard the visual system as "visible aspects and characteristics" of the perceived phenomena (environment), which interacts with the perceiver (human) continually and simultaneously, resulting in the perception of landscape as Table 2. The perception-related theories based on the conducted research. Source: Authors.

Theorist	Theory	Description
Kevin Lynch	Citizens' mental image of the city	Humans' mental images of the city influence a significant portion of the city's visual quality. Developing a mental image of the city using both moving (people and their activities) and stable components (the physical form of the city) People are not only observers of, but also participants in, the city's landscape.
James Gibson	Ecology and environmental efficiencies	The environment is viewed in terms of the capacity it provides for humans, which leads to utility. The focus is on the perceived performance instead of its form. Different perceptions between individuals from a phenomenon's potential
Egon Brunswick	Probabilistic Functional Model	Analysis of sensory information received from the environment in a proactive manner Obtaining and recombining dispersed inputs from the environment
Stephen and Rachel Kaplan	Information processing	Information extraction from the environment To comprehend the environment, two variables of coherence and readability should be present, as well as two situations of complexity and mystery to discover it.
Wolfgang Kohler	Gestalt	The whole is bigger than the sum of the parts in visual perception. Perceptual patterns and the blending of shapes and experiences of environmental perception with the nervous system's creation in people The rules of closeness, resemblance, dependence, optimum continuity, closure, surface, and symmetry
Jan Gehl	Activities in the public arena	One of the characteristics of the public arena is the presence of people, activities, and events. Activities that are necessary, selective, or social Potential of affecting the structure and volume of activity in city public places by structuring the physical environment
Lewis Mumford	Attending spaces	The presence of individuals and groups in the urban area is a requirement for the success of urban space and a better sense of the city.
Jörg Kurt Grütter	Architectural aesthetics	There are two layers of information on phenomena: Aesthetic information with an emotional component that affects emotions The transfer of information and messages is known as semantic information
Simon Bell	Visual design elements in the landscape	Physical components of sensory perception, as well as intuitive aesthetic quality recognition The mind's capacity to correlate sensory input to information received. Basic physical elements, features, and patterns of landscape organization



Fig. 9. The place of the sense of sight in the process of perceiving urban landscape. Source: Authors.

an objective-subjective notion. The term "system" refers to an organization, device, or rule, as well as a collection of components and interactions that are linked or united by particular traits to form a whole (Ashrafi, 2018, 91). The visual system as a whole is made up of two main ideas: visual elements (components) and the quality of interaction between them, and it can be thought of as the correlation, order, and consistency that governs the elements and various parts of urban physical-visual areas that are "seen" by humans. The visual system determines the visual relationship between urban components and organs, the clarification and existence of visual qualities that generate identity in the urban landscape, as well as the study of the visual system, recognizing capabilities, identity, and visual qualities in the city (Ansari et al., 2009, Zekavat, 2006). The most essential aspect of environmental attributes that promote or diminish people's sense of place and connection to their surroundings is visual values (Shakibi, 2011), (Fig. 10).

## Discussion

Cullen emphasizes the objective element of the urban landscape, citing order, variety, and intricacy, as well as the creation of surprise and spatial sequence, as the key characteristics of a desirable urban environment (Cullen, 2013). Furthermore, successive vision (serial of visions), the feeling of place, and content (unique qualities of each area) are the three components of how the urban environment is perceived (Chapman, 2014, 192). Visual patterns, according to Bell, are the outcome of arranging the components of the fundamental elements (point, line, surface, and volume), which have formal features and diverse patterns of structure and arrangement (Bell, 2015). Drawing upon the theory of "the evaluative image of the city", Nasr evaluates the qualities of the visual environment and their effect on people's emotions and inferences and recommends molding and reshaping of the city based on a "visual plan" (Nasar, 1990, 50). Kaplans have one of the most important theories about landscape visual quality: "The perception process includes the individual's retrieval



Fig. 10. The general pattern of the urban landscape visual system. Source: Authors.

