LOW-RISE HOUSING DEVELOPMENT IN ANKARA

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ABSTRACT

LOW-RISE HOUSING DEVELOPMENT IN ANKARA

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Urban land prices have important effects on urban development and locational distribution of land-uses. Housing is one of those sectors. There are high-density residential areas covering high-rise apartments at the city center where the land prices are quite high. Here, sizes of the plots and the housing units are relatively small. However, land prices begin to decrease with the increasing distance from the city center and the production of low-density, low-rise housing which is economically unfeasible at the center turns to be feasible for the housebuilders at the outskirts.

Low-rise houses at the urban fringe provides various opportunities for the households. In these areas, plots and housing units are relatively larger due to cheap and available land. In addition to this, better urban services, quiet and clean environment as well as privacy contribute to create a livable urban environment. However, households living in low-rise housing units are subject to high transportation and maintenance costs. It is expected that they would compensate these costs with larger housing units, prestigious urban environment and many opportunities that their neighborhoods offer.

Urbanization processes may be differ from one country to another with respect to the socio-economic and political structures, and the environmental characteristics. In that sense, low-rise housing areas at the urban fringe of Ankara were found to be developed highly compatible with urban land use theories; but different from the processes experienced in developed countries, to some extent. With regard to these, low-rise housing development in Ankara is discussed according to plan decisions, housebuilders, households and urban development pattern, considering the theoretical basis and historical processes.

Key Words: Low-rise Housing, Suburbanization, Urban Development in Ankara, Rationality of Housebuilder, Rationality of Household, Floor Area Ratio

ÖZ

ANKARA'DA AZ KATLI KONUT GELİŞİMİ

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Kentsel arazi fiyatlarının, kentsel gelişim ve kentteki sektörlerin mekansal dağılımına önemli etkileri vardır. Konut da bu sektörlerden biridir. Kentsel arazi fiyatlarının oldukça yüksek olduğu kent merkezinde, çok-katlı apartmanları kapsayan yüksek yoğunluklu konut alanları yer alır. Burada arsaların ve konutların alanı, arazi fiyatlarının yüksek olmasına bağlı olarak görece küçüktür. Ancak kent merkesinden uzaklaşıkça kentsel arsa değerleri de düşmeye başlar ve merkezde üretilmesi konut yapımcıları açısından ekonomik anlamda mümkün olmayan düşük yoğunluklu, az katlı konut alanları kent çeperinde üretilebilir hale gelir.

Kent çeperindeki az katlı konutlar, konut kullanıcılarına çeşitli olanaklar sunar. Bu alanlarda arazinin ucuz ve elde edilebilir olmasına bağlı olarak arsa ve konutlar görece büyüktür. Ayrıca nitelikli kentsel servis olanakları, sakin ve temiz çevre ile mahremiyetin korunması yaşanabilir bir kentsel çevre yaratılmasına katkı sağlar. Fakat buradaki az katlı konut alanlarında yaşayanlar, yüksek ulaşım ve konut bakım maliyetlerine katlanmak durumundadır. Hanehalkının, bu tür

masrafları, daha geniş bir konut, prestijli bir çevre ve konut alanlarının sunduğu çeşitli olanaklarla telafi etmesi beklenir.

Kentleşme süreçleri, her ülkenin ve kentin sosyo-ekonomik ve politik yapısı ile çevresel özelliklerine bağlı olarak farklılık gösterebilir. Bu bağlamda, Ankara kent çeperindeki az katlı konut alanları, kentsel arazi kullanımları teorilerine büyük ölçüde uyumlu, ancak gelişmiş ülkelerdeki süreçlerden bir ölçüde farklı bir şekilde gelişmiştir. Bu çerçevede Ankara kentindeki az katlı konut gelişimleri teorik esaslar ve tarihsel süreçler de göz önünde bulundurularak; plan kararları, konut üreticileri, konut kullanıcıları ve gelişim deseni açısından incelenmektedir.

Anahtar Kelimeler: Az Katlı Konut, Banliyöleşme, Ankara'da Kentsel Gelişim, Konut Üreticisinin Rasyonelitesi, Konut Kullanıcısının Rasyonelitesi, Emsal

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CHAPTER I

INTRODUCTION

1.1 The Aim and the Subject of the Study

In this study it is aimed to reveal the low-rise housing development in Ankara with respect to locational attributes, development rights, and household and housebuilder characteristics.

In that sense, it is worth clarifying some concepts such as *housing*, *housing sector*, *low-rise house* and *apartment*, initially. To begin with, *housing* is a special commodity due to its heterogeneity, durability, immobility and expensiveness. Households, on the one hand, perceive housing not only as a shelter but also as an investment good. However, economic rationality is not the only factor that affects their decision making, since they also seek for a livable urban environment and good quality urban services. Housebuilders, on the other hand, try to maximize their profits. Indeed, they intend to meet the housing demand while considering the market issues.

Therefore, it can be argued that *housing sector* is directly affected from the economic considerations of households and housebuilders. In addition to this, externalities such as planning decisions, environmental issues, political and macro-economic agenda, and technological improvements are influential on the sector. Briefly, spatial housing is a multidimensional concept, which should be discussed in a comprehensive framework covering a theoretical basis, the historical background and local characteristics.

Since the study is about low-rise housing development basically, housing is categorized in two groups: *high-rise apartments* and *low-rise houses*. *Multi-storey* a*partments* cover dwellings which are owned or rented by different households and the number of stories is generally more than 3. Indeed, in modern cities high-rise blocks can be accepted as the residential reflection of centrally located neighborhoods. On the other hand, *low-rise houses* are single buildings, each of them are owned or rented by a household and the number of stories is equal to or less than 3.

In the course of urban sprawl low-rise housing has been developed as the residential reflection of suburbs. Therefore, in order to reveal the characteristics of low-rise housing, it is important to discuss the suburbanization movement which was initiated after the Industrial Revolution in developed countries. Drawbacks of industrialization created a declined, congested and unhealthy urban core and households started to move from the central neighborhoods to the outskirts. At the initial phases high-income groups could be able to move, but afterwards, with the help of technological improvements it became affordable for the middle income groups to settle far from the city center.

Residential decentralization was followed by the decentralization of industry and retail and the urban fringe started to take a new shape with the further expansion of low-rise, low-density residential areas as well as other land-uses. Today, suburbs do not have only residential characteristics due to the decentralization of non-residential uses. They take a part in metropolitan system, working together with the city center and other suburbs.

Urbanization and urban sprawl processes in Turkey are rather different from that of developed countries. Low-rise housing development at the urban fringe was realized in two forms, as unauthorized housing and authorized housing. The former one emerged as a result of rural-to-urban migration at high rates. New comers occupied the urban fringe, and soon after prominent cities of Turkey were surrounded by the unauthorized housing areas of the migrants. Amnesty Laws, not

only legalized those developments but also increased urban densities, since low-rise squatter settlements were replaced by high-rise apartments. Authorized housing development, on the other hand, was realized primarily by means of mass housing projects. Particularly housing cooperatives produced large scale low-rise, low-density residential areas at the urban fringe, where the land is cheaper and more available than the city center.

Urbanization history of Ankara is closely related with that of Turkey, but Ankara reflects special characteristics in terms of being declared as the capital of the Turkish Republic in 1923. The city was considered as the idealized model for the cities of modern Turkey and urban planning was conceived as a tool to achieve this aim. Therefore, it is worth discussing Ankara case with regard to the urban planning experiences.

In the earlier phases of urban sprawl, low-rise housing development at the urban fringe started with the unauthorized settlements of migrants in Ankara. Then, particularly after the 1970s, legal developments started to flourish at the outskirts. Urban decentralization began first along the north-western axis, and then the trend continued along the south-eastern axis (especially in Çayyolu), generally by means of mass housing projects which were undertaken by housing cooperatives. After the 1990s Gölbaşı area, the southern part of the city, experienced a vast low-rise housing development, as well. As a result of these, many people moved from the centrally located neighborhoods to the new residential areas at the urban fringe in the last few decades.

However, it is important to mention that outer-city developments cover not only low-rise houses but also high rise blocks. Therefore, it can be argued that some housebuilders, generally large-scale private firms, still find it profitable to build apartments at the outskirts; while some others, generally housing cooperatives, continue to produce low-rise houses.

Demand side of the sector, namely households, face with a trade-off when they prefer to live at the outskirts. Indeed, living far from the city increases transport costs while living in a single, low-rise house increases the maintenance costs, as well. Therefore, it is expected that households compensate such costs with larger housing units, better urban environment and privacy.

1.2 Method of the Study

The methodology is designed to explain the issue considering different aspects. The study is comprised of five major phases. Indeed, the former three chapters constitute an informative background for Ankara case while the latter two chapters provide an explanatory framework to the issue.

First, a theoretical basis is put in terms of urban economics which describes the land-use pattern and spatial housing. In that sense, urban land rent theories are explained in terms of housing demand and housing supply. After stating the economic rationality of households and housebuilders, the effects of population growth, income and transportation on spatial housing are discussed.

Second, historical background of outer-skirt low-rise housing is explained in developed countries in terms of important socio-economic transformations, and technological improvements.

Third, urbanization and urban decentralization of Turkey are mentioned, and the outskirt residential developments of Turkey and developed countries are compared according to the urban expansion pattern, household groups, housebuilder types and the scope of suburbanization. In this section, the data of the Building Census, 2000 undertaken by Turkish Statistical Institute are used to reveal the most recent composition of the housing stock in Turkey with regard to building attributes, occupancy and house builder characteristics.

