ANALYZE AND PRIORITIZE THE URBAN PUBLIC SPACE (SIDEWALKS) (CASE STUDY: 13TH DISTRICT OF ZABOL)

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ABSTRACT

Allocation and use of public spaces in the city, is a central issue, which should be in the daily lives of those who live in urban areas, are examined. Sidewalks one of the most important public spaces in cities, urban transport and traffic are important to the city. Today, the implied increase in population and urban traffic problems, that more attention should be sidewalks and trails. Difficulties in access networks and urban walking trails comfortable motion discontinuity, is a problem for some people. Elderly, mothers carry their children, disabled people wheelchair or assistive devices that move through the various obstacles and inappropriate routes, gateways and floorings are suffering and when to use urban spaces are in addition to the pedestrian sidewalks are not the only way, but there are important social spaces in which people interact with each other and they are walking. Therefore, the research focus has been in the neighborhood of 13 Zabol. The research method is descriptive – analytic and is based on documentary librarian and field studies. Model VICOR are used for analyzing the findings. The results showed that Karegar Blvd with a score of 0.499 and 22 yards Be'sat Street with a score of 0.430 have acquired the highest and the lowest rank respectively.

Keywords: *Sidewalks, Zabol, 13th district, planning, designing*

INTRODUCTION

It is a basic requirement for the implementation of the new vehicle that does not meet ever. Scale motion of walking meditation in a way that allows it to communicate with humans in terms of motor coordination provides any kind of the foot's human perceptions does not the presence of cars in urban areas, public spaces suddenly lost his last major performance challenges and new concepts have been introduced. (Kashani Joe, 2006). The journalist and scholar Jane Jacobs in the Death and Life of Urban outstanding issues that American cities, it remains a public space of the city, and especially to mind is the streets of sidewalks are spiteful so it should be. For being able to attract more residents. Jacobs pointed out that an increase of security and landing upside down on the sidewalks of separation and segregation are (Pakzad,

2007). City where people live and communicate with each other. The spatial relationship of the social life of the city marks and no matter how safe the space bright, beautiful, diverse and contradictory social life of the city is stronger, clearer and more stable it will be. Whatever be sure to walk the sidewalks of life, sustainable communities and encourage more people to walk supernatant replaced with used cars or any other vehicles will (Kohzad, 2006) Of sidewalks encouraged walking people sustainable urban development will play an important role. It depends on the standards and criteria contained in the design of pavements be used. Sidewalks us new floor plan both way and slope paragraph or available standard and most more the to taste owner's homes or leased quarters against places and personal costs built the place due to the difference in the slope of harassment usually occasional obstacles such as stairs, retaining walls, raceway personal encounter water or garden. Organizing vision rehabilitation and improvement of sidewalks on one of the effective tools to facilitate the movement of pedestrians, especially of the urban landscape, and is (Kohzad, 2006).

The importance and necessity of research

The city's most troubled urban spaces and sidewalks to never have become the most lawless past. The safe movement of pedestrians passing motorcyclists and exposure pathways objects and furniture shops are threatened. However, the main urban streets where sidewalks should be reliable and safe for pedestrians. Implemented as an online network require that all source to all destination, without interruption, and cut the connection, but then the continuity of occupation during the construction of sidewalks, or by motor vehicles and bicycles, sidewalks occupied by hawkers, sidewalk, floor damage, or damage to sidewalks municipal utilities to do, is cut in a way that pedestrians are forced to walk in the roadway. Certainly have facilities for pedestrians will increase pedestrian travel. Studies show that the number of pedestrians in hierarchical and consistent with good facilities, and street crossings for pedestrians, the More.

Goals

- 1 - The design of the public space, especially sidewalks, convenience and welfare of citizens, security and comfort.
- 2 - Emphasize the undeniable importance of public spaces in urban design to avoid wasting energy and money.

BACKGROUND RESEARCH

Tavakoli in 2009 from civil liability jurisprudence articles of general passage, Islamic principles in the areas surveyed (Tavakoli, 2009).

