

The study of urban furniture at efficient urban space creation

Abstract:

Lack of attention to efficient space and its qualitative elements has led to side effects such as lack of environmental visual qualities and its disorder and also lack of spaces efficiency. This matter has remarkable effect at safety and security of urban spaces. If we want to maintain our efficient urban space creation, it should has logical and beautiful performance according to its performance and it be compatible with qualitative elements and social and cultural specifications of its residents till it can be responsible to citizens needs from physical and psychological aspects. At other side, inefficiency of urban furniture emptied them from their aesthetic values and so-called these modern equipment which they should present more welfare facilities for citizens according to their ontological philosophy and create favorite urban spaces but they have been converted to most inefficient and polluting installed equipment at urban spaces. But with urban furniture designing, we can keep, maintain and create efficient urban spaces and identity presentation elements.

Key words: urban space, efficient space, urban furniture, identity presentation elements

Introduction:

Maybe we can say that all human activities at interference stage and forming of artificial environment are somehow providing his human needs. Then, by urban making (city-making) science, we have tried to provide citizens needs some extant by artificial environment. At provision of many urban plans, something which has been focused by designers and programmers is physiological needs and then safety needs and at other side, according to basic discussions of psychology; condition of relative healthiness of human being is providing of all needs as a generality and this view is observed as priorities of urban furniture elements designing. In fact, furniture element merely for providing physiological and safety needs without pay attention to affection, self-esteem and self-thriving of citizens can't create favorite and artificial human being residence. So, at present study, we have paid attention to space physical elements (especially urban furniture elements) for having efficient space such as quality and space safety.

The concept of urban space:

Urban spaces are part of public and open urban spaces and somehow they are manifestation of communal life. It means that its place which citizens present there and its space that all people can access to it and act there (Pakzad, 2007). At this space, there is opportunity to break some social boundaries and occurring of prepared events and persons mix with each other at new social environment (Lynch, 1972). So, main condition for public space to be considered urban space is happening of balance and social interaction. Urban space is artificial ordered and organized space and it acts as ground for human actions and activities. Human being is a part of space and he creates sense to space with his values and norms. Application of urban space is creating of comfort, fun and place for walking and also place for human traffic and transaction. Because they are public and haven't specific applications, they can accept all applications or selected applications. Urban space is considered as ground for promotion of urban elements and facilities, and then because of this matter, we pay attention to physics of urban space from side walker view at circles and enclosed, continuous and harmonized environments for forming of efficient and favorite urban space. Space is

understood by observer by help of from limit of space and feeling of moving in it. If there be visual absorption at urban spaces, feeling of moving of observer at space and his visual perception is mixed completely. Observer (citizen) is affected by space structural combination elements. Urban space is organized structure based on following rules including: connection between body and urban elements and equipment, buildings and their similarities and differences and finally place of buildings, fountains and stations or other three dimensional elements. So we can't account every building opening as urban building rather special visual communications and moving at space with mentioned features led to urban space. If not, open space will be account only as mass of buildings (Habibi, 1989).

Every presented definitions apparently points out to one or some aspects of these phenomena, so, variety of urban space definitions mainly emanates from this reality that urban space is physical and social matter (Harrow, 1985). Urban space also can create situation for creativity and entertaining environment at urban collection to provide ground which every person needs for his situation understanding. Designing of volumes (urban furniture) should be considered for organizing of urban space to have coexistence with space. In fact, space is relation between its organizing factors because it has consisted of human societies and physical things of elements and parts. So, urban space is purposeful and it will be ground of defined events (Pakzad, 2007).

With understanding of basic principles of urban space independence of forms aspects of historical and spatial periods, common features are manifested at urban space that they can be called spatial quality. Basic points of this spatial quality are included:

- 1- Unity 2- order 3- geometry 4- hierarchy 5- completeness of part
- 6- completeness of generality

These principles at combination of each other create a picture which is always based on aesthetic principles and rules and they create atmosphere of familiarity sense with space and also according to this definition, urban space is meaningful.

