

COMPARISON OF VITALITY BETWEEN TWO STREETS OF TEHRAN

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Abstract. This is the urban spaces that make living in a city pleasant and the urban landscape delightful. Vitality, an indispensable feature in the life of a city, is an undeniable gap in many urban spaces today. Spaces lacking vitality make no passion to stop within them and no incentive to pass by them. Over time urban spaces are getting uncrowded and deprived of social life and this event puts the current urban spaces of a country seriously in danger. Given the vitality impact on desirability of urban spaces and the research concern toward this on-the-wane quality, two important streets of Tehran, Enghelab and Vali-e-Asr, were compared to investigate the effective factors in vitality more thoroughly and in terms of several needs of people in urban spaces. According to different spirits of the two streets as well as positive and negative effective factors, the amount of vitality criteria in both spaces was studied through surveys. In this regard, 200 questionnaires, prepared by the authors, have been analyzed. SPSS software was used for statistical analysis and the results were demonstrated in charts. These figures confirm the vitality potential of both spaces. However, it was concluded that the spirit in each of the spaces was different as the atmosphere of the Vali-e-Asr Street was commercial-recreational and the atmosphere of the Enghelab Street was commercial-cultural. The vitality amount of each of them is compared on the basis of their spirits. To strengthen the vitality and encourage people to engage more with the space, some suggestions have been finally presented.

Key words: vitality, urban space, statistical analysis, quality of life

1. Introduction

The vitality in Persian literature is known as exhilaration and in urban design international specialized literature is an equivalence of livability

and vitality. The key criterion for an urban space to be considered as vital, is being lively as people stop and stay for the space desirability not because of compulsion.

Too much solitude leads in social isolation, and too little one leads in mental congestion. Congestion causes stress for the limits that it puts on individual expression and independence and makes desired communication difficult.

As it was mentioned, vitality is people presence in cities with different objectives for attending in the society (either active or passive), which is accompanied by crowd and a full space. However, two major differences, differentiate vitality from another term called 'congestion' which is the negative aspect of this quality. First, vitality has a direct relationship with the presence of pedestrians in cities. Hence, whenever there is a crowded space for the dominance of the automobiles, this quality automatically is canceled but congestion is faced. "Gehl" says congested cities include those obsessed with automobile noise in increased traffic to the extent that pedestrians and social life become forgotten. Life continues in pedestrian streets since people stay there longer. In fact, when people move slower, more life occurs since there is more possibility for experiencing.

A live city requires inviting spaces and a crowd of people who use them; however, vitality is not based on the number of people in spaces but the amount of their popularity and usability, so 'Gehl' explains that the presence of a large number of people who merely for compulsory activities pass the space does not lead in vitality though their continuous presence because of shaping a wide spectrum of social and voluntary activities makes the space lively.

Thus, being crucial in the atmosphere of a city, the element of vitality is undeniable

and by reviewing the spaces in different cities of the world which have vibrancy and vitality, its positive effects can be easily identified. This impact is evident on the morale and social interactions and actions of a modern citizen and creative economy of a society. Lack of appropriate vitality conditions in urban spaces may lead to evasion and avoidance of a citizen from urban open and public spaces and cause many social issues, including lack of public cooperation in the city.

1.1. Problem statement

Since most of the contact of people with their urban spaces occurs through streets and their highly important role cannot be ignored, the investigation of this factor within the streets is the main purpose of this study while the streets are significantly important both in terms of urban identity and its performance and appearance. In the embodiment of every city the first thing that keeps the mind busy is definitely streets. If a street does not meet the requirements of a citizen and is not standard in terms of functions and features, its appearance, functionality and more importantly its impact will be undermined and distorted. Today, this issue has become a crisis and the streets that were once an urban gathering place and source of many of the bittersweet events have turned into a place to pass. On the basis of what has been mentioned, the creation of vitality in urban spaces occurs in eager presence of people. In fact, urban spaces basically find urban life and become vital in presence of pedestrians and their interactions with the space. The current research is intended to compare two streets of Tehran, Iran and their vitality in order to present solutions to improve the quality of effective factors in attracting citizens for more presence and consequently more vitality in the streets.

1.2. Methodology

The procedure of the research is as follows:

In the studies section, the research topic has been investigated from the urban design great scholars' point of view and the concept background as well as the criteria known to the vitality and the results have been presented in form of ten general points in order to offer the final vitality criteria.

In the next step the current status of the two streets are explained through tables. In the findings and observation (measurement) section, two direct (behavioral survey) and indirect (questionnaire) methods were utilized and SPSS software were used to do a statistical analysis of the contacts' opinions. In the result section, prioritizing 7 factors affecting the vitality of these two particular axes, and the comparison of their strengths and weaknesses in each of the factors have been presented in a table.

