
MOVEMENT ECONOMY DEPENDENT ON URBAN DESIGN

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Abstract

Good urban design generates a multiplier effect on the direction of movement and use of space. The result of this process with the increase in movement, is a recovery of space and economical vitality. This study provides a framework for discussing the relationship between movement economy-real estate values and urban design. We also want to know under what conditions the pattern of movement is more consistently linked to spatial configuration. A different dimension clarifying spatial organization of cities is provided with an explanatory model for urban space called "Space Syntax". Space syntax is a graph-based model used to examine how the spatial layout of buildings and cities influences the economic, social and environmental outcomes of human movement and social interaction (Kim and Sohn, 2002). These concerns were questioned in a sample area (Kazım Karabekir Avenue) selected from the Central Business District of the city of Konya in Turkey. The purpose is to compare previous and existing movement and real estate values depending on applied pedestrianisation decision and urban design project in our sample area. Hence integration values of the area were analyzed using the Space Syntax model to find the answers to questions like how integrated the research area is with the other parts of the city, how the urban design project influence the pedestrian movement of the area including people living and working in Konya, such as students and tourists, and how real estate values and economical liveliness were affected by this process.

Introduction

Movement is an aspect of vitality, of the experience of density and diversity that characterize urban life. Thus, generating, distributing, modulating or accommodating movement is at the core of urban planning and design (Peponis et al, 1997). In terms of urban planning and design, the layout of space first generates movement, then movement-seeking land migrates to movement-rich lines, producing multiplier effects on movement which then attract more retail and other uses, and this leads to the adaptation of the local grid to accommodate the greater density and mix of uses. This dynamic process is called the "movement economy".

The most important measure for estimating the potential movement along a line is called “spatial integration”. The dynamic relationship between the appropriate distribution of spatial integration, movement pattern and land use are the effects of urban vitality. As a result of appropriate relations between urban structure and movement, different uses produce multiplier effects to each other providing urban vitality, people who come with different purposes to join each other. Finally, the layout of space and attractiveness of possibilities are in harmony with supporting each other (Space Syntax Ltd., 1999, Kubat, A. S., et.al. 2003). In this process if rational and appropriate design can be achieved, the urban space can be more attractive and vital for people.

The definition of urban design includes: the relationship between different buildings and the streets, squares, parks, waterways and other spaces which make up the public domain; the nature and quality of the public domain itself; the relationship of one part of a village, town or city with other parts; and the patterns of movement and activity which are thereby established: in short, the complex relationships between all the elements of built and unbuilt space. This definition emphasises the constituent physical parts and how these fit together to create networks of pace and activity. Definitely, good urban design needs a comprehensive framework rather than a simpler definition, encompassing the varied socio-cultural, environmental and functional dimension of urban space (Anonymous, 2001). In this paper it is restricted with physical parts.

Urban design's role in the movement economy is to accommodate the changing needs of the society. Individuals are affected by spaces that surround them, how the spaces are designed, and how they in turn interact with those spaces. Good urban design and increased movement add value by increasing the economic viability, real estate values of sites and delivering social and environmental benefits, through

- Producing high returns on investments
- Increase rental and sale values
- Supporting 'life giving' mixed use elements
- Urban regeneration and opening up new employment opportunities
- Creating accessible, inclusive public spaces
- Enhancing public safety and security
- Boosting civic pride and revitalizing urban heritage (Anonymous 2001).

Material and Methodology

Literature, space syntax data, real estate values taken from estate agencies (%30 of sample area), photographs, maps, pedestrian counts—calculated three times in weekdays and weekends by the authors—and personal impressions of the research area are the materials of the research. Steps of the research methodology are; Literature Research, Space Syntax Analysis, Pedestrian Counts, Real Estate Values, Evaluation and Conclusion. Space Syntax data and the analysis belonging to the research area was performed by Confeego extension which works under the Map Info (GIS) programme.

Findings of the Research

Description of the Research Area

Kazım Karabekir Avenue, chosen as the research area, is located in the downtown of Konya in the west of Alaeddin Hill. It is at a walking

distance to the historical district of the city. In this district, there are some historical and cultural values important for its urban identity such as Mevlana Museum, Aziziye Mosque, Şerafettin Mosque, İplikçi Mosque, and Bedesten. These values remain from Ottoman and Seljuq Empire. Especially Mevlana Museum is the most important cultural and historical element of the city. As Mevlana Philosophy achieved big reputation in worldwide, UNESCO declared the year of 2007 as the “Mevlana Year”. Therefore Konya’s importance becomes greater. The location of the research area and the applied urban design project are given below (Figure 1).