By F. Meier and comfortable climate in 2006 to review the design of streets and sidewalks have been the dry areas and the ratio of street width and height of the orientation of the sun and in the end a simulation of a model due to the climate of the next street life that explores how to design. (Fazel and Mayer 2006)

Marta & et al in 2010 at the effect of the article on the design of the dry November in the city of St. Constant. The effect of the local climate was cited in the design and length and width of the November the horizon, and how the radiation and the solar energy absorbed by the analysis (Marta et al, 2010).

Seyed Behshid Hosseini et al in 2006, for implementation and municipal facilities for the disabled were examined and found to be Who are blind in relation to the use of a variety of signs and symptoms in the palm as stop signs, tactile or audio used in predicting the physically disabled three steps the first step is to identify problems and eliminate these problems, the second step and the third step is the implementation of design criteria for people with disabilities and proper implementation suggests to (Hossain et al, 2006).

Javan and Tavakoli, 2007 design principles and implementation emphasis on the constraints motor disability and veterans of have been investigated, the types of constraints mobility and disabled people to determine and recommend the final policy In order to make them objectively applied, to enable people

with disabilities to live independently in the community and also to offer to help people with disabilities as part of the description of the mapping plan the city is included (Javan and Tavakoli, 2006).

Rajai in 2006 (forgotten pedestrians in urban Iran), and it deals with the planning and design must be adapted to the physical features of all people, especially for people with disabilities as well as physical and motor measures to be thought of, because the forgotten people therefore, the above scheme these are (Rajai, 2006).

Kohzad (2006) spatial organization of pedestrian movement in the central part Yasoj and to examine the needs of people walking the critical needs of today counts of neglect and has been found to be it seems that no matter how pedestrian the introduction of a social life is more supernatant encouraged (Kohzad, 2006).

Hosseini (2006), for the victims of traffic on the city streets have been investigated and include the length, for optimum implementation of appropriate environmental legislation relevant to specific staff urban municipality in the country to be created and disability associated with community service organizations in the delivery of services to act in a way that does not make actually disrupt the normal process of , and the culture and education the people of the society towards people with disabilities and disabled veterans have changed visibility and ease of movement for people in the community should be (Hoseini, 2006).

Rajabi Ganf Gourabi and Gholipour, in 2009, "a good public transportation system architecture and implementation studies for the disabled they come from studies that have no system is perfect for traveling with disabilities and elderly people, there are problems for the take the architects and planners in the design and architecture of the city transport systems and buildings It can be used in appropriate implementation there are two approaches to repair of sidewalks, pavements Suitable for disabled use and improvement of pedestrian routes through the (Gourabi and Gholipour, 2009), Valizadeh Kamran in 2006, in an article under an agreement and implement design standards the implementation of encouraging people to walk on the sustainable development of cities. the role the key to counts, depending on the design of pavements shall use existing standards and criteria related theories to explain why the city sidewalks, in view of the development of road network and technical considerations in the design of pavements, the capacity of pathways of the pavements, types of clothing and their advantages and disadvantages, under cover of pavements and sidewalks will light (Valizadeh Kamran, 2006).

METHODOLOGY

Research method

The research method is descriptive – analytic and is based on documentary librarian and field studies. Model VICOR are used for analyzing the findings.

THE INTRODUCTION OF THE STUDYING AREA

Zabol is located the geographical coordinates 31 degrees' north latitude and 61 degrees and 2 minutes and 39 minutes east. The extent of Zabol is 2084 hectares, which is equal to 0.13 percent of the area encompasses the city. Zabol in term of land distance is 210 km from Zahedan city in southeastern, 1538 km north of Tehran, 366 km North West of Birjand and 834 km from Mashhad and thus be associated with the centers of neighboring provinces and other parts.

Figure (1): position in the region, Sistan-Baluchistan province

Figure (2): 13th district of Zabol

DISCUSSION AND CONCLUSION

Analyze and prioritize the urban public spaces (Sidewalks) (Case Study: 13th district of Zabol) Using VICOR model

First step:

Determination the weight of criteria

To Analyze and prioritize the urban public spaces (Sidewalks) in Zabol, due to high number of indicator, have been studied the dimensions. So that each of the respondents respond to questions exist on the questionnaires distributed based on the proposed indicators. Due to use of VIKOR model, the number of respondents are 20 people of city experts and managers.