2. Literature Review

2.1. Research background

Two of the most famous people who have specifically addressed the issue of vitality are Jane Jacobs and Kevin Lynch. Jacobs states four main conditions for creating diversity in the streets and therefore, urban vitality in the urban spaces:

1- The area should preferably have more than two main functions. 2- Its blocks would better have short length. 3- The area should be a combination of the buildings with different built years and conditions. 4- There should be enough human density regardless of the reason for their presence (Jacobs, 2002). She states the first condition on the diversity of functions, second and third on the physical variety and diversity, and the

fourth condition on activities diversity. In fact, she believes vitality is followed by diversity. Therefore, one of the requirements to the vitality of the street is a mixed function and its diversity. Also, Kevin Lynch mainly investigates vitality in a broad scope in "A Theory of Good City Form". He divides vitality into several parts that include: survival, quality of the necessary amount of air, water, food, energy and waste, safety, lack of environmental poisons and hazards, consistency, coordination between environmental and human needs, health and genetic diversity of living things people use, and finally biological stability. Lynch mainly takes biological and ecological criteria into consideration and only uses this approach to address the issue of vitality in his classification (Khastoo and Saeidi Rezvani, 2010).

Paumier introduces factors affecting a successful and thus a vibrant public place in the book, "Creating a Vibrant Urban Center" as: location, location planning, and location design (Paumier, 2004). He also states the principles and strategies in these centers which are based on two important key features toward success in the book "The Creation of a Vibrant Urban Center" as: 1. A diverse market and 2. A high-quality location. In the design principles chapter of the same book, he introduces seven key principles to turn a city center into a successful place which include: creation of an organizational structure; creation of a distinguished identity, diversity, and attractiveness; ensuring visual and performance continuity to maximize ease of use; providing comfort; and putting emphasis on high quality. In a chapter called "Walking Territory" he states that the central core of a city must motivate passage of any pedestrian and a

successful city center must be more than one commercial walkable street. Finally the development and recreation projects which were designed and codified based on the mentioned principles of landscape-making is investigated and the implemented samples in several cities are presented.

Ian Gehl states the features and characteristics of a good vital city in the book "Public Spaces of Social Life of Adelaide City" (2002) as: 1- Having diversity in daily and nightly functions. 2- Existence of settlements to guarantee a boarding city. 3- Creation of educational institutions to ensure the vitality and vibrancy of the city. 4- Stores with magnificent showcases that open in afternoons. 5- Safe places and streets, whether in day or at night (Gehl, 2002). Kourosh Golkar is among people who have provided impactful research in this field. He believes the vitality of a city is equal to the term "liveliness" or "livability" and describes it as a constructive component of urban design quality. In other words, he believes that vitality along with sixteen other qualities including readability, visual character, time faith, sensory richness, color of dependency, learning, permeability and mobility, mixing of function and form, being all-inclusive, quality of public realm, climatic comfort, safety and security, flexibility, harmony with nature, energy-efficiency, and environmental cleanliness create a phenomenon called urban design quality (Dadpour, 2012).

Appleyard in the article "Streets Can Cause Death of the Cities" deters the developed cities and developing ones from the bitter experience of the American cities in the 60s that are based on driven cars and states: our streets are dead places in terms of sociality and its

cause is the same car which they were built for.

Some articles has been recently published on the quality of urban public spaces.

"Factors Affecting Walkability of Neighborhood", taking walkability as an essential factor in the health of cities' public space and people for granted, has investigated the effective criteria in the quality of urban space life from pundits' point of view, questioned and analyzed some factors for the intention of its improvement and creation of a desirable space for pedestrians. These factors are:

Street width to building

Height ratio

Block length

Scale and variety

Detractors

Softness

Entries

Visual complexity

In "Improving Perceived Safety for Public Health through Sustainable Development" also with the same concern of public health and quality of life, given how security impacts these conditions, investigated the dependence of calm and eager presence of people on security. In addition, security has been considered as an effective factor in increasing the quality of urban life and providing the condition of people presence in space. It finally regarded the impact of accurate design on urban space for security purposes as integral.

"Sustainable High-Rises in a Sustainable Development- The Case of Salford Quays" with the aim of having a sustainable and livable urban space, has investigated High-Rises and the surrounding areas and analyzed their potentials for the creation of a dynamic and lively urban space which provides presence possibilities. It has stated the

conditions of having such spaces through comparison of some towers and their surroundings. Finally, it is believed that the creation of a lively environment depends on the high quality public space design and accurate design principles.

2.2. Urban space

Urban growth revolves around such traditional factors as land, labor and capital as leaders seek to extract the most value from their city's spaces. In this 'growth at any cost' model, consumption, lifestyles, amenities and entertainment serve as social and economic byproducts of a city's successful expansion (Ocejo, 2013).

Among all the open and closed public spaces of the city, open public spaces are of significant importance in the social lives of citizens; open public places have the most actual and potential facilities for the presence of the citizens. Urban spaces are a part of open and public spaces of cities which are counted as the efflorescence of the essence of social life; that is the place where citizens find presence. Urban space is a scene in which the story of social life opens. It is a space that all the people are allowed to have access to and be active in. In this space, there is a chance for some social boundaries to be broken and for encounters that are not pre-formulated to occur. Urban space is an organized artifact, neat and orderly as a basis for activities and human behaviors. Man is a part of the space and gives meaning to it with his values and norms. In order to identify an urban space, in addition to the existence of constituent elements, their inter-relations must also be comprehensible to the observer and he must be able to form a structure in his mind based on the existing relationship.

