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An Investigation of the Success Rate of Urban Footways in Creating Urban Spaces (Case Study: Buali Footway in Hamadan City)

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ABSTRACT

Walking is the oldest form of human movement in space which could be assumed the very natural right of urban environment users. Until the previous century, most cities were at pedestrian scales, and walking axes were specially focused on city centers which where the main places for the shopping, wandering, and passing of citizens. With the appearance of the pedestrian-oriented approach in the recent two decades as a urban strategy, it seems that inappropriate location and inadequate study of these spaces have prevented them from playing the role they have been supposed for in the reconstruction of public spaces. In the same course, the present research studying and investigating Hamadan's Buali street as a case study, using an analytical and field study method, aims to identify the weaknesses and successes of footways as public spaces. The findings derived from the data analyses are indicative of the fact that the most important factor in the reconstruction of public and urban spaces in most walkways is understanding and studying these places considering their consistency with people's imagination, so that it can result in their more efficiency in providing social interactions.

KEY WORDS: footway, urban space, social interactions, Buali street, Hamadan.

INTRODUCTION

Human dwells, lives, and works in cities. His presence in city is permanent, whether as a dweller of a portion of the city or as a passer in other places of the city. In the latter case, human needs are considered to be answered through temporary residence, wherein security, comfort, safety, and satisfaction of presence in the city space are of priority and those facilities and equipments are required that make the presence possible. Age, sex, and physical differences of pedestrians, and also differences in their thoughts, feelings, and understanding of space, attach more importance to the definition of walkways in urban planning. Given the current procedure of footway development in Iran's contemporary cities, one would ask whether such approaches have been successful in the construction and reproduction of urban public spaces and areas or simply have followed and implemented the spiritless and cold spaces of modernism? The present study, using a descriptive-analytical method, tries to answer this question in the case of Buali footway in Hamadan from the vantage point of local people. In this course, having defined the research's theoretical model on the basis of the existing literature and experts' thoughts and ideas, the conceptual framework was also analyzed by means of questionnaires and statistical methods.

2. Urban Space

Before the definition of the urban space notion, the very concept of space requires to be clarified, as urban space also as a common type of space comprises a portion of the human environment space. Conceptual space is not, on its own, very evident or definite. This concept carries a meaning further than the simple definition of physical or natural space that is usually considered in relation to the triadic dimensions of the outer world, i.e. frequencies, separations, and distances between people and things or among things (Fakouhi, 2004: 261). From an anthropologic point of view, understanding of space manifests itself in the different organizations of space, which could be different from culture to culture, or even from subculture to subculture, to different degrees. The main question of anthropologic viewpoint regarding space is aimed at understanding the facilities and equipments that are provided in any certain space in order to provide a group of people with the possibility of life and its continuation in that certain space. People live in space, implying that they have a continuous relationship of interactions with it. Urban space as one of the subsets of the space concept is no exception to the space category, meaning that the social and physical dimensions of city have a dynamic relationship with each other. In fact, urban space consists of two social and physical space groups (Madanipoor, 2000: 48). The concept of space and urban space have been formed through the history of social thinking and in the form of classical and modern theories schools of thought. For example, in the eyes of Aristotle, space is a set of places and a dynamic context with diverse qualitative consequences. These consequences and that context configure the space with the originality of act and stylize it on this basis (Schultz,1975). A urban space could be studied on the basis of different environmental, geographical, architectural, etc. approaches. Urban space provides an arena for the players who are actors of their own society to play their specific roles; sometimes positive roles and sometimes negative ones, sometimes important and