The results of criteria and indicators as the crude data from the 1 to 10 were evaluated by experts.

Table (1): Results of the criteria and quantitative indicators

criteria	Lighting passages	The width of the sidewalk	Security passers-by	Designed to fit	Suitable flooring	Adequate furniture	Green space	Passers satisfaction
aij	0.100	0.140	0.101	0.174	0.111	0.160	0.045	0.102
22 yards Be'sat Street	7	8	6	5	6	7	6	5
.Karegar Blvd	9	9	7	7	7	8	8	8
40 yards teacher Blvd	5	6	5	5	8	6	5	6

Source: research findings

Table (2): Table Rating Likert scale

0	1	2	3	4	5	6	7	8	9	10
	Very little		little		Average		much		Very much	

Source: research findings

At this step used of likert scale to converting quantitative data to qualitative data.

Second step:**Normalization of the decision matrix:**

$$r_{ij} = \frac{X_{ij}}{\sqrt{\sum_{i=1}^m X_{ij}^2}}$$

By using of above formula (1) first for all of the matrix values calculated the exponent 2 and calculated the sum of each column. Then, obtained the square root of the sum of each column, finally, each value is divided on the square root.

Table (3): exponent 2 Numbers

criteria	Lighting passages	The width of the sidewalk	Security passers-by	Designed to fit	Suitable flooring	Adequate furniture	Green space	Passers satisfaction
aij	0.100	0.140	0.101	0.174	0.111	0.160	0.045	0.102
22 yards Be'sat Street	49	64	36	25	36	49	36	25
.Karegar Blvd	81	81	49	49	49	64	64	64

40 yards teacher Blvd	25	36	25	25	64	36	25	64
Σ	180	217	135	135	213	174	101	217

Source: research findings

Table (4): square root of the sum of each column and divide by the square root of the sum of each of the values

criteria	Lighting passages	The width of the sidewalk	Security passers-by	Designed to fit	Suitable flooring	Adequate furniture	Green space	Passers satisfaction
aij	0.100	0.140	0.101	0.174	0.111	0.160	0.045	0.102
22 yards Be'sat Street	0.522	0.544	0.517	0.430	0.411	0.531	0.598	0.340
.Karegar Blvd	0.672	0.602	0.603	0.603	0.480	0.607	0.799	0.544
40 yards teacher Blvd	0.373	0.408	0.430	0.430	0.548	0.455	0.499	0.544

Source: research findings

Third step:**Weighting of normal matrix**

To weighting of normal matrix values, is multiplied each of the options, on weighting of criteria (which has already been obtained in other ways).

Table (5): Weighting of normal matrix

criteria	Lighting passages	The width of the sidewalk	Security passers-by	Designed to fit	Suitable flooring	Adequate furniture	Green space	Passers satisfaction
aij	0.100	0.140	0.101	0.174	0.111	0.160	0.045	0.102
22 yards Be'sat Street	0.086	0.074	0.039	0.017	0.044	0.100	0.054	0.063
.Karegar Blvd	0.110	0.082	0.046	0.026	0.053	0.115	0.072	0.109
40 yards teacher Blvd	0.061	0.056	0.033	0.017	0.060	0.086	0.045	0.109

Source: research findings

Step Four:**Determining the highest and lowest values of normal weight matrix**

Determined the largest and smallest value for each column.

At this stage, the highest value and lowest value of standard functions extracted from the decision matrix. Here the greatest number means a number that has the most positive value and the smallest Means most negative value. So if our criterion be type of negative, the largest number converted to the lowest and smallest number converted to the greatest value and vice versa.

$$f_i^* = \max_j f_{ij}; \quad f_i^- = \min_j f_{ij}$$

Table (6): Determining the highest and lowest values of normal weight matrix

f max	0.110	0.082	0.046	0.026	0.060	0.115	0.072	0.109
f min	0.061	0.056	0.033	0.017	0.044	0.086	0.045	0.063
f+ - F-	0.049	0.026	0.013	0.009	0.016	0.029	0.027	0.046

Source: research findings

Step Five

Determine the Suitability index (S) and repugnance index (R):