Therefore, urban space will become purposeful and a field for defined events (Madanipour, 1999).

Places that help shape community attitudes, that provide a continuity from past to present, that may often cater to mundane but essential everyday functions, and that help in establishing their identity of community become significant to the neighbors and achieve a social value and meaning (Johnston, 2005; Lofland, 2005).

If we take the concept of public space in its today's perspective, "organizing and shaping the framework of collective life", public space is not only rather a social space, which is free to use but also rule-governed (Bess, 2006).

Urban planners should focus on broader concepts such as "public life" (that is social-cultural public spaces and activities) and not pay only to more superficial concepts like "public spaces" (public physical arena of buildings and spaces) (Banerjee, 2001).

According to the previously mentioned criteria, we have three main indexes to identify urban spaces in the public domain of a city:

1. The space is public
2. The space is open
3. Existence of social interaction

Based on these factors, major urban spaces include plazas, paths and city streets.

2.2.1. Quality of life and Urban space vitality

Quality is a fundamental concept which is difficult to define and nearly impossible to measure. Quantitative determination is difficult because, in fact, quality is not measurable, and the space around us is defined by an infinite number of features which make up its

final quality (Cieslak and Szuniewicz, 2015).

In fact, more than 100 different definitions of quality of life have been noted in the literature; no consensus exists on a definition or on how quality of life should be measured (Morais *et al.*, 2011).

Today improvement of the quality of life is a common international goal. However identifying the relevant parameters or the basic definitions and concepts for it is difficult and complex (Bloom *et al.*, 2001).

Research in the past decade have proven significant effects of neighborhood units' forms on physical health, access, crime, security and social interactions which all are of the important aspects of quality of life in the neighbor units (Talen and Koschinsky, 2011).

Face-to-face human interactions in a neighborhood are extremely relevant for supporting livability (Singh, 2016). Throughout the US and worldwide, great places can be defined as attractive, active, open, walkable, entertaining and full of people (Sousa and Rosales, 2010).

Quality of life captures people's satisfaction or happiness with their surrounding environment and living conditions. We recommend both objective and subjective measures to assess quality of life to capture not only physically measurable conditions—such as the area of green space or number of parks, air and water quality, or availability of transportation options but also the perceptions and level of satisfaction that residents have about their cities, districts, and counties and the services and amenities available to them (Knopman *et al.*, 2015).

It is vital to combine social, physical and spatial aspects for improving quality of life through well-designed and managed built environment (Deniz, 2016).

The public realm is with good quality, following certain design principles that produce vivid and lively environment (Kalcheva *et al.*, 2016).

Among the most important features that improve the quality of urban space and its stability, there is vitality. Vitality in the atmosphere of the city, has a direct relation with attractiveness and the variety of activities in the space and acts as a contributor to its identity such as cultural monuments. United States Association of Architects said that there cannot be a single definition for vitality and vibrancy of a place in a series entitled "Vitality" published in 2005 stating that the vitality and livability of a place should be provided based on its certain features that define the place: they consider the general definition of the vitality of a space- its health, identity, dynamism, flexibility and ability to adapt to the expressed needs (Dadpour, 2012).

Valuation of quality is strongly related to the quality criterion. It is certain that there is no single quality criterion precisely describing the state of quality of the given object of analysis (Cieslak and Szuniewicz, 2015).

Since discussing previously mentioned factors is considered in the urban environment and more specifically street, we pay attention to a brief description of the elements described above, first.

By comparing experts' opinions regarding recognizing the criteria of a lively atmosphere and definitions, we

reach 10 general criteria, which is described in the next section.

2.3. General Standards of urban vitality

General criteria of the vitality of urban space can be concluded as below and classified in five main categories (including function and activity system, access and mobility system, skeletal system and experience of public spaces, urban landscape and physical form system). These features are in fact influential plans for inviting people to a space and providing their presence, and at the end depending on the evaluation of each of them in the given street space, some suggestions were presented to achieve that criteria.

- Functional and activity system
 1. Activating the facade of buildings by attracting activities of people and having the maximum interaction with it
 2. Diversity and mixture of functions and activities
 3. Preserving and expanding green space
 - Access and mobility system
 4. Supplying several transportation options
 5. Creating physical penetration into buildings and urban space
 - Skeletal system and public spaces experience
 6. Flexible design for enhancing buildings functional changeability and activities
 7. Supplying flexible urban furniture for lingering
 - Physical form system
 8. Using small scale functions and respecting human scale in designs
 - Urban landscape system
 9. Creating visual permeability and desirability (facades, green place, lighting, urban furniture)
 10. Preserving continuity of the active facades of buildings (Dadpour, 2012).

In order to conclude how much impact each of these factors has on the vitality of

the space, the comparison method was used. Two main streets of Tehran were chosen for this purpose. Before discussing the topic, a description of street as well as a brief history of its advent into Iran's urban space is provided.

