Vandalism in Tehran, Iran
Influence of some of the Urban Environmental Factors

Saeedeh Rezaee, Rao S P and Ezrin Arbi

Department of Architecture
Faculty of the Built Environment
University of Malaya
50603 KualaLumpur, Malaysia

Email: saeedehrezaee@perdana.um.edu.my

Abstract

Vandalism can be defined as malicious, mindless injury to or destruction of public or private property. It is one of the most visible forms of delinquent behaviour and is amongst the most expensive crimes to be committed against the properties. Vandalism is the behaviour attributed to the Vandals, by the Romans, in respect of culture: ruthless destruction or spoiling of anything beautiful or venerable. Such action includes criminal damage, defacement, graffiti and crass erection of an eyesore. The cost of remedying such damage involves not only monetary costs but also social costs. The effects of vandalism damages can be discomfort as well as actual danger to the public directly or indirectly. A huge budget is required to repair the damages. Vandalism tends to encourage further neglect among the residents, increasing their anxiety about crime and fear of victimisation. These are the known consequences of vandalism and have been felt throughout the societies. The financial cost of repairing vandalism damages as well as the human cost of inconvenience and consequential annoyance is enough to justify putting effort into finding effective ways of reducing the incidence and prevalence of vandalism in the urban setting.

This investigation analyses as to how the environmental factors in urban design characteristic of Tehran metropolis influence the incidence of vandalism. Factors such as location, types of building, design quality of urban environment and site attributes are examined in correlation with degree of vandalism damages and frequency occurrence of vandalism in three selected areas of Tehran.

Keywords: Vandalism, Crime Prevention, Environment, Tehran

1.0 Introduction

Crime has been cited as one of the important problems and prominent fact of the contemporary societies (Garland, 2001). The cost of remedying the crime varies from direct cost to indirect costs (Forsyth, 2005). Crime as a social problem can restrict freedom of the people and prevent them from participating in the community. It can generate considerable fear within the community while superseding national security, employment, cost of living, poverty and health (NCPC, 2003; Muncie & Mc Laughlin, 2002). Victims of crime may suffer long-lasting psychological trauma (UNHSP 2007). High crime rate is an impediment to foreign investments. It can result in the stigmatisation of neighbourhoods or even entire sections of the city (UNHSP 2007, Dodds & Pippard, 2005).

Vandalism is a form of petty crime that is difficult to study (Buck, A J et al 2003). The intentional destruction of property is popularly referred to as vandalism. It includes behaviour such as breaking windows, slashing tires, spray painting a wall with graffiti and destroying a computer system through the use of a computer virus. Vandalism is a malicious act and may reflect personal ill will, although the perpetrators need not know their victim to commit vandalism. The recklessness of the act imputes both intent and malice. (Legal dictionary)

Rapid and uncontrolled urbanisation in many developing countries, including Iran, is having fundamental social and environmental consequences in the development of the cities. Tehran is a young city that has almost one third of its population below 15 years of age. Such a high proportion of youth coupled with chaotic urbanisation and socio-economic conditions causes Tehran to become an urban community with a high rate of vandalism. This can pose a threat to the face of the city, its use, prosperity and reputation of the urban areas leading to stability and developments of the city.

There are no statistics on the rate and scale of vandalism in the urban areas of Tehran. The sheer number of vandalised properties in Tehran at various locations shows that vandalism in Tehran is on the verge of destroying the face of the city, leading to monetary and social costs to both individuals and to the community at large.

Iran has lagged behind other developing nations in research on vandalism issues like, the causes, consequences and the effectiveness of different initiatives to tackle vandalism in urban areas. The purpose of the present research is to educate professionals like architects, urban planners and policy makers, to understand and expand their knowledge on the main environmental factors contributing to the incidence of vandalism in urban areas of Tehran in order to lessen the material and human costs of vandalism. It aims to improve the physical urban environment, quality of life, sense of confidence, ownership and perception of safety for all residents of Tehran.