of information from the environment" and introduces four predictor variables, including two coherence and readability variables (to help understand the environment) and two complexity and mystique variables (to discover it). In Appleton's theory of perspective and refuge, seeing without being seen leads to a preference for landscape in situations where hunting or hiding is advantageous. He concluded that aesthetics is preferable to complexity (Lothian, 2000, 54). The use of classical theories of aesthetics (ibid.) to the theory of biological evolution (Appleton, 1975), psychology (Bourassa, 1999), and information processing theories are relevant to the visual appraisal of the landscape (Kaplan & Kaplan, 1989). Much research has been conducted on analyzing the landscape and its correlation with the characteristics of the sender of information (perceived) or receiver's interpretation among the approaches related to the visual qualities of the landscape. The Landscape Characteristic Assessment (LCA) is a pioneering landscape assessment framework that has been used in the UK since the 1980s and has since been adopted by many countries aiming at changing symbolic landscape descriptions to general landscape descriptions and achieving features that distinguish a landscape from its surroundings (Fairclough, Sarlöv Herlin, & Swanwick, 2018). Individual experiences in acquiring landscape information through many senses are emphasized in the LCA standards (Tudor, 2014).

"Environment," according to Augustin Berque (2000), is the area that surrounds society, in which society operates and is affected by it. The environment is "a physical and phenomenological interaction that connects society with space and nature" (Gerber & Hess, 2017), and it is changed as much by human activity as it is by human conduct (Antrop, 2005). Many human activities should express in space, and it is the essential face and aspect of every natural or man-made location; yet, individual components and elements, as well as human activities, can give space character and soul (Parsi, 2002). Various researchers have emphasized the need to increase activity and vitality in urban spaces to improve their quality, and this issue grew in importance after the emergence of postmodernism, to the point where one of the most important functions of urban open spaces today is the ability to establish social interactions among citizens. With the presence of human beings in any location, the sense of sight receives information and visual signals of "activity," and the type and degree of activity in urban space, as well as how people interact with one another, can influence the physical aspects. The presence of other people in the place, according to Whyte, is the most appealing aspect of urban space (Mansouri & Jahanbakhsh, 2013, 93), believing that people use their presence to share their feelings about the space's quality and satisfaction (Qalambor Dezfuli &

Naqhzadeh, 2014, 18). Streets, squares, parks, and other urban public spaces, according to Stephen Carr, can be "a scene in which the play of collective life is revealed." The purpose of public places is to provide a forum for social contact and active social involvement with others, as well as a place for people to learn about other views and opinions (Mehta, 2014, 56). The presence of people, activities, and events is one of the aspects of public venues, according to Jan Gehl, who divides public space activities into necessary, selected, and social categories. Furthermore, only if the external environment is favorable, he examines the circumstances for greater and more fulfillment of selected and social activities (Gehl, 2018). Amos Rapaport perceives physical environment differences as a consequence of cultural diversity, considering meaning as a result of functional and physical qualities, and urban space as a culture-based social environment that offers a platform for communication and engagement. Additionally, identifying urban space is the outcome of recognizing its physical shape as well as the type and volume of social communication that occurs there (Rapaport, 2013). He differentiates perception and association as two complementary forms of perceiving the constructed environment in his theory of nonverbal communication, and what people perceive of the environment is a mixture of what they perceive of the external world at a certain moment (objectivity) and the associations that are formed for them based on their experiences with the physical world and other people (subjectivity). Accordingly, physical components (visual, olfactory, and auditory), social (people, activities, and uses), and temporal distinctions make up the artificial environment (Shahinrad et al., 2015).