Fourth, urban development in Ankara is focused on. Planning experiences are discussed and their repercussions on urban space are mentioned. Moreover important housing projects, covering low-rise houses, are given in a chronological order. Builders of these projects, residents, house types and particular development decisions of these examples are denoted, as well. The data of the Building Census, 2000 are used also in that section, to reveal the housing stock composition and household characteristics in Ankara. Then, a set of hypotheses are put considering the urban economic framework as well as local attributes of Ankara:

- H_o: Urban densities and accordingly floor area ratio (FAR) falls with increasing distance from the city center for all types of housing. [1]

- H_o: Outskirt developments comprise both low-rise housing units and high-rise apartments together in Ankara which are compensated with lower densities and better urban services when compared to the centrally located neighborhoods. [2]

- H_o: Households who are living at the low-rise housing units at the fringe are expected to be the owners and generally families with children while the unit is expected to be large in size having more than three rooms in each unit. [3]

- H_o: Households preferring the low-rise residential areas at the fringe are expected to be the professionals and high-status managers with a good educational background in general. [4]

- H_o: Households, living at the low-rise housing areas at the outskirts are expected to use the private car in daily commuting. [5]

- H_o: Households are supposed to consider the distance between the house and the workplace when they are deciding the location of their residences,

however living close to the workplace is not the only and the prominent factor of the locational choice of the house. [6]

- H_o: Households are expected to compensate the negative transport costs and high maintenance costs of low-rise houses with intimacy, a prestigious environment and better urban services. [7]

- H_o: The main housebuilder group is expected to be the housing cooperatives for the low-rise residential development while private sector/speculative housebuilders continue to prefer building high-rise apartment estates at the fringe. [8]

At the final stage, compatibility of these hypotheses with Ankara case is tested. In that sense, south-western and southern parts of the city are determined as the case study areas. Some descriptive statistics, such as floor area ratios, number of houses and average sizes of the housing units, are presented for the low-rise housing estates in Çayyolu and in Gölbaşı. In order to complement the study, a household questionnaire survey was carried out in 20 randomly selected housing estates in Çayyolu. The questionnaire was performed on 196 households and it was aimed to reveal the characteristics of the households, the reasons that motivate them to move to the low-rise houses in Çayyolu, location of their workplaces and commuting behaviors, and the level of their residential satisfaction. Eventually, previously mentioned hypotheses are tested with regard to the facts provided for the housing estates and their relevancy by the questionnaire results.

CHAPTER 2

THEORETICAL BACKGROUND OF LOW-RISE HOUSING

2.1 Urban Economic Approach: Housing and Theories of Land Rent

In this part, urban development and the subsequent urban sprawl will be discussed by means of micro-economic approach[1] which focuses on price and rent relations as well as locational attributes of a property. In fact, economic perspective constitutes an important understanding to the process. Therefore, it is worth emphasizing theoretical formulations developed by different approaches.

In that sense, land rent theories will be explained successively in the following part. First, the classical theories of land rent developed by Ricardo and von Thünen will be mentioned to help the comprehension of high land values at the city center. Afterwards, static monocentric urban models of Alonso and Muth will be discussed. These models accept the central business district as the foci and decreasing land values with increasing distance from the CBD. In addition to these, demand and supply sides of spatial housing will be mentioned on the basis of urban economic models. Finally, other variables affecting spatial housing pattern such as population growth, income and improvements in transportation would be denoted.

2.1.1 Classical Approach to Land Rent

Land rent is a key factor on spatial distribution of different sectors throughout the urban space. Beginning from the classical economic approach, intellectuals and economists proposed different arguments which aimed to explain spatial variation

[1] Macro perspective is highly related to the market growth and dynamics, the effects of the overall economy, political conditions and demographic changes.

of sectors. Nevertheless, instead of a unique 'theory of land', there are many related theories inquiring the nature and the cause of rent differentiation and its effects on urban land.

To begin with, classical urban economy provides the basic features of the issue. At this point, it is worth emphasizing Ricardo's theory which concentrates on fertility differentials. Ricardo's theory is that land rent will equal the residual revenue after re-numerating non-land factors of production; it is also proportionate to the excess of fertility over that of the least fertile land in use (Mills, 1972:42).

In the Marxian analysis of rent, on the other hand, main problem is the role of capitalism on urban space. Urban rent is accepted as a component of wider process in which masses of people act and struggle and where contradictions are becoming more and more explosive (Bentivegna, 1985:191). It is obvious that, Marxist analysis mainly stresses on the social relations and their repercussions on city space.

Nevertheless, former approaches have been inadequate to reveal the different rents within the city. They tend to undervalue the spatial aspect of the matter, since fertility or social relations cannot be the only explanation of high land values on urban space. Alonso stated that the early economists had little to say on urban land (Alonso, 1964:4). When urban land is in question, spatial attributes should be taken into account.

It was von Thünen who considered *location* concept for the first time[2]. After substituting distance factor for fertility into Ricardian land rent theory, he assumed that the lands surrounding the city in all directions have the same fertility and production can be shipped straight to the city from any point with a constant unit transport cost. Finally he concluded that the land rent indicates zero at the edge which is the furthest land from the city center brought into production and it

[2] In fact, Ricardo recognized the transport cost as an advantage factor for land; but he devoted his attention primarily to different fertility levels.

gradually increases linearly towards the city. Figure 2.1, in which *R(u)* indicates the land rent per acre and *u* is the distance from the city, shows the linear relation between the rent and the distance, according to von Thünen's approach.

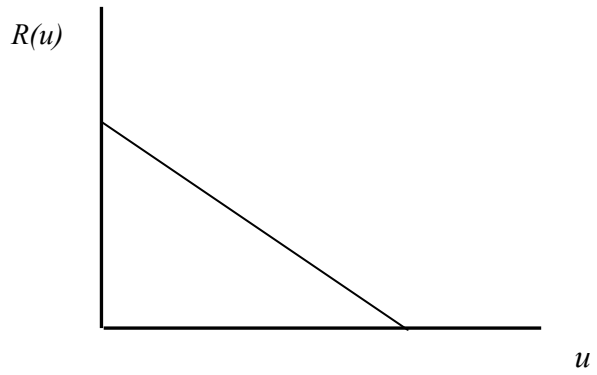


Figure2. 1: Relation between rent and distance according to von Thünnen's model

Source: Mills,1972:42

In this model, proximity to the city center permits producers to economize on transportation costs, which makes centrally located land more valuable than distant land (Mills, 1972:43). Therefore, it is helpful to explain the high land values at the city center. In fact, the model has been a turning point for urban economics and constituted the basic principle of many re-interpretations for over many years.

2.1.2 Monocentric Urban Model

On the basis of Ricardo/von Thünen model, approaches have been developed on urban land. One of the most important of them is the 'static monocentric urban model', which assumes that the city has a uniform space with a single center which is named as the central business district (CBD). Alonso defines the land as 'the featureless plain' (Alonso, 1964:15) which means that all land is assumed to have an equal quality. Moreover, all employment activities are assumed to take

place at the CBD, so households are subject to commuting costs with respect to their distance from the center.

2.1.3 Land Rent Theory with respect to the Monocentric Urban Model

The critical point is decreasing urban land rents with increasing distance from the CBD in the monocentric urban model. 'Perfect market condition' and 'rational decision making' are the basic assumptions. Alonso stated that, a price structure is given which specifies a price for land at every location (Alonso, 1964:21). The price of land decreases with increasing distance from the center. By expressing the price structure in this manner, it is clear that when a location is chosen, a given price of land is implied (Alonso, 1964:21). Figure 2.2 shows the diagrammatic structure of land prices according to distance. The curve P(t) indicates decreasing value of land (P_L) with respect to distance (t) from the CBD.

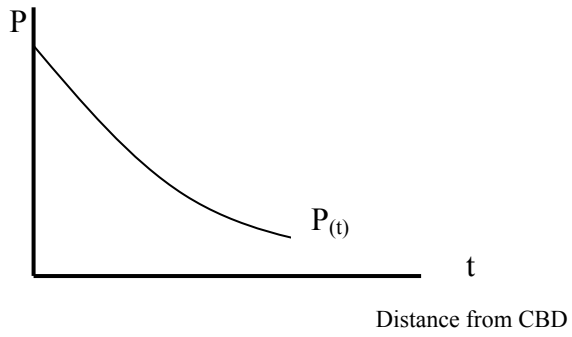


Figure2. 2: Diagrammatic structure of land prices
Source: Alonso, 1964:20

2.1.4 Spatial Arrangement of Different Sectors

When the overall pattern of land-use is being discussed, it is important to emphasize the locational distribution of different sectors. According to Mills a sector is a set of institutions having the same rent functions (Mills, 1972:65). Such a definition explains the spatial organization of sectors on urban land.

> Firms rent functions are affected by their production functions, prices of non-land factors of production, and product demand functions. On the other hand, households' rent functions are affected by their incomes, their tastes for housing, commuting costs and all other goods and services, and by the prices of consumer goods other than housing (Mills, 1972:65).

Firms choose a location considering the production and shipping of the commodities in order to maximize their profits, whereas households choose a residential location to maximize their utility and satisfaction.

