

Preventing vandal behaviors by emphasizing on Environmental Design Methods (Case study: Mashhad metropolitan)

Akram Bakhtiyari

Msc student of architecture Department, Islamic Azad University, Central Tehran Branch, Tehran, Iran

Abstract : One of the common abnormalities and deviations in our current societies is vandalism. Vandalism is a philosophical approach that supports the constant questioning and criticism of all ideas in search of concepts that can be adopted for future use when questioning and criticizing ideas. Also, CPTED is based upon the idea that the environment influences people's behavior and uses design principles to minimize the potential for criminal behavior to occur. Ideally, principles should be incorporated at the design stage of a development but can be applied to existing buildings and areas.

The purpose of this paper is to provide the Mashhad city with Crime Prevention through Environmental Design (CPTED) principles and strategies to create a safer and more livable city. This research is applied .also; research method is "descriptive – analytical ". In order to collecting data, was selected documents and field method. The society and the research area are the city and the citizens of Mashhad city. Also, by using SWOT techniques was analyzed data and were proposed strategies in order to promoting urban space.

Key word: CPTED, vandalism, crime, Mashhad metropolis

1- INTRODUCTION

Vandalism, which means destruction of the public property in a city, is an awkward phenomenon. This phenomenon has reached a dramatic growth in human society and the ways in which we can confront differ according to the perspective that we choose. Those sciences pertinent to environmental and urban design that have some approach towards redesigning public spaces and promoting environmental qualities are considered as fundamental ones in dealing with these contemporary issues. The aim of this paper is recognition of the concept of vandalism and the identification of the most important strategies in environmental and urban design that can prevent vandalism with a view to urban spaces. Although cultural strategies represent one of the most important aspects of recognizing and dealing with this phenomenon, these are not the subject under discussion here (Cowan, 2005).

The society contains the humans that interact with each other on the based on a series of the social norms and values, and the condition of the survival of the society is to accept and internalize these norms and values, and any violation of them is considered as deviation.

Stanley Cohen, a psychologist researcher describes the vandalism as the illegal destruction of the properties of the others and to damage their appearance (Yavuz and Kuloğlu, 2011). Vandalism is one of the deviations in modern society. The prevention and treatment of vandalism requires a precise, inclusive, and collective strategy and policy. Indeed, relying on an efficient and universal plan, we can fulfill the relevant goal, i.e. the reduction of the statistical rate of the vandalism and destructions. Thus it is necessary to identify the effective factors on the reduction of this phenomenon as approached in this research. Most available studies in this field deal with the individual, family, and economic factors of the vandals. Thus to approach other effective components like the training, socio-welfare, socio cultural, and supervising issues is a new subject, and the objective of this research is to identify all components that are controlled and supervised by the urban management and are effective on the reduction of vandalism phenomenon in urban furniture and recreational centers.

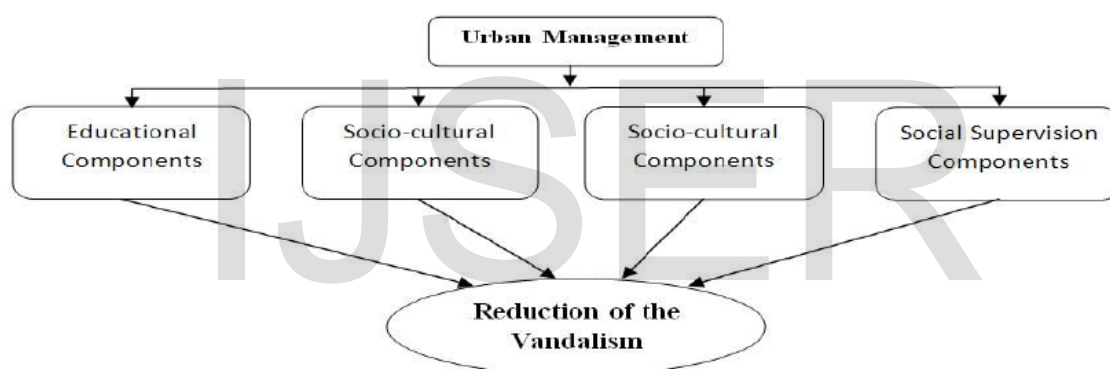


Figure 1: the factor of reduction vandal behavior

Crime Prevention through Environmental Design, or CPTED (pronounced sep-ted), is a relatively new concept. The idea of using the physical environment as protection against attack may date back to the cavemen. However, it wasn't until recently that the problem of creating a defensive environment was approached from both the physical and the psychological aspects at the same time. This blend of disciplines is the essence of the CPTED concept.