2.4. Street and the importance of its role

Street is a dynamic and live element which can have dozens of municipal and aesthetic functions. Street can be considered as a part of a city with all its characteristics and indicators. Street is the most public space of a city. When we imagine a city, we remember its main street and the atmosphere it presents before anything else. In a comparison between cities, commonly the beauty and the ugliness of the streets are manifested. Between different types of the passages of city, planning and designing the streets demand the highest sensitivity and elegance because streets are places in which social interactions and urban motions reach their maximum quality and quantity and fill the minds of citizens with collective memories and shared mindset about the type and quality of civic life. Urban streets are full of several varied events. The most striking feature of urban streets is that they are a result of slow growth and changing procedure of the city. Thus, the streets of a city can neither be paid to from an intuitive-artistic point of view nor can they be degraded as an artery bypass due to the pretext of solving the traffic problem (Pakzad, 2005).

The street is not only a place for vehicle passage but also should be designed to support their role as a public space. Other than paths for vehicles, street must include sidewalks, trees, curbs, lamps

and other elements that all together make the public streetscape of a street (Duany, 2012).

"Louis Kahn" the architect, writes: "Street is a place of agreement." This phrase with its poetic form, says it all. Street is the structural unit of urban planning and even more, urban life. A city with a lively street life, is a city with a live urban environment. As Kahn has expressed, since street is the main room of a city and is even more important in urban fields, the key function of a city is its streets and not its individual buildings (Goldberger, 1996).

Walkability and street vitality are of important factors in shaping the urban life on and around the street. It helps in identifying the most active areas in a locality and people tend to locate themselves near such vital public corridors (Singh, 2016).

All streetscape elements should be esthetically pleasing, to improve the visual image for any city. This will not be achieved without applying the suitable design rates at the level of urban design (Rehan, 2013).

Characteristics of successful streets are as follows:

1. Clear boundaries between public and private spaces
2. Existence of an observer
3. Constant use of sidewalks

In the idea of Le Corbusier the streets have been outdated as a legacy of the past with no more use. We seek to create a better substitute. Legacy of the modern movement is a devoid path of any life and human movements (Maughtin, 2004). The streets are not just for fast passage and connection between different areas.

Considering their role in cities, streets must be designed as motional busy spaces where people can see others and be seen themselves (Rehan, 2013). It seems planners and architects do not know that people like to watch others. They do the planning on the basis that people are looking for empty spaces, obvious discipline and peace and no other fact is true. The people's interest to watch one another and their activities is seen in almost every city and street is the place to fulfill just this need (Jacobs, 2002).

Streets also should provide facilities for physical activities of citizens, encouraging them to spend more time in street space spontaneously. Physical activities have a significant importance in urban spaces. Physical activity can benefit people physiologically by exerting positive influences on their mental health. Physical activity can improve emotion, sense of recognition, whole life quality, and anxiety neurosis, reduce pressure and depression (Wang *et al.*, 2016).

Among all different types of physical activities, walking and cycling activities have been receiving greater attention from both civic and academic communities lately as a means to boost individuals' physical activity levels (Brownson *et al.*, 2000).

The growing worldwide awareness of the significant impacts of physical activities on physical and physiological health has aroused great interest in the role of the physical built environment plays in walking and cycling activities (Wang *et al.*, 2016).

Great places have great streets and great streets have a "place" function. Great streets are accessible, livable, safe,

comfortable, and interactive (Sousa and Rosales, 2010).

In this research regarding the noted street 'potentials' the degree of using a place and staying in it for accomplishment of some activities are evaluated.

3. History of streets in Iran

The concept of Street in Iran is probably born in the Safavid era. Streets such as the Chahar Bagh, Isfahan exhibit new concepts of public areas in that era that either led the way to the main square of the city or went parallel to it. Regarding its climate, this street has countless trees at its sides which are called Chahar Bagh (means four gardens) or Chenarestan (means with plenty of buttonwood trees). Street has more of a strolling concept in this era (Habibi, 2004).

In the modern times and specially Pahlavi era and in line with global developments and echoes of modernity all around the world, Urban interventions of our country was not exactly safe from these votes and for the first time construction of roads were placed on the government's agenda and following the same approach the old texture of old streets were torn apart. Construction of streets as a symbol of modernity was the first echoes of Haussmann-type urbanism, which accompanying with the theory of modernism in 1920 Europe lead to paradigm of making wide streets in many cities of Iran especially in Tehran (Habibi, 2004).

In this study, we are going to analyze the case study streets, and investigate the characteristics of two Enghelab and Vali-e-Asr streets of Tehran over the tables.

4. Findings

4.1. Study range

As it was stated earlier two main streets of Enghelab and Vali-e-Asr in Tehran can be an appropriate case study to measure vitality and how it could be reached. Since these two streets with their histories are well-known and attractive for both its citizens and tourists and they also have a pivotal role in Tehran's transportation, they are potentiate to achieve vitality and improve the quality of urban space, so they can progress by means of qualified urban designers' plans and be adequate samples of a vital urban street.

Each of them is explained in detail.