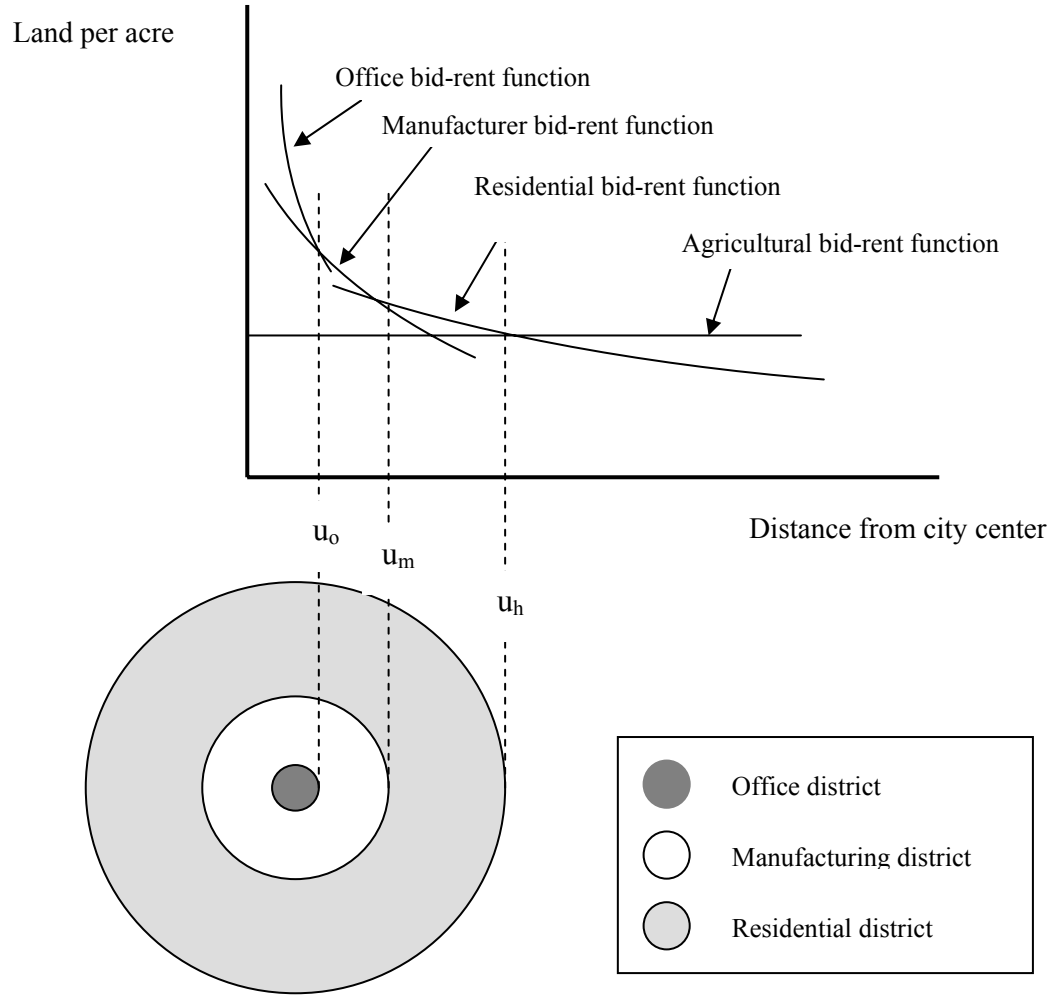


Figure2. 3: Bid-rent functions and land use in the monocentric city

Source: O'Sullivan, 2003:184

Transport costs are important components affecting the locational choice of the sectors and the activities requiring high transport costs tend to locate close to the CBD. Office sector, due to having the highest transport costs locates at the center with the steepest bid-rent function. Office outputs are being circulated in the market area, so the firms should be close to the CBD, in order to decrease the transport costs. Then, manufacturing takes place with the second highest transport costs and the second steepest bid-rent function. Residential sector occupies the third ring with relatively lower transport costs and a relatively flatter bid-rent function (Figure 2.3).

In addition to this, landowners play an important role in the spatial distribution of sectors. They allocate their land to the sector which offers the highest rent in order to get the largest return. Corroborating the statement, Muth denotes that most theories of city structure take the CBD as the focal point about which urban economic activity is structured (Muth, 1975:56). For that reason, the land around the CBD is allocated to different users who would pay the highest rental. For instance, banks and headquarter offices in which a very high capital-land ratio may be efficient (i.e. skyscrapers) so that they can afford to pay astronomical rents per acre (Richardson, 1978:287).

However, such a model represents a strict zoning of which effectiveness is questionable in the real world. Although small in percentage, there are still some residential areas very close to the CBD, having a high capital/rent ratio. Moreover, commercial areas and manufacturing sector tends to decentralize and to constitute new sub-centers at the fringe which would be mentioned in the following parts. Nevertheless, as the monocentric urban model constitutes the starting point and fundamental principles of the theoretical argument, such a rough arrangement of spatial sectors seems to be manageable.

2.1.5 Housing Demand and Household Equilibrium

The demand for residential land derives from the demand for housing (Muth, 1975:59). Households' preferences and willingness to pay for housing directly affects residential land use and households' consumption pattern throughout the urban space. Indeed, households try to maximize their satisfaction in a residential location among other goods and services. Therefore, after mentioning theory of land rent, it is important to discuss housing demand and utility of households.

2.1.5.1 Individual Equilibrium of the Household in Alonso's Model

Individuals tend to distribute their income among the optimum composition of land costs, commuting costs and all other expenditures. A theory of household location choice can be formulated as an extension of consumer behavior theory (Mills and Hamilton, 1993:107). The equation reflects the individual equilibrium of the household aiming to reach the highest level of satisfaction in terms of the amount and price of composite good and land as well as the distance from city center. Budget equation can be formulated as follows:

$$y = p_z z + P(t)q + k(t)$$

where

y: income;
p_z: price of composite good;
z: quantity of the composite good;
$P(t)$: price of land at distance t from the center of the city;
q: quantity of land;
$k(t)$: commuting costs to distance t;
t: distance from the center of the city (Alonso, 1964:21).

Equation shows how the individual may spend his money among the different alternative ways, and it can be divided in three sub-equations, analyzing the relation between two variables keeping the third one as constant:

With a fixed distance, consumers can make a preference between quantity of land, and the composite good. The shape of the indifference curve emphasizes diminishing marginal utility, while the intersection point reflects the consumer preference (Figure 2.4).

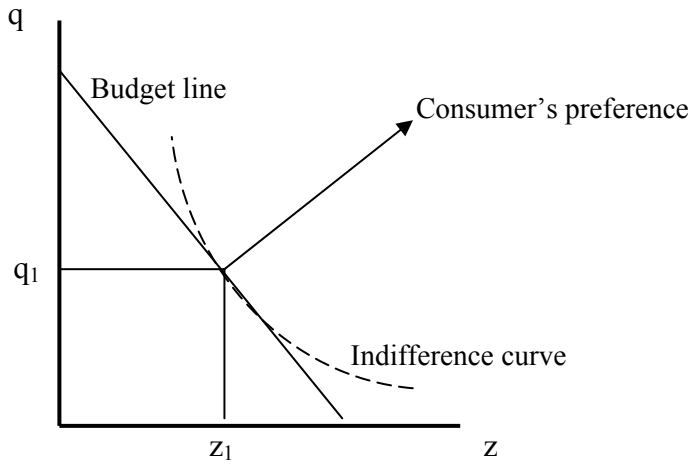


Figure2. 4: Locus opportunities and indifference curve between *q* and *z*, when *t* is constant

Source: Alonso, 1964:22

The model also suggests a residential bid price curve representing different prices for land that varies with respect to the distance while providing the constant level of satisfaction to the individual (Figure 2.5). Infinite number of bid price curves can be constructed for different individuals and different levels of satisfaction.

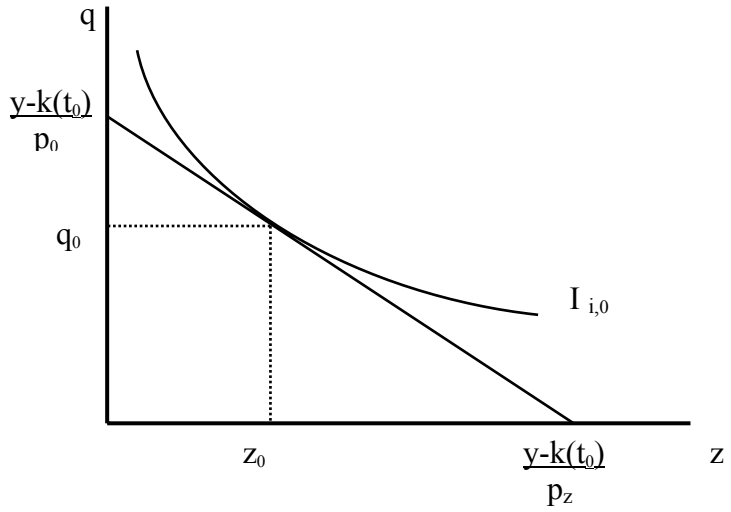


Figure2. 5: Locus of opportunities and equilibrium indifference curve between q and z, at a given t_0

Source: Alonso, 1964:60

In the equation, there is an individual (i), having an income (y_i) and locating at t_0 with a given price of land p_0. The commuting cost is $k(t_0)$ while the price of the composite good is p_z. Indifference curve is drawn with regard to the following equation:

$$yi - k(t_0) = p_z z + p_0 q \quad \text{(Alonso, 1964:60)}$$

Here, at the point (q_0, z_0) the resident yields the maximum satisfaction and the equilibrium would be attained where the locus of opportunities and highest of the indifference curves are tangent. Alonso states that the concept of bid price is useful in that it permits a solution of individual equilibrium which combines the indifference curve approach with an explicit consideration of land prices (Alonso, 1964, 71)

2.1.5.2 Housing-Price Functions and Locational Equilibrium of Households According to Muth

Households are obliged to incur additional transport costs by moving far from the CBD. The question is how much is a household willing to pay in each distance from the center? With a given quantity of housing, Muth explains the locational equilibrium of households indicating gains and costs of varying residential location, as follows:

$$-qp_u = T_u$$
$$-p_u / p = T_u / pq$$

where

q : quantity of housing purchased;
p : unit price of housing;
p_u : the change in price per mile, which is negative;
T_u: the increase in transportation expenditure/mile(Muth, 1975:61).