The goal of CPTED is the reduction of opportunities for crime to occur. This reduction is achieved by employing physical design features that discourage crime, while at the same time encouraging legitimate use of the environment.

CPTED also makes possible designs that offer protection without resorting to the prison camp approach to security. Use of fortress-type construction is minimized, and where necessary, integrated into the overall design, reducing negative visual impact. This approach is also cost-effective, since hardware applications are made during construction rather than added at a later date.

To understand fully how CPTED is used, one must examine its components and the philosophy behind them. Although crime prevention through design is itself relatively new, its individual

elements are common security techniques. The uniqueness and success of CPTED stems from the manner in which these techniques are integrated with, and applied to, the architectural design process.

1. THEORETICAL FRAMEWORK

1.1. Urban environment concept

Urban is a place – base characteristic that incorporates elements of population density, social and economic organization and transformation of the natural environment into a built environment (Rashed &Jurdens, 2010: 34).Urban environment is a peculiar term evolving from a discipline rooted in the social and the natural sciences – two important scientific epistemologies –without entirely belonging to either one of them. Since it is often considered by researchers interested in understanding the actions and social practice staking place in the urban realm, it may be closer to the social sciences although it is also used in discussions on air, water, soil, climate, vegetation and animal life. Its main field of application is society found within a space characterized by a dense pattern of development and an intensity of social interactions: this is what is implied by urban. It refers to a relatively central, intricate organization of the lived space (Boyden, 1977, 159) and can include any area ranging from metropolises, urban centers, semi urban fringes, neighborhoods, suburbs, to mid-sized towns.

1.2. Urban quality of life

Quality of life is a concept which in recent years has generated a great deal of interest, but it is not only a notion of the twentieth century. Rather it dates back to philosophers like Aristotle (384–322 BC) who wrote about “the good life” and “living well” and how public policy can help to nurture it. Much later, in 1889, the term Quality of life was used in a statement by Seth: “we must not regard the mere quantity, but also the quality of “life” which forms the moral end” (Marshall, 2007). Quality of life has been the focus of many studies but a consensus as to how it should be defined has not been reached. Quality of life is a complex, multidimensional construct that requires multiple approaches from different theoretical perspectives. There have been many attempts to define what constitutes quality of life in the different disciplines. More than 100 definitions of life quality have been noted in the literature.

Quality of life is “the satisfaction in your life that comes from having good health, comfort, good relationship etc., rather than from money”... It is “The personal satisfaction (or dissatisfaction) with the cultural or intellectual conditions under which he lives”¹.

The desire to improve the quality of life in a particular place or for a particular person or group is an important focus of attention for planners. Improving the quality of life in cities is no longer a simple matter of bricks and mortar, but the human satisfaction with different urban attributes such as transportation, quality of public spaces, recreational opportunities, land use patterns, population and building densities, and ease of access for all to basic goods, services and public amenities. As well as social attributes such as protecting public health, safety and security, education and social integration, promoting equality and respect for diversity and cultural identities, increased accessibility for persons with disabilities, preservation of historic, spiritual, religious and culturally significant buildings and districts, promoting spatial diversification and mixed use of housing and services at the local level in order to meet the diversity of needs and expectations. These are in addition to environmental attributes such as respecting local landscapes and treating the local environment with respect and care.

One of the techniques that have been used as a tool for urban development in recent years is that of cultural regeneration. This is seen as a means of restoring and improving the quality of urban life through the enhancement and development of the unique characteristics of a place and its people. Urban design is integral to the process of cultural regeneration, as such things as mixed-use developments, environmental improvement schemes and, in particular, public art help in the expression and development of the culture of an area.