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sometimes secondary, and some other times general or maybe special roles. Urban space means a scene wherein the general activities of urban life take place. In other words, these are streets, squares and parks of a city that give form to human activities. These dynamic spaces opposite to the static spaces of work and home comprise the main and vital components of a city, providing mobility and communication networks and public spaces for recreation and entertainment (Bahreini, 1998). The urban space concept in defined in the form of the social-human goals concept in coincidence with human goals and social activities; and urban spaces of streets, squares, etc. all provide a space for empowering of the collective collaboration spirit and face-to-face, spatially surrounded, organic, and spirited mutual interactions. The main function of a city is hidden under the collectiveness of activities and the abundance of public spaces, that is a context for representing the social life of different people and different social groups. The public arena becomes a scene on which the players and the audience change their roles in order, and, instead of the concept of urban space on urban scales, becomes coincident with people's general impression of space (Habibi, 2000). Urban space is a common ground on which people perform functional and ceremonial activities connecting members of society to each other, and a scene on which the collective life play is publicly played. Urban space is the space we share with strangers; people who are not among our relatives, friends, or colleagues; an arena for politics, religion, trade, and sports; and a space for peaceful coexistence and impersonal behaviors. In fact, urban spaces could be describes as public arenas a well (Salehi, 2008). Urban space is nothing but citizens' everyday-life space that is understood every day, consciously or unconsciously, on the way from home to work (Pakzad, 1998). The importance of public arena in urban development is such that most urban designers and planners have emphasized the necessity of its investigation (Glazer and Lilla, 1987; Vernez Moudon, 1992; Sorkin, 1992; Tibbalds, 1992; Worpole, 1992). Rogers believes that large cities are known with their gargantuan urban spaces and a criterion for evaluating the largeness of a city would be its capability in providing entertainment and natural beauties for its citizens in the public arena (Rogers, 2003). In addition, presence of public arena in cities increases trust among people and, in turn, the interrelationships (Braza, 2003). Nowadays, urban spaces in under-development countries have turned to abandoned spaces due to the cities high speed of development (Harnik, 2003). Therefore, the necessity of investigation into the urban space problems in these countries has caught the attention of researchers more than any time.

2.1. Social-Human Qualities of Urban Space

In order to give human-related properties to the city construction, the spaces should be more paid attention that are public with most live urban activities happening in them. Urban history shows that in the past in spite of urban life difficulties, human life was more natural and, in turn, old cities have taken a more human-related form (Tavasoli, 1992).

The human-centered theory considering the vitality of physical patterns and spatial order enjoys a universal and futuristic viewpoint. In spatial order patterns, human is central to spatial policies and thoughts and any activity in the environment should be in the service of his identity and personality flourishing and should be capable of providing him with a quality life in a human-friendly environment (Rahnamie, 1992).

In the eyes of Alexander (1992), the most principal factor is people. therefore, the meaning of every space is dependent on this principle that to which degree it can supply people's convenience and show efficiency in answering their needs .

Tibbalds for emphasis on the importance of the freedom of pedestrians and the ways of giving clarity to spaces and facilitating their access and usage, and also arguing about the importance of human scale, states that reaching the human-centered quality is possible only through the proper combination of functions and activities. In his discussions, he emphasizes the importance of development in coordination with changes and under the control of people, and also the necessity of gaining a proper understanding of the way the city components should connect to each other for presenting a desirable human-centered city (Tibbalds, 1992).

Awareness of environment and urban space components without understanding how the combination of these elements together would optimize the public space quality for human activities, counts for nothing. Gehl (1996) considering different types of outdoor spaces and social uses argues that the real need is to increase the location of arbitrary activities in the urban space, and that the public arena spaces are specifically important in understanding the urban space.

The arbitrary activities that a person should tend to do occur only when the suitable exterior situations are provided. In an appropriate urban space, a wide variety of human behaviors find chance for occurrence. These social activities that are dependent on the presence of other activities in urban space include children's plays, discussions, inter social activities, and finally indirect relationships, i.e., only seeing and hearing (Gehl, 1996).

Therefore, arbitrary activities are a criterion for evaluating the quality of urban space. Also, these activities affect users' understanding of urban space (Carmona et al ,2008).

2.2. Factors and Forces Forming Urban Space

Various factors and forces are effective in changing the physical form of urban spaces. If a city is supposed to be composed of main and subsidiary structures (Bazrgar, 2002), both of the parts will experience changes under the influence of factors like natural and climate conditions, economic and commercial forces, political and management forces, and social and cultural forces. It is well clear that the conduction of urban changes in the form of the implementation of urban development programs requires adequate knowledge of how these factors affect the urban

space production. Soltani et al (2011) in a fundamental research classify the forces and dimensions comprising urban space into 5 different categories as shown in figure 3.

