

**USABILITY OF LARGE URBAN FACILITIES IN SPATIAL TRANSFORMATION:
CASE STUDY OF REGIONAL SHOPPING CENTRES IN ISTANBUL**

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ABSTRACT

This paper examined the usability of large urban facilities in spatial transformation as a case study of regional shopping centres (also referred to as shopping malls) in the metropolitan city of Istanbul, Turkey. The research is originated from the idea that large urban developments attract new land uses and users to their proximity, and/or repel some existing land uses and users around them during the process of benefit and/or profit maximization. This process can also be named as “voluntarily transformation” process. In this context, we performed user surveys in residential and commercial units as well as at real estate agents in the proximity of two large shopping centres; namely, Akmerkez (Beşiktaş County) and Tepe-Nutilus (Kadıköy County) in Istanbul. In addition, in the study areas data on land use changes collected by the State Statistics Institute (SSI) of Turkey during the last two decades have been examined. It is concluded that the shopping centres stimulated urban transformation on real estates in their close proximity, and in time they created transformations from residential to commercial within their primary influence boundaries, and beyond those up to a certain distance, they became attractive zones for residential use.

Key words: Shopping mall, urban transformation, housing satisfaction, commercial office satisfaction, Istanbul

JEL Codes: O2, R11, R14

1 INTRODUCTION

Due to the dynamic nature of the urban development in developing countries in parallel to rapidly changing economic, social and technological environments, decisions based on master plans do usually fail. Therefore, spatial transformation is the number one prerequisite for creating more liveable cities in countries where land use and location decisions do greatly divert from master plans which ill-fully represent the nature of urban development in rapidly changing environment. It is very unfortunate that like many developing countries, the central government as well as all local governments without any exception in Turkey have adopted this approach which is totally inappropriate for the changing environment of Turkish cities due to rapid urbanization. The urbanization rate in Turkey was 4.35% per annum from 1965 to 1985 compared to the rate of 3.5 and 3.7% per annum in average in middle and low income economies, respectively. The rate was an average of 1.5% per annum in the industrialized countries. The percent of urban population in the largest city in Turkey, Istanbul, was 24% in 1980 compared to 18% in 1960. The population of Istanbul was 11.2 million in 2000 compared to 11.3 million of Paris and 11.1 million of Osaka, Kobe (World Development Report by World Bank, 1984).

In the metropolitan city of Istanbul, there are numerous neighbourhoods as well as urban centres that need spatial transformation or renewal for the betterment of urban space. Being the majority of Turkish cities in earthquake prone zones, many urbanized areas need serious transformation in order to improve building and housing qualities as well as to make communities and neighbourhoods more liveable. Many buildings in central and outlying areas of large Turkish cities need to be rebuilt. However, this transformation needs multi-trillion dollars so that no such private or public organization(s) can cover easily. Thus, this transformation needs to be done slowly over a longer time span by the owners (probably the new owners) of the land. Large shopping malls might have superior effects on urban transformation especially in slums and lower- or middle-income areas. This paper examined the usability of large urban facilities in spatial transformation as a case study of regional shopping centres (also referred to as shopping malls) in the metropolitan city of Istanbul, Turkey.

1.1 Research Motive

In this paper, new urban developments with great externalities, such as shopping centres, introduced to an urban area were questioned as a tool of urban transformation or renewal for the betterment of urban space. This study is originated from the idea that large urban developments attract new land uses and users to their proximity or repel existing land uses and users from them for the purpose of benefit or profit maximization. This process can be seen as a “voluntarily transformation” process. To support our approach, Dennis et al. (2002) interestingly reported in their study, Northern London, that the first step in urban renovation was to renovate retail shopping and shopping centres. In this context, value, surplus value and rent are defined, and then, the effects on land values and transformations of such developments were determined in the greater metropolitan area of Istanbul by employing user surveys in residential and commercial areas as well as at real estate agents in the proximity of two large shopping centers; namely, Akmerkez (Etiler, Beşiktaş) and Tepe-Nutilus (Acıbadem, Kadıköy) in Istanbul. In addition, in the study areas the data on land use changes collected by the State Statistics Institute (SSI) of Turkey over the last two decades have been examined. After the analyses of the survey and land use data, it is concluded the shopping centres examined in this study stimulated urban transformation on real estates in their close proximity, and in time they created transformations from residential to commercial within their primary influence boundaries, and beyond these up to a certain distance they became attractive zones for residential use.

1.2 Usability of Large Shopping Malls in Urban Transformation

While the issue of urban transformation is especially hot and preferential issue in the agenda of the new government in Turkey, an increasing number of city officials, planners, and policymakers are examining the potential for alternative land use changes in urban areas to stimulate the desired urban transformation. The major hypothesis of this research is that the stimulation for such transformation in some neighbourhoods and communities can be achieved by building large shopping malls that can increase the land value and stimulate the transformation without any public intervention. By this way, the public share of the cost of the transformation would be virtually zero. In this context, this research investigates the relationship between increased land value and urban transformation at locations around two large shopping malls in Istanbul, Turkey. One of the shopping malls is 12 years old, named “Akmerkez Shopping Centre” in Beşiktaş County, and the other is a new one built about three years ago, named “Tepe-Nutilus Shopping Centre” in Kadıköy County, Istanbul. The

results of this research are expected to help city officials, planners, and urban designers involved in the process of betterment and revitalization of neighbourhoods and communities where squatter housing or housing with lack of quality in required amenities is dominating.

2 LITERATURE REVIEW

2.1 Urban Transformation or Renewal

Urban transformation without any direct public intervention (such include demolishing old building and reconstructing new ones, or revitalizing neighborhoods or buildings along a major street in central areas) is dependent upon many factors, working singly or in combination, may keep the desired transformation from going its desired direction; these include the housing and office market in the immediate areas, the strength of the local economy, and the attractiveness and appropriateness of the residential and commercial development itself. Planners can play a major role to create this urban transformation without any direct public intervention by, for example, creating desired externalities in subject areas. It is believed that large shopping malls can create such externalities to stimulate spatial transformation around them, especially within the 500-meter radius and beyond. This kind of transformation is called amenable-transformation without any direct government intervention. However, limiting private property rights with the power of eminent domain and zoning is the forced-transformation.

2.2 Urban Transformation Studies in Turkey

Renewal was defined as clearance and redevelopment until the mid-1960s. This approach for the urban betterment was changed in the 1970s by establishing legal ground via improvement and development plans. In contrast to this, in parallel to the radical changes in economic policies in the 1980s, renewal policy for the problematic locations in large urban areas were again equalled regeneration, and spatial transformations were made for the capitalization of global interests in the name of urban rent by transformation projects (Dündar, 2001).

Recent discussions on the issue of urban transformation have focused on two areas. First is the necessity of transformation of the squatter housing areas as well as the areas where most of the buildings could not pass the test for the earthquake durability along the seashore of Marmara sea in Istanbul. Second is the financial difficulty to reconstruct new houses and revitalize neighbourhoods to ensure the liveability of the areas. Improvement and development plans (I&DP) were seen the only way out for urban transformation until

recently; however, those plans couldn't either led to successful results or transform the squatter housing areas successfully because of the rapidly changing economic, social and technological environments of the metropolitan areas in Turkey (Dündar, 2001).

The transformation projects, on the other hand, have found limited application (Portakal Çiçeği, Dikmen Vadisi, Ege District and Zafer Plaza urban transformation projects and some others) due to two great limitations: finance, and public acceptance towards transformation projects. To overcome these obstacles in general, some approaches are developed, such as İHT-İHTr-Real-estate planning tools (Göksu, 2003), master plans for earthquakes and natural disasters (Istanbul Metropolitan City Master Plan for Earthquake Planning, 2004) and KED Model (Çelikhan et al., 2004). However, these approaches have not found widespread application yet due to necessary legal changes they require and most importantly the finance needed for the transformations desired in urban areas. Under the economic and social conditions in developing countries, what expected from ideal transformation approaches is to create financial tools during the process and to offer the urban rent to land owners primarily in order to speed up the transformation process towards the desired direction by creating voluntarily participation at the utmost level and to reduce the legal problems due to new developments and land use change to be introduced in the area by the transformation projects.