Figure 1:

The location of Kazım Karabekir Avenue and the applied urban design project (This project was designed by İbrahim Bakır & Haluk Hüsni Korkmaz in 2005)



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Having central commercial activities together in this avenue is the most important factor for city population to use this space especially for shopping. Kazım Karabekir Avenue, having negative environmental conditions like dense traffic complexities, noise pollution etc., is specified as one of the important axes proposed to be pedestrianised inside the Transportation Master Plan prepared for Konya City (Anonymous, 2001). The pedestrianisation decision of Kazım Karabekir Avenue in which dense pedestrian movements are found in the pavements and turned into shopping and excursion corridor was taken by Transportation Coordinating Committee in 13th November 2004. This decision was applied in Summer 2005. Therefore public-private transportation of the area was changed.

The most important reason for the research area to be dense with pedestrians is the diversity of the uses on it. The most important factors that increase the pedestrian density on the research area are the location of the important part of the commercial facilities in urban center, private establishments preparing students for various exams, one school in the research area, being a transition area between socio-cultural functions in urban center and being found spaces which can meet the public needs like sitting, relaxation, and eating. This application plays a key role on the development of the city. Especially in Central Business District (CBD), this application will make users take a good breath. Through such districts cityscape with aesthetics reach a new panorama for pedestrians in Konya.

Results of the Space Syntax Analysis

The method used in this study called "Space Syntax" is a theory and method for the description of built space created by Prof. Bill Hillier, and has been used to treat spatial configuration as a variable in a variety of studies. Method is describing and analyzing the relationships between urban spaces and buildings. In Space Syntax, the spaces are understood as voids between walls, fences and other impediments or obstructions that impede pedestrian traffic and/or the visual field. The root of the theory is that people have a preference for easy journeys. Establishing the accessibility of a public space means that the way this area will be used can be mathematically predicted (Hillier and Hanson 1984).

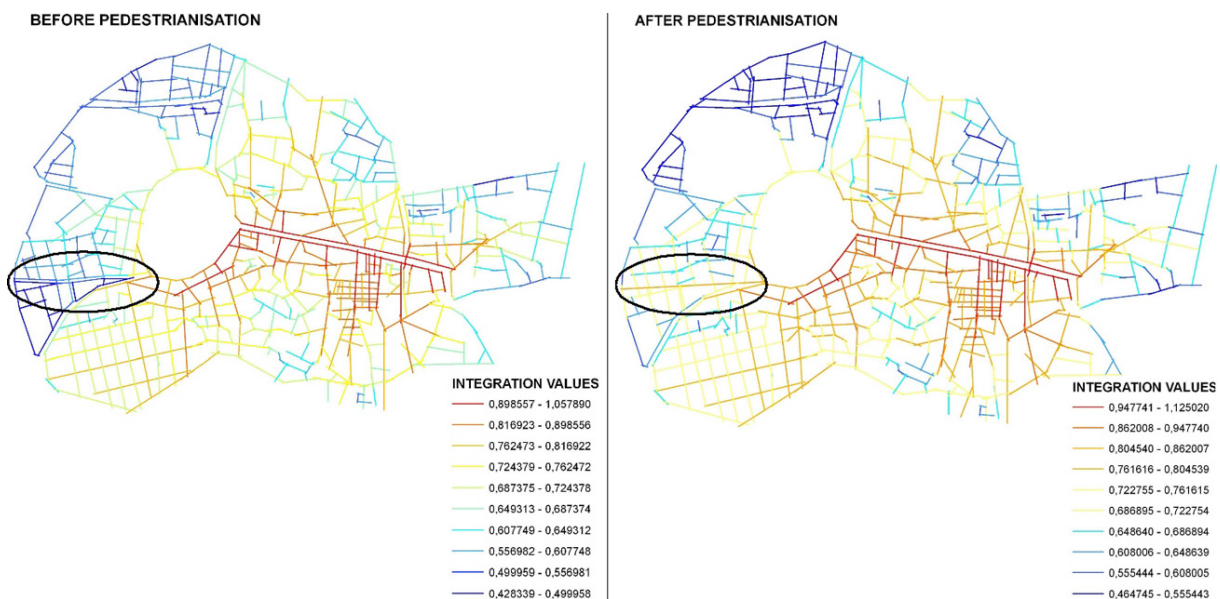
An urban system is one which has at least some origins and destinations more or less everywhere. Every trip in an urban system has three elements: an origin, a destination, and the series of spaces that are passed through on the way from one to the other (Hillier 1996). Integration is a static measure. It describes the average depth of a space to all other spaces in the system. The spaces of a system can be ranked from the 'most integrated' to the 'most segregated' (Hillier and Hanson 1984).