In the equation, $-qp_u$ shows the saving on the purchase of a given quantity of housing that results from a short move from the CBD while T_u indicates the additional transportation expense incurred by such a move (Muth, 1975:61).

Muth assumes a linear housing-price function and the basic principle is the consumption of the same quantity of housing at all prices (Figure 2.6). Here, the equilibrium point cannot be u_1 since the household has an additional income left over ($-qp_u > T_u$) for spending on other goods, at this location. Therefore, by consuming the same amount of housing, he/she can move further from u_1. On the contrary, the household at u_3 can move closer to the CBD since it cannot be the best location for him/her, either. Only, u_2, where $-qp_u = T_u$, reflects the best location, named as the household equilibrium point, where it is not possible to increase the well-being of the household by changing the location.

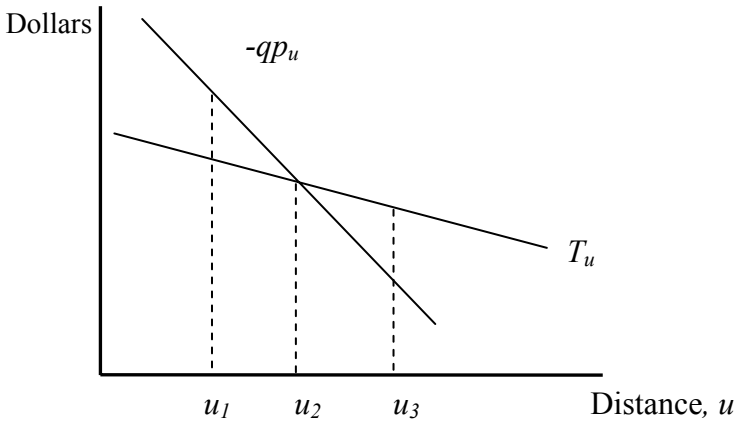


Figure2. 6: Gains and costs of varying residential location
Source: Muth, 1975:62

For example, assume that there are identical dwellings (120 m^2) in each location in a city. At the distance 10 km. away from the CBD, the price of housing is 10 cent per square meter, daily. Then, the household will pay 12$ (120 m^2 times 10 cent) for the dwelling which equals to 360$ (12$ times 30 days) per month. When the household move further away from the center, the unit price of housing falls to 7 cent, with a monthly payment of approximately 260$. But transport costs increase and 100$ left over is assumed to be transferred to monthly costs of transport (Figure 2.7).

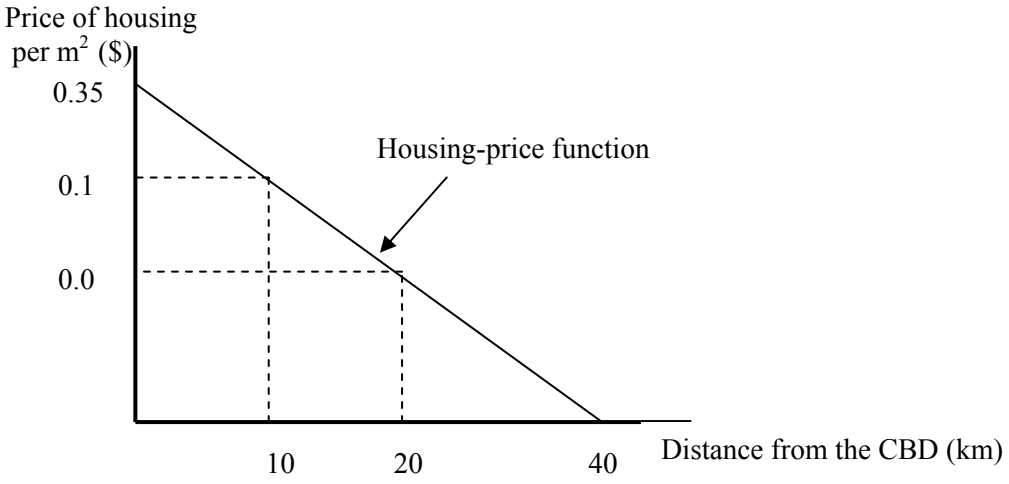


Figure2. 7: Linear housing-price function

However, in the real world, all of the dwellings in a city cannot be identical. Actually, consumption depends on the price of housing, and as the prices increase towards the center, households could afford smaller dwellings. When a household moves towards the center, greater increase in the price per square meter offsets the fixed amount of per km decrease in commuting costs. Then, it can be inferred that a convex housing-price function is more realistic than the linear one (Figure 2.8).

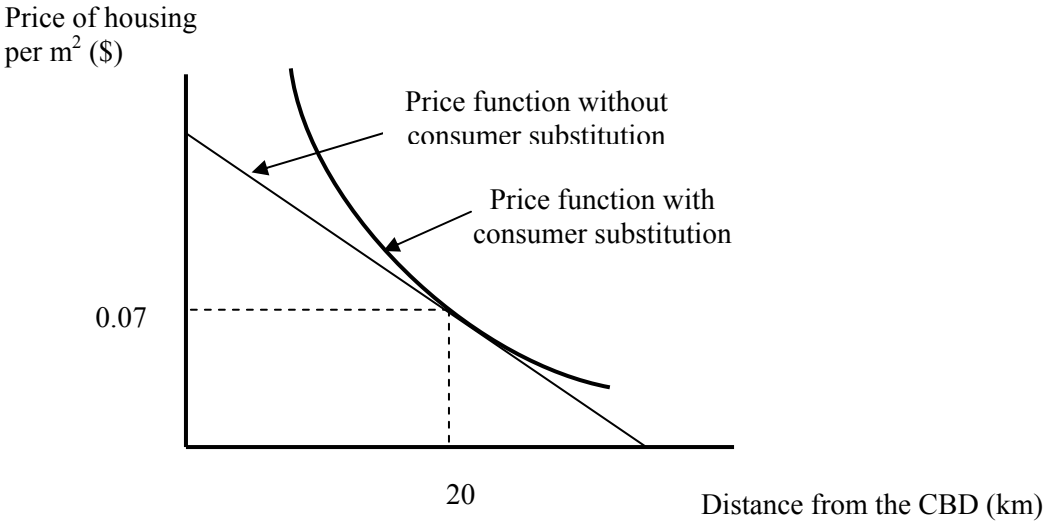


Figure2. 8: Housing-price function with and without consumer substitution
Source: O'Sullivan, 2003:180

In the housing-price functions, households have fixed budgets which are allocated among commuting and housing costs. Thus, the trade-off between living in a larger house (when the consumer substitution is being considered in the function) as a result of paying a lower price per housing unit and increasing transport costs have to be rationalized.

2.1.5.3 Households' Utility Function

Households' utility function can be formulated as an extension of consumer behavior theory, by drawing indifference curves which indicate the preferences

for housing services and non-housing goods and services. The main distinction from the consumer behavior theory arises from the introduction of location choice into the model.

Households maximize their satisfaction with respect to the consumption of housing, goods, and commuting, subject to a budget constraint (Mills, 1972:60). By subtracting commuting costs *T(k.d)* of a certain location *(u)* from income *(Y)*, income net of transport cost (*M*) is calculated which affects the decision of the household where to live. Then, he/she allocates the remainder on housing services and other goods in an optimum way to maximize his/her satisfaction.

Assuming that a family has a constant income and households are working at the CBD. Price and floor space occupancy figures are reflecting the actual choices of the household. Different transport costs are taken into account according to the location. The equation can be formulated as:

$$Y = P_Z.Z + P_H.H + T(k.d)$$
$$Y - T(k.d) = M = P_Z.Z + P_H.H$$

where

Y : income;
P_Z : price of all other goods;
Z: quantity of all other goods;
P_H: price of housing;
H: quantity of housing;
k: unit transport cost;
d: distance from the CBD;
M: income net of transport cost.

For instance, a household wants to move a further location from the CBD. The consumption pattern of the household changes as he/she has to allocate more

money for transportation. Increase in the share of transport costs result in a decrease in income net of transport costs and therefore consumption of all other goods diminishes, as well. On the other hand, the household can consume more housing in the new location, since the price of housing is less than it was in the previous location.

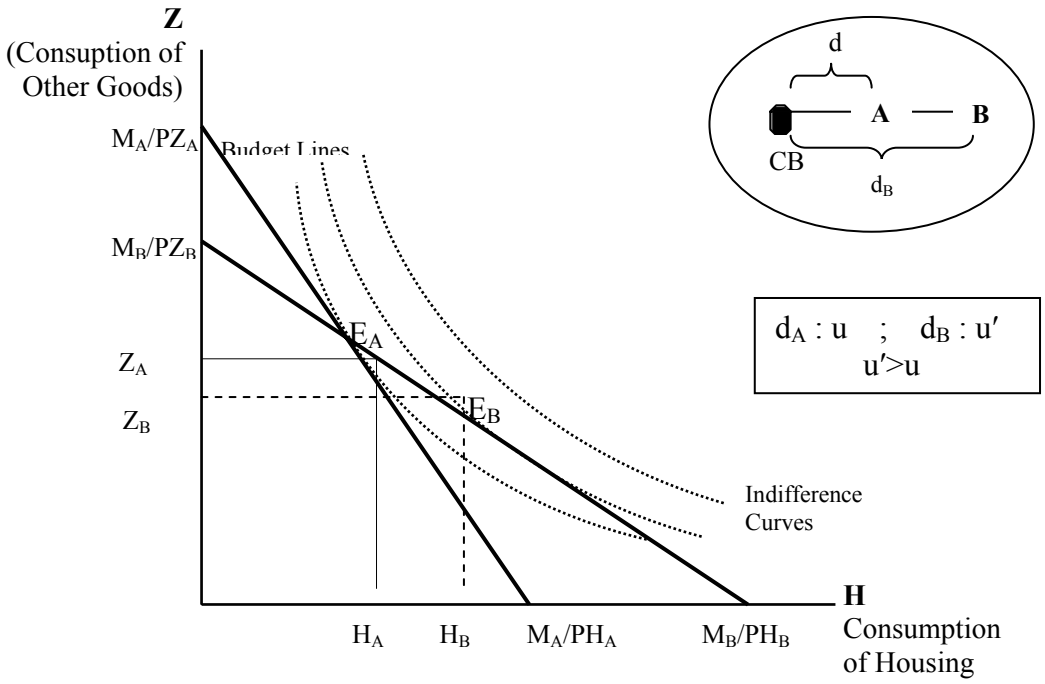


Figure2. 9: The change in households' equilibrium by moving from location A to location B in an urban area.