2.3 Effects of Shopping Centres on Externality and Accessibility

2.3.1 Externality

When we talk in a broad sense, what people expect from their neighbourhoods are the economic benefits and psychological satisfaction. In another words, individuals and companies are expected to rationalize their behaviour in location choices and investments in terms of maximum profit with minimum cost (Arslan, 1997). Retail and commercial service stores cluster together in certain streets or areas, for example. In London, Oxford Street has a cluster of major department stores and most of the major bookstores in the UK can be found in Charing Cross Road. This trend in retail store clustering must be motivated by some incentive or advantage for those stores agglomerating together. In retail location theory, Nelson (1958) was the first to illustrate that the agglomeration of retail activities is based on the theory of cumulative attraction and the principal of compatibility. In his research, the theory of cumulative attraction states that *“a given number of stores dealing in the same merchandise will do more business if they are located adjacent or in proximity to each other*

than if they are widely scattered" (Nelson 1958, p58). Retail store spatial affinities were also observed by Getis and Getis (1976). In their research they suggested that retail store spatial affinities are based on three location theories; the theory of land use and land value, central place theory and the theory of tertiary activity. After examining retail stores in the CBDs of a sample of cities in the US, they confirmed that retail store spatial affinities do exist and are matched with notions from central place theory (Getis and Getis 1976). Among these location theories, Christaller's central place theory, which established the hierarchy of retail activities, and Hotelling's principle of minimum differentiation in homogeneous agglomeration of retailers are known the two location theories supporting this phenomenon (Eppli and Benjamin 1994). All the above theories relating to store clustering give us some hints concerning the agglomeration of retail stores; whether they are homogeneous or heterogeneous, whether they generate some kind of collective or inter-store advantages and whether these consequently increase transaction opportunities and store profits.

2.3.2 Accessibility

Since large shopping malls in Turkey can attract customers even from very distant locations by providing free-of-charge customer transportation, they are not really bound by the customers very close to it. Thus, developers usually would not mind to build the malls in middle or lower-income neighbourhoods. Sometimes they prefer such locations to lower the cost of land which takes a big share in the capital cost.

2.4 Shopping Centres as a Transformation Tool

Local governments use retailing for city centre liveability as an instrument of urban planning. Davies (1995) points out that this strategy has a role in assuring a vital and viable future for city centre areas. Retail planning is a subset of land use planning, and, as Davies shows, "it has been used not only to attempt control over a changing pattern of retail development but also as away to improve city centres, whatever external pressures they may face." Also, Balsas (2000) describes the "commercial urbanism in Portugal" as the use of retailing as an instrument of urban planning capable of assuring the liveability of city centre areas in conjunction with other public planning policies. These examples clearly points out that building shopping centres at areas that need renewal can be used as a transformation tool for liveability.

Dennis et al. (2002) in their paper attempted a preliminary exploration of the use of retail attractiveness measures in defining positions in the hierarchies and hinterland boundaries for shopping centres and towns. They interestingly reported in their case study of north London that the first step in urban renovation is to renovate retail shopping and shopping centres. The authors' work demonstrated the link between shoppers and retail attractiveness to be part of a dynamic process in which planners and developers might take the initiative in providing shops, leading to changes in population, expenditure, residence patterns and indeed bringing new life into run-down areas. Residential developers and institutional lenders can benefit from improvements to the prediction of house price changes. Planners will be able to model the effects of regeneration projects in order to more accurately assess required infrastructure improvements and residential provision associated with retail and shopping centre developments.

Since 1990 rapidly increasing shopping centres have been affecting and guiding the spatial development and distribution in the metropolitan area of Istanbul. Though such developments bring negative externalities such as congestion, noise and air pollution into the area being built, as Yakar (1999) points out that the area which was introduced with a shopping centre experiences increases in rents and beautification of the environment.

2.5 Shopping Centres in Turkey

Whilst shopping centres are becoming popular in the economically developed countries, the retail shopping sector characterized by small and scattered shops in Turkey has experienced a great transformation by the introduction of international shopping chains. Firstly Istanbul and then all other major cities house large shopping malls majority of them belong to international capital (Özus, 2001). Figure 1 shows the trend of shopping centres in Turkey between 1988 and 2003. In this study, Akmerkez and Tepe-Nautlilus Shopping Centres in Beşiktaş and Kadıköy County, respectively, in Istanbul have been selected to study the effects of them in urban land in terms of increase in land value and in turn urban transformation.

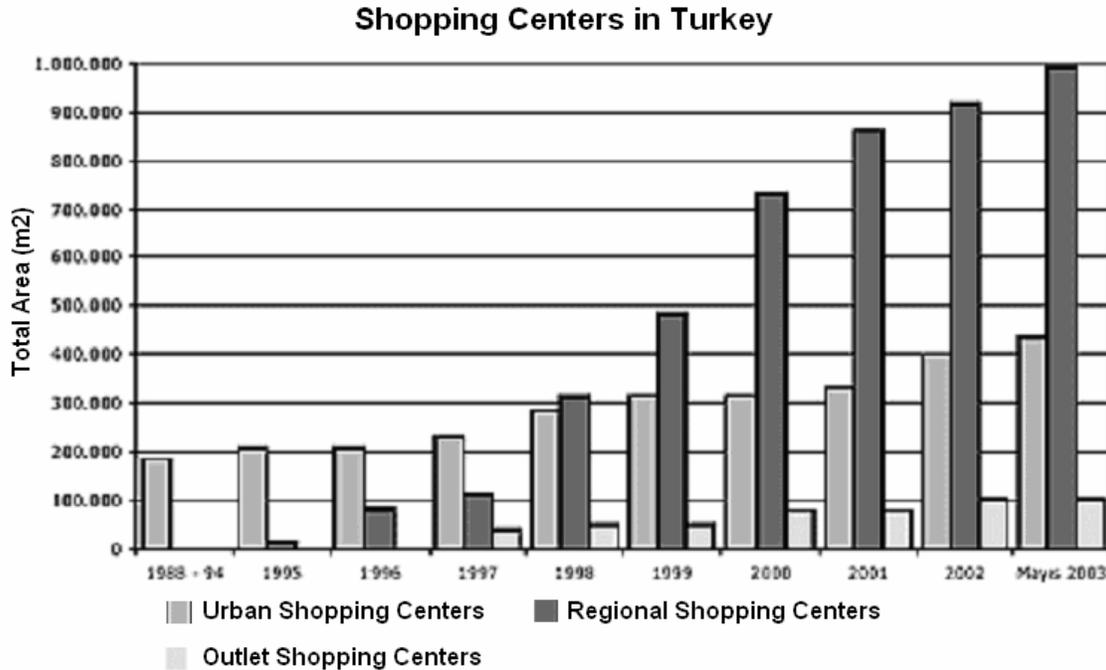


Fig 1. The trend of shopping centres in Turkey between 1988 and 2003 (Source: www.arkitera.com)

2.5.1 Akmerkez Shopping Centre in Beşiktaş County

Akmerkez shopping centre was opened in 1993 in Beşiktaş County in the European part of Istanbul, located at the intersection of the districts of Nispetiye, Akad and Kültür as shown in Figure 2. Average number of week day visitors reaches to 75.000 and at weekends the shoppers are about 100.000. Thus, the monthly visitors are between 2 and 2.5 million (Eren, 2000). Akmerkez can be classified as a regional shopping centre with the characteristics it has. The centre from the day it opened till today, either with the activities and architectural characteristics it owns, poses as a prestige area and brings a very high prestige to the area where located. The centre besides the supermarket has 14 and 17 storey office buildings and 24 storey residential flats. The centre built on a rectangular parcel has three atrium connected to each other by proper paths. Having 41 escalators, two panoramic elevators, and 30 elevators open to visitors and services, the centre provides good accessibility and mobility to its customers (akmerkez.com.tr, 2004).