Jacobs stressed the function of urban public spaces in fostering social connections in her 1961 book The Life and Death of American Metropolitans, claiming that what comes to mind more than a city are its public spaces, particularly its streets and sidewalks. She argues that the city's correct design and shape are due to the complexity and vibrancy of the land uses. The city's streets and spaces include major visual sceneries, and the activities and details associated with them also provide substantial visual information to the individual (Jacobs, 2013). This shows how seeing the physical form and human activities interacts with the perception of the urban landscape. More activity in urban spaces, he argued, may not only be a sign of the environment's quality but also results in its improvement. Successful urban places, according to Jacobs and Gelh, are shaped mostly by street life and diverse types of activity within and between buildings, and should have high quality in the three basic aspects of physical space, activity, and sensory experience (Montgomery, 1998, 95). The landscape should be

evaluated by taking into account the particular individual and social values of users and stakeholders, which include sensory (visual, auditory, olfactory, tactile, taste) and emotional perceptions of the environment, as well as recognizing the diversity and historical and cultural qualities that are essential for honoring and enriching the individual and societal identities (COE, 2008). Perception through bodily experience can be more clearly linked to an understanding of landscape as an area of activity, in contrast to an understanding as a picture or scenery. Therefore, purely visual (bodily) approaches cannot be considered sufficient in a study that regards landscape as a field of human activity, practice, or habitus (Eiter, 2010) and Heffernan et al. found a relationship between the quality of an active urban street and users' perceptions. Besides, users see the place as secure, comfortable, dynamic, sociable, pleasant, fun, and appealing as the level of activity improves (Heffernan, Heffernan & Pan, 2014). Therefore, the information of the perceived phenomena of the urban landscape (environment) is received by multiple human senses, and it is holistically perceived by human beings in incessant and simultaneous interaction with its subjective aspect. The most important human sense is "seeing," and it is through this sense that most environmental information is received. What will be important in the visual system of urban landscape will be "visible elements of the urban landscape," which includes the physical form and activities in space, as well as their qualities. If we consider all of the effective components in the urban landscape that an individual may perceive into three categories: physical, activity, and semantic, the visible parts of the "urban landscape visual system" are which can be displayed based on "physical form" and "activity" coupled with visual values (qualities) and depending on the ideas investigated (Table 3). As a result, getting messages and information from the information of the seen occurrence in the urban landscape is the basis for the perception of the urban landscape (environment including physical form and activity), and shape the urban landscape's subjectivity based on individual and societal features, emotions, memories, and experiences, and find meaning in continuous and simultaneous communication, leading to perception.

• Components of the urban landscape visual system Many contemporary studies of the visual system of the urban landscape have focused solely on physical features, their qualities, and their kind of structure, and have paid little attention to the element of "activity" that is generated by the presence of the physical form and human presence (as one of the physical elements). The visual qualities of the set of "physical form" and "activity" in urban space are highlighted in this study. The visual representation of three-dimensional shapes and their relationship to outer