2.0 Vandalism

Vandalism is a term used to describe several different types of damage to property (Cooper & Carolyn, 1997). Definition of vandalism varies by jurisdiction and depends on the social context of the act. The same act can be judged very differently in different societies but in general vandalism refers to:

> *"Wilful or malicious destruction or defacement of any public or private property without the consent of the owner or persons having control" (Bessette, 1996, P.817)*

In criminal damage Act 1971, chapter 48 under English Law, vandalism is defined as:

> *"Intentionally or recklessly destroying or damaging any property belonging to another without lawful excuse"*

Among Criminologists and Psychologists, there are conflicting and contrasting views on the causes of vandalism. Goldstein (1996) pointed out that the causes of vandalism should have been investigated in the specific aspect of physical or social environment and the motives to vandals. Property rather than individuals is typically the target, so witnesses usually are limited (Buck, AJ 2003)

Studies about preventing vandalism are often based on two viewpoints (Roos, 1992):

1. *The situational* is based on the influence of opportunities and possibilities in the built environment to prevent vandalism

2. *The motivational* means that vandalism grows out of inner motivation and by a need by perpetrators

According to Goldstein (1997), based on situational and motivational explanations, vandalism prevention programs are *the person oriented strategies* that 'seek to reduce potential or actual vandal's motivation to perpetrate such behaviour' or e*nvironmental oriented* strategies - or crime prevention through environmental design strategies that 'seek to alter the physical setting, context or situation in which vandalism might occur'.

Both explanations indicate that the causes of vandalism should be sought in types of cultures and quality of physical and social living environments among individuals.

In order to better understand the causes of vandalism, different types of vandalism have been adapted by Criminologists from Cohen's typology (1973 as cited in Geason, 1989) as a framework on the basis of their motives. He offers *acquisitive, tactical, ideological, vindictive, play and malicious subtypes* and explains that vandalism resides not just in persons but in the nature of their environment.

Since the majority of vandalism is opportunistic (Barker & Bridgeman, 1994) and knowing that change of culture among individuals will require long time and income cases and such culture changes are not possible; de-opportunise vulnerable environment is known as the key to prevent vandalism (Wise, 1982).

Urban design as a framework that orders the elements into a network can change the physical setting of the cities. This can make urban areas functional and attractive. It also can establish processes that

make development possible. Knowing that not all the motivations of vandals can be eliminated, the way of designing the urban environment and city spaces can play a leading role to prevent crimes such as vandalism.

This paper attempts to rate the importance of different environmental factors that influence the occurrence of vandalism. Based on situational prevention strategies, these factors can either motivate vandals or they can give vandals opportunities to vandalise.

3.0 Study area: Tehran City: Iran

Tehran is the most populous city of Iran and also ranks amongst the prominent cities of the world. Tehran has a comparatively short, but very fascinating history of turning from a small village into a metropolitan area populated by millions of people. The location of the city is presented in Figure 1.

The exact cost of vandalism in Tehran is difficult to determine because of direct costs such as expenses incurred removing and repairing vandalism damages, prosecution of offenders or security measures and indirect costs such as decline in the value of real property in areas infested by vandalism or the effects of vandalism on threatening different investments and services in a neighbourhood (Barker & Bridgeman, 1994). Also lack of reports on the incidence of vandalism to the police on one hand and responsibilities and approaches of various departments and organisations against such type of vandals on the other hand is the major obstacles to submitting exact statistics and evaluation on this social abnormality and problem.