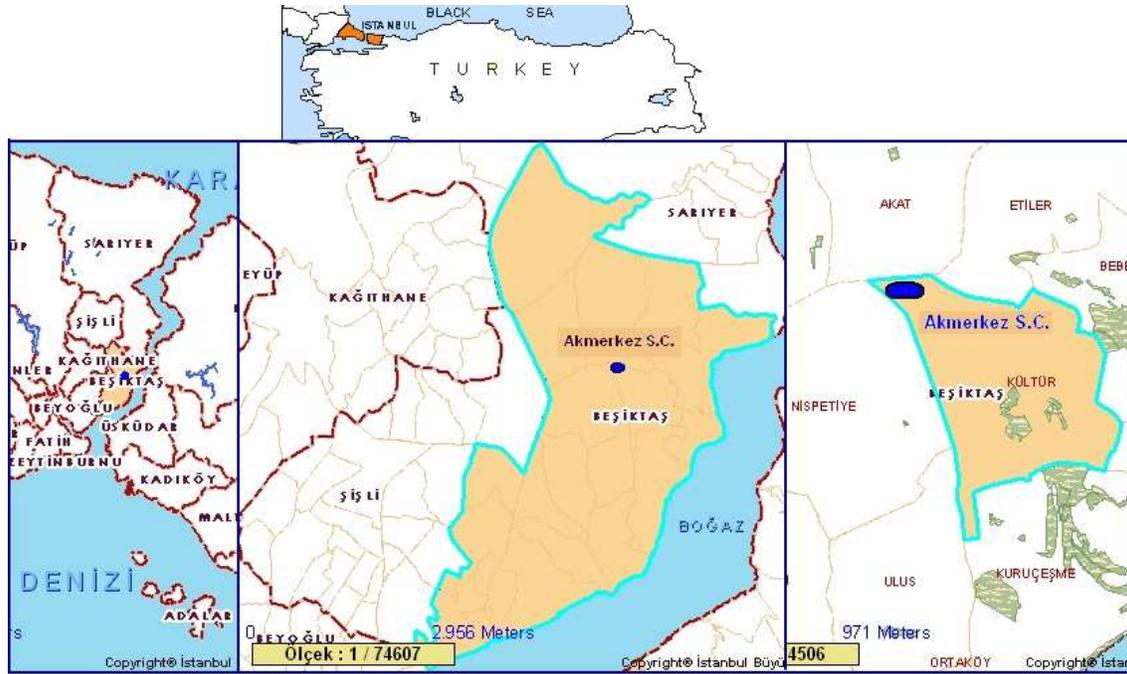


Fig 2. Akmerkez Shopping Centre in Kültür District, Beşiktaş County, Istanbul

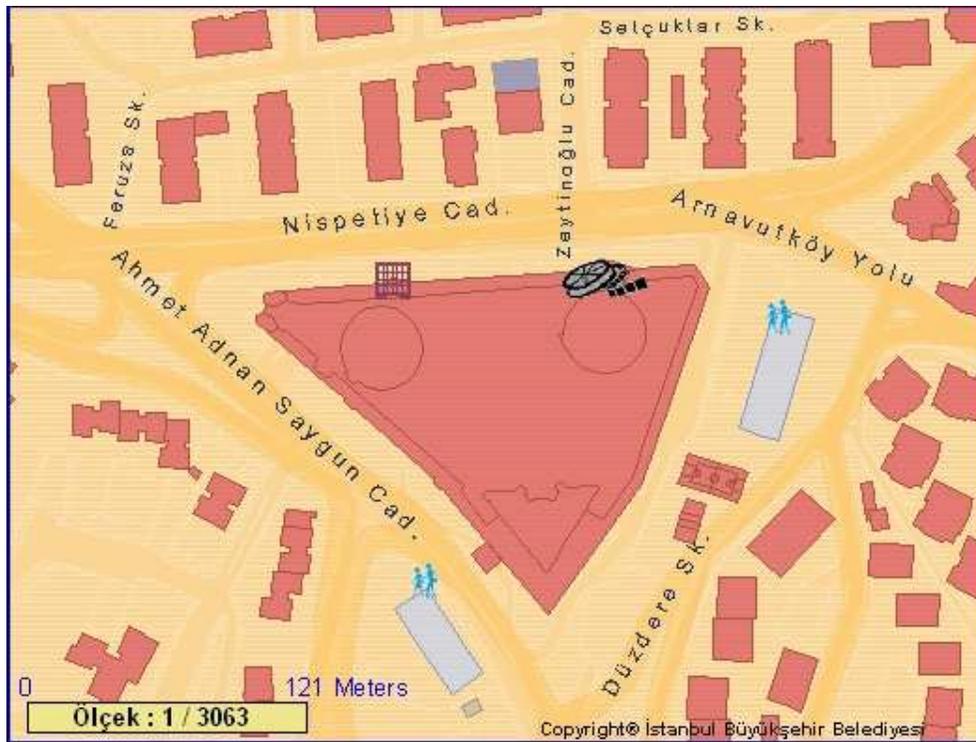


Fig 3. A Close Look to Akmerkez Shopping Centre in Beşiktaş County, Istanbul

2.5.2 Tepe-Nautilus Shopping Centre in Kadıköy County

Tepe-Nautilus shopping centre opened in 2002 in Kadıköy County in the Asian part of Istanbul, located in the district of Acıbadem surrounded by the districts of Koşuyolu, Hasanağa, Rasimpaşa, and Osmanağa as shown in Figure 4. Average number of week day visitors reaches to 30.000 and at weekends the shoppers are about 50.000. The centre, besides 130 shops, houses many restaurants, cafes, and eight movie theatres. It has an intelligent parking showing available lots with the capacity of 10 thousand vehicles. The centre has aimed to be the Akmerkez Centre of the Asian part of Istanbul. Its service areas are given in Table 1 as follows (www.tepe.com.tr, 2004).

Table 1. Service areas of Tepe-Nautilus Shopping Centre

Parcel area		170.000 m ²
Building floor area		56.401 m ²
Shopping area		73.545 m ²
Auto park area	Unsheltered	79.995 m ²
	Sheltered	14.747 m ²
Loading and unloading area		8.765 m ²
Road, intersection and green area		8.091 m ²



Fig 4. Tepe-Nautilus Shopping Centre in Acıbadem District, Kadıköy County, Istanbul

3 CASE STUDIES: AKMERKEZ & TEPE-NAUTILUS SHOPPING CENTRES

Use of large shopping centres as tool of transformation in urbanized areas is studied through the case studies of two large shopping malls in Istanbul, one in the European part (Akmerkez SC) and the other in the Asian part (Tepe-Nautilus SC) of the metropolitan city. Akmerkez shopping centre, since opened in 1993 during the 12 year-period, changed the land use and created a transformation around it in many land pieces and parcels. On the other hand, around Tepe-Nautilus shopping centre which is just built in three years ago in 2002, the course of spatial transformation has just started and will continue many years as so we believe. In fact most cities and states are born and rise, and eventually fall and die due to their dynamic nature. However, we actually do not talk about this kind of change. We studied the kind of urban transformation created by the externalities of various urban developments large enough to affect the existing land use and/or spatial structure around them and thus can create more liveable areas through the introduction of them. After the transformation starts in the urban spatial structure and/or land use because of the externalities created by a certain type of development (let's say a large shopping mall), later on such externalities can seem to be the own characteristics of the area and the changes in the land use and spatial structure would not be attributed to the facility in there. After that, if there is still transformation going on in the area, this cannot be clearly identified as an active transformation which is attributable to the facility.