In every processed axial map each line has an 'integration value' assigned to it. An integrated line is firstly more easily accessible than a 'segregated' one because it can be reached by simpler routes from other lines. Second, a more integrated line is more likely to be selected as part of a route between other pairs of lines, that is, it will attract more through movement. It is the combination of their role in 'to' and 'through' movement that gives 'integration values' their power in helping to estimate movement potentials (Hillier and Hanson 1984).

In this context, when we compare the previous and existing integration values, the mean integration value increased from 0,695236 to 0,725947. Therefore the research area of this study becomes more integrated. Hereupon in order to understand whether pedestrian movement increased or not, pedestrian counts were done before and after the process. The result we found is that the pedestrian movement of the area increased with the percentage of 13, 6. As it is understood from the figure below, pedestrian movement continuity between Central Business District (CBD) and the historical district of the city become more integrated (Figure 2).

Figure 2:

Previous and existing integration values of the research area



Results of the Real Estate Values

As mentioned above, good urban design, more integrated urban space and increased movement add value by increasing the economic viability, real estate values of sites. Therefore in this study we compare the previous and existing real estate values of the research area dependent on the pedestrianisation process and applied urban design process. The sources of these values are the real estate agencies located in/near the research area, property owners of both dwellings and shops, and tenants. The comparison of the values are given below (Table 1).

Table 1:

The comparison of previous and existing real estate values of the Kazım Karabekir Avenue

COMPARISON OF PREVIOUS AND EXISTING REAL ESTATE VALUES DEPENDING ON PEDESTRIANISATION				
COMMERCIAL AREAS				
Area (m ²)	BEFORE PEDESTRIANIZATION (2004)		AFTER PEDESTRIANIZATION (2006)	
	Rental Values (\$)	Sale Values (\$)	Rental Values (\$)	Sale Values (\$)
6 -25	400-850	45000-96000	480-950	57000-107000
25 -50	850-1700	96000-160000	940-1900	107000-178000
50 -100	1700-3500	160000-400000	1850-4000	178000-442000
100 -200	3500-7000	400000-1250000	4000-8300	445000-1428000

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It can be understood from the table that the value of commercial areas have increased, which means applied pedestrianisation decision, urban design project and increased integration values brought economical vitality. When we consider the shops of which sales depend on pedestrian movement like cafes, buffets, restaurants, that is to say service sector, we can see the rent price of them have increased. On the contrary the shops price which depends on vehicular traffic like white goods shops, furnishers have decreased. Because important part of the incomes for these activities are automobile users before the pedestrianisation and the demand for the vehicular traffic shifted to the big shopping centers because of the lack of parking lots and being not supported with the new transportation system, these activities relocated on other places. Present users of the area are mostly the students and people who do not have private automobiles. If the necessary precautions considered like parking lots, safety, and more services, the pedestrian movement of the area can be increased.

Conclusion

Based on the research it can be concluded that good urban design,

- delivers economic value
- increases prestige of the district and livable environments for users
- creates productive working environments and good rental values
- attracts occupiers, users etc...
- supports 'life-giving' uses.
- can reduce security, management and maintenance costs.
- helps to deliver more contextually integrated development
- helps to boost city pride and enhances social inclusiveness

Based on the research both increased integration values after the urban design/pedestrianisation application and increased pedestrian movements put up the prices of the real estate values and economical vitality. Having negative environmental conditions like dense traffic complexities, and noise pollution, is specified as one of the important

axes proposed to be pedestrianised, but it is not supported with the adequate transportation planning and parking lots. Thus the vehicular users do not prefer this shopping street. To provide the sustainability of the area parking lots and transportation system have to be considered for the area. So the pedestrian movement and economical vitality will be increased more.

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