In Figure 2.9, where $d_A<d_B$, it can be argued that when the household move away from the city center (from *A* to *B*), consumption of housing services increases while consumption of other goods decreases due to higher transport costs. Meanwhile, the slope of budget line becomes more flattened, and the equilibrium point of E_B replaces E_A.

> Any given household face with the choice of residence can be thought of as balancing housing costs and transport costs in seeking best location. For a household to be getting the most it can for its limited income, it is first necessary that the additional

> satisfaction per dollar's worth of expenditure be the same for housing and for all other commodities. The additional satisfaction derived from housing relative to that from other commodities varies inversely with the consumption of housing relative to other things, declining as more housing is consumed. Consequently, households living farther from the CBD would tend to live larger houses, other things being the same (Muth, 1975:61).

2.1.5.4 Households' Considerations

Livable housing estates with well-designed and technologically equipped housing units, beautiful landscape, qualified and efficient urban services are desired by the households. Carmona put the main items affecting the households' decisions as:

1. Price and value
2. Locality
3. Estate (urban design)
4. House design
5. Livability
6. Features
7. Construction. (Carmona, 2001:120)

Here, locality is the second most considered feature for the households, but residents are also interested in the design qualities, services, structural and environmental features. With respect to the ranking, suburban settlements with relatively quite, safe and village like environment seems to be attractive for individuals who escape from the city center with high levels of pollution, congestion and crime. Another important point is that the house buyers also pay attention to the socio-economic profile of the neighborhood.

It is a matter of socio-economic classification which results in a spatial segregation. As a result, housing can represent wealth, culture, religion, environmental quality, etc., depending on the current value system of a given society and, as such, it is closely related to concrete historical conditions—i.e., the temporal dimension (Phe and Wakely, 2000:10).

2.1.6 Supply of Housing and Producer Rationality

Housing supply is the other side of the issue. Housing supply reflects a stable character in the short-run since there is a fixed stock. Construction process takes a considerable time, and it is not possible to produce housing easily. Therefore, in the short-run, housing prices and rents are determined primarily by demand while in the long run; housing prices are set by construction and land costs or development costs (Mills and Hamilton , 1993:209,210).

Supply side is composed of various actors taking part in the development process. Not only housebuilders but also capital market, construction activities, design professionals, planning authorities and land-use regulations intervene in the process (Table 2.1). But it is important to remind that, the stages and stakeholders may differ from one country to another due to the administrative structure and the constitutional requirements.

Table 2. 1: Stages and stakeholders in the housing development process

Stages	**Stakeholders**
Land Search and Assembly	Landowners Estate Agencies Financial Agencies Planning Agencies
Development Design and Planning Permission	Architects Planning Agencies Planning Authorities
Housing Production	Architects Subcontractors Financial Agencies Public Agencies
Marketing and Selling	Estate Agencies Building Societies/Banks Advertising Agencies Consumers

Source: Short et *al*, 1986:39

The attractiveness of urban fringe from the suppliers' side comes primarily from the low land prices. It is a fact that when the price of a factor of production falls, relatively more of it is used. As a result of purchasing lower prices for faraway lands, producers are able to use more land and build larger housing units within low density residential areas, in suburbs. Therefore, on the edge of the city, single-family, detached homes may predominate, whereas close to the downtown areas of large cities dwellings may be primarily in high-rise apartment buildings (Muth, 1975:65).

2.1.6.1 Production Function of the Housebuilder

Profit maximization is the main consideration of housebuilders, and the only way to maximize the profit is reducing unit production costs. Since capital (K) and land (L) constitute the production function of housebuilding, the optimum composition of these factors enables the producers to maximize their profit. Capital covers infrastructure and superstructure expenses of the building and its unit price can be assumed to be constant at every location in an urban area for a homogeneous commodity. On the other hand, land rents differ according to location; therefore in order to reduce the costs; it is a requisite to decide on the land factor.

Production function of the producer reflects the amount of housing units that can be built with a limited budget. It is clear that in the central places, where land rents and prices are relatively higher, smaller amount of land (L_A) would be used by housebuilders. At the further distances from the CBD, land (L_B) becomes available in amount. Although the share of capital decreases from K_A to K_B, more housing units can be built since the increase in the amount of land input increases more than the decrease in capital input ($K_A/L_A > K_B/L_B$). With a given budget, the house-builder is able to invest on more housing units in the outer parts of the city owing to the decrease in land rents from the city center (Figure 2.10).

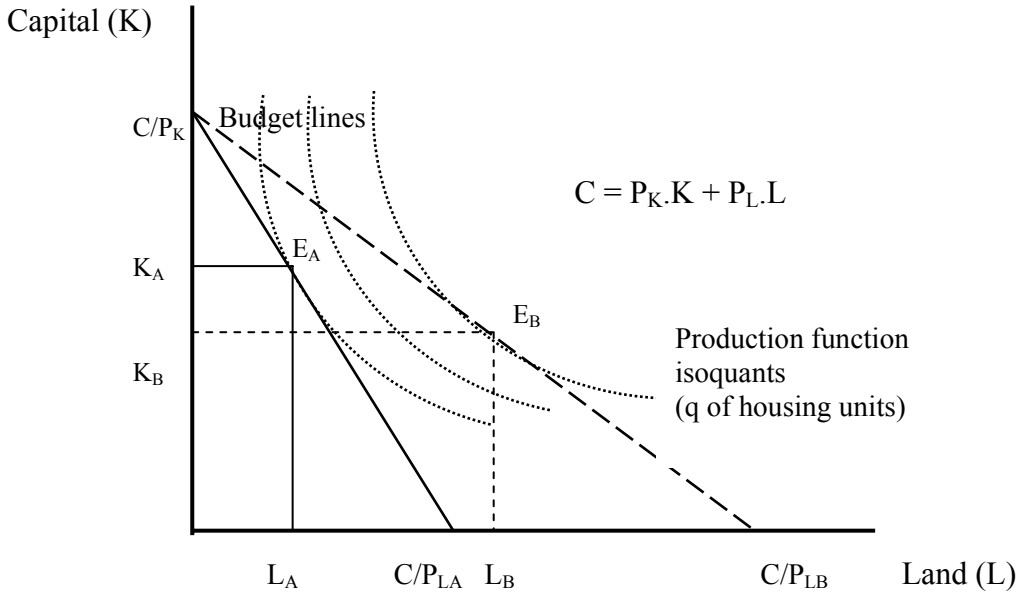


Figure2. 10: Housebuilders production function with respect to the quantities of capital and land

2.1.6.2 Factor Substitution in the City and Declining Residential Densities with Increasing Distance from the CBD

When the heterogeneity of housing is considered, not only the price of land, but also the number of stories and structural features of buildings should be taken into account. At the center, supply of residential land becomes inelastic due to its scarcity. The less land used per dwelling, though, the greater the expenditure on structural features of dwellings (Muth, 1975:65). Thus, the further we move from the CBD, the more elastic becomes the land supply.

Richardson explains the factor substitution and the rapid fall of non-land/land input ratio with increasing distance in Figure 2.11. According to him, housing can be produced at each distance from the CBD, but the product is very heterogeneous (Richardson, 1978:274). Single-family detached houses take place of high-rise apartments at the outer skirts, while the amount of land content increases in housing production.

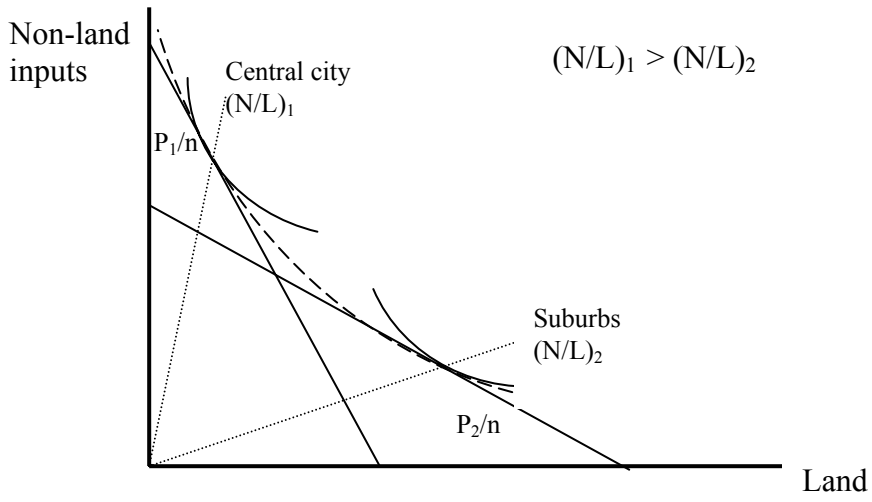


Figure2. 11: Housebuilders' factor substitution in the city with regard to land and non-land inputs

Source: Richardson, 1978:275

With the increasing distance from the CBD the price of land P_2 would be lower, and builders will substitute land for other inputs with lower non-land/land input ratio $(N/L)_2$. Therefore, capital can be transferred to other fields while structural and environmental qualities are expected to be higher. Therefore, low-rise, low-density developments that are economically unfeasible at the city center become feasible at the outskirts, for the housebuilders.

