

Research Article

Designing Urban Public Realms Based on Indices of Citizen Satisfaction

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Abstract: The present study is on evaluation of factors contributing to citizen satisfaction in public realms and how to establish them. The results obtained employing analytical, descriptive, library research method demonstrated that three factors of access to services, social security and place identity as the most significant factors contributing to citizen satisfaction with urban public spaces. Furthermore, it was proved that establishment of such factors meet not only citizen satisfaction but also human needs and ultimately lead to growth and prosperity in various perspectives.

Keywords: Citizen satisfaction, civil life, public realms, urban spaces

INTRODUCTION

Urban space is a concept far beyond a simple dull space. In addition to covering the general features of a space, it involves as well the aesthetic norms and intricate economic and social values. As with cities, the citizens are the center of experiencing communal life. Moreover, urban spaces play a remarkable role in people's quality of life. Such role calls for comprehensive attention paid by architectures, urban engineers, planners and municipal authorities. Since urban spaces belong to all citizens, it is vital to design and plan them in a way that different individuals and groups partake, so as to be able to meet their everyday needs and at the same time feel attached to urban spaces.

MATERIALS AND METHODS

The importance of this subject builds the foundation of the present study, which attempts to examine the factors contributing to citizen satisfaction in designing public realms, how to establish them, as well as the results and consequences affecting civil life based on an analytical, descriptive, library research method.

LITERATURE REVIEW

Public spaces are shared among strangers who are not our relatives, friends or colleagues. These spaces are the realm of politics, religion, trading and sports; considered by Cullen as the view of life, where peaceful coexistence and impersonal attitude take place

(Madanipour, 2000). Belonging to everyone irrespective of class differences, gender, race, age and other individual and social distinctions, public spaces are where social interaction among various groups and people takes place, creating the building-blocks of social networks. As Oldenburg considers public space as where an individual feels attached and comfortable in. He defined it by the term "third space" referring to a space near house and workplace, hosting happy, informal, voluntary and regular gathering of people (Oldenburg, 1999).

Public realms include various patterns of gathering spaces in cities such as entrance gates, gridlocks and squares (urban, local and ceremonial), routes, streets, plazas, parks, playgrounds, city halls, malls and other forms of gathering spaces, which have one single characteristic in common: the presence and social interaction of people.

Determining the size and characteristics of a satisfying public space has always been of much concern to several researchers and there are numerous ideas and viewpoints in this regard. For example, in his study on Stockholm public spaces back in 1972, Lerup points to four parameters in successfully determining the characteristics of public spaces as below:

- Securing territory, safety, coherent structure, consistency and readability and space predictability
- Adequate facilities in the space, responsiveness and comfort
- Amount of information, excitement of the place that requires aspects such as intricacy, mystery, education, possibility of self-expression, diversity

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and contrast, selection, recognition of identity, solitude and attachment in space

- Social interactions (Lerup, 1972)

Another relevant study was conducted by Van Raaji in 1983, which attempted to figure out the contributing factors to attracting people to public spaces. The results were enumerated as follow:

- The way people evaluate a place
- Physical characteristics
- Effectiveness
- Means of access
- Social characteristics

Similarly, Lynch and Hack mentioned a number of other characteristics as below:

- **Variation of place:** Aimed for responsiveness of place to different individuals and groups
- **Visual qualities of place:** With emphasis on unity and readability of place
- Consistency with users' needs and goals (Lynch and Hack, 1985)

In his study on Denmark urban spaces, Gehl, a prominent researcher in restoration of public spaces, summarized his research achievements by three parameters each having its own specific characteristics as below:

- **Support:** Supporting users against vehicles, crime and climatic conditions.
- **Comfort:** When doing various activities like walking, sitting, listening, talking, stopping, watching scenery and playing games.
- **Pleasure:** From aspects and proportions, desirable climatic conditions, aesthetic qualities and positive sensory experiences (Gehl, 1987).