In recent years, Tehran municipality has started wide spectrum of activities to organise the urban areas. Social and criminal justice programs in line with some environmental improvements programs have been conducted by Tehran municipality to prevent vandalism. Despite of all Tehran municipality activities and programs against vandalism, it is still a major problem in Tehran.
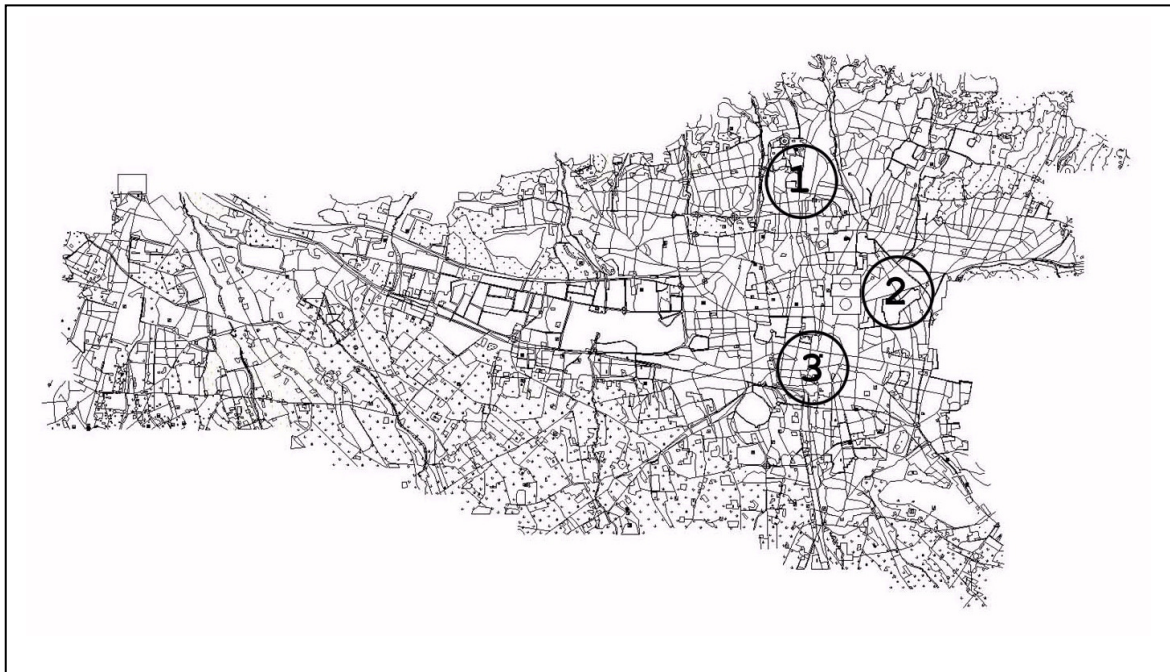

Figure 1: Tehran, Iran, areas chosen for the present study.

4.0 Research methodology

The major aim of this evaluation is to find solutions to minimise the incidence of vandalism in Tehran's urban areas using environmental factors. The aim of the study was addressed via objective observations in three selected areas of the city where people from different social and income level live as shown in Figure 1. The selected target areas are comparable in terms of size and land use.

     i.   Area number 1: Northern part of Tehran (High social level)

     ii.   Area number 2: Eastern part of Tehran (Middle social level)

     iii.   Area number 3: Southern part of Tehran (Low social level)

The observation method covers all the vandalised facades in target areas. Other types of vandalism such as broken windows or any damages to street furniture have been ignored as there is no evidence on its likely causes. Vandalism, improper use or over use of the furniture or even bad design of the furniture might be other causes of these damages. Apart from that, some furniture such as garbage bins are movable and there is no information on other conditions and the places where the furniture has been vandalised.

Night time assessment is important as it helps to determine the lighting level and also to evaluate overall quality of night time visual environment. The observation are carried out before and after dark (7pm onwards) from March 2009 to April 2009.

A documentation of the following issues and characteristics has been prepared for each vandalised sample in the three selected areas using the data collected during the site visit.

Types of the building, land use, types and width of street, architecture design factors (colour and material of the surface, size of the surface, construction quality of the building), urban design factors (outdoor lighting level, the quality of the building design in harmony with its environment, maintenance level of the property) and site attributes (the possibility presences of other people, police and cars' terrific in the place at daytime and night time and visibility of vandalized property to people) have been examined in correlation with the degree of vandalism damages and frequency occurrence of vandalism in the place.

Based on situational prevention theory[1], the selected factors are known as effective factors that can be used to increase risk, increase the efforts, reduce rewards, reduce provocations or remove excuses to prevent vandalism.

Table 1 shows the incidence of vandalism in the 3 selected areas. 160 samples have been observed and documented in three areas of the city. 43.8% of all damages occurred in area No.3 (low social and income level) and 40.6% of all damages occurred in area No.2 (middle social and income level).

All vandalism incidents have been categorised into 5 groups in terms of the degree of damages; Table 2 presents vandalism rates in the 3 areas according to degree of damages.

---

[1] *"Situational prevention approach" by Clark (1997) suggested altering situational determinants of crime so as to make crime less likely to happen. According to Clarke (as cited in Wortley & Mazerolle , 2008,), Situational prevention theory says "crime results from the interaction of motivation and situation and emphasise that situations provide more than just opportunity for crime; they also provide temptation, inducements and provocations" (P.178) and the interaction between motivation and situation that result crime is mediated through decision made by individual offenders; naturally people avoid committing crime if the circumstances are unfavourable and it is the objective of situational crime prevention to create unfavourable circumstances for offenders.*

Based on the author's observations, Table 3 presents a record on frequency occurrence of vandalism on a property in Tehran. It shows 38.8% of the properties had been vandalised 2 times and 33.1% of the properties had been vandalised only once.

