**Linear green space visual and functional analysis of the impact on the quality of the streets, sample Keshavarz**

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**Abstract.** Green spaces as part of the urban fabric by several environmental benefits, social-psychological, economic, aesthetic and functional urban sustainability that leads to stability and coherence to space, quality of life and enhance urban livability. Since human and social interaction is the main street, so the street in terms of visual quality and performance management of green spaces to improve the very important. Descriptive study using a survey of green spaces impact on the visual quality and performance Boulevard farmer is measured. With regard to measures such as research and the study of literature in the field of visual and functional design and a questionnaire among 151 people who regularly have access Boulevard farmers were distributed. The findings suggest that the effects of green space on the farmer with the T 541/8 Boulevard visual qualities and its impact on the quality of performance by the T 930/2 Confirmed Boulevard. The green space both visual quality and performance quality Keshavarz impact.

**Keywords:** Green, linear green space, quality, visual quality, functional quality

**INTRODUCTION**

Urban green space as an integral part of the living dead in the urban environment, the physical structure of the city is. Due to the fact that green space is the soul of human beings, living in a self-made machine, away from the natural environment and mental health problems due to the existence of these spaces in the cities of modern However high the welfare of citizens is inevitable.

On the other hand the streets and public open spaces play an important role in linkinurban and urban identity formation thus plays. If John Lang points out that "the quality of the harvest depends on the quality of its streets is more than anything. And since green space alive and vital streets as part of the morphological and ecological street.

In this context, this paper is an overview of the theoretical foundations of green spaces and street first and then the effect of green space on the street's visual quality and performance. Data in the questioning of the 151 citizens who travel with in a week of the boulevard that drivers and pedestrians are collected. In this study, to examine questions of descriptive and inferential statistics were used in the study. In this research, data analysis and statistical inference related to hypothesis testing is used. In the first stage the data normality using Kolmogorov - Smirnov and relationships between variables can be analyzed using correlation coefficient. In the next step using the regression to test the research questions to be addressed. And given that the data is normally distributed and the Likert-type scale data is used Pearson's correlation coefficient.

Modern city with all kinds of pollution, including air, noise and facing the green space in the city has also reduced the severity of the infection and to help viable cities. Also, considering the importance of urban spaces and urban design in the field of management of different researchers and theorists to express their characteristics and properties, for example in urban areas mainly two types of "street" and "Square" is. Rob Carrier, (1997). Richard Rodgers urban space of streets and other routes that others have the right of way, or through their social relationships with others, it knows. In addition,

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Theory

Concepts

Linear green space

Linear green space that is proportional to the displacement of identity displacement capacity of cities and crossings are considered. So that may not be apparent in urban plans, however, play an important role in the control of environmental issues and physical play [1]. Longitudinal spaces typical of urban green space are typically thin margin planting trees between the sidewalk and roadway routes form Or it can be concentrated in relatively small areas or in areas surrounding the highways and streets were formed (Yousefi, 1386). Including spaces and street trees, the fields, planting trees, the street Bahashyh garden, the river - the channels, paths are pedestrians.

Hrn 1995 Sbzrah the network of open spaces and linear elements who for various purposes ecological, recreational, cultural, aesthetic or other purposes that are compatible with the concept of sustainability, designed or planned. In his definition emphasizes five key points include 1 (linearity 2) Connectivity 3) Chndkarbrdy of 4) compliance with the Stability and 5) integration He also put forward the idea that the creation of a network of stains and corridor by "Foreman" 1986 has several advantages both in terms of ecological and human use have to be. "Hrn" stresses that "connection" is the key green features. Linear features and connectivity of green can be seen in the definition of other researchers [2].

Of linear green spaces

Access to green space, the purpose of the establishment, the more the volume of traffic is light. Speed access green space, texture marginal them to the beauty of the area, volume, transforming the streets that are adjacent to the building.

Green space access too radical, marginal tissue beauty of the environment in order to control noise and light nuisance caused by traffic and pollution prevention space is created.

Rfvzh green spaces, green spaces said that in the middle and along the roads, to prevent against the light and beautify the established path. This space, at some point in the width of the road to separate the two bands also enjoy cars created Rfvzh the width of the strip and at least 115 cm. Use long-stem trees in Rfvzh Extremist access and use of shrubs and bushes plants low in Rfvzh very Extremist access is essential.
Linear green space visual and functional analysis of the impact on the quality of the streets, sample Keshavarz

Table 1. Definitions of linear green spaces.