At this step obtained the distance of each option to the ideal solution, then the sum of them calculated according to the following formula. In other words, at this step after calculation normalized matrix and weighting matrix and extracting the highest and lowest value for each index in order to calculate of the VIKOR index (Which accordingly calculated our options) was calculated Suitability index and discomfort index.

$$S_j = \sum_{i=1}^n w_i \cdot \frac{f_i^* - f_{ij}}{f_i^* - f_i^-}; \quad R_j = \max_i \left[w_i \cdot \frac{f_i^* - f_{ij}}{f_i^* - f_i^-} \right]$$

*= The biggest number of weighted normal matrix for each column

f_{ij} = number of preferred option for each criterion in the weighted normal matrix

f₋ = smallest number of weighted normal matrix for each column

For each criterion was obtained a Suitability index that the sum of them determines the final index of option. The biggest S_j of each option for each criterion, is the (dissatisfaction) repugnance index (R) of that option.

Table (7): Determine the Suitability index (S) and repugnance index (R)

criteria	Lighting passages	The width of the sidewalk	Security passers-by	Designed to fit	Suitable flooring	Adequate furniture	Green space	Passers satisfaction		
a _{ij}	0.100	0.140	0.101	0.174	0.111	0.160	0.045	0.102	S	R
22 yards Be'sat Street	0.079	0.041	0.041	0.039	0.109	0.109	0.06	0.200	0.634	0.200
Karegar Blvd	0.000	0.000	0.000	0.000	0.438	0.000	0.000	0.000	0.438	0.438

40 yards teacher Blvd	0.163	0.135	0.075	0.039	0.000	0.126	0.090	0.000	0.628	0.163
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Source: research findings

Step Six:

Calculate the Q amount and the final ranking of options

In this step, the VIKOR index (that is the final score of any option) was calculated. Q value reveals the final ranking of any organization from the studied parameters. "V" is the strategy Weight (the majority of criteria) or gregarious suitability maximum. The amount of "s" reveals the distance from positive ideal solution of "i" option. When V is larger than 5.0, Q index has maximum agreement. When V is smaller than 5.0, reveals the maximum of negative attitude. Also options ranked based on Q values. Options with greater value of Q, placed on larger rank. Q values smallest placed on lower rank (by using the following formula).

$$Q_j = v \cdot \frac{S_j - S^-}{S^+ - S^-} + (1 - v) \cdot \frac{R_j - R^-}{R^+ - R^-}$$

V = constant number of 0/5

S_j = the sum of "S" for each option

S⁻ = the largest number of "S" index for each option

S⁺ = smallest number of "S" index for each option

R_j = the R-value sum for each option

R⁻ = the largest number of "R" index R for each option

R⁺ = the smallest number of "R" index for each option

Finally the Q value maximum is selected as the best option.

Table (8): calculate the amount Q and the final ranking options

Title	Weighted Score	Rank
22 yards Be'sat Street	0.430	3
Karegar Blvd.	0.499	1
40 yards teacher Blvd	0.483	2

Source: research findings

The results show that Karegar Blvd. with a score of 0.499 and the 40 yards' teacher Blvd with acquired Q of 0.483, and 22 yards Be'sat Street with acquired Q of 0.430 have allocated the highest and the lowest place.

CONCLUSION

To be known a city as a pedestrian-oriented city majority of urban principles and roles should be pedestrian-oriented, that includes some special Principles and guidelines. It is exactly what not concerned

in districts of Zabol. About sidewalks in neighborhoods due to improper planning and management the principles of pedestrian that can be human touch about city and neighborhood, has not been met.

The research method is descriptive – analytic and is based on documentary librarian and field studies. Model VICOR are used for analyzing the findings. The results showed that Karegar Blvd with a score of 0.499 and 22 yards Be'sat Street with a score of 0.430 have acquired the highest and the lowest rank respectively.

SUGGESTIONS

Installation of suitable light sources and rehabilitation of existing resources in the area should be considered further.

The use of pedestrian bridges in the neighborhood's main artery.

The pavement design principles for seniors and children and the disabled should be considered.

Appropriate use of floor pavement with hot and dry climate of the region.

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