¹-<http://www.thefreedictionary.com/quality+of+life>

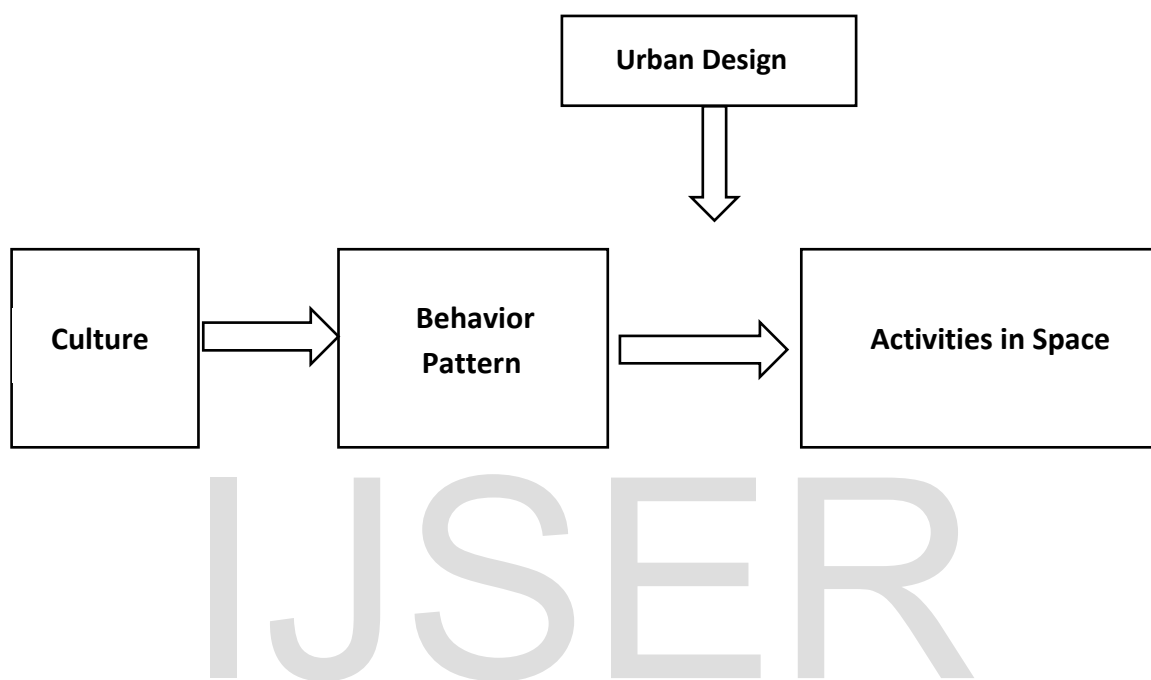


Figure 2: Filters paces and elements

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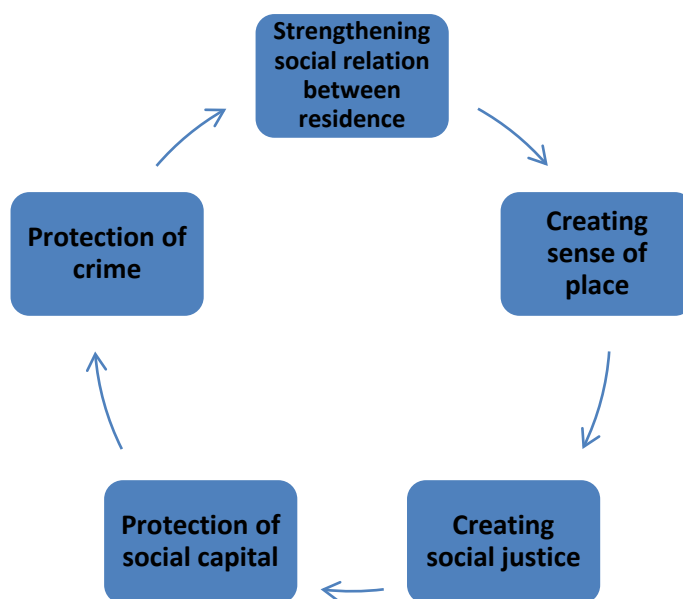