The point worth noting is that densities decrease with increasing distance from the center, because the density gradient is an outcome of different non-land/land ratios around the city. In a monocentric city, density is expected to be concentrated at the CBD which also creates the high value of land.

To sum up, housebuilders should consider the development density, in order to maximize their profit. Greater densities give the opportunity of producing more housing per unit of land. Therefore, especially in the central areas, where the land rent is quite high, high-densities are preferred in order to economize on land; however at the urban fringe densities decrease and it becomes possible to produce low-rise houses.

2.1.6.3 Optimum Density Problem

Housebuilders' interests and households' preferences may not always coincide with each other. Yet, an optimum development density should be determined depending on housing price, land price and floor area ratio from suppliers' side. Developers tend to substitute land with capital when the land is more valuable. Therefore, within the city densities are higher when compared to the outskirts, because of the high land values at the centrally located neighborhoods. However, increasing densities has some drawbacks since it reduces the value of a unit.

> Greater density reduces the value and, hence, profit from each unit, but increases the number of units that can be placed on the land. The former reduces site profits while the latter increases it (Dipasquale and Wheaton, 1996:74).

As a result, developers should consider the optimum density to maximize their profit while satisfying the households' expectations. The model developed by Dipasquale and Wheaton explains the relationship between the over-mentioned variables and maximum profit that can be attained at a certain FAR value. In the model, FAR is used as a measure of density.

$$P = \alpha - \beta F$$

$$C = \mu + \pi F$$

$$p = F(P-C)$$

where,

P : price of housing

α : collective value of all other locational and structural attributes that can affect the price of a dwelling unit

β: marginal reduction in value with increasing density.

F : floor area ratio (FAR)

C : cost of construction

μ : basic cost of construction

π : incremental additional cost which increases linearly with density increase

p : the residual value per square foot of land, attained from the multiplication of FAR with the difference between price of housing and construction cost (Dipasquale and Wheaton, 1996:74)

The residual profit is derived from the difference between price and construction costs. Until point d, where price of housing is equal to construction cost, producer enjoys different levels of profit. In fact, the maximum value for p^*, the residual profit, is attained at F^* representing the optimum FAR value. (Figure 2.12)

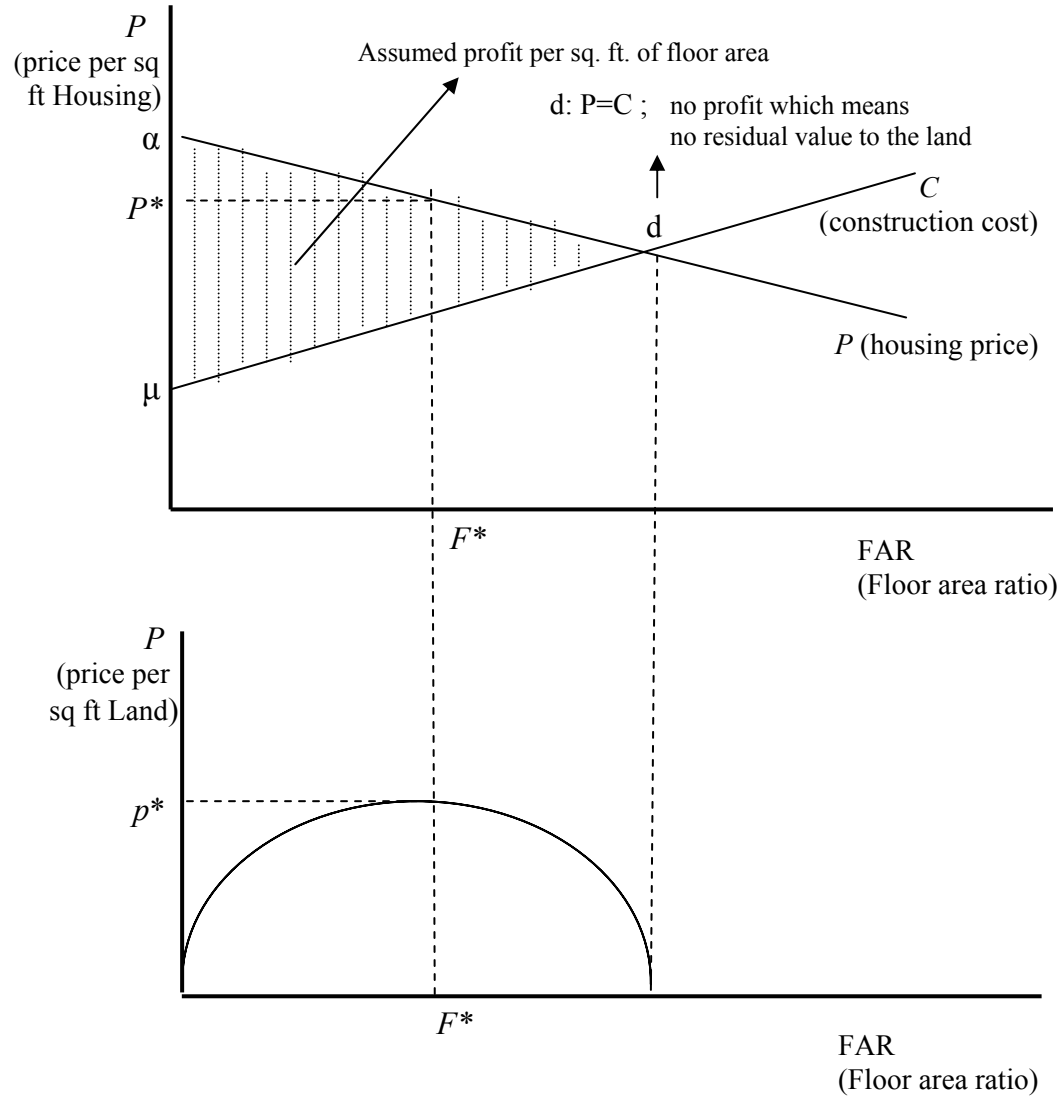


Figure2. 12: Optimal FAR

Source: Dipasquale, Wheaton, 1996:75

2.1.6.4 Housebuilders' Considerations

It has been mentioned that housebuilders invest on land where they can acquire maximum profit. It also means careful selection of sites, with considerations of marketing, the chances of obtaining planning permission, the social context and the availability of servicing all weighing heavily on housebuilders decisions (Carmona et al., 2003:50). The table below demonstrates the whole considerations of producers, in the phase of site selection:

Table 2. 2: Perceived Importance of site selection criteria by housebuilders

Criteria in site selection	Ranking of importance
Market factors	1
Planning permission (availability or ease to get)	2
Basic services (existing and ease to supply)	3
Social class of neighborhood	4
Condition of subsoil	5
Access to schools	6
Site availability	7
Topographic conditions	8
The asking price of the land	9
Size of site	10
Access to city center	11
Proximity to local shops	12
Physical environmental quality	13
Access to employment	14
Availability of clearance grant	15
Existing ground cover	16

Source: Carmona et *al*, 2003:49 (cited in Pacione, 1989).

The ranking reveals housebuilders count on various criteria for housing production as well as the locational attributes. It is very important whether the site

would be developed for residential, commercial, industrial or recreational uses. In that sense, urban fringe is attractive from many points for the housebuilders to produce housing units, with regard to the market factors, planning permission, site availability, price of land, and size of the site. Moreover, developing a new site would provide some opportunities in terms of social class of neighborhood, topographic conditions and physical environmental quality. However, it has also some drawbacks in terms of basic services (existing and ease of supply), access to the city center, proximity to local shops and access to employment.

2.1.7 The Effects of Population Growth, Household Income and Transportation on Housing

Until now, determinant characteristics of demand and supply factors on the spatial arrangement of sectors, particularly of housing, were mentioned through the monocentric urban model. Although the model has a static characteristic, it is useful to explain spatial arrangement of different sectors, housing demand and housing supply within the urban economic context.

Apart from this, certain socio-economic, demographic and technological changes are influential on spatial housing pattern. Geoffette-Nagot asserts that;

> Analytical properties concerning residential location relate population dispersion to three main factors. First, provided that the income elasticity of demand for housing is higher than the income elasticity of the marginal commuting cost, than the distance from the center will increase with income level – a result that can be interpreted as a preference for 'privacy' as against 'community' (Papageorgiou, 1990, ch.9). Second, an increase in household size with a fixed number of working members will increase housing consumption and lead to residential locations farther away from the CBD (an increase in housing consumption due to specific preferences will have the same effect). Third, improvements in the means of transportation that reduce monetary costs or transport time will contribute to a flattening of land rents and population densities (Geoffette-Nagot, 2000:320).

2.1.7.1 The Effect of Population Growth on Urban Space

Population growth leads to an increase in demand of housing since more housing units will be required for more people. But in the short run, it is difficult to increase the quantity of housing easily. Therefore, when the rate of population growth is relatively higher than the rate of improvement in housing technology, prices of dwellings in current stock are expected to rise (Figure 2.13). In addition to this, increasing population would increase urban densities, as well.