In 1990, Marcus and Francis also defined successful public spaces with below characteristics:

- Visible spaces for the passerby restricted to boundaries
- Spaces hosting various user groups including residents, employees, customers, visitors and so on
- Spaces with good lighting at different hours of the day
- Spaces arranged for official meetings (coaches, chairs etc.) and unofficial gatherings (bleachers, stairs etc.)
- Spaces housing a variety of greenery
- Spaces designed based on a central location or a specific feature such as spaces formed for special events like celebrations
- Spaces encouraging people to take a walk

- Spaces with various kinds of seating for different groups of people particularly women, children and the elderly
- Spaces with defined areas of semi-private function inside
- Creation of spaces where enjoying various experiences is possible. Spaces where people not only enjoy the seasonal beauty, but also are safe against atmospheric conditions, take a walk, watch things, talk to each other, stand by, look around, eat, sit, read and wait
- Providing a car and bicycle park entrances (Marcus and Francis, 1990)

In Carr study conducted along with several other researchers, Carr classifies public spaces with the following characteristics:

- Democratic space, creation of which requires the possible access of various groups to space, freedom in activities, territory and property claims.
- Responsive space referring to responsiveness of public spaces to human basic needs including relaxation, peace of mind, physiological and mental security/comfort, passive employment, active employment and discovery.
- Meaningful space based on favorable relationship between human and place associated with physical and social characteristics (Carr *et al.*, 1992).

Based on their studies on public spaces, Lennard and colleagues pointed out the following characteristics in designing a public space:

- **Perceived and personified place:** This characteristic reflects the anatomy of place. Not only does it make public spaces more spectacular, but conjures in the users a powerful image of its personality and identity.
- **Genius loci and unforgettable experiences:** Genius loci in public spaces are associated with defining and determining the place by which a person gets impressed at the first encounter. Such characteristic focuses on people and events in a place, maintains the sense of solidarity and creates meaningful and unforgettable experiences, since our memories are linked with places where they have occurred.
- **Diversity of activities for multiple users:** Since different individuals use a place in different ways, such quality enables different people to attend a place as their situation demands.
- **Orientation and proper definition of place:** Experts believe that people should be able to take orientation and recognize their location, which would require articulation, readability and distinguishing of different parts (Lennard and Lennard, 1993).

Moreover, Lokaitou and Banerjee listed a number of factors contributing to successful creation of public spaces:

- Access
- Readability
- Services and facilities
- Activated as an independent part in urban texture
- Beauty of appearance: style, form, color, texture, landscape layout and furniture
- Coherence, continuity and communication
- Location in city
- Supporting various groups of users
- A variety of current activities
- Pedestrian-friendly design
- Allusions and metaphors to encourage a particular behavior
- Density (Lokiatou and Banerjee, 1998)

In defining public spaces, Oldenburg mentioned eight characteristics as below:

- A common ground where people can easily join each other
- Third place as a balancing element in everyday life
- The possibility of sitting and talking is among the main activities of such space
- Accessibility 24 h a day, both individual and communal, for all the visitors
- Observing similar groups as constant users of space giving it a special characteristic
- Physical structure, centripetal and legible with low level difference
- Lovely, enjoyable and fun space away from alienation, where an individual would feel as if there is a positive experience going on
- A home far away from the house (Oldenburg, 1999)

Studies like that carried out by Kaplan *et al.* (1998) and that of Stedman *et al.* (2004) indicate the role of natural factors in public spaces. In his studies on this subject, Pakzad categorized urban spaces mentioned earlier in the definitions and separately explained the characteristics of each one. In addition to emphasizing the realization of emotional and spiritual needs and its reflection in space, pointed out the necessity of giving meaning to urban spaces. In his research, creating the sense of belonging, continual and active presence of users in space as well as social interaction among citizens in urban spaces were listed as major characteristics of such spaces. Furthermore in this study, a number of designing qualities were listed as below:

- Integration of space
- Aspects and proportions

- Flexibility
- Form
- Geometry
- Materials
- Confined bodies, physical and spatial continuity, which contribute to understanding the entire space and consequently improves human perception of public spaces (Pakzad, 2004)