<table>
<thead>
<tr>
<th>Definitions of linear green spaces</th>
<th>Green belt</th>
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<tbody>
<tr>
<td>The linear mass of green belts around cities, which are built to consolidate the city's green belt and prevent the invasion of outside help. While it can assume environmental duties, including carminative (in cities are exposed to strong winds) or lowering acoustic noise pollution as well. Eating green belt to build a city morphology and may lose its primary role in the process of scanning. But potential role as a balancing green space and urban resort living index for the diagnosis of trends remain stable.</td>
<td></td>
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<tr>
<td>The spaces at the intersection of the main areas expected to be applied and the purpose of their construction, in addition to aesthetic aspects, prevention and control of some of the negative consequences of traffic.</td>
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<td>Mainly defined by the Privacy crossings and residential areas surrounding the space in the streets that are pedestrian path Shadow play a role in ensuring that they are also responsible for the slow access control, sound and light The spaces in the path Extremist aesthetic function and in the air pollution control are involved.</td>
<td>Marginal green area</td>
</tr>
<tr>
<td>In the middle and along the roads to prevent light damage to the front and made to beautify the route. These spaces can separate the two lanes are along the way.</td>
<td>Middle Rfyvzh</td>
</tr>
<tr>
<td>He designed urban spaces in order to create a connection between the two passages are defined. This places the different types Lehky, ramps and loops are known in the definition of the city and its communications networks, play an essential role Limitation of vision correction spaces are not the spaces of trees not used</td>
<td>Modified traffic areas</td>
</tr>
<tr>
<td>Crossings, including the streets or highways, or tardy Extremist, determines the three types of green spaces marginal, Rfyvzh central, multi-functional spaces Hstd.hr traffic amend these spaces depends on the type of Crossings is direct</td>
<td></td>
</tr>
</tbody>
</table>

Features and Benefits of linear green spaces

Al Hassan In his article titled "The role of green spaces in promoting public understanding of the urban landscape" urban space is part of the urban identity and says, this identity is defined by the presence of urban green space is one of the pillars takes a considerable impact on the quality leaving the urban landscape.

He adds, the green space and the role it plays in the quality of human perception can be pointed to the importance of landscaping in urban areas, Landscaping or in other words "the layout" means the use of plants designed in such a way and manner that promotes visual effects environment. Plants are one of the main pillars of green growth habits, form, texture, color and size are important factors in selecting plants to create an image of beauty is timeless. The plants can be used to guide pedestrians, encouraging
them to spend time in public open spaces, increase social interactions, creating a memorable sense of vitality and the environment, creating a chaotic visual correlation sights ... can be used [3].

Abbaszadeh and Akbari article, titled "Effect of street landscaping to improve the safety of urban transport with an emphasis on international experience" to point out critical issues, among them, the psychologists believe that the good and the beautiful urban landscape on the edge of roads and city streets have a positive effect on reducing the stress on drivers and provide the cause of the slowdown. Their findings also suggest that green paths with favorable terms are considerably more secure without landscaping are Bashd.mvlfh selected routes to the perspective of urban streets, vitality, flexibly memory of the astonishingly, Safety desirability (preserve natural factors), respectively. In fact, this theoretical answer to the question of self-help much. That the use and expansion of urban green spaces, especially green line (street) can affect visual quality and subsequent performance In Abdolali zadeh and Ghaemi paper On the other hand separate the roadway from the sidewalk intersections will be safe. In addition to guiding drivers and beautiful addition to the direction and control of light and noise and pollution is very important in the way [4].

To learn more about the effects of green space to detail that has been mentioned:

Performance of linear green spaces

An indication of the shape and height of trees in the city, for example, can be used to clarify the type of street. For example, divide the space between the sidewalk and the street separating the two lanes. Create audio and physical protection. Provide shade and protection against wind and rain. Control and the creation of spaces and territories, for example, the role of trees in order to make urban transport (air traffic reform) Secure Gateways, isolated and secure intersections Planting trees and clear pattern could help to create a specific physical identity.

Quality standards green street

Quality standards green street into two categories: a) visual criteria and b) the performance criteria are divided.

A) The visual criteria included: mean part - where it belongs - Vitality

Means section

Important architectural symbols of the function "means of expression" and "identity" are. The symbol refers to the expression of meaning beyond their appearance and sense of belonging to a specific group states. Signs and symbols of architecture in everyday life because every moment of invention and repetition are a particular sense of meaning and identity are reinforced [3].