Figure 3: Social purposes in urban design

1.3. Vandalism

Order to understand the meaning and the concept of vandalism; we must refer to the English language, since this term was first introduced professionally. Through this language into the literature specific to environmental science and, later on, it entered the field of environmental and urban design in Iran. Lexically, vandalism refers in English to “destruction of public places and properties in the city” (Longman, 2003). From an etymological standpoint, this term derives from the word “vandal” which was the name of a Germanic tribe of the 5th century AD occupying Slavic lands between the Vistula Rivers. They were cruel and savage warriors who attacked and ravaged many different lands surrounding them, destroying and vandalizing the lands and regions they occupied. Their willful and vandalistic character is the reason why in pathological discussions the term vandal is used to refer to all those malicious behaviors which tend deliberately to destroy public or private property and art. Moreover, having an animosity towards science, industry, and civilization is also related to vandalism and its concept in the discussed field. (Cowan, 2005). In the Persian dictionary (Dekhoda, 1998) the term is used as an equivalent to “vandalism” in English and is defined as, “Destroying and ruining”.

1.3.1. The causes of vandalism

The causes of vandalism a review and content analysis of the existing literature in the environmental sciences, taken from of environmental design, environmental psychology and sociology, attempts to take into account the nature and the causes of the occurrence of urban vandalism. Moreover, it deals with extracting the most important causes of vandalism occurring in the city. These causes are categorized into internal and external ones. Internal causes refer to inherent characteristics of the objects and urban spaces and also to the internal and individual characteristics of the people. On the other hand, external characteristics refer to environmental and social factors that play a key role in bringing about the desire for vandalism. Some scholars who emphasize the role of social factors in the environment say that vandalism is the reaction of people towards the environment because of

their dissatisfaction towards the place they live in. It also represents a kind of crisis in social interactions, through which the lack of belonging is expressed towards the spaces. It should be mentioned that vandalism is an antisocial behavior. In a similar manner, some have emphasized the lack of sense of belonging towards public properties as a result of which vandalism is an epidemic phenomenon that has crept into many city environments. The most important reason for vandalism occurring is that people do not have any sense of ownership towards public property (Moradi, 2002). Hirshi, one of the pioneers in social control theory has considered vandalism as similar to other forms of crime which is caused by lack of social control and observation. He believes that, when the social control decreases, social unity will consequently diminish. Therefore, this leads to a decrease in the power that brings unity in the society. As a result, the ability to prevent social crimes will be weakened and the possibility of social misbehavior will escalate (Turvey, 2005). Some researchers note the presence of vandals among groups of criminals and they believe that group pressure and group objectives are the factors that may lead to criminal behavior. In other words, vandals often act as a gang to destroy public properties. Therefore, it is group objectives not individual ones that are the inherent factors in these kinds of behavior. Freud, in his theory of psychoanalysis when talking about the source and nature of behavior and the psychological roots in misbehavior occurring, has mentioned the factors which may be the cause of vandalism and violence. He believed that if a person has not reached his natural acceptance in society in childhood, a kind of imperfect personality will be constructed and behavioral standards and moral consciousness will not be developed and, as a result, such a person will not have the appropriate behavior and will behave violently and uncontrollably in society. Therefore, Freud places an emphasis on the role of the family and environment in the occurrence of vandalism in the city. Some investigators believe that numerous and various factors are involved in bringing about vandalism in the society. For instance, they have referred to "failure in social and family relationship", "family factors", "gender and age", "imitating other criminals' 'feeling as a stranger in the environmental conditions", "family factors", "excitement and excursion for the young people", "alienation towards self, nature, and other fellow creatures", "deficiency in public properties and facilities", and "snowball phenomenon". Turvey in his book on criminal profiling does not regard vandalism as a momentary criminal intention, but he places the emphasis on a set of environmental