CITIZEN SATISFACTION AND PUBLIC REALM

Since the early versions of communal settlements up to when designing of rural settlements were done by local residents in such areas, people have always been trying to adapt the surrounding environment with their wants and needs, which has been a significant factor contributing to citizen satisfaction with the settlement and stability in the old days. After collaboration of urban thinking and decision-making centers inside institutions like municipalities and governorates, wants and needs of public groups each with different tastes and wishes, became too difficult to predict, thus leading to an attempt for understanding these communal needs, which has been continuously of high importance to the science of urban planning and design up until today. In fact, citizen satisfaction is defined as the level at which inhabitants of urban settlements are satisfied with these factors predicted by urban decision-making institutions, a great portion of which is dedicated to urban public spaces.

Francis Tybaldz describes public realm as the whole parts of urban texture, to which all the people have physical and visual access. According to Tybaldz, streets, parks, city squares and the range of buildings drawing the municipal boundaries construct the public realms where the highest level of contact and interaction take place among humans. A review on writings related to civil rights would show in legal terms, if a space is regarded as public, in spite of the inherent limitations to public access, ownership and the right to have access cannot be an obstacle to public use. Even a place predominantly private can, in most cases, be available to the public and it can be demanded through legal channels if hindered. Legally, public places cannot prohibit interaction with other users. Definitions of public space put much emphasis on unrestricted access to space or various activities going on in it, the most notable of which is social interactions occurring as a result of unlimited access. In short, public space can be defined as follow: It consists of certain parts of natural and artificial environment to which the public have easy access, including streets, squares and other routes everyone has the right to pass by-in residential, industrial areas and neighborhoods-open spaces, parks, private/public spaces access to which is free to all the people at least for certain hours

of the day. Urban public space is considered a medium for making contact with new people and those we have not met as well as the conflicts and contrasts arising from them. Actually, public space acts as a modulator and coordinator of the urban communication system when new players get involved.

RESULTS AND DISCUSSION

Evaluating the level of citizen satisfaction with public realms: In 1975, the Theory of Citizen Satisfaction was first studied by half of the researchers at Ohio University. This theory is an analytical model functioning based on the level of citizen satisfaction with their residential environment regarding a variety of physical, social, economic, environmental, aesthetic factors. In order to attain such environmental factors, urban researchers carried out a study on 767 families in Ohio. They examined the characteristics of each family, living place and the neighborhood they were dwelling. The objective was to achieve a model of citizen satisfaction applicable for urban planners and policy-makers. After the studies down by the mentioned research team, three major factors of access to services, social security and place identity were identified as contributing to citizen satisfaction with urban public spaces (Fig. 1).

Later on by combining the comments of urban planners and activity designers, the research team found out that according to users, there are a number of micro-factors (Fig. 2) contributing to quality assessment of public spaces as below:

- **Cleanliness:** Are these places clean? And how much attention is paid on their cleanliness?
- **Access:** To what extent are these spaces accessible? And is there any mobility in them?
- **Attractiveness:** How appealing are they?
- **Convenient:** Do people feel comfortable when spending time in such places?
- **Universality:** To what extent does it encompass various segments of society?
- **Vitality and dynamism:** How much of the space has been used? And is there possibility to do lively development activities?
- **Performance:** To what extent is there potential for implementation of various activities going on in the space?
- **Distinction:** Does this space have a clear and distinctive characteristic?
- **Safety and security:** Do these spaces induce feeling of security? And are they safe spaces?
- **Strength and health:** To what extent over time, the space can improve citizen's health? (Rafieian and khodaei, 2008).