Sense of place

The so-called sense of place and a sense of place is made up of a combination of two words. Word sense (sense) in the Oxford dictionary is the sense of the first one of the five senses, the feelings, emotions and love that is called in psychology to understand the image,one direction or the ability to track your show to humans. And finally total cognition or general sense means an object by humans. But the word of sense in terms of sense of place to the concept of affection, kindness, judgment, and experience a whole or its ability to create a sense of place or belonging to certain individuals [5].

From the perspective of environmental psychology, human sensory experience, emotional and spiritual needs are specific to the environment. These needs through close interaction and a substantiation of the place where the residence is achieved [6].
Linear green space visual and functional analysis of the impact on the quality of the streets, sample Keshavarz

Vitality
According to the definitions of general vitality vitality can be defined as the ability to provide a variety of activities and places users (with different backgrounds, economic, social and cultural) with the aim of diversity of experiences and social interactions such as security, equality and provide comfort for all users in mind [5]. Kevin Lynch in his book "Theory of the City" are alive to the macro-scale and maintains vitality, along with 5 other factor, meaning, relevance, access, control and power, efficiency and equity aspects of good performance in the form that. His vitality is divided into several sections that are of survival, the adequacy of the amount of water, air, food, energy and waste services, safety, environmental toxins and dangerous lack of consistency, coordination among environmental and human needs, in this discussion it is important to be ignored. Therefore, in order to achieve a vibrant and dynamic environment, we can see a more comprehensive look at the possible classification would be more complete [7].

B) Green space for street performance measures as follows:

1. Performance of traffic
2. Ecological – Environmental
   - Improve conditions in the city
   - Positive impact on the urban water cycle in the environment and improve the quality of groundwater
   - Reduce air pollution
   - Increasing the relative humidity (against heat islands, reducing the amount of lead)
   - The reduction of noise pollution
   - Adjustment of temperature and reduced temperature
   - Avoid changing wind speed and direction

Mental health
• Relax morale and efficiency
• Refreshment drivers and passengers to create eye-catching landscape
• To ensure safety for drivers using green plants as a fence
• The effect on human behavior and mental and behavioral dynamics (Journal of Urban Management, No. 87)
• Reduce stress and increase concentration and reduce frustration [8].

Physical
It is quite natural that many people decide on the place of residence and place through the streets of quality time to react. The satisfaction of the visual quality of the design space of the street on the extent to which they are assigned the role of space [9]. Establishment of trees in cities to meet the needs of the social, cultural and psychological citizens is an important social role in reducing tensions trees also play physical health has been shown to cause positive effects on behavior following urban green space be.

1. Must be in good mental and physical condition
2. As a result, relations of friendship and socialization of people felt better understanding of the social context
3. The acquisition and recognition of some social indicators to increase and enhance the value of individual
4. Increased sense of kinship or unity of interests and social responsibility the impact of green space to achieve peace, comfort, safety, emotional, intellectual and artistic motivation and inspiration, as aesthetic design principles of landscape design is the increased several times. Design and construction of hospitals in the area of healing spaces, healing gardens witness to the strong performance of the plant [10].

The visual effects of green space
Urban areas have an important role in improving the quality landscapes that are dominant in urban areas as artificial and man-made with hard surfaces are the narrow streets and low across the face of the intense traffic of the cities green due to lack of enough is carried to the ugly beauty of a city depends on the design space and is abundant trees [11].

With the rise and development of urban gardens, parks, planting trees in the neighborhood of residential, office, commercial and fringes streets of a city can be enhanced aesthetic value. The use of plants in urban landscaping effective steps to eliminate the disadvantages and shortcomings of the following cities:

1-2 adjust the rough texture
2-2 in the image viewer
3.2 understand the sense of place, a lot to be done visually and plants as physical beings that are characterized by the use of visual communications-beauty and beauty is perceived [13].
4-2 diversify the physical building access networks [12].
5-2 desirability of trails to encourage people to walk.