Table 1. Vandalism rate in the 3 Areas of the City

Area	Numbers	(%)
Area 1 (high income & social level)	25	15.6
Area 2 (middle income & social level)	65	40.6
Area 3 (low income & social level)	70	43.8
All areas	160	100

Table 2: Vandalism rate / degree of Damages

Types of buildings	Frequency	Percent	Valid percent	Cumulative percent
Very Low	5	3.1	3.1	3.1
Low	45	28.1	28.1	31.2
Average	84	52.5	52.5	83.8
High	24	15.0	15.0	98.8
Very High	2	1.2	1.2	100
Total	160	100.0	100.0	

Table 3 : Vandalism rate / frequency occurrence of vandalism

Frequency occurrence of vandalism	Frequency	Percent	Valid percent	Cumulative percent
1	53	33.1	33.1	33.1
2	62	38.8	38.8	71.9
3	33	20.6	20.6	92.5
4	8	5.0	5.0	97.5
5	4	2.5	2.5	100
Total	160	100.0	100.0	

5.0 Results and analysis:

The main aims of the present evaluations were to examine:

1   What are the most effective environmental factors to encourage vandals to high degree of vandalism damages;

2   What are the impacts of any of the environmental factors on the degree of vandalism damages and frequency occurrence of vandalism;

The data retrieved from questionnaires are analysed in order to measure the degree of association between the degree of damages and different environmental factors based on author's observation of 160 samples. (α= 0.91 significant at α> 0.7 or α =0.7).

Spearman's Rank Correlation Test has been suggested to examine any correlation between the studied environmental factors and degree of vandalism damages to the properties (Table 4). The survey revealed a clear relationship between degree of damages and four environmental factors as follows:

i.   Frequency occurrence of vandalism on a property has the maximum effect on degree of damages. Vandals are more likely to vandalised properties that had been vandalised frequently; it shows that the evidences of vandalism on a property can be encouraging to vandals

ii.   The reflection of the surfaces and the material has the minimum effect on degree of damages. The relationship between the surfaces' reflection and degree of vandalism damages is in opposite direction. Vandals are less likely to vandalise surfaces with high degree of reflection such as Granit and there is an up warding tendency to vandalise surfaces with frosted materials such as brick or cement rendered

iii.   There is a correlation between the broadness of the facades and degree of damages; the vandals' interest to vandalism is decreasing by reducing the size of surfaces,

iv.   Youth are less likely to vandalise well maintained properties; in other words, the properties that are not well maintained are expected to be more in danger of being vandalised

v.   The quality of construction and the harmony with the environment has direct effect on the degree of damages; it shows enhancing the quality of the construction considering architecture design is expected to decrease the degree of vandalism damages

The results from Chi Square test shows that the residential buildings in Tehran are the main targets of vandals while there is no correlation between the types of building such as detached, semi detached, high-rise or type of fixed street furniture, types of streets and degree of damages (p > 0.05).

In first part of the evaluation, only four environmental factors were known as most effective factors to encourage vandalism. The second part of the evaluation examined if there is any correlation between the colour of surfaces, outdoor lighting and degree of vandalism damages although they might not be the most determining factors to encourage vandalism. The result indicates that the lighting level and degree of damages are correlated directly. The most severe damages occurred where there is the highest level of lighting and the lowest degree of damages occurred in places with the lowest lighting level. It can be concluded that if a person is encouraged to vandalism, the presence of more lighting will lead him to cause higher degree of damages. However there is no correlation between the lightness level of surface's colours and degree of damages.