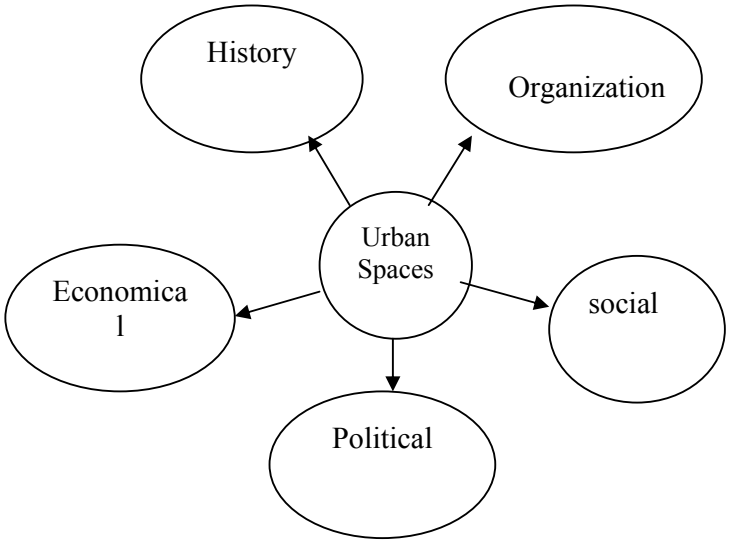


Figure 3. Forces effective on the urban space formation (Soltani, 2010).

Therefore, urban space is a space wherein the forces effective on urban development are arranged so provide the public with choice opportunities, and the forces mentioned in this space along with their own appearance also attempt to defamiliarize one another resulting in a common understanding. From this definition it is derived that each of the forces effective on urban developments finds and coneptualizes itself in discourse with other forces. This shows compatibility with the substantive definition of city. The sole existence of each of these forces not only will not define an appropriate urban space but the force itself will not be defined properly and the identity thereof will not get revealed either.

Majedi et al. classified the thoughts and ideas of experts in regard to urban space in a table like what is seen in Table 1.

Table 1. Characteristics of urban space derived from the experts ideas investigation (Majedi, 2011).

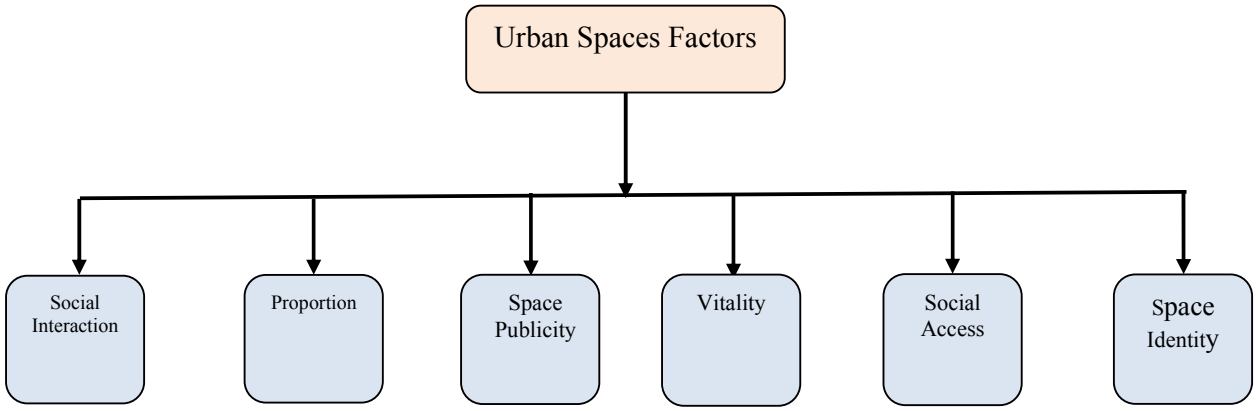
	Rappaport	Career	Cohen	Zevi	Shultz	Lynch	Car	Cite	Madanipour	Soltanzadeh	Pakzad	Habibi
Publicity	●	●	●	●	●	●	●	●	●	●	●	●
Social Interaction	●		●		●	●	●		●		●	●
Open Spaces		●			●		●		●	●	●	
Closed Space					●			●	●	●		

A first general look at this table reveals that both groups of theoreticians (western and Iranian), either explicitly or implicitly, insist on the generality of space in their definitions. Therefore, it could be assumed as a factor in urban

space definition that there in scientific and professional consensus on which. Thus, urban spaces are that group of public spaces where social interactions and urban public life occur, a socio-cultural space that provides places other than home and workplace for citizens (Majedi, 2011).