**Research and analytical model**

<table>
<thead>
<tr>
<th>Source</th>
<th>Indicators</th>
<th>Dimensions / Components</th>
<th>Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saeidinia, 1379</td>
<td>The variety of flora</td>
<td>The variety of flora</td>
<td>Green</td>
</tr>
<tr>
<td>Akbarzade, 1371</td>
<td>Color green</td>
<td></td>
<td></td>
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<tr>
<td>Tahmasebi, 1378</td>
<td>Plants form</td>
<td></td>
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<tr>
<td>Tahmasebi, 1378</td>
<td>Skyline</td>
<td></td>
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<tr>
<td>Tahmasebi, 1378</td>
<td>Texture Plants</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tahmasebi, 1378</td>
<td>Plant size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bayazdi, faraji, 1385</td>
<td>Readability - fit - clarity - Continuity and peers</td>
<td>That part</td>
<td>Visual</td>
</tr>
<tr>
<td>Motavaseli, 1385</td>
<td>Symbol - an image in the mind of the viewer</td>
<td>A place to belong</td>
<td></td>
</tr>
<tr>
<td>Rezvani, 1389</td>
<td>Charisma - Satisfaction</td>
<td></td>
<td>Vitality</td>
</tr>
<tr>
<td>Booth, 1983</td>
<td>The possibility of walking and social impact - Security - participation - responsibility</td>
<td>Social</td>
<td>Performance</td>
</tr>
<tr>
<td>Van den berg, 2003</td>
<td>Relax - Stress Reduction</td>
<td>Mental – psychological</td>
<td>Quality</td>
</tr>
<tr>
<td>Van den berg, 2003</td>
<td>Sound barrier - air conditioning - access to light</td>
<td>Ecological</td>
<td></td>
</tr>
<tr>
<td>Tahmasebi, 1378</td>
<td>Navigation - separately - the definition of space</td>
<td></td>
<td>Skeletal</td>
</tr>
<tr>
<td>Saeidinia, 1379</td>
<td>Transmission - access</td>
<td>Transit access</td>
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</tr>
</tbody>
</table>

**Introducing the study area**

The boulevard, which previously was called the Boulevard Elizabeth II, since its founding in 1345, and the last time one of the Resort in Tehran late in the day and on weekends so that a large number of citizens of the Boulevard as a place leisure and recreation was used [11]. Branch Creek Boulevard in the middle of the stream flow is known. Branch Creek from the Karaj River divided the river, which was moving toward the land and the land to the Master Behjatabad Tehran extended. The stream of water for agriculture and drinking water to homes in old Tehran was used. Tehran before piping the stream had a major role in water supply Tehran. Branch Creek Boulevard location based on the current farm.
Linear green space visual and functional analysis of the impact on the quality of the streets, sample Keshavarz

**Figure 1.** Keshavarz in 45.  
**Figure 2.** Keshavarz now.

It started in East Blvd., Vali Asr Square and the streets around the West lead doctor. Along the boulevard of almost 2.2 km along the road from East to West with the Palestinian street, street wear, joiner Shirazi Street, Street, Jerusalem, 16 Azar Street, the street worker is Jamalzadeh Street intersection. The south side of the boulevard leads to the park and is located near Tehran University.

**Figure 3.** Keshavarz position on the map [14].

According to the Department of Municipal Affairs and green space area 4 District 6, District 6 is located 2 crystal farmer in the area, the total area of 26,816 square meters and a total area of vegetation Boulevard area of 2231.14 square meters and 4838 square meters is crossing a stone This carpet Tuesday Rfyvzh total Boulevard, one middle and two rows of green space and pedestrian path and a creek in the middle of the series. Two Rfyvzh North and South on both sides of the border are generally 215 elm trees and other species, including pine, Japanese, lace shrubs, vegetation and ivy in there. Because even in heavy rains in Waterlogging adequate green space that can not be seen. The last that this problem can be seen in many other streets of Tehran.

**DISCUSSION AND RESULTS**

**Descriptive findings**

In this study were obtained during questioning of Keshavarz Blvd., 6/55% of respondents were male and 44.4% were women. The number of men who regularly commute Boulevard and questionnaires have been filled and, because of the administrative position is a commercial boulevard 13.9% of respondents under 20 years of age, 21.8% between 21 and 30 years, 17.9% between 31 and 40 years, 27.1% between 41 and 50 years, 3.7% between 51 and 60 years and 11.9 percent more than 60 years old. So we can say that the average age of the respondents are middle-aged, ie 66.8% of those between 21 and 50 years old. The results show that 12.6 percent of respondents associate degree and high school.
diploma, 20.5 percent of high school, and 17.9 percent of graduate and undergraduate 0/49 percent older. Thus 4/87 percent of respondents have a college education. And the traffic count results Blvd. 29.8 percent of respondents to the first time, 28.5% between 1 to 3 times, 25.8 percent and 15.9 percent from 3 to 5 times more than 5 times a week Blvd. their traffic. Therefore it can be said that traffic on the Boulevard 7/41% of respondents regularly.