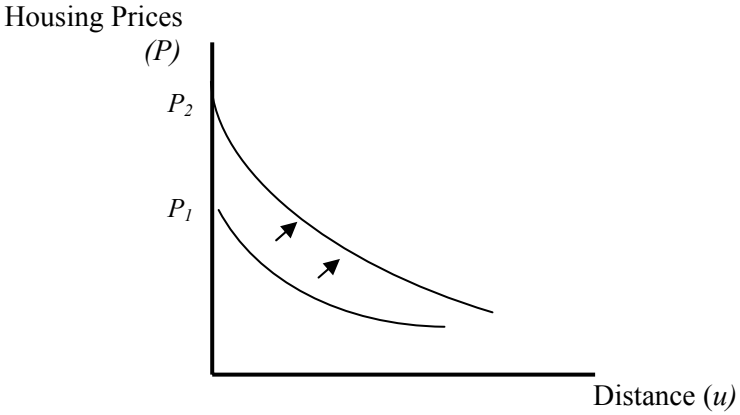


Figure2. 13: Increasing in the spatial pattern of urban housing prices with population growth.

Source: Muth, 1975:68

Unless something else occurs to cause consumption of housing per family to change differently, population will increase most rapidly in the outer parts of the city where the housing stock has increased most (Muth, 1975:72). Because the increase in population would necessitate conversion of agricultural land to urban land, development activities start at the fringe. Housing prices increase significantly also at the outskirts in the short-run.

At the meantime, redevelopment activities take place in downtown aiming to renew the existing obsolete dwellings. Therefore, in the long-run, there would be a reduction in housing prices, as the excess demand is eliminated by rising supply

by means of the new housing estates developed at the fringe and the redeveloped parts at the city center.

2.1.7.2 Income Effect on Locational Choice of Housing

Income is an important factor affecting the locational choice of the households. In the US, high income residents tend to locate in suburbs, whereas low income groups occupy downtown. The reason is that the income elasticity of demand for housing is greater than the income elasticity of commuting cost. In other words, housing consumption is more responsive to the changes in income. In the simple monocentric model, the expression for the slope of the housing-price function is simplified by O'Sullivan as:

$$\Delta P_h/\Delta u = -t_h/H(u)$$

where

ΔP_h : the change in price of housing;
$H(u)$: housing consumption;
Δu : the change in distance;
t_h : commuting cost (O'Sullivan, 2003:190).

The equation, indicates that both the opportunity of commuting, t, and housing consumption, H, increases with a higher income. But for wealthy households income elasticity of demand for housing is greater than income elasticity of commuting cost and the increase in housing consumption exceeds the increase in commuting cost. Consequently, high-income groups have a relatively flatter bid-rent curve, which implies that they tend to live farther away from the city center; while low-income households due to having a steeper bid-rent curve usually occupy centrally located neighborhoods (Figure 2.14).

Apart from this, growth in average income leads to increased price per unit housing and increased housing expenditures, since the households would tend to consume more amounts of housing services.

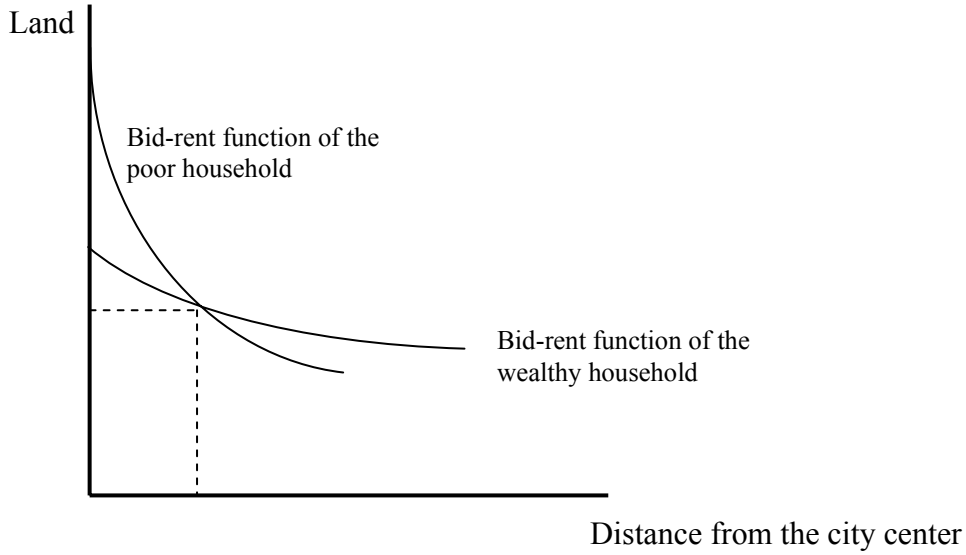


Figure2. 14: Bid-rent function and income
Source: O'Sullivan, 2003:191

However, there are different tendencies among households living in different countries. For instance Paris metropolitan area shows a contradiction to the over mentioned assumptions and theoretical explanations. Indeed, Paris has unique characteristics to invert the American case. Cultural amenities such as museums, restaurants, parks, and thriving street life make the center more attractive than the suburbs. Therefore, wealthy groups and elites prefer to live at the central places, while suburbs are occupied generally by the modest socio-economic groups. O'Sullivan states that:

> If the demand for these cultural amenities increases rapidly with income, the forces pulling the rich toward the central city (access to jobs and cultural amenities) are more likely to dominate the forces pulling them toward the suburbs (lower prices of land and housing) (O'Sullivan, 2003:190).

To sum up, demand for housing is greater than commuting considerations for high income households in general. Therefore, it becomes affordable them to live further from the city center. Nevertheless, the relationship between a households income level and locational choice of the residences may show different characteristics since wealthy groups may prefer to live in downtown due to the social and cultural amenities like Paris example.

2.1.7.3 The Effects of Transportation Improvements on Urban Space

Improvement in transportation promotes urban decentralization and encourages households to move further from the city center; because improved transportation facilities make commuting easier, faster, and probably less expensive, thus the marginal disutility of transportation decreases.

However, the type of improvement plays an important role to compare the relative advantages. Alonso states that technical improvements in transportation may have two effects: (1) they may make commuting easier, and (2) they may make it less expensive (Alonso, 1964:111). For instance, providing a public transport facility reduces the cost of traveling in terms of money and time. On the other hand, commuting with automobile tends to be more comfortable and pleasant although it is more expensive than public transportation.

Apart from this, it is essential to mention that improved transportation facilities would make lands at distant sites more attractive, and result in increasing of the land rents at the outskirts in the long run. Therefore, it can be argued that transportation improvements contribute to urban sprawl. Over the time, as a result of the lands becoming more valuable, new residential quarters flourish and the densities tend to increase, as well.

2.2 A Critical Review of Housing and Land Rent Theories

Urban land rent theories provide an explanatory framework for the urbanization process and urban development. Beginning from the Ricardian/von Thünnen model, land rent models intended to explain the high land values at the city center, as well as households' and housebuilders' economic rationality in spatial housing.

Alonso made a critical suggestion by explaining the decreasing land values from the city center and the distribution of income among the optimum composition of land costs, commuting costs and all other expenditures, on the basis of a monocentric urban model. In the pursuit of Alonso, various explanations have been made to reveal the issue.

First, it was deduced that the households are subject to a trade off between housing and transportation costs, which directly relates to the distance from the CBD. Commuting also affects their consumption pattern among housing, and all other goods and services. Besides the locational features; environmental characteristics of the site, structural attributes of the housing unit, socio-economic status of the neighborhood and availability of the urban services are the other considerations of households.

Second, it was concluded that land rent and the availability of site affects housebuilders' decisions since their main objective is profit maximization. With regard to this urban fringe is attractive for developers since the land prices are relatively low and land is relatively abundant. Here, it is important for them to find the optimum allocation among capital and land, which yields the greatest return. Moreover, densities and the floor area ratio (FAR) are the other considerations which directly affect the level of profit.

In addition to these, some demographic and technological factors are influential on spatial housing pattern. Population growth let the prices increase at the center while encouraging decentralization and suburbanization. Urban areas experience a

spatial segregation with respect to households' income. It has been stated that the high-income households could afford transport costs and they are expected to be willing to pay for better urban environment and structural quality. Thus, they tend to move to the suburbs while leaving the declined central neighborhoods to the low-income groups.

However, the relevancy of the model can be questionable since many of today's large cities are not monocentric. Also it should be kept in mind that the time element is de-emphasized and historical background of the urban development has been undervalued, as a result of the model's ahistorical approach. Furthermore, urban land rent theory has not been developed further considering the new urban and regional developments. It lacks the factors apart from quantitative and monetary ones, such as social aspects and investment flows. Jäger states that one severe deficiency of land rent theory still is its restricted perspective on space and he adds that it appears rather difficult to deal with urban space as something which goes beyond interpreting space as distance (Jäger, 2003:237).

In order to clarify this uncertainty, O'Sullivan put the following reasons, which explains the importance and prevalence of monocentric city:

> First, the monocentric city was the dominant urban form until the early part of the twentieth century, so urban history is largely a history of the monocentric city. Second, many of today's small and medium-size cities are still monocentric. Third, to understand the transition from the monocentric city to the modern city, one must understand the forces behind the development of the moncentric city in the first place. Fourth, many of the lessons from the monocentric model can be extended to the modern cities (O'Sullivan, 2003:167).

Today, land rent is highly affected from the neighboring land rents and global real estate markets. Investment trends and the mobility introduced by the new system are the other determinants of housing economics in marco-perspective. Figure 2.15 and Figure 2.16 illustrate the development of the views about the linkage between housing and economy.