Theoretician	Physical form	Activity
Camillo Sitte	Visual beauty, enclosure, monuments, and visual continuity	-
Gordon Cullen	order, variation, and complexity, serial vision,	-
Edward Lozano	Orientation, diversity	Activity diversity
Ian Bentley	Permeation, diversity, legibility, flexibility, visual proportions, cleanliness, and Sensory richness	Flexibility, efficiency, color belonging
DPM <sup>1</sup>	Purity, availability, beauty, inclusivity, safety, distinctiveness, and recognition	Comfort, vibrancy and dynamism, high efficiency, and safety
Herzog	Coherence, complexity, antiquity	
Rob Krier	Visual beauty	The elements and activities of public space
Lewis Mumford	The city's structure as well as its order, beauty, and unity	Mental health, design collaboration with humans
Hannah Arendt	-	Social interactions, kind of activity
Jan Gehl	Protection, convenience, and cleanliness	Interaction and social life, spatial activity, and a sense of safety
Stephen Carr	Interaction with the environment, comfort, and convenience	Social interactions, democratic and responsive to demands in a culture of active involvement
Suzanne H. Crowhurst Lennard and Henry Lennard	-	Responding to various groups, the potential of continuous usage of various groups, instilling a feeling of wonder, establishing a spatial experience, enabling activities, and instilling a sense of belonging
Oscar Newman	-	Security provision
Porta and Rene	Human scale, spatial cohesiveness, naturalism, and vegetation	An appropriate activity
Edward Relph	Determine the geographic location, indigenous aspects, and context.	People's interactions with one another, traditions, and the opportunity to gather spatial experience
Simon Bell	Variety and complexity, consistency and harmony, mys- tery, and scale	-
Edward T. Hall	-	People's interaction, as well as behavioral setting
Kevin A. Lynch	Readability, direction, landscape element quality, fitting and compatibility with the surroundings, accessibility, and spatial identification	Human interaction with the environment, comfort, efficiency, justice
Mathew Carmona	Visual quality and perspectives, urban shape, space restriction, comfort and light, quality of surrounding architecture, availability, safety, and monument	Space security, public art, mixing usage, and all- encompassing space
Amos Rapoport	-	Culture and cultural values
Christopher Alexander	-	Urban vitality
Francis Tibbalds	Contextualism, Human Scale, Comfort, Complexity, Happiness, and Visual Pleasure	-
Green	Spatial relevance, climatic ease, clarity, coherence, balance, scale, and identity	Type of operation, security, activity appeal, and group formation
PPS	Access and communication, comfort	Land uses and type of activity, sociability
Christian Norberg- Schulz	The distinctive personality of space	Interaction and communication with others
Appleton	Aesthetics, environmental awareness, and human survival	Life experience
Kaplans	Coherence, intricacy, visual richness, readability, and mystery	-
Jane Jacobs	Variety, permeability, and spatial diversity	Social relationships, suitable activity, mixed usage, social mixing, spatial flexibility for various activities, and economic variety
Jack Nasar	Readability, naturalness, maintenance, openness, order, a wide range of perspectives and confinement, historicity	-
William H. Whyte	-	The social role of urban space, the presence of people in space, and social life
Jon Lang	Designing details	Social interaction patterns, as well as the balance between privacy and social engagement

## Table 3. The visible components in urban space based on the conducted studies. Source: Authors.

space that is indicated by its structural system (such as balance, stress, rhythm, ratio, scale) and the principles of order (such as axis, symmetry, series) is part of what may be perceived through the landscape (Nijhuis, 2011, 109). Furthermore, by stressing the ideas and investigations under consideration, the activity that occurs in the urban realm becomes apparent to the audience and plays a part in the perception process. The urban landscape visual system will incorporate aspects and values (quality) of the visual urban landscape, as well as any information connected to the physical form and activities that may be obtained through seeing.

The quality or value of the visual elements is just as significant as the visual components themselves. The impression of the landscape is influenced by a variety of factors. The study of values that influence landscape perception can aid in policy development and strategic planning, as well as the development of several indicators (Cassatella, 2011). The visual quality of cities refers to their ability to provoke positive (satisfaction and interest) or negative (dissatisfaction, disgust, and distance) feelings in people and construct a feeling based on the perception of the city environment's qualities and the mental image produced (Shahinrad et al., 2015, 11). The visual qualities (values) of physical form and activity in the landscape are classified in Table 4 based on the content analysis of theories and investigations. Naturalness, sociability, readability, beauty, vitality and dynamism, identity, coherence and continuity, complexity and diversity, and lastly contextualism are among the nine criteria.

## Conclusion

The information of "physical form" and "activity" created

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in the urban landscape is perceived by the human senses, gain meaning, and produces the urban landscape concurrently. The sense of sight, which constitutes the visual system of the urban landscape, receives a significant amount of information. What exists in the external reality in the urban area, and a significant portion of its information is received by humans, contains both the material body and activities that are attributable to the body's existence and the presence of man (which itself has a material and physical dimension and operates in urban space). It is produced in space, seen by the audience, and perceived with the meaning, to the point where, even while observing human activity in space, it takes on a more prominent role than the physical form and is the most significant element in the visual system and human perception of space. The more powerful activity in the space, the larger the visual impact on people, the more influence it will have on the perception process, especially when combined with the subjective aspect of the urban landscape. The relationship between human beings, objects, and components in urban space is the activity meaning that, when it is considered in isolation, has a form, but their interaction with one other in urban space or their situation generates activity. Physical form and activity information is received through a variety of senses, including vision, and is simultaneously meaningful and perceived through the subjective aspect of the urban landscape; and the visual qualities of urban spaces proposed in this study under the title "visual values of the urban landscape" can be explained. Fig. 11 depicts the framework of the urban landscape visual system components, which consists of visual elements and their values.