Enghelab Street:

This street is built in the First Pahlavi era, about one hundred years ago. In a 100-year period, not only has the Enghelab Street changed its name but it has turned into an important urban street from the northern border of the city which has provided the expansion of the city toward north. Also it is considered as one of the main arteries in the center of Tehran which forms the historic center of it, and the central core territory. Moreover, it connects east of Tehran to its west so, it plays an important role in all aspects of the city. This street is of great importance considering its position and function in the city and due to its historic past and the indicative elements it beholds. It is counted as one of the main indicative arteries of the city. The events that have occurred in it in the past and the ones still going on have turned Enghelab Street to one of the streets with the most distinguished and historic elements of Tehran. But unfortunately, due to lack of attention and several alterations in it, it doesn't expose itself today as it must and its identity is on the

wane. Countless problems either in terms of function or physical make its image different from what is formed in social memories.

This street is studied between Vali-e-Asr Street cross and Enghelab square. Its image is cultural due to its main functions such as Tehran University, two theatre halls and one movie theatre and several bookstores in front of the university. Figure 1 shows main functions of the street.

Vali-e-Asr Street:

This street was also built in the First Pahlavi era and connected Tehran to Shemiran, a northern countryside in the time, now northern part of the city.

Vali-e-Asr Street is one of the main vehicle-pedestrian mixed axes in Tehran. The position of Vali-e-Asr Square in the city center and the north-south orientation of Vali-e-Asr Street and its links to the upper surrounding streets has made the possibility for the presence of various people, in terms of social and economic fields which increases its importance as a context of social interactions and experiences. Vali-e-Asr is a unique street due to some titles and reasons. This street is profile of the Tehran. In this profile, the poor and the rich can be seen. The beauty and the ugliness can be seen. This street has an alternative: Enghelab (Etemad *et al.*, 2010).

This street is studied between Vali-e-Asr square and Fatemy cross. The main functions of this street between these places are administrative in eastern side and commercial in western side. Figure 2 shows main functions of the street.

4.2. Description of current status

Being indicative and similar in their positions in city, these two streets in the general measures of vitality analysis were compared based on the vitality criterion.

Vali-e-Asr Street with its commercial retails, a department store, two movie theaters, restaurants and coffee shops is described in Table 1. Enghelab Street with educational and cultural land uses and several bookstores and coffee shops has a different aspect comparing to Vali-e-Asr Street. Table 2 has summarized Enghelab street features.

1. In the following tables where the data was gathered through both space and full photography, the positive and negative factors will be categorized.

2. Inspired by the study of Dr. Vikas Mehta and his method of mapping behavior (Mehta, 2007), by attending the environment and recording results at three different hours, we investigated the presence of people and presented it on bar charts.

3. The research questions and the results of statistical analysis are also shown to express the citizen's opinions on the space and their needs.

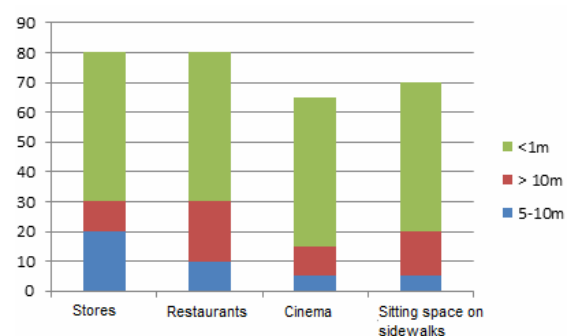


Fig. 3. The presence and duration of stay of people during traffic peak hours in indicative edges of Vali-e-Asr Street.

Source: authors

Table 1. Vali-e-Asr Street Features. Source: authors

Subject	Description
Function	Mostly commercial Two cinemas in the west sidewalk Chain store, gas stations, some banks with wide body in eastern sidewalk
Enclosure	Fairly regular skyline In the west sidewalk wide body of the buildings in the ground floor next to the sidewalk are allocated to small business openings. In the east sidewalk and the bodies adjacent to it, wider bodies are allocated to one function. Wide widths of sidewalks along this path
Social behaviors	Traffic in west sidewalk in order to pass leisure times Window shopping in west sidewalk Accumulation next to two cinemas in western sidewalk and the possibility of creating social interaction Social behavior in relation to recreational and commercial activities in western sidewalk Activity in long lines waiting for the bus in eastern sidewalk and the possibility of creating social interaction Movement for short-term use of space
Natural factors	Wide ditches slopes along the way There are less trees and some are removed in parts of the route

Table 2. Enghelab Street Features. Source: authors

Subject	Description
Function	Mostly commercial - administrative Bookstores market in southern pavement A cinema in northern pavement Tehran university in northern pavement City Theatre in Vali-e-Asr intersection
Enclosure/mass and space system	Irregular skyline Southern pavement has been closed by the shops in this direction Bookstores are adjacent to the sidewalk at the edge of the constructed area The low width of Sidewalks on the route Lack of the facades contact with the street Ratio of mass to the space is almost equal
Social behaviors	The presence of different groups of people on the street (shopkeepers, merchants, bookstores, buyers, book seekers, students, teachers, taxi drivers, vendors) Traffic in southern pavement to buy books Significant accumulation in the edges of Street (Bahman Cinema, Tehran University, City Theatre) Social behavior in relation to cultural and recreational activities takes place. Activity in long lines waiting for the bus in south pavement and the possibility of creating social interaction Movement for short-term use of space
Natural factors	Low existence of trees in parts of the route The accumulation of green space at Tehran University