3.1 Case 1: Beşiktaş County and Akmerkez Shopping Centre

Beşiktaş County has a very strategic location in the European part of the city, being the closest point to the Anatolian part and connected with seaway and highway over the two bridges crossing the Bosphorus Channel. The county has historical places, excellent view points, universities and many other features enough to make it as a prestige area. The features the county have create positive impacts on real estate values and the values normally exceed the averages of the city's. The districts in the vicinity of Akmerkez house high-income dwellers with luxury flats and single houses. The land values in the five districts in the vicinity of the Shopping Centre (Akmerkez) are summarized in Table 2.

Table 2. Land values in the five districts in the vicinity of Akmerkez SC

Districts	Average land value per m ² , 1.000 Turkish Currency								
	1985			1990			2002		
	Value ^a	Rates		Value ^b	Rates		Value ^c in 1000	Rates	
Kültür (where SC located)	40	40/46= 0.87	40/48.4= 0.83	530	530/472 = 1.12	530/515.3 = 1.03	209	209/197 = 1.06	209/209 = 1
Nispetiye	54	54/46= 1.17	54/48.4= 1.12	864	864/472 = 1.83	864/515.3 = 1.68	254	254/197 = 1.29	254/209 = 1.22
Akatlar	48	48/46= 1.04	48/48.4= 0.99	600	600/472 = 1.27	600/515.3 = 1.16	216	216/197 = 1.10	216/209 = 1.03
Etiler	67	67/46= 1.46	67/48.4= 1.38	831	831/472 = 1.76	831/515.3 = 1.61	314	314/197 = 1.59	314/209 = 1.50
Levent	72	72/46= 1.57	72/48.4= 1.49	738	738/472 = 1.56	738/515.3 = 1.43	245	245/197 = 1.24	245/209 = 1.17
Average	56	56/46= 1.22	56/48.4= 1.16	712	712/472 = 1.51	712/515.3 = 1.38	248	248/197 = 1.26	248/209 = 1.19
<i>Average in Other Districts</i>	46	46/56= 0.82	46/48.4= 0.95	472	472/712 = 0.66	472/515.3 = 0.92	197	197/248 = 0.79	197/209 = 0.94
Beşiktaş County	48.4			515.3			209		

As seen in Table 2, the five districts in the vicinity of the Shopping Centre (Akmerkez) have higher land value per m² than the other districts of and the whole Beşiktaş County in all years (1.22 and 1.16 times higher in 1985, 1.51 and 1.38 times higher in 1990, and 1.26 and 1.19 times higher in 2002 respectively), except in Kültür District in 1985, where the Centre is located. In Figure 5 (a, b, and c), the values tabulated in Table 2 were graphed for getting a better picture of them.