Rabani and colleagues also count the proportion, identity, social access, and the liveliness of space among the factors forming the urban space .That said, the factors affecting urban space could be classified like below:

Table 2- Research Framework (Author)



3. Footway as Urban Space

Pedestrian orienteers is indicative of the desirability amount of a built environment for people's presence, living, shopping, meeting, and wandering and enjoying it in that area. Diversity of people and specially the presence of children, the elderly, and people with specific disabilities is indicative of the quality, success, health, and safety of a pedestrian-oriented space (Nosal, 2009: 7). Footways are surrounded streets without vehicle traffic, however, emergency vehicles have access to them and service and delivery trucks are allowed to drive in them at certain hours of the day or night (Figure 1).

Figure 1. Samples of footways (source: http://omidscape.blogspot.com).

Walkways as the most important places for social interactions, play a significant role in the civil life of the society. Thus, in the following the properties of these spaces in the case study of Buali street in Hamadan will be investigated.

4. Investigation and Analysis

1.4. Case Study

The proposed plan of Hamadan, which was approved, was first provided by Carol Frisch in 1307. This plan consisted of a square of diameter 150 meters in the centre of the city and 6 wide radial-central streets around it. The six axes specially in the areas closer to the central square (Imam Square) play role in the form of service axes on local and city scales (Figure 1). Buali street is one of these six main streets. The fabric of the under study region, as the strategic zone of the six axes of Hamadan city, due to embodying the old fabric of the city, is of special importance. This region being situated at the centre of the city and enjoying strong relationships with surrounding areas through the radial axes has embeded several elements of historical or functional importance in itself (Naqsh Piravash Consulting Company, 2004). The understudy region in this research is a portion of Buali-Sina street in Hamadan city that is located in the central fabric of the city (Figure 2). This part of the street with an approximate length of 750 meters being stretched in the distance between the Imam square and Buali-Sina square comprises the most prominent commercial edge of the city. The share of commercial functions on both sides of the street is more than 1200 meters. The role of Buali-Sina street in the city structure is very significant so that accepting different traffic, economic, and social roles enjoys a special place in the skeleton of the city. According to the research

strategies in the Hamadan comprehensive plan, which were aimed at altering the main ring of the city to a pedestrian-oriented area, Buali street of Hamadan was altered to a sidewalk in one lane for some time, the consequences of which as a urban space are investigated in the following of the study.

2-4- Statistical Sample and Questionnaire Design

According to Table 3, containing the descriptive information and characteristics of the respondents, 54 percent of the respondents were male. The education level of the participants is also mentioned: 2 percent of the respondents were under diploma, 34 percent had a bachelor degree, and 38 percent were of higher education, which is indicative of the respondents enjoying an averagely high level of education.

Regarding the occupation status 44 percent of the respondents were employers, owed to the commercial-official centrality of Imam square and Buali street.

Table 3. Personal characteristics of respondents

	Type	Frequency	Percentage	Cumulative percentage
Gender	Male	150	54	54
	Female	127	46	100
	Total	277	100	100
Education	Less Than Diploma	11	4	4
	Diploma	29	10	14
	Associate Degree	34	12	26
	Bachelor	96	34	96
	M.s And Above	107	38	100
	Total	277	100	100
Job	Non-Governmental	78	28	28
	Officer	122	44	72
	Student	44	16	88
	House Wife	33	12	100
	Total	277	100	100

On the whole, 18 questions were set according to the study's 7 main factors, and by means of 2 questions the urban space quality of Imam square and Buali street were generally evaluated. As previously mentioned in the methodology, the questionnaire was designed according to the Linkert scale.

The sample size was calculated according to the variance calculated from 20 preliminary questionnaires in a 1000-person statistical population assumed in Buali street at a certain hour, with a certainty rate of 95 percent and a failure of 0.07, through the following formula.