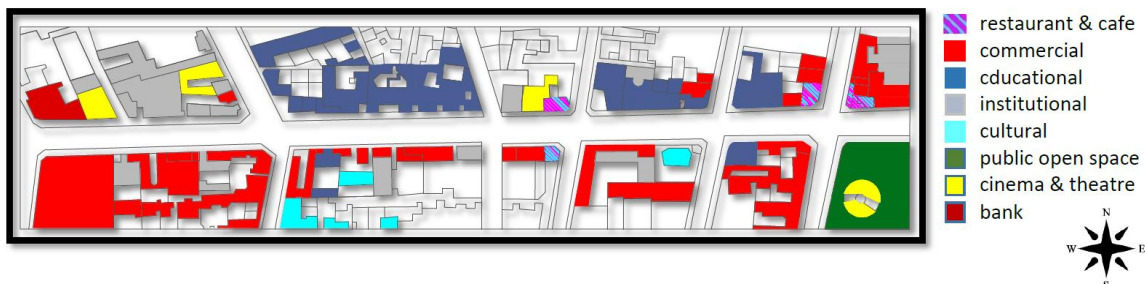


Fig. 1. Enghelab Street. Source: authors








Fig. 2. Vali-e-Asr Street. Source: authors

Table 3. Analysis of Negative and Positive Factors of Enghelab Street Considering Vitality Parameters. Source: authors.

Vitality Criterion	Positive (+) and Negative factors (-)	Picture
Functional and Activity	(+) The relation between the facades and the bookstore market	
	(-) Lack of diversity, and mixed functions	
Access and Mobility System	(+) Bus stations and subway system Checked network system access and possibility of permeability	
	(-) Inappropriate width of some passages and interference of vehicles and pedestrians at the nodes	
	(-) Lack of pedestrian bridges and underpasses	
Skeletal system and experience of public spaces	(+) Relatively appropriate pausing space in front of significant buildings	
	(-) Obvious lack of needed furniture (-) The predominance of mass into space on the edge of the street and limited urban space	
Physical form system	(+) Presence of functions on the ground floor, in human scale and active relationship with the facades	
	(-) A significant imbalance in facades	
Urban Landscape System	(-) Visual disturbance caused by uneven facades, and dimensions and improper location of signs	

Table 4. Analysis of Negative and Positive Factors of Vali-E-Asr Street Considering Vitality Parameters
Source: authors

Vitality Criterion	Positive (+) and Negative factors (-)	Picture
Functional and Activity System	(+) Existence of compatible commercial uses along the axis	
Access and Mobility System	(+) Bus stations system (+) Wide sidewalks (+) Appropriate slope of the route	
	(-) Too many intersections, interference of roadways and pedestrians	
Skeletal system and experience of public spaces	(+) Appropriate pause spaces in front of monuments	
	(-) Lack of furniture (-) Lack of space for pause and aggregation (-) Lack of the integrity of facades	
Physical form system	(+) Physical coherence in most of facades	
	(-) lack of human scale in ground floor of some buildings	
Urban Landscape System	(+) Physical uniformity in views of the city	
	(-) Visual disturbance due to the uncoordinated boards and banners, visual disturbance with imbalance and disproportion in the type and color decking of facades	

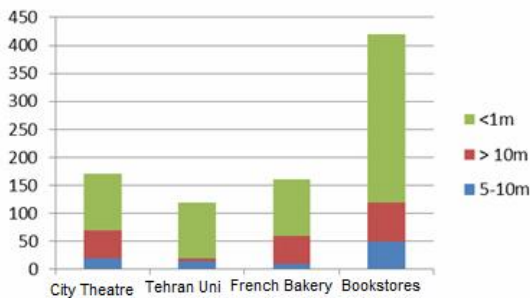


Fig. 4. The presence and duration of stay of people during traffic peak hours in indicative edges of Enghelab Street. Source: authors.

4.3. Method of explaining the measures of vitality of the area under study

In next tables negative and positive factors of the studied streets, Table 3 for Enghelab Street and Table 4 for the Vali-e-Asr, can be seen. Meanwhile, presence of people is one of the indicators whose duration is surveyed by behavioral mapping method and is presented in Fig. 3 and Fig. 4 in Enghelab and Vali-e-Asr streets respectively.

5. Research questions

Research questions are:

- 1- How much do you use this space?
- 2- For what purpose do you usually use this space?
- 3- On what hours do you use this space more?
- 4- On what aspect is this space desirable to you?
- 5- What factors are irritating in this space?
- 6- How memorable is this space to you?
- 7- Which of these places helps the desirability of Enghelab Street? / How much do ancient trees and the water stream help Vali-e-Asr Street's desirability?
- 8- What spirit do you think this space has?
- 9- How much motivation of activity and recurring presence are improved in you in this space?
- 10- If you could make a change in this space, what was the first thing you would do? (Optional)

6. Terms of respondents

Questionnaires are distributed among 200 individuals including, residents, retailers, who were present in the places; and also the students who know the spirit of these two streets well. The students were not necessarily present in the streets and were questioned in coffee shops and The National Library, where they have the greatest number of presence.