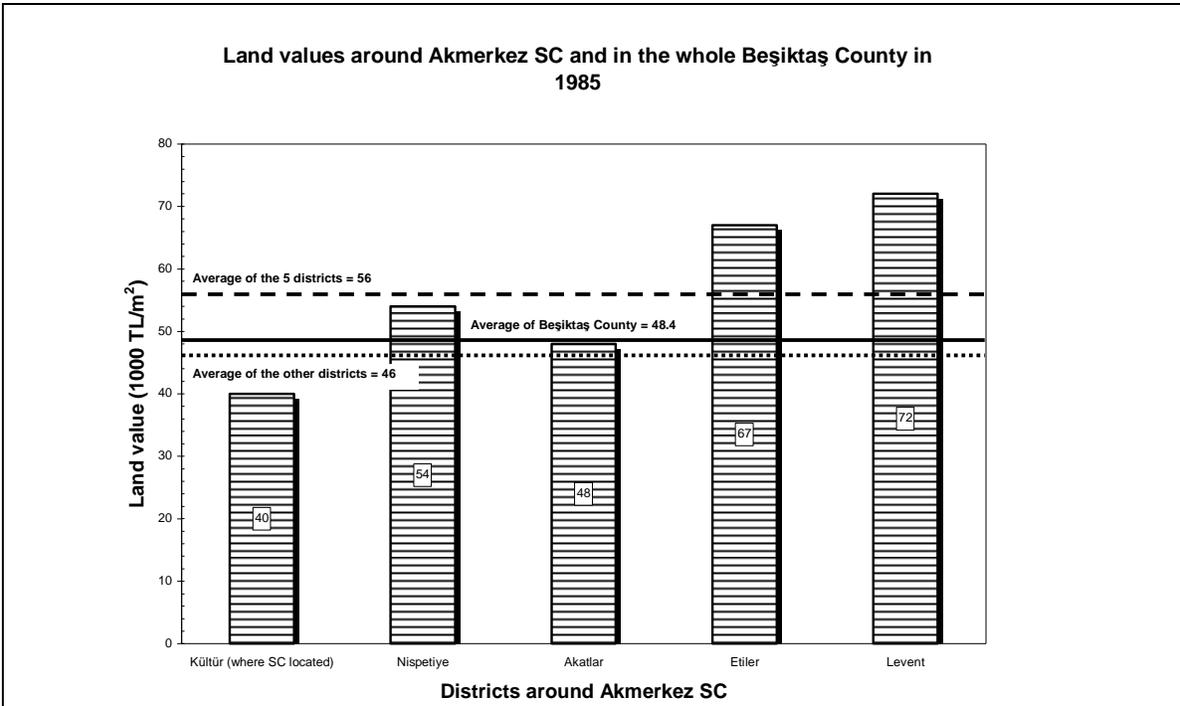


Figure 5a. Land Values around Akmerkez SC and in Beşiktaş County in 1985

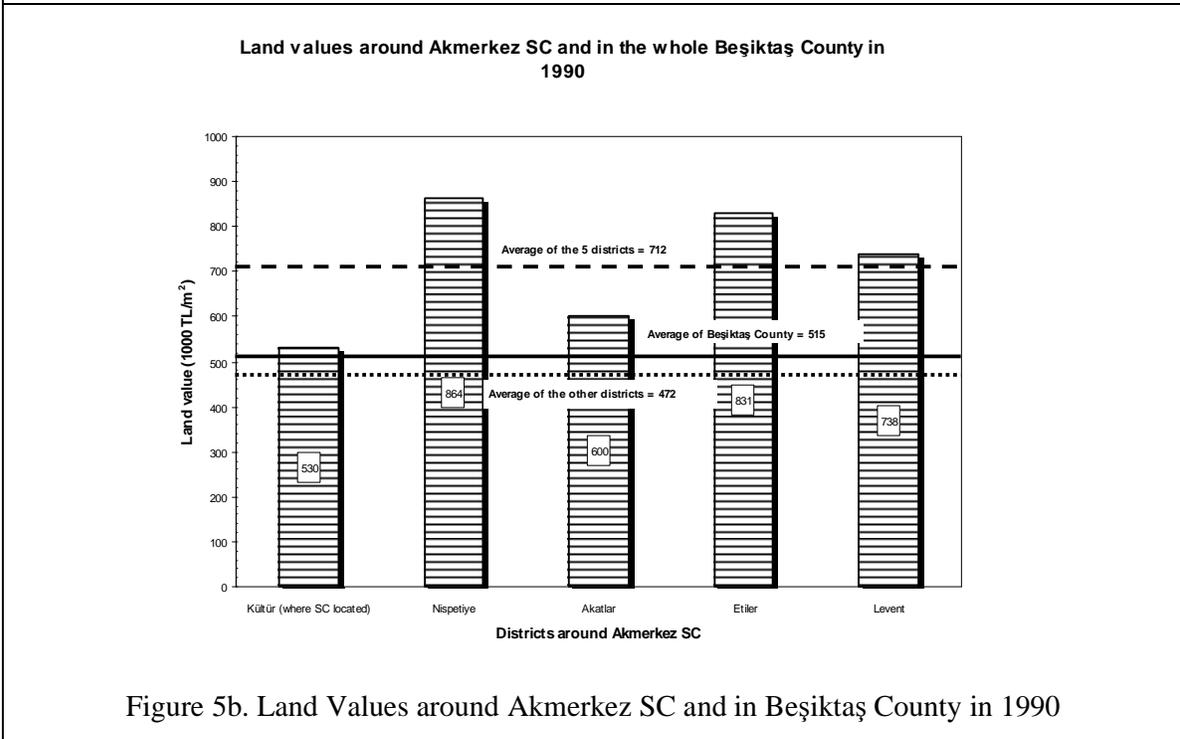
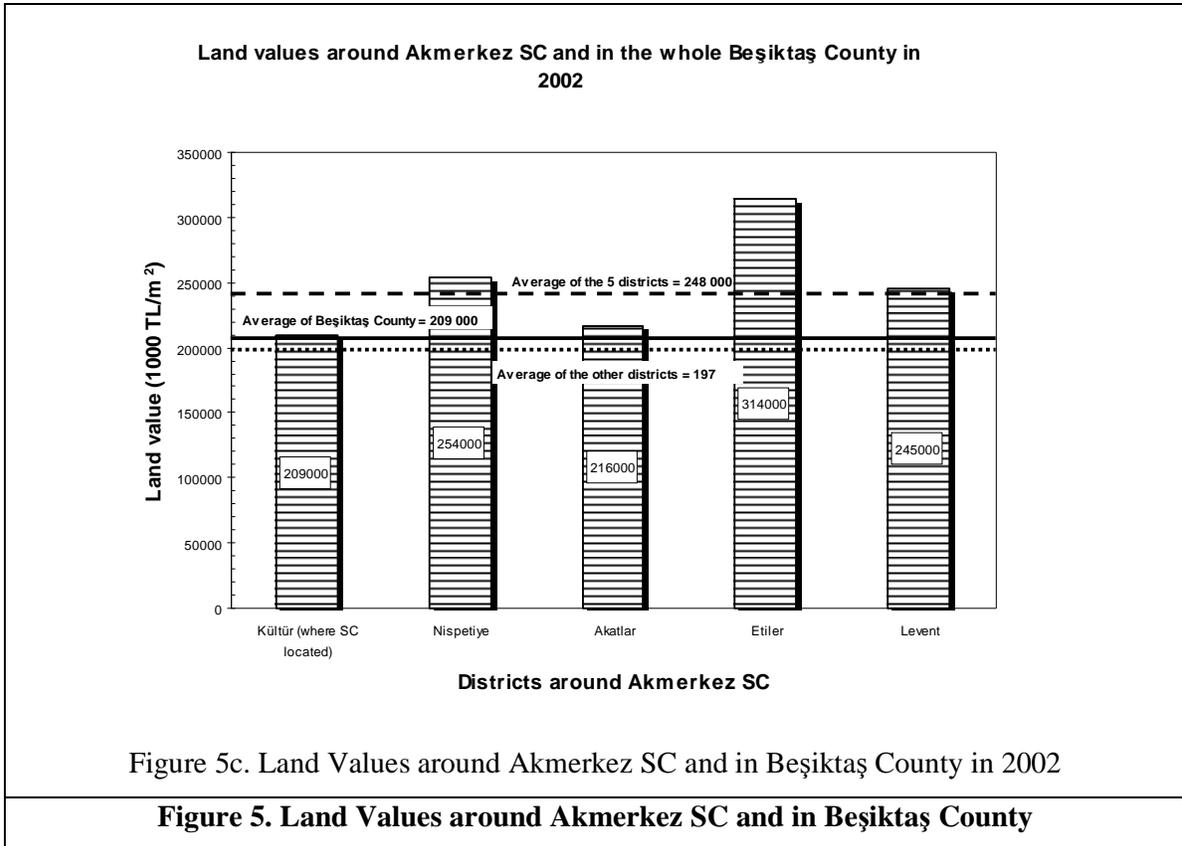


Figure 5b. Land Values around Akmerkez SC and in Beşiktaş County in 1990



As seen in Figures 5a, b, and c, average of land values in Beşiktaş County was always came in the middle in all years, being the average of those in the five districts was the highest and the average of the other districts was the lowest values.

Based on the figures given in Table 2, in the five districts in the vicinity of the Shopping Centre (Akmerkez), increases in overall land values were 11.9 and 350 times between 1985 and 1990 (the Centre not existed), and 1990 and 2002 (the centre opened in 1993), respectively as indicated in Table 3. Also, increases in land values between 1985 and 1990 in the five districts in the vicinity of the centre were 1.28 and 1.24 times higher than those in the other districts and the whole Beşiktaş County, respectively. Between 1990 and 2002, the increases in the five districts in the vicinity of the centre were 0.86 times lower than those in the other districts and were equal to those in the whole Beşiktaş County. During the same periods, increases in land values in the other districts were almost equal to those in the whole Beşiktaş County when the centre was not existed, and were higher (1.17 times) after the Centre was opened.

Table 3. Land value increases in the five districts in the vicinity of Akmerkez SC

Districts	Land value increases					
	Between 1985-1990, (SC not existed)			Between 1990-2002 (SC opened in 1993)		
	[(Value ^b /Value ^a)-1]			[(Value ^c /Value ^b)-1]		
	Value	Rates		Value	Rates	
Kültür (where SC located)	12.3	12.3/9.3= 1.32	12.3/9.6= 1.28	393	393/408= 0.96	393/350= 1.12
Nispetiye	15.0	15.0/9.3= 1.61	15.0/9.6= 1.56	293	293/408= 0.72	293/350= 0.84
Akatlar	11.5	11.5/9.3= 1.24	11.5/9.6= 1.20	359	359/408= 0.88	359/350= 1.03
Etiler	11.4	11.4/9.3= 1.23	11.4/9.6= 1.19	377	377/408= 0.92	377/350= 1.08
Levent	9.3	9.3/9.3= 1.0	9.3/9.6= 0.97	330	330/408= 0.81	330/350= 0.94
Average	11.9	11.9/9.3= 1.28	11.9/9.6= 1.24	350	350/408= 0.86	350/350= 1.0
<i>Average in Other Districts</i>	9.3	9.3/11.9= 0.78	9.3/9.6= 0.97	408	408/350= 1.17	408/350= 1.17
Beşiktaş County	9.6			350		

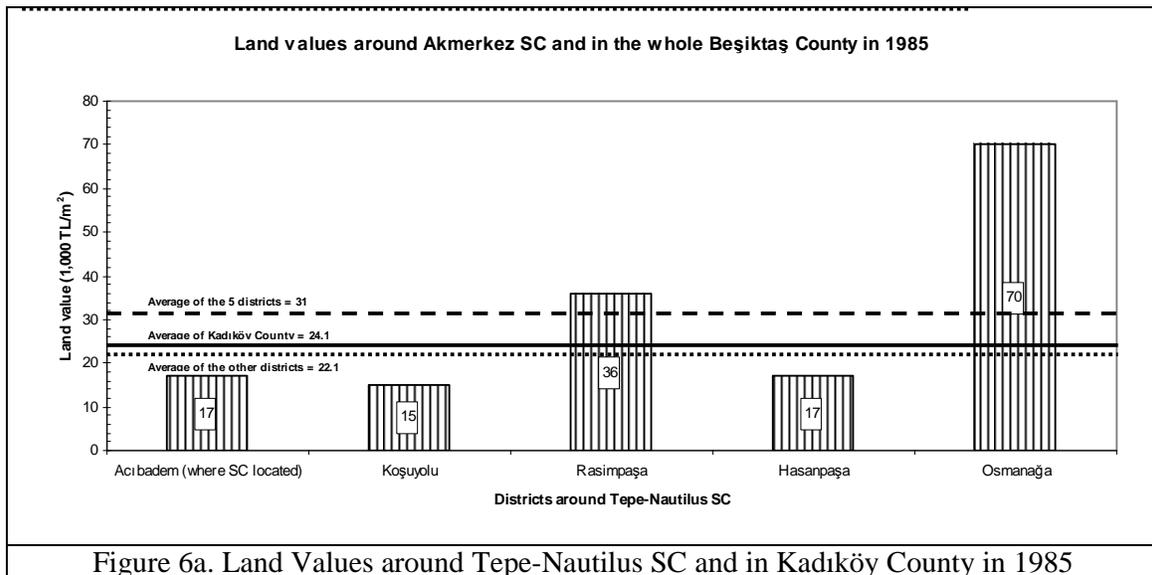
3.2 Case 2: Kadıköy County and Tepe-Nutilus Shopping Centre

Kadıköy County is a major junction in the very south-west point of the Asian part of the city (see Fig 4) and serve as a very important city-centre for commercial and cultural activities. The County houses two major highways (D-100 and TEM) and the major commuter railway, and seaways between the two parts of the city. It has very cosmopolitan socioeconomic structure and is one of the oldest counties in the city. The land values in the five districts in the vicinity of the Shopping Centre (Tepe-Nutilus) are summarized in Table 4. Tepe-Nutilus was the first and largest thematic shopping centre in Turkey. The theme of the centre is marine and sailing. Thus, decorations in the centre are all about marine and sailing.