behaviors and factors that act as prerequisites for vandalism occurring in the city (Turvey, 2005). In his book on vandalism: behavior and motivation, Leboyer also mentions that the destructive behavior of vandals is the result of a special and stimulating relationship with the environment (Leboyer, 1984). Weinmayer (2002) considers vandalism to be the result of the inappropriate and unfitting design of city spaces. He says that “designers are the real destroyers in the society. A careless and low quality design and planning is an agent in the growth of vandalism”. However, the current evidence is not in favor of Weinmayer, because there are places and spaces with appropriate and secure designs which did not end to satisfactory results. But the significance of this theory lies in its special attention to the status of environmental design and promoting environmental qualities in relation to anti-destructive norms in the city. Some psychologists consider vandalism as a kind of aggression in behavior for which there is no special reason for its emergence, or that it is an expected response resulting from social dysfunctions and cultural obstacles; it is a kind of complex and lack of respect resulting from a failure to fulfill dreams and goals.

2. METHODOLOGY

This study uses the Descriptive Analytical Approach to identify the general concepts of quality of life, urban quality of life and environment design. In addition it analyzes the contemporary urban planning theories and approaches that have been applied on many international case studies aiming at enhancing quality of life. Thus the goal of this document is to provide the Mashhad city with Crime Prevention through Environmental Design. Studied area is Imamat Boulevard in Mashhad city. It has been located in north of city. The municipally region is 11. Mashhad city is the second metropolitan in Iran. On the other hand it has important city as the first religious city. Indeed, it is religious capital in Islam world.

In order to collecting data, was selected documents and field method. The data are generally gathered from scientific centre libraries like universities, organizations, institutes and research centers such as management and planning organization and internet, official statistics and censuses, urban development plans by consulting engineers, field study and so on. The society and the research area are the city and the citizens of Mashhad city. Also, by using SWOT techniques was analyzed data and were proposed strategies in order to promoting urban space. Also, this paper attempt two hypotheses. They are:

- It seems one the main factor in order to creating vandal behavior is the shortage of leisure land use.

- It seems, design of street don't appropriate. so is led to creating vandalism .