Since the existence of some of the studied parameters such as recurrence interval of using space, the impact of landmarks and irritating factors are a stronger indicator of the existence or non-existence of vitality in the space, we further show the result of responses to these issues.

The abundance of age and sex indexes are showed in Tables 5 and 6 for Vali-e-Asr Street and Enghelab Street. These tables

show that the presence of men (57%) is more than that of women (40%) and people between 26-30 years old have the maximum presence in Vali-e-Asr Street. On the contrary presence of women in the Vali-e-Asr street (65%) is more than that of the men (32%), but the same age as Enghelab Street has the maximum presence.

Table 5. Distribution of Respondents by Gender and Age - Vali-e-Asr Street

Age index (YEAR)	Abundance	Percent
Under 21	4	4.0
21-25	30	30.3
26-30	37	37.4
31-35	14	14.1
36-40	1	1.0
41-45	1	1.0
46-50	2	2.0
Above 50	7	7.1
No call	3	3.0
Total	99	100
Age index (YEAR)	Abundance	Percent
Woman	40	40.4
Man	57	57.6
No call	2	2.0
Total	99	100

Table 6. Distribution of Respondents by Gender and Age - Enghelab Street

Age index (YEAR)	Abundance	Percent
Under 21	4	4.1
21-25	21	21.0
26-30	41	41.0
31-35	12	12.0
36-40	3	3.0
41-45	5	5.0
46-50	3	3.0
Above 50	6	6.0
No call	5	5.0
Total	100	100
Age index (YEAR)	Abundance	Percent
Woman	65	65.0
Man	32	32.0
No call	3	3.0
Total	100	100

The statistical analysis of questionnaires is some presented in Fig. 5 to 8. For

instance responses to questions 1 and 5 are compared in bar charts between the two streets in Figs. 5 and 6 respectively. Also the responses to questions 7 for Vali-e-Asr and Enghelab Streets are shown in two bar charts in Figs. 7 and 8 respectively.

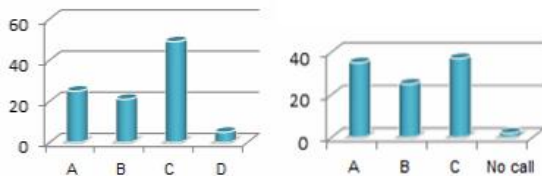


Fig. 5. Answers to the Question No. 1 (How much do you use this space?) in Vali-e-Asr (left) and Enghelab Streets; A) every day, B) once a week, C) less than once a month, D) Weekends.

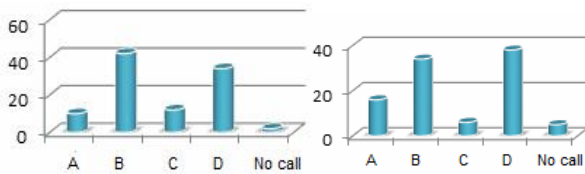


Fig. 6. Answers to the Question No. 5 (Which elements are annoying in this space?) in Vali-e-Asr (left) and Enghelab Streets; A) the low widths of sidewalks and its obstacles, B) The overcrowding, C) low architectural quality, D) noise, traffic and pollution.

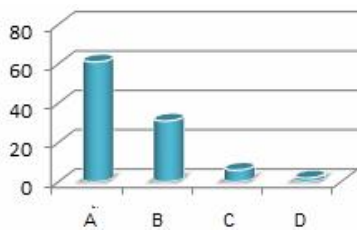


Fig. 7. Answers to the Question No. 7 (How much do ancient trees and the water stream help this space's desirability in Vali-e-Asr Street); A) Very much, B) Very, C) to A little, D) Very little.

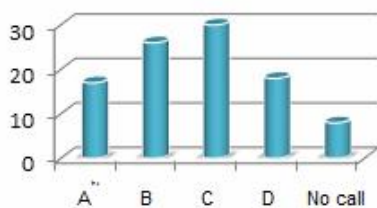


Fig. 8. Answers to the Question No. 7 (Which of these places helps the desirability of Enghelab Street?); A) Tehran University, B) City Theatre, C) Bookstores, D) Cafes.

7. Conclusion

In comparison of two streets of Vali-e-Asr and Enghelab, and with regard to some main features, the potentials of vitality and presence in these two spaces are considerable and it seems that by presenting available solutions not so far from reach these two significant and distinguished urban spaces, and as a result their vitality can be improved.