Table 4: degree of association between the degree of damages and different environmental factors

No.	situation	p	Confidence of correlation
F6	Lighting level	0.418	0.064
F7	The surface Reflection (Material)	**0.023***	**-.180**
F8	Lightness of the colour	0.131	-0.12
F9	Broadness of the surface	**0.017***	**.189**
F10	The risk of being seen by people in the place (day time)	0.156	0.113
F11	The risk of being seen by people in the place (night time)	0.776	0.023
F12	The cars' traffic (day time)	0.465	0.058
F13	The cars' traffic (night time)	0.691	-0.032
F14	The visibility of the vandalized property to people	0.834	0.017
F15	The probability presence of the police	0.34	0.076
F16	The width of the street	0.213	-0.099
F17	The maintenance level of the property	**0****	**-.415**
F18	The frequency evidence of vandalism more than once in the same place	**0****	**.483**
F19	The quality of the building (construction)	**0****	**-.283**
F20	The quality of the building (design and the harmony with the environment)	**0.009****	**-.207**
	*$p<0.05$, **$p<0.01$ $-1<\rho<+1$		

Furthermore, it is believed that vandals are likely to vandalise visible facades. This part examines whether the visibility of a place to people could be encouraging to vandals or could lead to high degree of vandalism damages or lead to frequent occurrence of vandalism. The results do not show a clear relationship between the degree of vandalism damages or frequency of occurrence of vandalism in a place and the high visibility of the place to people. The following can be inferred,

- The places where the highest degree of vandalism damages occurred, the properties were in highest visibility to people;

- The highest degree of vandalism damages were in places with the furthest frequency occurrence of vandalism;

- The lowest degree of vandalism damages were in places with the least frequency occurrence of vandalism;

6.0 Conclusions

With the fast development of the city and increasing interest to reconstruct and renovate old structure of the city, there is an urgent need to adopt new urban design regulations to tackle vandalism in Tehran. The study reveals that necessary steps should be taken to train architects and designers to use CPTED (Crime Prevention through Environmental Design) strategies in their new designs and make the designs affordable, acceptable and aesthetically pleasant to city users. The municipality of Tehran needs to have more control on building designs to be consistent with social, cultural values and in harmony with the city urban environment. However, to prevent vandalism that threats the existing buildings, there is an evitable requirement to increase a sense of responsibility among Tehran residents and to encourage the owners to have a better maintenance of their buildings and to rapidly repair the vandalised properties.

7.0 References

Barker M & Bridgeman C (1994) "*Preventing Vandalism, What works*?" , London, Home Office Department, Paper no.56

Bessette J M (1996). *American Justice*. Volume 3. Salem Press

Buck AJ, Hakim S, Swanson C and Rattner A (2003) "*Vandalism of vending machines: Factors that attract professionals and amateurs",* Journal of Criminal Justice 31, pp85-95

Clark R.V. (Ed.). (1997). *Situational Crime Prevention: successful case studies.* 2nd edition. New York: Harrow and Heston, University of Wisconsin

Cooper C M and Carolyn F (1997). "*People places: design guidelines for urban open space"*. Second edition, Published by John Wiley & Sons Inc.

Criminal Damage act, 1971: www.opsi.gov.uk

Dodds F & Pippard T (2005). *Human and environmental security: an agenda for change*. Published by Earthscan

Forsyth T (Ed.) (2005). *Encyclopaedia of International Development*. Routledge.

Garland D (2001). *The Culture of Control: Crime and Social Order in Contemporary Society*. Oxford university press

Geason S (1989). "*Preventing Graffiti and Vandalism*" First City Communications Sydney. the Australian Institute of Criminology and NRMA Insurance

Goldstein A P (1996), "T*he Psychology of Vandalism"*, Springer

Goldstein A P (1997). "*Controlling Vandalism: The Person-Environment Duet"* The Guilford Press

Legal dictionary : http://legal-ictionary.thefreedictionary.com/Vandalism

Muncie J & McLaughlin E (Eds.) (2002).*The Problem of Crime*. SAGE Publication.

NCPC (National Crime Prevention Council) (2007). *Crime Prevention Basics. Electronic Format Recommended by NCPC.* Retrieved October 20, 2009, http://www.ncpc.org

Roos E H (1992), *"Vandalism as a Symbolic Act in Free Zones"*, Department of Sociology, University of Lund, Lund, Sweden, 22100. Vandalism: Research, Prevention and Social Policy

United Nation Human Settlements Programs (UNHSP) (2007). *Enhancing Urban Safety and Security. Global Report on Human Settlements.* UN Habitat

Wise, J. (1982), "*A Gentle Deterrent to Vandalism",* Psychology Today, Sept. 82 pp. 31-38.

Wortley R and Mazerolle L (2008). "*Environmental Criminology and Crime Analysis",* Willan Publishing