Table 4. Visual values of the physical form and activity in the urban landscape. Source: Authors.

Theorist	Visual Value	
Nasar (1998), Lynch (1960), Bentley (1990), Carmona (1991), Aminzadeh (2016), McHarg, PPS, Porta & Rene, Lozano	Naturalness	
Donald Appleyard & Allan Jacobs (1987), Tibbalds, PPS, Alexander, Rapoport, Krier, Mumford, Jacobs, Whyte, Porta & Rene, Stephan Carr, Lenard & Lenard, Hall, Lang, Gehl, Lynch	Sociability	
Lynch, Appleyard, Kaplan (1979), Herzog (1992), Tibbalds, PPS, Bentley, Nasar	Readability	
Herzog, Nasar, Lynch, Tibbalds, PPS, Bentley, Sitte, Bentley, Carmona, Krier, Aminzadeh	beauty	
Donald Appleyard & Allan Jacobs, Lynch, Alexander	Vitality and dynamism	
Carmona, Donald Appleyard & Allan Jacobs, Rapoport, Lenard & Lenard, Aminzadeh	Identity	
Herzog, Kaplan, Cullen, Carmona, PPS, Bell, Nasar, Lynch	Coherence and continuity	
Nasar, Herzog, Kaplan, Cullen, Tibbalds, Bentley, Bell, Krier, Lenard & Lenard	Complexity and diversity	
Tibbalds, PPS, Nasar, Herzog, Alexander, Lozano, Bentley, Carmona, McHarg, Aminzadeh	Contextualism	



Fig. 11. The framework of the urban landscape visual system. Source: Authors.

#### Endnote

\* This paper is taken from Mitra Karimi's doctoral dissertation entitled "Urban landscape and quality of life; visual system of open urban spaces in obsolescence neighborhoods in the southern regions of Tehran" in Art faculty of Tarbiat Modares University, completed in 2022 under the supervision of Dr. Mohammad Reza Bemanian along with Dr. Mojtaba Ansari and Dr. Seyed Amir Mansouri as the counsellors. 1. The Deputy Prime Minister of the United Kingdom office

## **Reference list**

• Aminzadeh, B. (2016). *Values in urban Landscape Design*. Tehran: University of Tehran.

• Ansari, M., Pourjafar, M., Sadeghi, A. & Haghighatbin, M. (1388). Recognition of Components of the Visual System in Neighborhood of Deteriorated Urban Fabric (Case Study: Abbasi District, Tehran). *Journal of Architecture and Urban Planning*, (2), 71-91.

• Antrop, M. (2005). Why Landscapes of the Past are Important for the Future. *Landscape and Urban Planning*, 70(1-2), 21-34.

• Ashrafi, N. (2018). Explaining The Epistemological Foundations of Architecture and Urban Planning with System Approach. *Hoviatshahr*, 12(33), 89-98.

• Bahrayni, S., Ali Ghaleh Babakhani, M. & Sameh, R. (2015). Clarifying the Nature of the "Urban Quality of Life": An Approach in the Urban Design Theories. *Armanshahr Architecture & Urban Development*, (13), 151-167.

• Bell, S. (2001). Landscape Pattern, Perception and Visualisation in the Visual Management Forests. *Landscape and Urban Planning*, (54), 201-211.

• Bell, S. (2015). *Elements of Visual Design in the Landscape*. Tehran: Khak.[in Persian].

• Cassatella, C. (2011). Landscape Indicators: Assessing and Monitoring Landscape Quality. London: Springer.

• Chapman, D. (2014). *Creating Neighbourhoods and Places in the Built Environment* (F. Tabibian, Trans.). Tehran: University of Tehran. [in Persian].

• COE (Council of Europe). (2008). *Guidelines for the implementation of the European landscape convention*. Achievable: https://rm.coe. int/16802f80c9.