Given the importance of the validity of analyses in the questionnaires, the amount of this index was calculated according to the Cronbach alpha statistic, as shown below:

$$n = \left[\frac{Z \frac{\alpha}{2} . S}{d} \right]^2 = \left[\frac{1/96 \times 0/62}{0/07} \right]^2 = 277$$

As it is shown the amount of this statistic is above 0.70, which is demonstrative of the validity and reliability of the questionnaire for next analysis:

Table 4 - Statistical Reliability

Statistical Reliability	
Cronbach's alpha	Ferequency
0/738	7

3-4- Results Analysis

As mentioned in the basics of the study, indices of liveliness, social access, spatial identity, proportion, generality of space, and social interaction were considered in the questionnaire as factors for evaluating the urban spatial quality of Buali street footway from the perceptional viewpoint of the people that were present in the square of this street.

Table 5. The relationship between the urban space quality in Hamadan's Buali street and the main indices of the research from people's perceptional point of view.

Regression Analysis					
Analysis Model	**Not standardized coefficients**		**Standardized coefficients**	**T**	**Sig**
	B	Std.	Beta		
Space Identity	0.081	0.170	0.115	1.952	0.042
Social Access	0.261	0.216	0.287	2.008	0.035
Space Vitality	0.152	0.262	0.111	0.580	0.565
Space Publicity	0.115	0.270	0.085	1.872	0.045
Proportion	0.352	0.326	0.407	1.079	0.287
Social Interaction	0.587	0.109	0.651	3.245	0.000

Given the research procedure, a correlative method was used for statistical analyses.

Correlative method is one of descriptive (non-empirical) research methods that looks into the relationship between variables on the basis of the research goal. Correlative studies could be divided into three groups considering the goals: correlation for investigating the type and amount of the variables relationships. Correlation coefficient is a mathematical index that describes the orientation and amount of the relationship between two variables. Correlation coefficient is used in regard to two- or three-variable distributions. If two variables amounts change alike, i.e., when one increases or decreases the other one also increases or decreases in the same way, so that their relationship could be represented in a formula, there is said to be a correlation between these two variables.

As table 2 shows, according to the P-Value of indices that is larger than 0.05, there is a meaningful relationship only between the four factors of space identity, social access, generality of space, and social interactions in Buali street and peoples qualitative perception of urban space, while there is no relationship between space liveliness and proportion and urban space qualitative characteristics.

As it is seen, social interactions with a standardized coefficient of $\beta= 0.651$ has the most significant influence on the qualification of the urban space of Buali footway in the eyes of people. This is demonstrative of the fact that people's social interactions and relationships are the most important factor in converting a urban footway to a urban space.

The social access factor also as a second-hand factor with a coefficient of $\beta= 0.287$ has had a role in people's perception of the urban apace of Buali footway. Given the correlation coefficient of this factor and the importance of access factor in providing people with more opportunities for presence in space, this factor is very weak, and it could be claimed, with certainty, that in spite of the existence of population-attracting functions in Buali street, the location of the footway has been implemented completely without study.

The people chosen as the sample of this study recognized that the third factor effective in raising urban space quality in Buali footway was the spatial identity of this street. This seems somehow evident and logical, as identity is produced from this spatial unity between a person and the surrounding environment and, in turn, is necessary to have a qualitative understanding of the surrounding environment. Nevertheless, in spite of the meaningfulness of its relationship with qualitative perception of urban space, its correlation coefficient is very low, 0.115, that is suggestive of the non-consistency of the present conditions as a walkway with people's perception of such spaces.

Generality of space was selected by people as the final factor in relation with the urban spatial quality of Buali street. This factor was also known as the weakest effective factor, the regression correlation coefficient of which being equal to 0.085 which is demonstrative of severe weakness in one of the most basic factors forming the urban space in Buali footway.