Table 4. Land values in the five districts in the vicinity of Tepe-Nutilus SC

Districts	Average land value per m ² , 1.000 Turkish Currency											
	1985			1990			1998			2002		
	Value ^a	Rates		Value ^b	Rates		Value ^c in 1000	Rates		Value ^d in 1000	Rates	
Acıbadem (where SC located)	17	17/22.1 = 0.77	17/24.1 = 0.71	240	240/214 = 1.12	240/227 = 1.06	15	15/18 = 0.83	15/19 = 0.79	203	203/213 = 0.95	203/238 = 0.85
Koşuyolu	15	15/22.1 = 0.68	15/24.1 = 0.62	280	280/214 = 1.31	280/227 = 1.23	16	16/18 = 0.89	16/19 = 0.84	176	176/213 = 0.83	176/238 = 0.74
Rasimpaşa	36	36/22.1 = 1.63	36/24.1 = 1.49	350	350/214 = 1.64	350/227 = 1.54	27	27/18 = 1.5	27/19 = 1.42	611	611/213 = 2.87	611/238 = 2.57
Hasanpaşa	17	17/22.1 = 0.77	17/24.1 = 0.71	160	160/214 = 0.75	160/227 = 0.70	16	16/18 = 0.89	16/19 = 0.84	193	193/213 = 0.91	193/238 = 0.81
Osmanağa	70	70/22.1 = 3.17	70/24.1 = 2.90	350	350/214 = 1.64	350/227 = 1.54	27	27/18 = 1.5	27/19 = 1.42	587	587/213 = 2.76	587/238 = 2.47
Average	31	31/22.1 = 1.40	31/24.1 = 1.29	276	276/214 = 1.29	276/227 = 1.22	20	20/18 = 1.11	20/19 = 1.05	356	356/213 = 1.67	356/238 = 1.50
<i>Average in Other Districts</i>	22.1	22.1/31 = 0.71	24.1/31 = 0.78	214	214/276 = 0.78	227/276 = 0.82	18	18/20 = 0.90	19/20 = 0.95	213	213/356 = 0.60	238/356 = 0.67
Kadıköy County	24.1			227			19			238		

In Figure 6 (a, b, c and d), the values tabulated in Table 4 were graphed for getting a better picture of them.