Physical elements of urban space:

Cities are created by current relation and activities which are done at it and also factors buildings, streets and spaces which we call them urban physics. So, urban physics is a vessel which urban activities happen there. It's obvious that city life and physics have bilateral influence on each other. At present time, reason of many disorders at urban physics is complex and chaotic relations at city. Studies, programs and plans which are provided at the field of urban programming finally led to take decisions about urban physics. Disorder of urban physics leads to chaos comfort of urban citizens should have it.

Table 1: Physical elements of urban space

Physical elements of urban space I			elements		Urban physics	City entrance- void and full volume- sky line- city profile	Urban body		
						Edge- node- road- quarter- sign	Urban appearance		
						Perspective-space-urban furniture	Urban face		
								Urban spirit	People and activities
									Dynamic feature of city
									Sound and smell

At the rest, we paid to constructive factors of urban physics to determine position of urban furniture elements are at which categories and other factors have what role? According this concept, constructive factors of urban physics are including: body, appearance and face. At first step, these three factors make this concept.

Urban face:

City face is first and important factor which effects on observer. In other words, just as person encounters with city, he sees something which we call it urban face. Following three factors make this face including:

- 1- facade
- 2- Space
- 3- Urban furniture (Mozayani, 1999)

1- facade

Buildings make more facades but sometimes some natural factors such as trees row or decorative vegetables alongside of building at facade observed. Facade design has effective role at creation of visual influence. We can observe best perspective design at buildings which have been made with different architecture styles. A normal observer maybe can't to recognize different styles such as a skilled designer but differences of perspective designs leads to create different visual influences (Mozayani, 1999).

2- Space:

Second factor of urban face creating is space. Space like perspective is the first factors which are seen by observer. So, it has been categorized as urban face factors with perspective and urban furniture. Our meaning of space at this project is urban spaces which define its perspective and its furniture and also we have different kinds of urban space. Space identity of square, streets and green field, the more be clarified, the more is efficient.

3- Urban furniture:

Urban furniture is very important at creation of urban visual influence, so it should be accounted as factor of urban face creating is space. Understanding of urban visual influence is direct; just as observer enters at urban space see them. Some of experts have spoken about practical application of it but we have focused on more visual and aesthetic aspects of these factors. Urban furniture is interdisciplinary course and common chapter of different courses and different branches. Many persons are responsible for it and sometimes this case leads to its inefficiency.

Designing and urban programming, industrial designing, architecture, green field architecture, internal architecture, graphics designing, civil engineering, sculpture, painting, installations engineering and graphics are some jobs which have relations somehow with urban space.

At summary, duties of guidance, control, security, relationship, facility, decoration and entertainment at street and city should be done by part of urban furniture.

Regulation of such activities in city is out of ability of one or more experts. This structural variety is a base to shape some facilities in cities under the title of “urban furniture”. Observing different kinds of fountain, creek, pool, outdoor pool and some others reveals the need for specialty of establishment engineers. All traffic signs, designs and their locating and whatever else compassed in this collection require the attitude of traffic engineers. In regard with designing environmental ads and synchronization of signs and panel, it should be said that graphic design has an important role with the aim of creating suitable visual relationship between citizens at the level of public places.

Discussing spatial structures, flooring, curb, creek, steps and tilt-way in city view, it is essential to have civil experts beside. Sculptures and painters use their own art visually and practically in order to give soul to cold and ice levels of city and to fill it's empty and boring spaces.

Architects grace to spaces through designing diverse volumes, experts in design and urban programming tend to offer suitable patterns of urban life in relationship with buildings, streets and squares and by general with urban spaces.