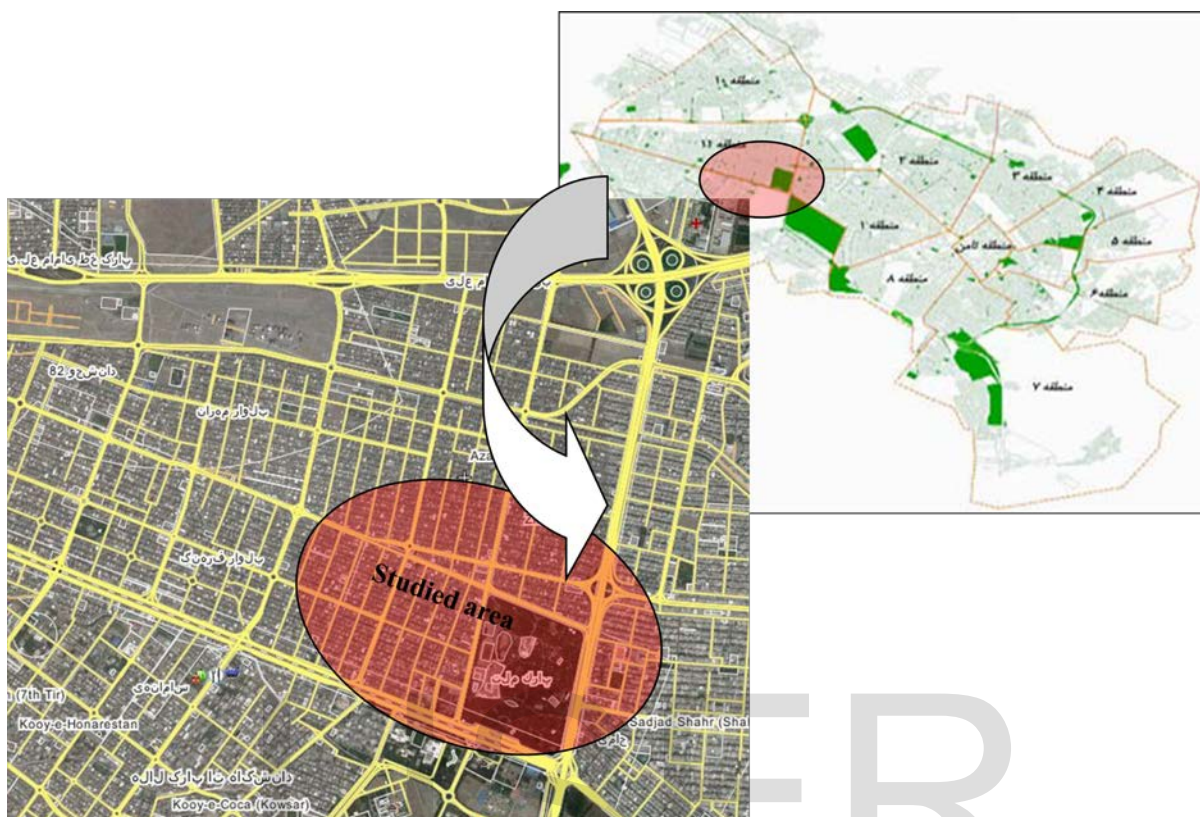


Figure 4: studied area

3. FINDING

Crime Prevention Through Environmental Design (CPTED) includes strategies implemented to directly modify the environment to take advantage of pre-existing environmental assets or change the design features and condition of particular targets (e.g., store fronts, parking garages, or abandoned buildings) or areas in an effort to reduce crime. In some instances, CPTED strategies are implemented during the beginning phases of a project (e.g., during planning of a new housing development). But, in many instances, the strategies are applied when the need for intervention occurs (e.g., adding security cameras to a store after a robbery) (Sykes, 1979). CPTED strategies are often linked with other community-based crime prevention strategies, such as problem-oriented policing, which emphasizes tailoring crime prevention strategies to solve specific problems (William 1991). As with other types of

community-based crime prevention programs, CPTED is made up of multiple elements or approaches and can be used by various stakeholders within and outside of the criminal justice system. CPTED strategies address quality of life issues by attempting to deter criminal activity, increase overall safety for citizens, and reduce citizen fear of crime. CPTED strategies are thus evaluated to determine not only whether crime was reduced but also whether citizen perceptions of crime were affected by implementation of the strategy. Several key components of CPTED are often manipulated to impact crime and positively affect public perceptions of safety including:

Territoriality:

(Promotes a sense of ownership and may include the use of signs, fences, or artwork that helps define ownership of a given location); Territoriality involves an individual's perception of, and relationship with, the environment. A strong sense of territoriality encourages an individual to take control of his or her environment and defend it against attack (Newman, 1996).

A sense of territoriality is fostered by architecture that allows easy identification of certain areas as the exclusive domain of a particular individual or group. This feeling is enhanced when the area involved is one the individual can relate to with a sense of pride and ownership. It is not enough for a person simply to be able to defend his environment; he must also want to defend it. That "want" results from territorial feelings of pride and ownership (Yarahmadi, 1999).

The term ownership when used in this context does not necessarily mean actual legal ownership. It can be, and very often is, a perceived ownership resulting from an individual's relationship with the environment. Office workers, for instance, may feel a sense of ownership for the office in which they work.

Activity Support:

(encourages legitimate activities in public places to foster opportunities for natural surveillance and may include block parties, neighborhood clean-up days, or the design of mini malls to encourage more social interaction);

Access Control:

(restricts access to specific areas and can include the use of street barricades, landscaping, locked doors, changes in pedestrian or vehicular traffic patterns, or the use of security personnel to keep people away from restricted areas);

Surveillance:

(Increases visibility by natural, formal, and mechanical methods such as through promoting routine surveillance by community residents or through the practice of employing more than one employee at retail stores, police patrols, or Closed Circuit Television also referred to as CCTV); Surveillance is the principal weapon in the protection of a defensible space. Criminals are least likely to act when there is a high risk of their actions being witnessed. Environments in which legitimate occupants can exercise a high degree of visual control increase the likelihood of criminal acts being observed and reported (Giddens, 1999).

Informal Surveillance. Opportunities for informal or natural surveillance occur as a direct result of architectural design. Designs that minimize visual obstacles and eliminate places of concealment for potential assailants offer the most protection against crime. These open designs also encourage use of the environment, as people feel safer when they can easily see and be seen.