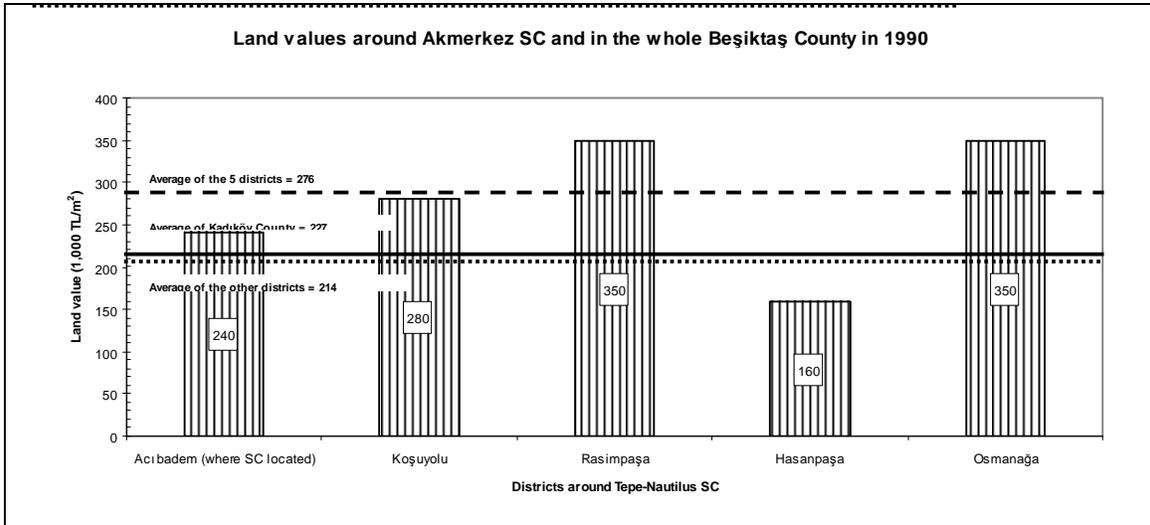


Figure 6b. Land Values around Tepe-Nutilus SC and in Kadıköy County in 1990

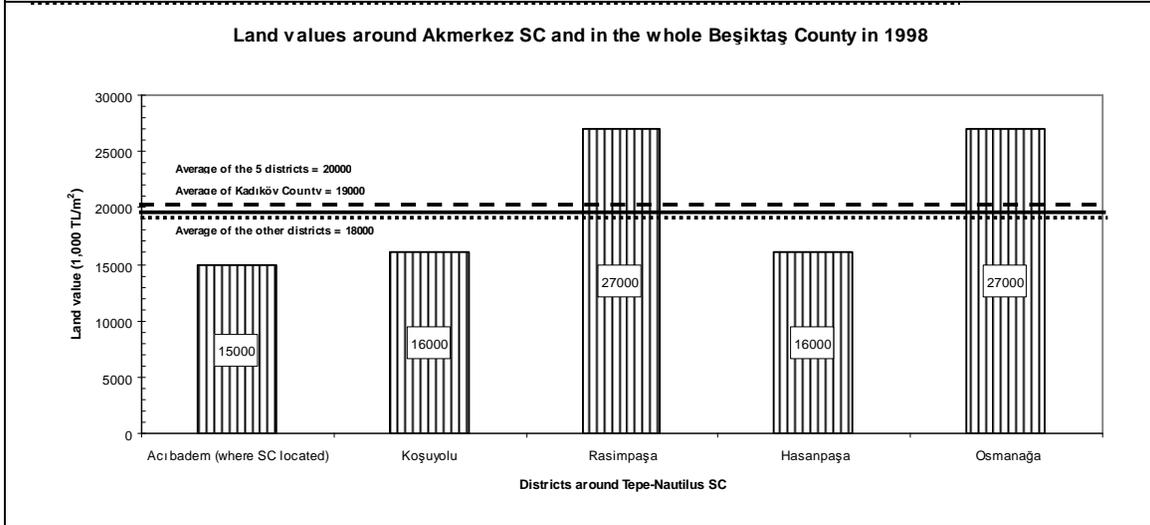


Figure 6c. Land Values around Tepe-Nutilus SC and in Kadıköy County in 1998

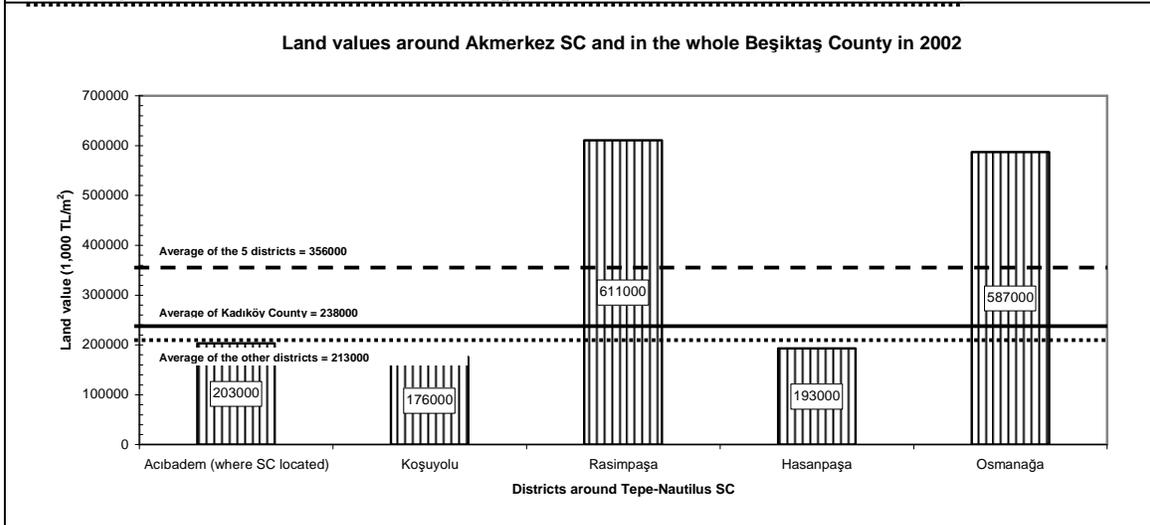


Figure 6d. Land Values around Tepe-Nutilus SC and in Kadıköy County in 2002

Figure 6. Land Values around Tepe-Nutilus SC and in Kadıköy County

As seen in Figures 5a, b, c, and d, average of land values in Kadıköy County was always came in the middle in all years, being the average of those in the five districts was the highest and the average of the other districts was the lowest values, exactly in the case of Beşiktaş County.

Based on the figures given on land values in the five districts in the vicinity of the Shopping Centre (Tepe-Nutilus), overall land value increases in Kadıköy County are 8.9, 64.8 and 15 times between 1990 and 1985, 1998 and 1990, and 2002 and 1998, respectively, as indicated in Table 5.

Table 5. Land value increases in the five districts in the vicinity of Tepe-Nutilus SC

Districts	Land value increases before the SC opened							
	Between 1985-1990			Between 1990-1998			Between 1998-2002	
	[(Value ^b /Value ^a)-1]			[(Value ^c /Value ^b)-1]			[(Value ^d /Value ^c)-1]	
	Value	Rates		Value	Rates		Value	Rates
Acıbadem (where SC located)	11.6	11.6/8.7 = 1.33	11.6/8.9 = 1.30	61.5	61.5/62.8 = 0.98	61.5/64.8 = 0.95	12.5	12.5/15 = 0.83
Koşuyolu	17.7	17.7/8.7 = 2.03	17.7/8.9 = 1.99	56.1	56.1/62.8 = 0.89	56.1/64.8 = 0.87	10.0	10.0/15 = 0.66
Rasimpaşa	8.7	8.7/8.7 = 1.00	8.7/8.9 = 0.98	76.1	76.1/62.8 = 1.21	76.1/64.8 = 1.17	21.6	21.6/15 = 1.44
Hasanpaşa	8.4	8.4/8.7 = 0.97	8.4/8.9 = 0.94	99.0	99.0/62.8 = 1.58	99.0/64.8 = 1.53	11.1	11.1/15 = 0.74
Osmanağa	4.0	4.0/8.7 = 0.46	4.0/8.9 = 0.45	76.1	76.1/62.8 = 1.21	76.1/64.8 = 1.17	20.7	20.7/15 = 1.38
Average	10.1	10.1/8.7 = 1.16	10.1/8.9 = 0.93	73.8	73.8/62.8 = 1.18	73.8/64.8 = 1.14	15.2	15.2/15 = 1.01
<i>Average in Other Districts</i>	8.7	8.7/10.1 = 0.86	8.9/10.1 = 0.88	62.8	62.8/73.8 = 0.85	64.8/73.8 = 0.88	15	15/15.2 = 0.99
Kadıköy County	8.9			64.8			15	

Unfortunately, there is no data available on land value for Kadıköy County and its districts after Tepe-Nutilus SC is opened in 2002.

3.3 Comparison of Land Values for Case 1 (Akmerkez SC) and Case 2 (Tepe-Nautilus SC), and Beşiktaş and Kadıköy Counties

As the data Tables 2 and 4 are compared, it seen that land values in Kadıköy County was as half as those in Beşiktaş County in 1985 and 1990 (24,100 TL/m² in Kadıköy and 48400 TL/m² in Beşiktaş in1985; 227,000 TL/m² in Kadıköy and 515,300 TL/m² in Beşiktaş in1990). However, the values in Kadıköy exceeded 14% of those in Beşiktaş in 2002. This shows that around the year 2000, land in Kadıköy County became as valuable as that in Besiktaş County.

As seen in Figures 5 and 6, averages of land values in both Beşiktaş and Kadıköy Counties were always came in the middle in all years, being the average of those in the five districts was the highest and the average of the other districts was the lowest values. These show that both counties have the similar trends in land values in the five districts around the shopping centres, in the whole counties, and the other districts outside the shopping centres.

User surveys were performed in residential and commercial units as well as at real estate agents in the proximity of two large shopping centres; namely, Akmerkez (Beşiktaş County) and Tepe-Nautilus (Kadıköy County) in Istanbul. The surveys performed in residential and commercial units disclosed the information on how the shopping centres were perceived by residents of the area. Information gathered from real estate agents showed how the real estate market responded to the introduction and existence of the centre. The following sections will summarize the results.

3.4 Survey Results for Case 1 (Akmerkez SC in Beşiktaş County)

A total of 30 residential (33%), 30 commercial (33%) and 30 real estate agent surveys (33%) were performed around Akmerkez SC.

3.5 Survey Results for Case 2 (Tepe-Nautilus SC in Kadıköy County)

A total of 30 residential (31%), 38 commercial (38%) and 30 real estate agent surveys (31%) were performed around Tepe-Nautilus SC.

3.6 Comparison of Survey Results for Case 1 (Akmerkez) and Case 2 (Tepe-Nautilus)

The most related questions and their answers are summarized in the following tables. Table 6 presents the comparison of residential-user-survey results for Case 1 (Akmerkez SC) and

Case 2 (Tepe-Nutilus SC). Table 7 presents the comparison of residential-user-survey results for Case 1 (Akmerkez SC) and Case 2 (Tepe-Nutilus SC). Table 8 presents the comparison of real estate-agent-survey results for Case 1 (Akmerkez SC) and Case 2 (Tepe-Nutilus SC).

Table 6. Comparison of residential-user-survey results for Case 1 (Akmerkez SC) and Case 2 (Tepe-Nutilus SC)

Responses of the residents around the SCs	Case 1: Akmerkez SC	Case 2: Tepe-Nutilus SC
Being close to the SC is advantage	96 %	79 %
Factors increasing the value of apartments around the SCs: 1. Being close to CBD 2. The base of buildings is quake-resistant 3. <u>Being close to the SCs</u>	48% 32% 30%	78% N/A* 22%
Factors decreasing the value of apartments in the area: 1. No reason stated 2. Population density 3. Lack of enough parking lots	40% 20% N/A*	30% N/A* 22%
Positive impacts of the SCs on the real estates around them 1. Values increased due to the existence of the SC 2. Easiness in accessibility to the activities in the SC increased values	96% 81%	94% 89%
Negative impacts of the SCs on the real estates around them 1. No negative impact stated 2. Traffic congestion due to the SC	60% N/A*	61% 33%
The percent of the respondents that prefer the SC instead of another possible facility in the area likely to be built	81%	61%
Moving to another place from his/her current location: 1. No 2. Yes	96% 4% only	79% 21%
The percent of the respondents that would not move there if the SC were not existed	46%	69%

N/A*: not applicable

As we see in Table 6, the residents around both SCs appreciate being close to the centres; however, only one-third (around Akmerkez SC) or one fifth of them (around Tepe-Nutilus

SC) think that being close to the SC increases the values of their apartments. Since Tepe-Nutilus SC is only opened three years ago, the residents around it think that being close to the CBD increases the value of their residences more than being close to the centre (78% as compared to 22% around Tepe-Nutilus in Kadıköy County, but 48% as compared to 30% around Akmerkez in Beşiktaş County). The shopping centres are seen as prestige facilities in their areas. 46 and 69% of the residential respondents around Akmerkez and Tepe-Nutilus SCs said, respectively, that they would not move there if the SC is not existed.