Fig. 1: The major factors contributing to citizen satisfaction with public realms

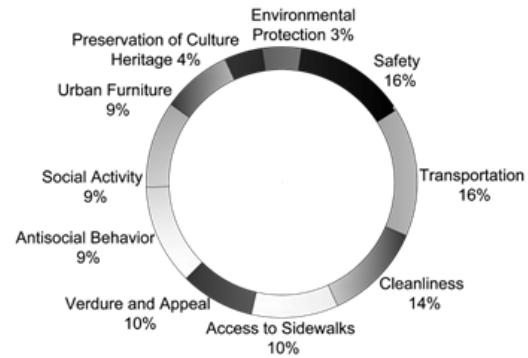


Fig. 2: The sub-factors contributing to citizen satisfaction with public realms (Rafieian and khodaei, 2008)

The three major factors of citizen satisfaction in public realms and how to establish them:

Access to services and activities: One of the most important privileges of a city is the high level of access. The contemporary theorists consider transportation and communication as integral to the key privileges of urban areas, which are also required by most of the theories revolving around development and performance of a city.

According to Lynch, access can be classified depending on the elements to which access is made and what expense it affords. He defines different types of access as follow: Access to people such as relatives, friends, partners etc., access to human activities and key services such as educational, entertainment, medical activities etc., access to goods and specific resources such as food, energy and various merchandise, access to specific places such as shelters, open spaces, waste lands etc. and finally access to information about the most current economic activities, banks, large companies and production of new merchandise (Lynch, 1998). On the other hand, accessibility of public spaces based on the available studies suggests that there are three aspects including physical, visual and social (Carr *et al.*, 1992). Physical access refers to pedestrian access, proximities, access to urban transportation and the way of contact with the place (Fig. 3) (Van-Raaji, 1983). Visual access can provide the possibility to avoid crime or unfavorable activities particularly for the benefit of women and children (Fig. 4). It can also lead to more security in a place. Social access is defined based on the



Fig. 3: Access to a variety of public transportation



Fig. 4: Visual access of surrounding sets n neighborhood's park



Fig. 5: The sample of mechanical control of space



Fig. 6: Oversight and transparency of open space between the buildings

user's needs and the type of ownership, such as the realms special for children, the elderly or the disabled (Charkhchiyan and Daneshpour, 2007).

Social security: The human need for psychological and physical security is also a human basic need related to space and one of the major factors establishing citizen satisfaction, which in turn brings various aspects as below:

- Visibility of space which can be provided through variety of planned activities and events aimed for enhancing public presence in space, visual permeability, readability and space clarity.
- Possibility of peripheral perception and achievement of assistance, proper lighting, open

sight lines, removal of insecure regions and signs and symbols helping people to recognize their spatial location.

- Perceiving the aesthetic values of a place, marking the place and qualities preventing people from wandering in space.
- Controlling a place using various forms including mechanical (by camera, gate etc.) natural (defining space and territory, oversight transparency, etc.) and organizational (police, guard, etc.) (Fig 5 and 6).

In another work, Lynch defines the elements leading to monitor and consequently provide security of a place as below:

- **User-friendly:** Implying that actual users or residents of a space are, depending on duration of their benefit or to a certain degree, engaged with the monitoring process. For instance, do families own their houses? Or Salespersons are owners of their stores?
There are two advantages to user-friendliness: better adaptation for monitoring by those individuals with the highest familiarity with functionality of the place and the highest motivation for improvement, ultimately bringing about more security, satisfaction and freedom in activities derived from this procedure.
- **Responsibility:** Implying that those in charge of monitoring a place should have motivation, power and obedience so as to be able to do the task correctly. Moreover, they ought to feel committed to the place and needs of other individuals and creatures, always prepared to accept failure and try to fix. In other words, monitoring over space should be conducted stage by stage, assigned to users proficient in performing the task. Furthermore, it is extremely essential to train people in order to enable them to manage their own dwelling places.
- **Trust:** Referring to the extent people understand the monitoring process, are able to anticipate it and feel secure toward it. It does not, however, imply that monitoring should be unchangeable, but the conflict and ambiguity would cause confusion and waste of time. In case there is no agreement on legal right or the most plausible use, people would feel insecure, consuming their energy for self-defense (Lynch, 1998).