The use of defensible space in conjunction with natural surveillance is a potent crime prevention tool. The establishment of transition zones gives both the occupant and the intruder clear and definite points of reference. For the occupant, an intruder's entrance into restricted space creates cause for attention and possible alarm. For the intruder, entering restricted space spotlights his actions, elevates his anxiety level, and greatly increases his risk of being discovered and apprehended (Povey, 2001).

Formal Surveillance. Formal surveillance methods, such as closed-circuit television, electronic monitoring, fixed guard posts, and organized security patrols, are normally used only when natural surveillance alone cannot sufficiently protect an area. Public and semi-private zones that are concealed from view or that experience regular periods of isolation or inactivity may benefit from some type of formal surveillance.

Elevators, interior corridors, parking lots, public areas of buildings accessible after business hours, and exterior pedestrian pathways are potentially vulnerable locations where the application of formal surveillance methods might be justified.

Maintenance:

(Insures the routine maintenance or upkeep of the environment such as clean up programs or repairs and modifications to meet new threats)

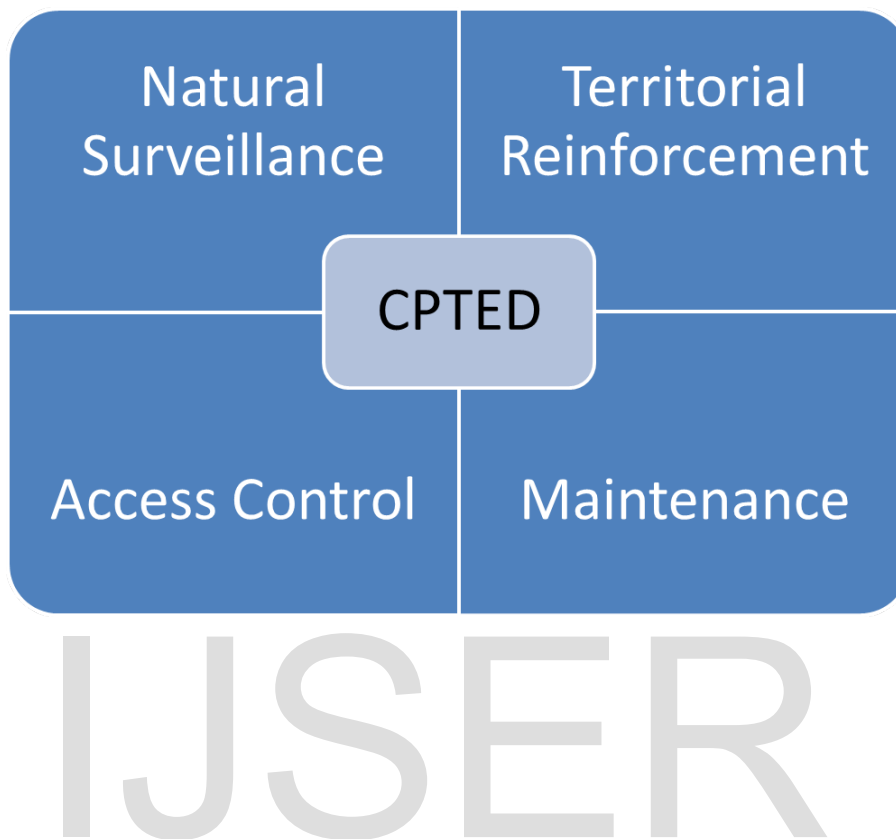


Figure 5: CPTED factors in order to decreasing vandalism

Table 1: SWOT technique in order to analyzing studied area

	Strength(S)	Opportunities (O)	Weakness (W)	Threat (T)
Territoriality	<p>There is personalization between residence</p> <hr/> <p>rememberable of studied area is Led to participating of people.</p>	<p>Participating residence in order to strengthening sense of place</p>	<p>There is possible permeability of persons by various culture due to Social responsibility of street</p>	
Surveillance	<p>There is social supervision in this street that is led to decreasing vandal behavior</p> <hr/> <p>There is organized human and guard such as police</p>	-	-	
Accessibility control	<p>There is appropriate</p>	-	<p>There isn't permanent land</p>	