• Cullen, G. (2013). *The Concise Townscape*. Tehran: University of Tehran. [in Persian].

• Eiter, S. (2010). Landscape as an Area Perceived through Activity: Implications for Diversity Management and Conservation. *Landscape Research*, 35(3), 339-359.

• Fairclough, G., Sarlöv Herlin, I., & Swanwick, C. (2018). *Routledge Handbook of Landscape Character Assessment*. London: Routledge.

• Förster, F., Großmann, R., Iwe, K. & Kinkel, H. (2012). What is Landscape? Towards a Common Concept within an Interdisciplinary Research Environment. *eTopoi*, (3), 169-179. Retrieved March 1, 2022, from http://journal.topoi.org

• Gehl, J. (2017). *Life Between Buildings: Using Public Space*. Tehran: Jahad Daneshgahi. [in Persian].

• Gerber, J. D., & Hess, G. (2017). From landscape resources to landscape commons: Focussing on the nonutility values of landscape. *International Journal of the Commons*, 11(2), 708-732.

• Ghalambor Dezfuly, M., & Naghizadeh, M. (2014). Urban Design in the Context of Social Interaction Enhancement. *Hoviatshahr*, 8(17), 15-24.

• Golkar, K. (2008). Conceptual Evolution of Urban Visual Environment; From Cosmetic Approach Through to Sustainable Approach. *Environmental Sciences*, 5(4). 95-114

• Heffernan, E. E., Heffernan, T. W. & Pan, W. (2014). *The relationship between the quality of active frontages and public The relationship between the quality of active frontages and public.* Faculty of Engineering and Information, 1-31. Retrieved March 1, 2022, from https://ro.uow.edu.au/eispapers/6132

• Heidari, A., Motalebi, G. & Nekoeimehr, F. (2014). Finding Relationship between Sense of Place and Place Attachment in Student Dormitory. *HONAR-HA-YE-ZIBA*, 19(1), 15-22.

• Hemmati, M. & Saboonchi, (2021). Perceiver, Perceived, Perceptual Product (Evaluating Experts' Interpretations of the Components of

'Landscape' Definition). MANZAR, 13(56), 14-29.

• Jacobs, J. (2013). *The Death and Life of Great American Cities* (H. P. Aflatouni, Trans.). Tehran: University of Tehran. [in Persian].

• Kavoshnia, H., Bandarabad, A. & Modiri, A. (2017). Components and indicators of place formation to urban areas from the perspective of critical theory. *Urban Management*, 49, 151-170.

• Kaymaz, I. (2012). Landscape Perception. Ankara: InTech.

• Lang, J. (2007). *Creating Architecture Theory* (A. Einifar, Trans.). Tehran: University of Tehran. [in Persian].

• Lothian, A. (2000). *Landscape quality assessment of South Australia* (Unpublished Ph..D thesis). University of Adelaide, Adelaide. Available from: http://thesis.library.adelaide. edu.au/public/adt-SUA20060615.142413/Mehta, V. (2014). Evaluating Public Space. *Urban Design*, 19(1), 53-88.

• Lynch, K. (1997). *A Theory of Good City Form* (S. Bahraini, Trans.). Tehran: University of Tehran. [in Persian].

• Mahmoudi, M. (2002). The effect of inner-city highways on changing the urban landscape of Tehran. *HONAR-HA-YE-ZIBA*, (12). 59-65.

• Majidi, M., Mansouri, S., Sabernejad, J., & Bartai, N. (2020). The Role of Landscape Approach in Improving Satisfaction with the Urban Environment. *Bagh-e-Nazar*, 16(76), 45-56.

• Mansouri, S. (2004). An introduction to Landscape architecture identification. *Bagh-e-Nazar*, 1(2), 70-78.

• Mansouri, S. (2010). What is Urban Landscape?, Manzar (9), 30-33.

• Mansouri, S. & Shafia, S. (2019). *Landscape Tourism.* Tehran: Mahkameh.