Place identity: Kevin Lynch considers place identity as merely a thing giving itself a personality and distinguishing itself from other places. In fact, it acts as the basis for recognizing a place as a separate entity. Nevertheless, it does not necessarily mean that every place is identifiable with a unique sign (Ralf, 2010) On the other hand; Lynch considers identity as a substantial element in the meaning of place, which boosts clarity in

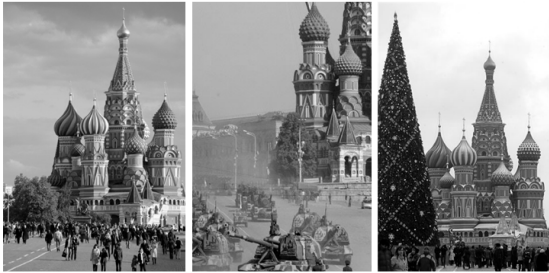


Fig. 7: The sample of adaptation a public space with activities occurring in it

understanding and recognizing of it. The ease of contact among the elements and components of a place with other events and places in a mental coherent manifestation of time and place and its relationship with non-spatial concepts and values (Lynch, 1998).

Place identity is not a simple label summarize-able and presentable as a brief actual description. Identity of a place takes multitude of forms, but it is always the main foundation of our experience in a place as opposed to other places. Identity of a place is composed of three interrelated components, which cannot be converted to one another: physical characteristics, performance and observable activities. Just as place identity is a function of the interdisciplinary experience, it is also a function of how buildings and landscapes appear, which indicates the difference between places (Ralf, 2010).

Identifying elements of a place: Lynch believes that meaning and identity of a place refers to clarity in understanding and recognition of the place, ease of contact between its elements and components and also with non-spatial concepts and values. Finally, he considers elements giving meaning and identity to the spirit of a place as structure, consistency, transparency and readability, which can be defined respectively as below:

- **Structure:** In small scale, structure means how components are combined with one another. In large scale, however, it means how other places communicate with that place. For creating a structure, people make use of different signs such

as identifying a shape or overt activities of a region or center, tandem connections, oriented relationships, time and distance, symbols and many others. Identity and structure are two forms allowing us to recognize space and time and introduce them within in our models.

- **Consistency:** The physical adaptation of an environment with the occurring activities in that place (Fig. 7), i.e., is there any consistency between the single shape of a place and that of occurring activities? (Lynch, 1998).
- **Transparency:** It implies that a person can directly understand how activities are done as well as various activities and social and natural procedures occurring inside a certain place.
- **Readability:** It refers to how people are capable of understanding a place. Readability can be signified at two levels:
 - Physical form
 - Activity patterns

Places might be eligible and understandable at either of these levels. For instance, there is possibility to have a vivid feeling about physical form of a place. Similarly, activity patterns might as well find their way into our mental images without much concern about the form. In order to utilize the potentialities of a place, knowledge of physical form and activity patterns should complement each other, which is particularly essential for unknowledgeable individuals (Bentley *et al.*, 2010).

Evaluating the effect of satisfyingly designed public realms on civil life: As mentioned earlier, a great deal of available studies revolving around public spaces focus on physical and activity aspects of place as well as human basic needs. Despite their importance, however, social and semantic aspects and spiritual needs have been rarely in the spotlight. If we now take a look at the model of citizen satisfaction on the one hand and Maslow's hierarchy of needs on the other hand, the creation of satisfaction-based public spaces, with regard to various aspects of a place as well as



Fig. 8: The effect of satisfying public realm design on citizenship and personal life

various physical and spiritual aspects of humans, would lead to providing human needs at different levels and ultimately pave the way for humans to develop both individual and civil life (Fig. 8).

CONCLUSION

The results obtained from the present research on how to design public realms regarding the factors contributing to establishment of citizen satisfaction showed that three major factors including access to services and activities, security and identity of place contribute to establishment of citizen satisfaction. Later on, it was explained how each factor contributes to designing of public places. Finally it was determined that establishment of such factors not only improves citizen satisfaction but it also leads to development of individual and civil life through providing human needs at different levels.

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