Investigation of urban space definitions in the view of thinkers in relation with urban science

To know what urban space is, the space has been classified in 3 physical, mental and social manners and in 5 recognizable areas. In this chapter we will offer different definitions of urban space from scientific view. “ most believe that urban space has been evaluated based on two physical and social aspects, that is, physical investigations have been more considered in the view of architects while social ones

in the view of urban sociologists, programmers and urban geographers”(Madani, 2000)

Just before 20 century when there has not been any separation between art, philosophy and social institutions, the urban space was the indicative of gathering and there was not any difference between urban space and its performance. At the start of this century and once modern thinking was increasingly extended, modernism considered the urban space at the result of social compulsory performances happening in cities.

The modern movement made urban space is forgotten relying on functionalism, separation of urban elements, zoning and city division in to 4 main performances – habitation, leisure, job and footwork. Attenuating in the discussion offered by Le Corbusier who has been elected as representative modern thinkers in the field of urban, disconnection of urban space with any sort of social, cultural, sociological and historical information can be revealed. In fact, based on its new thinking, modernism considers any cultural and historical information in regard with urban spaces both waste and disadvantageous; moreover, it attempts to the best of its ability to delete those effects. And it is achievement of modern rationalism in the modern times; therefore, in thoughts of modernists there is no concept for urban space and most of them do not consider any differentiation between private and public space. “From their view, the space is organized around a large amount of neighborhood centers as synthetic cubism reminds it. Since according to Le Corbusier the culture is an angled thinking , angle of convergence determines the golden principle of correlations between structures and traffic by which we mean that functionalism and the same rational aesthetic principles shape the concept of dispersed structures compound elements in the space”(Showy,, 1997).

Therefore, in the thoughts of modernists, particularly those belong to Le Corbusier, the street as an urban space is nothing more than traffic performance and the city space is an infinitive, abstract one which is merely separating of buildings.”That the building should be simple volumes in the sea of space infinity has been changed in to a habit in thought of modern city”, said Alexander (Madani, 2000)

Urban furniture definition:

The ultimate aim of city is to create a creative and growers environment for those who live in. some equipment and complementary facilities are required in the space around buildings and structures to shape the urban life- equipment which make it possible to live in limited spaces of stone, concrete and glass and as a house furniture gives soul to them. Equipment or urban furniture, street furniture or outdoor furniture are among common terms referred to those facilities.

These facilities are well known in England as street furniture, and in U.S as public furniture or outdoor furniture. Following definitions are among those for urban furniture:

- Urban furniture is called as a set of mobile or semi mobile tools or practical and decorative tools which are permanently or seasonally accessible to residents in public spaces with the permission of authorities.
- Urban furniture is integral part of a city environment and makes it possible to know its identity
- Urban furniture is of some duties, including: determining directions, offering information to the citizens , offering regulations , goods and products how to be distributed or gathered , protection , shattering or places to rest, tools for children to play, usage of edible materials , offering healthy services.

Urban furniture elements are removable in two groups at below:

1. Functional elements such as light lamp, traffic light, waste basket, bench, sun shade, bus stop, public phone booths, press office, post box, curbs...
2. Aesthetic elements such as flower pot, sculptures, decorative trees and flowers, fountain, flag...

Urban furniture classification :

Types of urban furniture are on some bases which are practically used in line with different needs in urban areas. Awareness of these types and familiarity with their nature can be effective in logical usage of them, especially nothing that their system in space is due to their nature and function.

In this regard, types of urban furniture are considered as bellow:

- Determining directions and offering information to citizens (traffic panels, No street names, information, clock, panels, ads...)
- Offering regulations and traffic equipment (stop panels, stop forbidden, mandatory regulations, fixed or mobile obstacles to park, stop...)
- Protection(fencing, yard, guardrails ,... safety nets)
- Shattering or places to rest (benches, stone benches, sunshades, rain gears, bus stops...)
- Tools for children to play (different types of tools for children to play)
- Lights and lighting (different types of lamps and lamp bases...)
- Cultural symbols (sculptures, symbols, monuments...)
- Offering services (kiosks , flower shop, newsstands, super markets , health services, waste baskets, mug, tickets for sale, temporary tents)
- Infrastructural urban equipment

Concept of efficient urban space:

The concept of “efficient urban space” is in contrast with “inefficient urban space”. The inefficiency is of two objective and subjective aspects. By objective one, it means all visual elements while by subjective one, it means unsafe elements...