Table 7. Comparison of commercial-user-survey results for Case 1 (Akmerkez SC) and Case 2 (Tepe-Nutilus SC)

Responses of the commercial users around the SCs	Case 1: Akmerkez SC	Case 2: Tepe-Nutilus SC
Being close to the SC is advantage	84%	53%
Factors increasing the value of commercial units around the SCs: 1. Being the residents around the SC belonging to high-income level 2. <u>Being close to the SCs</u> 3. Transportation opportunities	32% N/A* N/A*	N/A* 59% 56%
Factors decreasing the value of commercial units around the SCs: 1. Lack of parking lots 2. Abundance in the availability of commercial units 3. No factor stated 4. Availability of the SC	26% 21% N/A* N/A*	41% 19%
Positive impacts of the SCs on the real estates around them 1. Values increased due to the existence of the SC 2. Increase in population and increased mobility of population around the SC 3. Easiness in accessibility to the activities in the SC increased values 4. Increase in the number of commercial units	95% 72% N/A* 88%	75% 56% 9% 42%
Negative impacts of the SCs on the real estates around them 1. No negative impact stated 2. Traffic congestion due to the SC	79% N/A*	42% 23%
The percent of the respondents that prefer the SC instead of another possible facility in the area likely to be built	79%	67%
The percent of the respondents think that they are affected by the increase in	%18	%46

the number of commercial units in the area		
The percent of the respondents that do not consider moving from the place where they are now	95%	84%
The percent of the respondents that would not move there if the SC were not existed	33%	38%

N/A*: not applicable

Table 8. Comparison of the survey results by real estate agents for Case 1 (Akmerkez SC) and Case 2 (Tepe-Nutilus SC)

Responses of the real estate agents around the SCs	Case 1: Akmerkez SC	Case 2: Tepe-Nutilus SC
By the introduction of the SCs, real estate market experienced some changes	94%	100%
By the introduction of the SCs, demand for the use of real estates changed	86%	67%
Before the introduction of the SCs, the demand for the use of real estates	92% residential	67% residential
After the introduction of the SCs, the demand for the use of real estates	79% commercial	67% commercial 100% residential
Factors increasing the value of real estates around the SCs 1. Being close to CBD 2. Being close to the SCs 3. Being the residents around the SC belonging to high-income level	N/A* 53% 50%	83% 20% N/A*
Factors increasing the value of real estates around the SCs 1. Lack of enough parking lots	60%	17%
Percent of real estate agents who would prefer the SCs than any other facility in the area likely to increase the value of real estates	100%	67%
The percent of the respondents that do not consider moving from the place where they are now	100%	93%
The percent of the respondents that would not move there if the SC were not existed	40%	87%

N/A*: not applicable

3.7 SSI Data: Case 1 (Akmerkez)

Since no State Statistics Institute (SSI) data have been collected since the year of 2000, we cannot compare land-use data between the case studies. We will only present the results for the case of Akmerkez Shopping Centre in Beşiktaş County.

The shopping centre of Akmerkez has been a major factor that has been creating transformations and changing the image of the area where it's been along with Boğaziçi (Bosporus) University in the area, reported by the residents in their interviews (Demircioğlu, 2004). After the opening of the centre, many single duplex and triplex houses and apartments have changed their functional uses into office spaces. Along with these, the office spaces included in the centre brought a new character of commercial district into the area (Beygo, 2001).

In order to determine the transformations created around Akmerkez SC, the number of apartments, commercial units and buildings between 1980 and 1989, and 1990 and 2000 was examined in the five districts (Kültür, Akatlar, Nispetiye, Levent and Etiler) and the whole County (Beşiktaş). The SSI data indicated that the percent of apartments, commercial units and buildings in Beşiktaş County in 2000 completed between 1980 and 1989 were 28, 23, and 21, respectively. Between 1990 and 2000, these figures were 18, 19 and 16 percent, respectively. Based on these figures, in the County of Beşiktaş, the number of apartments, commercial units and buildings completed between 1980 and 1989 were more than those completed between 1990 and 2000. Table 9 presents the percent of apartments, commercial units and buildings completed between 1980 and 2000 in the five districts in Beşiktaş County.

Table 9. Percent of apartments, commercial units and buildings completed between 1980 and 2000 in the five districts and in the whole Beşiktaş County (Demircioğlu, 2004)

Districts	Percent of Apartments completed between		Percent of Commercial units completed between		Percent of Buildings completed between	
	1980-89	1990-00	1980-89	1990-00	1980-89	1990-99
Kültür (where SC located)	71	29	15	85	48	52
Akatlar	55	45	83	17	69	31
Nispetiye	68	32	31	69	69	31
Levent	40	60	42	58	42	58
Etiler	78	22	70	30	70	30
<i>Average</i>	62	38	48	52	60	40
Average in Other Districts	59	41	51	49	55	45
Beşiktaş County	60	40	56	44	58	42

As seen from Table 9, as of 2000 the percent of apartments, commercial units and buildings completed between 1980 and 1989 in Beşiktaş County were 60, 56 and 58, respectively. These rates in the other districts (Abbasağa, Ulus, Arnavutköy, Balmumcu, Bebek, Cihannuma, Dikilitaş, Gayrattepe, Konaklar, Kuruçeşme, Levazım, Mecidiye, Muradiye, Ortaköy, Sinanpaşa, Türkali, Vişnezade and Yıldız) were 59, 51 and 55%. In the five districts (Kültür, Akatlar, Nispetiye, Levent and Etiler) that are supposed to be under the influence of the SC, the same rates were 62, 48 and 60%. Based on these figures, it can be said that the number of apartments, commercial units and buildings completed between 1980 and 1989 were more than the half of all completed as of 2000 in the whole Beşiktaş County and the other districts. When we look at the five districts in the influence area of the SC, we see that 52% of all the commercial units were completed between 1990 and 200. Thus, the number of commercial units between 1990 and 2000 in the five districts was higher than the average of those in Beşiktaş County and the other districts.

4 CONCLUSIONS

The objective of this study was to demonstrate how effective large urban developments can be in spatial transformation and the need for effective and least costly method for large urban squatter areas in metropolitan areas of Turkey. As examples of large developments, we chose large shopping malls examined two of them, one called Tepe-Nutilus SC in the Asian part of Istanbul and only three years old, and the other called Akmerkez SC in the European part of Istanbul and 12 years old. We performed user surveys on residential and commercial users to obtain information on how they see the SCs in their neighbourhood, and also asked real-estate agents how the marked reacted to the introduction and existence of the SCs. In addition to the survey data, we examined the land use data obtained by the State Statistics Institute (SSI) of Turkey, collected during the last two decades have been examined. After the analysis of the data, it is concluded that the shopping centres stimulated urban transformation on real estates in their close proximity (i.e., quite large residential and commercial activities occurred in the area under the influence of the SCs), and in time they created transformations from residential to commercial within their primary influence boundaries, and beyond those up to a certain distance, they became attractive zones for residential use.

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