• Mansouri, T., & Jahanbakhsh, H. (2013). Exploring how to improve the urban landscape through the body and revive cultural values-Historic City. *Physical Development Planning*, 1(3), 89-102.

• Mehta, V. (2014). Evaluating Public Space. *Journal of Urban Design*, 19(1), 53-88.

• Memlük, M. (2012). Urban Landscape Design. Landscape Planning.

• Mokhtari, M. & Nazari, J. (2010). *The Sociological Quality of Life*. Tehran: Jame-Shenasan.

• Montgomery, J. (1998). Making a city: Urbanity, vitality and Urban Design. *Urban Design*, 3(1), 93-116.

• Motloch, J. (2015). *Introduction to landscape design*. Tehran: Sazman-e Bostan-ha va Faza-ye sabz-e Shahr-e Tehran. [in Persian].

• Nasar, J. (1). The Evaluative Image of the City. *The American Planning Association*, 56(1). 41-53.

• Nijhuis, S. (2011). *Visual research in landscape architecture* (Vol. 2). Amsterdam: TU Delft.

• Nishimura, K. (2019). The Aesthetic Appreciation of Landscape. In A. Verissimo Serrao & M. Reker (Ed.), *Philosophy of Landscape: Think, Walk, Act.* Lisbon: Center fo philosophy.

• Ode Sang, A., Tveit, M. & Fry, G. (2008). Capturing Landscape Visual Character Using Indicators: Touching Base with Landscape Aesthetic Theory. *Landscape Research*, 33(1), 89-117.

• Pakzad, J. (2006). The image of the city; according to Kevin Lynch. *Abadi*, (53), 20-25.

• Parsi, H. (2002). Understanding the content of urban space. *HONAR-HA-YE-ZIBA*, (11), 41-49.

• Porteous, D. J. (2012). *Environmental Aesthetics* (L. Aghadadashi, Trans.). Tehran: Kalhor. [in Persian].

• Rapoport, A. (2013). *The Meaning of the Built Environment: A Nonverbal Communication*. Tehran: Tehran Municipality Information and Communication Technology Organization.

• Relph, E. (1976). Place and Placelessness. London: Pion.

• Salehinia, M. & Niroomand, M. (2018). Explaining the role of sensory landscape components based on the senses in the quality of environmental sensory perception of the passage of Gozar-e-Arg-e-Jadid Tabriz. *Shahr-e Irani Eslami*, 8(31), 19-31.

Seyedkalal, S. & Pourdeihimi, S. (2012). Landscape Space: Integration of Culture and Nature. *Housing and Rural Environment*, (138), 17-28.
Shahinrad, M., Rafieian, M. & Pourjafar, M. (2015). Assessing Women's Visual Preferences towards Tehran Urban Spaces. *Advances in Cognitive Sciences*, 17(1), 10-24.

• Shakibi, N. (2011). *Improving the visual and scenic qualities in the historical contexts of the city* (Unpublished Ph.D Thesis). Faculty of

Architecture and Urban Planning, Shahid Beheshti University, Tehran, Iran.

- Tudor, C. (2014). *An Approach to Landscape Character Assessment.* London: Natural England.
- Vahdat, S., Sajjadzadeh, H. & Karimi Moshaver, M. (2015). Conceptualizing the factors affecting streetscape to promote the legibility of urban spaces. *Urban Studies*, (15), 17-35.
- Watmann, F. M., Frick, J., Kienast, F., & Hunziker, M. (2021). Factors influencing visual landscape quality perceived by the public. Results from a national survey. *Landscape and Urban Planning*, (208), 1-10.
- Zekavat, K. (2006). Strategic Framework for Urban Visual Management. *Abadi*, 16(53), 26-37.

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### HOW TO CITE THIS ARTICLE

Karimi, M., Bemanian, M., Ansari, M. & Mansouri, S.A. (2023). Recognition of the Components of the Urban Landscape Visual System Elements and Values. *MANZAR*, 15(62), 70-83.



DOI: 10.22034/MANZAR.2022.306979.2156 URL: http://www.manzar-sj.com/article\_149837\_en.html