“... Urban spaces are those for a good life and the good life takes place when it is adapted to human needs and replete with social actions and reactions which give particular concept to everything in its real place and cause to creation of a calm, comfortable and safe environment. This environment plays its role in connection with city backbone and shapes city characteristics; also, urban space is integral part of urban space and structure which is transformed based on time or place conditions. This environment has organized itself at any stage and has avoided formal or spatial perturbation” (Habibi1989)

Inefficient urban space is among known issues in criminology as an unsafe location in which criminal acts take place. Today, accessibility to criminal acts leads to express of insecurity sense in society.

It is no doubt that the growth of crime has been changed in to a social problem that different political systems , ignoring ideology dominated on them, are unable to stop its growth and consequences such as insecurity sense and fear in people (Najafiabrand, 1999)

Inefficient spaces are among factors which bring insecurity in any society or city

Citizens are presented in urban spaces based on conditions at below:

1. Presenter in urban spaces
2. Passer-by in urban spaces
3. Observer in urban spaces

Permanent safety of space is considered as a vital fact for the first group (presenters) so not to endanger their habitations or occupations. Location of those one's habitations or occupations is in relationship with urban space and its surrounding spaces.

Safeties while passing through space is vital for the second group (passer-bys) to have a healthy mobility from A to B. these people are just ones passing space to achieve B from A.

The aim of an efficient urban space is to provide comfort and convenience in city. It is; of course, a space which bring, objectively and subjectively, the safety and convenience in to existence for all presenters, passer- byes and observers.

The third group is those who are temporarily in space in order to look around, rest, and meet the friends.... we call them “observers”. Their safety during presenting in space is of great importance since insecurity of space cannot lead to conditions for vital understanding of environment, rest, social relationship...

Jane Jacobs considers convenience, safety and urban space efficiency as among vital factors dominated on space which unwillingly impact on citizens. In general “seven common traits” are considered as efficient environments. They have been obtained through researches on how to avoid crimes they are as bellow:

- Access and movement : places with defined directions , spaces and entrances which provide mobility and safety
- Structure: places should have structures by which no conflict is created
- Surveillances: places which are accessible for public
- Ownership: places which boost the sense of ownership , respect , responsibility and social relationship
- Physical protection: places which embrace essential facilities of city

Urban outdoors and public spaces are among the first places which disturb space safety as main area of users.

Urban spaces with safety, sense of belonging and dependence will surely continue their advancement without losing identity

The concept of efficient urban furniture

Urban spaces are not of visual beauty by themselves while the man needs existence of order and beauty in his life environment.

City can be conceived as a dynamic and alive creature with a soul and a body and proper urban furniture can decorate the soul of city and give citizens the visual convenience. Urban experts believe that if necessary criteria are not observed in urban designing, the citizens can just perform their own essential activities while in proper urban spaces with proper furniture, the citizens can have essential activities; in addition, they tend to attend on streets or even prefer to walk rather than get on bus. Proper urban furniture is one of the factors of increase in presence of individuals in city and then more relationship of them in environment and society. Making mental health and comfort of the citizens should not be ignored. Tehran city is a city with great urban problems so that problems related to urban furniture are at low priority. Urban furniture in our country is at its first stages and our urban management in this regard has imitation aspect. A large amount of performed designs in urban equipment have been modeled without study on whether making them is of good result in our country; also, since our nation's needs are not considered during modeling them, the designs encounter with a lot of problems in many cases.

Designing urban furniture in many cases lacks minimum scientific and specialty standards. Functional dimension of these elements has unsuitable and inefficient performance as the main aspect considered for them (for example, panels, pedestrian bridges, waste baskets, public phone booths... each one is designed regarding services offering by them in order to satisfy public).