Analytical findings

According to the survey questions
• Do Keshavarz affect visual quality green space?
• Is the quality of green space Keshavarz affect performance?

And by analyzing responses to the questionnaire, the following results were obtained:
According to the path coefficient 758/0 and 541/8 of the t-statistic can be said of green space in 99% confidence level and significant positive impact on the visual quality Keshavarz, so the first question is significant research confirmed. Also according to the way rates 370/0 and 930/2 of the t-statistic can be said of green space in 99% confidence level is a significant and positive impact on the quality of performance Keshavarz. So the second question is significant and confirms be. The result can be seen, the green area is strongly affect the visual quality of Keshavarz Boulevard, as well as the quality of performance than less. But since the population of ordinary people who have said to their visual impact is noticeable performance impact. But the impact on the visual, performance Boulevard also rises spontaneously-with reference to the article “Abbaszadeh and Akbari, titled” Effect of street landscaping to improve the safety of urban transport with an emphasis on international experiences “; psychologistsNo landscaping is more secure routes.

CONCLUSION AND RECOMMENDATIONS

The purpose of this study was to investigate the impact of green space model of visual quality and performance among citizens Keshavarz Boulevard, respectively. This despite the fact that man belongs to the era of urbanization Despite having modern technologies and facilities being provided is incredible compared to the past, in some aspects of your life feel the vacuum of wandering The gap arises because of his ability without contact with the natural beauty of the city is defined as green space, depression and senility unpleasant one. Of course, most of the residents in the city are not aware of the benefits and indirect effects on their lives. In this context plays the streets to have a special and unique role in organizing the environmental quality of the city, requires special attention and compliance requirements, particularly in the area of green space it is. And since the vast majority of people, especially those who are living in the age of economic activity time or desire to use the parks and green spaces do not like this. Thus, the importance of green spaces longer felt as a more general aspect and almost all sectors of the population will inevitably use it. Due to the space above the city streets need to create the principles of green space, which leads to improved performance and visual aspects of the street.appears. So pay attention to these points in the urban spaces more beautiful, healthier, safer, helps in this regard proposals have been made:

- Landscaping layout or the ground (use of plants in a way that promotes the visual effects to be) done so with respect to growth habit, form, texture, color, size and other factors in the selection of plants to create an image with lasting beauty and high quality.

- Use plants to guide pedestrians, encouraging them to spend time in public open spaces, increase social interaction and promote a sense of memorable note.

- Instead of using the guard rails and fences on the sidelines and Rfvzh streets and boulevards, beautiful green space that is used efficiently. To enhance the beauty of the city and traffic functions - as well as their environmental conduct.

- Increase the linear green space that greatly improve the city viable.

- Maintenance and protection of green space in a way that is coordinated with the principles of aesthetics and function.

- Plants should be used so that the result is visually chaotic scenes solidarity.
Linear green space visual and functional analysis of the impact on the quality of the streets, sample Keshavarz

- In Rfvzh hay Extremist access using long stems of trees and shrubs resistant, ecosystems Keshavarz low in Rfvzh very Extremist access is required. The access edge design, especially in the energy-saving heating and cooling of buildings is important.
- Allowing for quick navigation through the planting of trees or other plants or create gate length of green space in a range of different paths that can be changed or entered Or can be varied with the shape and height of trees to determine the types of streets or signs used on the routes.

REFERENCES
[1] Golkar, K. (1380) components manufacturer quality urban design, publication platform, No. 32.
[3] Salehi individual, social and psychological aspects Mhmd.thlyly green spaces in urban areas, Urban Management Journal, No. 21, Fall 1378.
[5] Resort, M., drunk, Mars, analyzing the scale of the city in the sense of the place (Case Study: Tehran), 1386.
[6] Architecture and Urban Development regulations and master plans, Iran's Supreme Council for Planning and Architecture 72
[7] Consulting Engineers embryos (1389) criteria for the design of urban green space, the first revision, Publication No. 203.
[16] Monthly municipalities, No. 53, date Mehr 1382