5. DISCUSSION AND CONCLUSION

The movement of footway making has been known as one of the modern approaches of urbanism in the last 2 decades. In Iran, as well, it is for some time that urban managers, planners, and designers have been using such an attitude as a key strategy in confronting urban problems. In the same course, one way for constructing footways is the conversion of urban streets to walkways and cleaning them of vehicles. This research was carried out with the goal of investigating the success rate of such strategies in urban space construction, looking at Buali street in Hamadan as a sample that was converted to a footway while ago. Enjoyment of more social interactions was the most important factor that was paid attention to in the form of a urban space in such spaces as public arenas. It is while the three factors of generality of space, identity, and social access are so weak in the eyes of Hamadan people that has damaged the urban space quality in such places. It seems that the most important factor in converting existing urban spaces to footways should be the appropriate location of spaces, as in terms of social access, spatial identity, and generality of space appropriate location plays a significant role; however, these factors, given a weak urban management, have not been properly taken into account in the case of Hamadan's Buali street.

REFERENCES

1. Bahraini, H., 1998, Urban Design Process, Tehran University Press.
2. Barzegar, MR, 2004, "Planning and construction of the city", publisher Kushamehr, Shiraz.
3. Bazrgar, M (2002), “Urbanism and urban main Structure”, Decosha Mehr Publication, Shiraz.
4. Braza M (2003) **Parks, Community Gardens, and Open Space in Urban Neighbourhoods.** http://www.neighborhoodcoalition. org/Smartgrowth/article.asp?art
5. Carmona, M. Sieh, L. (2005) Measuring Quality in Planning: Managing the performance process, Taylor & Francis e-Library.
6. Fakuhi, N., 2005, Urban Anthropology, Tehran, Nei Publication.
7. Gehl, J (1996), **Life Between Buildings: Using Public Space,** Third Edition Arkitektens Forlag Copenhagen.
8. Glazer, N and Lilla, M (1987) **The Public Face of Architecture**. Free Press, New York.
9. Habibi, Seyed M., 2000, Urban Space: Collision theory, platform magazine, No. 33, Tehran, martyr Beheshti University.
10. Harnik, P (2003) **The Excellence City Park System: What Makes it Great and How to Get There**. The Trust for Public Land Pub, Washington, DC.
11. Madanipour, A (1992) **Design of Urban Space: An Inquiry into a Socio-Spatial Process**. Wiley, West Sussex.
12. Madani-Pour, A., 2011, urban design, translated by F. Mortazaeinezhad, Tehran Publishing, Pardazesh and urban planning.
13. Majedi, Hamid, Mansouri, E., Haji Ahmadi Azin 2012, "Redefining Urban Space (case study: the axis between the Vali Asr Square to Vali Asr intersection)", Journal of Urban Management, No. 27, Spring and Summer 1390.
14. Marjan Consultant Engineers, 1966. Comprehensive Plan of Hamadan, Housing and urbanism organization of Hamadan.
15. Mouzhdar Advisory Engineers 1984. Development and civil Plan of Hamadan, Housing and urbanism organization of Hamadan.
16. Rogers, W (2003) **The excellent city park system. In What Makes it Great and How to Get There**, (ed) P Harnik. The Trust for
17. Salehi, E., 2009, Environmental characteristics of urban spaces safe, Tehran, Center for Architecture and Urban Studies and Research
18. Shultz Norberg, K. 1975. Being, Space and Architecture”, translated by Hafezi, M. H., Tehran, Tehran University Press.
19. Soltani, Ali. Namdarian, AA. (2011), "The Effect of Different Forces in ¬ formation of urban space", Journal of Hoviate Shahr / Fifth Year / Issue 7 / fall and winter.
20. Sorkin, M (1992) **Variations on a Theme Park: The New American City and the End of Public Space**. Hill and Wang, New York.
21. Talen, E (2000) **Measuring the public realm: a preliminary assessment of the link between public space and sense of community**. Journal of Architectural and Planning Research 17(4), 344–359.
22. Tavassoli, Mahmoud 1995, "urban design", Office of Islamic Culture Publication, Tehran
23. Tibbalds, F (1992) **Making People Friendly Towns: Improving thePublic Environments in Towns and Cities**. Longman Press, Harlow, Essex.
24. Tibbalds, F. 1992. Making People Friendly Towns: Improving the Public Environments in Towns and Cities. Longman Press, Harlow, Essex.
25. Vernez Moudon, A (1992) A **Catholic approach to organizing what urban designers should know**. Journal of Planning Literature 6(4), 331–349.
26. Worpole, K (1992) **Towns for People: Transforming Urban Life**. Buckingham University Press