Urban furniture just like any other element has effected on city physiognomy and it should be in parallel with **customs** and **cultures** through exact and proper planning. region's identity and environment should be considered when it is to put a bench in

a corner. For example, if a concrete chair is put in a corner without correspondence with meaning, it has effect on social behavior of citizens, actions and reactions. “Readability” is a concept proposed by urban designers such as Kevin, American thinker – according to this concept, if physical arrangements and designing are done with principle planning, citizens will be able to depict a mental map of that city which is closer to reality. In a readable city even unfamiliar citizens with city space can identify the city without perplexity and find their directions using simple signs. On the other hand, identity dimension of city is among important aspects which can have a great role in visual memory. All pedestrian bridges change in to a symbol in city when they have an identical designing. This experience has been observed in Paris in designing entrance doors of subways and park fencings. Paris is a city replete with known symbols exactly because of these sorts of elegances. It introduces as a city with eminent identity. Furniture installation location as an element in relation with function will dominate all other elements. In fact, a furniture element with desirable designing but in an undesirable place leads to inefficiency.

Then, one issue which should be observed in urban furniture is that correct location should be considered to install equipment; moreover, designing furniture in urban spaces should be in accordance with human needs. Considering survival, security in a city and the sense of belonging to it as the most important needs, urban furniture should respond to these needs.

“urban furniture in Tehran space does not respect to citizen`s dignity; however, enormous endeavors along with expenses have been applied in this field but it is not sufficient yet. Tehran urban furniture has been applied especially in order to satisfy social needs of citizens. On the other hand, the issue of equipping and shaping urban furniture has been proposed as a priority in such a way that authorities could attempt more than now” (Abaszadegan,2004).

In urban designing category , urban spaces are not just as a place for citizens to walk along or to disport but places where people are presented and have social contracts to each other are of importance, too. Moreover, beside space designing characteristics in city, **equipment** and **urban furniture** are at the second stage of importance and even it is as important as space designing according to some thinkers in order to improve quality of spaces. Equipment and urban furniture not only create a desirable space but they can increase beauty of urban environment. Giving identity

to urban space depends on both form characteristics and establishment beside quality of urban spaces. It is why that today, in designing urban spaces, a great deal of attention is paid to its form and shape as well as coordination of urban furniture with environment. In fact, the amount of urban furniture usability depends on the way citizens use and satisfy their needs. Not to be satisfied with that furniture is one reason why citizens destroy them.

To avoid increase in disorders in city, it is essential to coordinate disperses measures and to make a coordinated structure. Then, it is possible to tie space and element functions and to avoid random establishment of elements beside each other or their efficiency and at the result, efficiency of the space. This fact leads to occurrence of desirable activity in space and decrease in space exhaustion.

Following above, we will study some cases of urban spaces which are converted to a desirable space through observing coordination and proper usage of furniture.

Case 1: seashore project “Victoria and Alfred”

The old seashore, Victoria and Alfred in Cape Town as main tourism region has equipment and urban elements that correlate between old and new context of commercial port, tourism markets, goods transformation by sea as well as yacht.

Powerful seashore has led to same time usage of hard wood, cast iron, stainless steel and concrete in street view designing and many elements reflect the sea effects. Good design of street equipment has correspondence with pavement included in polished concrete, macadam and dark brick; moreover, it is in correspondence with concrete fencings compounded with rings.



Picture1: seashore project “Victoria and Alfred”

Case 2: Lang Market: Lang Market was built in 1985. It was one of the first projects of pedestrian routes in kip town. This small market has a distinguished characteristic in regard with protection of historical hall and new administrative department. Although steel design is considered for lampposts and benches, it has a decorative form using perforated paper tape for light fittings in order to make a bright effect and also to decrease ablaze light of sodium lamps.

Single seat has been used instead of benches in order to forbid people from sleeping on. Metal decorative works are beige in color to have more display in front of the eminent pavement and gray malleable concrete pool. Some details are designed so that they remind Victorian elements.