	location of urban furniture according to behavior patterns		use ----- The main part of graffiti and destruction devices where have been deprived the range of uses	
Maintenance	Reconstructed sidewalk		Material of furniture is woody. so this is led to encouraging of vandal behavior	Bad design, installation and implementation of inefficient equipment create opportunity to further deterioration.
				----- There is disordered sign and symptom
Lighting	- Appropriate distribution points and clear the city streets.	There is possible Installing LED lighting	Sidewalks is not enough light and light is often fed sidewalk shops.	

Table 2: SWOT technique in order to analyzing studied area

	Strength(S)	Opportunities (O)	Weakness (W)	Threat (T)
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Activity Support	There flexibility as functional aspect		There is permanent land use	
	There is various land use is prevented non - normative behavior			
	There is land use in order to leisure			
	There is human scale , sense of pace and legibility		The main part of graffiti and destruction devices, where have been deprived the range of uses.	
	There is regional park in studied area (MELAT park). this is led to decreasing vandal behavior .			

At finally has been suggested implemented strategy in studied area in order to decreasing vandal behavior.

- Legitimate sense of ownership by enhancing natural surveillance, natural access control strategy by the symbolic (non-physical) or social factors

- Design of physical feature in order to increasing supervision
- Placement of persons or activities to maximize the possibility of monitoring
- Creating lighting in parking in night, pavement, entrance and other area.
- Other control methods such as the use of CCTV systems and security forces
- Using the sidewalks, different floor coverings, doors, lighting and landscaping to give clear guidance to all the inputs and outputs.
- Using of gates, fences, walls, landscaping and lighting to prevent or discourage access to areas or dark areas without supervision.
- Placement of high-risk activities in safe places with natural surveillance and control access to secure areas.
- Create community spaces in places where natural surveillance or access control.
- Light should not cause fear and anxiety in people. (White on dark colors and yellow tend to be preferred)
- Not lighting creates shadows because it will have an adverse effect.
- Hidden and the user can do with more lighting would be more secure.
- Maintenance of urban equipment such as cables and communication signals.
- landscape lighting
- Using of repair materials on the floor
- Urban furniture should be applicable to all age groups and segments of society.
- Furniture of different types depending on use environment
- Placement of furniture in places with easy access
- Studying in the field of management problems and a detailed survey of the extent of vandalism in a variety of furniture
- Using and recruiting efficient and creative persons about urban issues and Beauty
- Furnishings in the park would be a good static relationship with each other in terms of form, color, surface and material.
- It is better to be installed trash near the water fountains.
- The best way in order to installing The luggage on the pavement by the bolts .

CONCLUSION

Vandalism is as old issue urbanism. Although it was not previously considered to be of any great importance now, in big cities, the direct (material) and indirect (sense of insecurity, visual pollution) effects on the quality of environment and urban life can no longer be ignored. Dealing with vandalism, one should be equipped with an updated knowledge of management in environmental design and, particularly, urban design so that it would be possible to overcome the problems and difficulties in different areas in urban societies and particularly metropolises. Moreover, one needs to have the knowledge and skills available in order to eradicate vandalism before any other compulsory or imperative action would be needed.

This research review methods of environment design on order to decreasing crime in Mashhad city. In first hypothesis researcher believed one of the main factors in order to creating vandal behavior is the shortage of leisure land use. According to studying and field method, it is true. Due to there isn't pleasure land use in studied area except Melat park. So it is led to increasing vandalism in studied area. In second hypothesis was expressed that design of street don't appropriate. This is somewhat false due to based on resident idea studied area with compare other place have good design. Although some of people believed this street need facilities in order for comfort and security. So could be concluded design of street is good and second hypothesis is false.

As the most important outcome of this paper, it is clear that it is necessary to conduct further research and investigate all factors and criteria for the evaluation of environmental qualities related to vandalism in public spaces and, ultimately, to extract specific principles, conclusions and guidelines for application. Additionally, further research particularly conducting relevant case studies in this regard is strongly recommended.

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