The important point taken into consideration in this comparison is the difference of general spirit ruling over the two spaces. Considering the majority of the opinions and the conducted investigations, the spirit of Vali-e-Asr can be considered rather more commercial-recreational and the spirit of the Enghelab is more cultural-commercial and thus the proportionality of the required elements and characteristics for more vitality of the space can be evaluated regarding this spirit and the difference in the needs of the visitors. As mentioned earlier, one of the most obvious characteristics of vitality in every space is the presence of people, a factor that we clearly witness in the two streets but unfortunately cannot be entirely a criterion for vitality because when we do a deeper observation over the traffic in these streets, we face a busy crowd running whose main presence motivation is satisfying a need and not preference or interest; this is while on the other hand, these spaces seem memorable, vital and exhilarating to a large extent but the irritating elements and the failure to meet the needs of citizens lead to a hurry to pass and displeasure of the people. In order to evaluate the effective factors of needed conditions for the vitality of these two axes, first, the primary qualities are prioritized and investigated on both streets in the Table 7.

Table 7. Conclusion

Source: authors

Vitality Criterion	Analysis and comparison of two Enghelab and Vali-e-Asr Streets
mixed use	In Vali-e-Asr Street, despite function mixture and diversity in people movements, lack of attractive diverse activities can be felt. In Enghelab street this weakness is more obvious and in most of seasons monotonous functions can be seen.
Physical vulnerability	Considering the fairly regular network scanning of both areas, access and permeability are acceptable, only in some sections the interference between vehicles and pedestrians cause insecurity for pedestrians and will disturb the peace.
Urban furniture and facilities	In Vali-e-Asr street, despite the supplement of furniture and sitting areas in parts of the route, due to its commercial-recreational function and the number of people who visit for shopping, movies, eating and drinking purposes, the need for space to stay and pause is felt more. In Enghelab street there are almost no facilities and perhaps the appropriate design of urban furniture and a space to sit and pause can give a chance for a better concept of the space.
Visual desirability (facades)	Unfortunately facades of both streets are uncoordinated though Enghelab street is worse in this field. There is a considerable lack of visual coordination in facades and the turmoil due to visual disorders as well as irregular skyline is felt strongly.
Visual desirability (Green space)	In Vali-e-Asr street, due to constant presence of ancient trees and water stream elongated the route the need for vegetation is somewhat fulfilled though by creating planted green areas the desirability of the space can be improved. In Enghelab street, the distribution of green spaces has not been done properly and its aggregation is in limited areas.
Visual desirability (Lighting)	Enghelab Street, between Farvardin 12 th Street and Qods street crosses, turn into a soulless space at night, and in addition to its negative effect on the visual desirability of the space, people also feel seriously insecure and have no desire to stay in the space and a large part of this problem is related to lack of proper lighting. In Vali-e-Asr Street this condition is somewhat better due to the lights of shops but with regard to the space type and people, the need for better lighting in the space can be felt.

More important criteria from among general vitality criteria with regard to findings from the two streets and the survey results are: 2. User mixture 5. Physical permeability 9. Visual desirability (facades, green space, lighting) 7. Furniture for a pause.

This comparison was in fact done with the aim of choosing these two streets with their

different spirits based on the same criteria to study the effective factors in more details. People in each of these spaces with differences in their intentions demonstrate different needs and these lead to a better understanding of the effective factors in urban space vitality, which is the aim of the current research. Since the vitality criteria have been generally introduced, through these comparisons and conclusion, it is

possible to practically study and implement the criteria to improve vitality due to two main and different commercial and cultural sprits.

Overall, the mentioned factors in Vali-e-Asr Street are better organized and this can be seen in the stronger presence of people with more vitality. In fact, the people of Vali-e-Asr Street have better facilities to meet their recreational needs, and physical factors for creating a more convenient space are better supplied considering the commercial-recreational spirit of this street. But unfortunately, the visitors of Enghelab Street cannot fulfill their general needs and they roam in the urban space. By considering these propositions and trying to resolve its problems, this street would be able to act more effectively its cultural-recreational role.

8. Recommendations

The outcome of the studied factors makes it possible to consider some simple and general advice that help the improvement of both spaces on the basis of determining some important above-mentioned criteria, so the influential qualities are fulfilled to some extent, people are encouraged to be present and eagerly use the space, and consequently the vitality of the spaces is improved:

- In order to motivate people to interact more with the space, attractive activities and creating charms are necessary, such as music, street theater, information and advertising kiosks, canteens and toilets, temporary markets, drawings on the wall.
- Diversification of commercial and non-commercial use and supplying the needs of clients
- Modifying the access network and avoiding vehicles and pedestrians conflicts, to give a sense of security and legibility to the space; providing a

mechanism to implement transport network and travel distances for pedestrians

- Avoiding visual confusion for the people by appropriate size, color and location of signs and boards, in addition to creating continuity in the facades which is a pre-requisite to establish a good relationship between the public and private spaces, as well as having diversity and complexity in public spaces
- Preserving green spaces and corridors for biodiversity and recreation, as well as creating intimacy and stylized space
- Supplying equipment to sit collectively (e.g. stairs) and individually (e.g. benches) and expanding the choice of opportunities to pause and sit appropriately
- Using lighting equipment required to preserve the vitality and dynamism of space and inviting the people, visual desirability, and provide security at night

As it has been observed and considering the vitality of Vali-e-Asr street, the comparison of the two streets helped concluding that people can be encouraged to attend in space, use it, and interact with it in case of following vitality criteria and regarding their needs in the space, so the success of Vali-e-Asr street could be a sample of creating vitality.

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