Case 3: Pioneer courthouse square: this square in Portland is located in Orgalan state in where thousands of citizens spend their leisure times through subways. Among important elements it can be referred to:

- a) Steps as element to sit on beside creation of a communicative spaces
- b) Columns rows as an element to make a visual order to define an urban edge
- c) Usage of fountain to make more dynamism in space



Picture 2: pioneer courthouse square

Case 4: unity square: this square was located at the center of San Francisco and gradually was being forgotten, changing in to a stagnant place but by a renew design in 1997, it found its boom. Among urban furniture characteristics are:

- Desirable usage of benches and chairs
- Usage of proper lighting
- Correlation with surrounding space to make vitality



-Picture 4: unity square in san Francisco

Result obtained from world wide experience studies in performed projects as bellow:

- General shape and form of collective spaces so that they have easy usage and avoid extra gatherings
- Urban remedies so that easiness and quality of a view ties materials with respect to urban space characteristics but it does not forbid modernism
- Spaces made for pedestrians
- Cleaning , security , durability and shaping these spaces which are inevitable conditions for present citizens
- Optimized usage of urban furniture elements to respond needs of project performance location which, as was shown in the figures, was done by lighting or benches.

Worldwide thinking dominated on urban furniture

After investigation of element designing due to worldwide experiences, the method of this thinking has been considered. They are a case that observing them has led to more worldwide usage of urban furniture at the world level. Considering these cases has caused to the most optimization of performed designed equipment and to increase in the level of space efficiency:

1. Designing anti vandalism furniture (historical meaning of the word from vandal)

Damage to urban element and furniture depends on human behavioral patterns in one dimension which today it is called as a social phenomenon. The true understanding of this fact can impact organizing urban elements and furniture in urban spaces. One reason for destroying a great deal of urban furniture is due to expansion of human behavioral patterns through not considering correct location.

According to definition of “Vandalism” in Oxford dictionary, this term in 1663 was used to refer to any willingly or unwillingly destruction of any beautiful, respectable and protected thing and gradually embraced any uncultured and rigid destruction.

2. Designing furniture in correspondence with environment

Based on green design and attention of all contemporary designers to environment, environmental consideration should be observed in any depicted design. Of them is street details and urban furniture.

3. Regarding urban furniture capabilities

We face this fact that citizens should know in urban regions that where they are, that is to have a kind of urban and cultural education. Based on this fact, a repeated design should not be performed in all city contexts but different part of a city can be separated using urban furniture capabilities

Conclusion :

Urban space is a result of human behavioral “function” with social and common dimensions and social activities “function” pattern is due to mutual system between society and culture and the forces initiated by them can lead to production of urban spaces if there is an urban space. This space in cities more than any other space is a field for mutual social acts and overcoming to norms and social regulations and values and it needs logical behavior , social control, and cooperation and it is a field for freedom, variety , coordination and social continence all are among parameters coming from social though in urban space display. Proper urban furniture is one of the factors of increase in pedestrians.

Among the reasons of urban furniture inefficiency in our country, it can be referred to the following:

1. Designing in management of these elements is limited
2. Performed designs lack scientific studied
3. Iranian needs as citizens have not been considered in performed designs
4. Performed urban furniture lacks minimum scientific standards
5. Functional dimension of these views are unsuitable and inefficient
6. Lack of observing principle location
7. Lack of beauty in performed forms(for not observing qualitative criteria)

According to above, some reasons of efficiency of space through urban furniture elements are as bellow: activity can be created by these elements to respond citizen`s need; therefore, using these elements and their correct arrangement and just by optimization measures we can to have a efficient place.

Presence of suitable urban furniture can lead to proper distribution of functions and services and proper accessibility to them, creation of organization and proper function for obtaining usability and effectiveness of urban facilities, increase in desirability of physical spaces in order to work, live, do social, economic and cultural performances. At the end, urban space can be of value through urban furniture and finds character and uniqueness

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