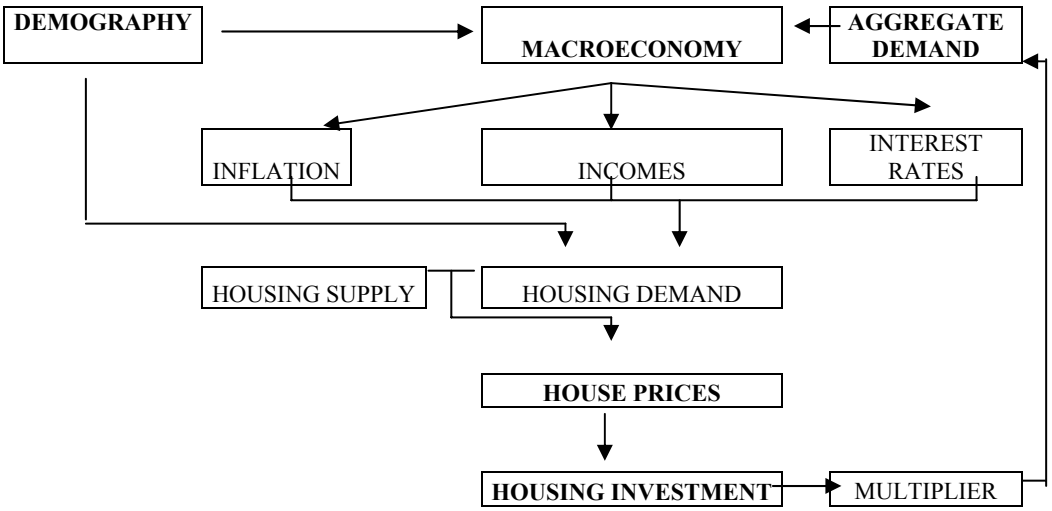


Figure2. 15: Key housing-economy links: old view

Source: Maclennan, 1997:26

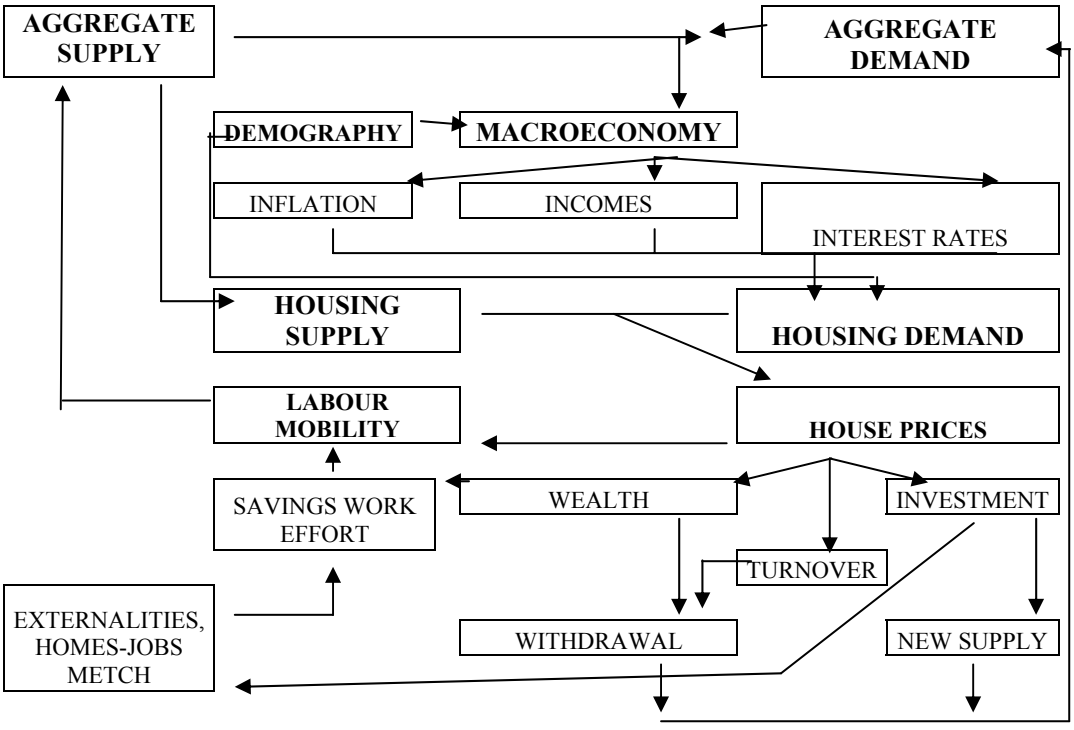


Figure2. 16: Key housing-economy links: emerging view

Source: Maclennan, 1997:28

Until the late 1980s, incomes, interest rates and inflation were influential on housing demand. Housing demand was expected to increase with income growth and decrease in interest rates, and in accordance with the rising housing demand, housing investments were expected to increase, as well (Figure 2.15). However, beginning from the 1990s, demand side expansion, and contraction, impacted not only upon new housing investment but also had major effects on household mobility (Maclennan, 1997:26).

In the emerging system, the relationship between the house prices and households' wealth as well as their consumption pattern has become more complex. Moreover, the changes in house prices influence labor mobility which would have direct effects on the overall economy (Figure 2.16). Therefore, the system does not seem to depend on clear, simple linkages but more complicated relations that are subject to internal forces as well as externalities.

In consequence, although a reformulation is needed to adapt the theoretical formulations to the contemporary trends, urban economic approach with respect to land rent theories provides an explanatory, overall basis for the spatial organization of urban areas and the urban sprawl phenomenon.

CHAPTER 3

HISTORY OF LOW-RISE HOUSING IN DEVELOPED COUNTRIES

3.1 Historical Background and Transformations Affecting the (Sub)Urban Form

Low-rise housing development is highly related to suburbanization; therefore it is important to discuss development of suburbs on behalf of development of low-rise housing areas. Suburbanization is generally perceived as a contemporary term which became widespread after the Industrial Revolution. However it is an old phenomenon having its roots in ancient times. Lewis Mumford asserts that the suburb becomes visible almost as early as the city itself, and perhaps explains the ability of ancient town to survive the insanitary conditions that prevailed within its walls (Mumford, 1961:550-551). He gives the examples of the Egyptian and Hellenic Cities where it is possible to observe the initial traces of suburbs.

In the Medieval times, there were huts, cottages and villas located at the outside of city walls. While initial examples of outskirt settlements had primarily served as summer residences or recreation; subsequent ones turned to be privileged upper class estates providing healthy, quiet and pleasant environment.

Although historical evidences of the outskirt settlements can be presumed as the antecedents of suburbs, contemporary suburbanization, which was initiated after the Industrial Revolution, reflects distinctive characteristics. Actually, urban land was re-arranged as a result of economic, social and technological transformations that were experienced after the mass industrialization.

In that sense, (sub)urbanization will be discussed in four subsequent parts with regard to the important transformations: Industrial Revolution, First World War and Great Depression, Second World War, and Globalization, which have been influential on socio-economic and spatial features of the cities.

3.1.1 The Effect of Industrial Revolution on Cities

The Industrial Revolution and the pursuing mass migration have altered the socio-economic and spatial characteristics of cities. Pre-industrial city that Soja stated as the center of coordination, control, and administration of territorial cultures and modes of production based primarily in agriculture, mining, and other primary sector activities, as well as the systems of trade and commerce built upon these primary production complexes (Soja, 2000:77) changed significantly. Large-scale industrial production created a new kind of socio-economic structure which attracted millions of people from countryside to urban areas.

3.1.1.1 Mass Migration Challenging the Early Industrial City

New job opportunities provided by manufacturing created an urban pull and a mass migration from rural to urban became evident in the late 19th century. In Britain, for example, the population shifted from being more than 80 percent rural in 1750 to being over 80 percent urban in 1900 (Soja, 2000:77). However, urban areas were entirely unprepared for such a dramatic population increase. Living quarters of new comers started to be placed next to the factories, located at the central places and close to the main transportation connections such as railroads and seaports.

However, residential quarters of the labors were lacking of fresh air, clean water and sufficient light. People who were condemned to live in these crowded and unhealthy neighborhoods began to suffer sanitary problems. Indeed, epidemics were quite common those days, and the ones who could not afford to move out of the labor quarters had little chance to survive. Mumford named the miserable

cities of the late 19th and the early 20th century cities as "coketowns", which tend to be dark and grey as a result of smoking chimneys twenty-four hours a day (Mumford, 1961).

Due to the declining living conditions of downtown, wealthy settlers of the central city began to move to the new residential areas at the urban fringe. However, increasing health problems and pollution started to affect the wealthy segments of the society, even the ones that had moved from declined urban core to outskirts. Decreasing labor productivity began to bother the capitalists while inhuman living conditions began to worry some elites and social reformers. It was the time to search for a solution for the problems and for taking some measures.

> The discourse on urban decline actually began in the latter decades of the nineteenth century when massive urban population growth combined with industrial capitalism to create widespreading urban slums, environmental degradation, municipal corruption, and moral dangers. Numerous urban ills characterized the industrial city, and reformers with the help of local governments attacked the city's problems with the new tools of planning, public administration, and social science (Beauregard, 1993:57).

The steps that were taken against the threatening outcomes of industrialization not only transformed the existing cities, but also pioneered the modern suburban movement. Zoning was introduced as an innovative solution for the urban land-use pattern which was widely used in the US and in the UK. The first zoning ordinance in the United States was put into effect in New York City in 1916, providing regulations for building size and use within given districts (Gillham, 2002:26). Allocation of urban land into pre-determined uses, such as industrial or residential, was the fundamental aim. By implementing zoning decisions it was expected that city dwellers would live far from the toxic factories, and sanitary problems would come to an end.

In fact, regulations had their roots in the preceding urban models such as Ebenezer Howard's Garden City and the City Beautiful Movement. Howard suggested combining the positive aspects of town and country with a strict zoning in his

book of Garden Cities of Tomorrow, 1902. His planning approach was put into practice in many new developments such as Letchworth and Welwyn (UK), and Maryland (US). Different from the Garden City, City Beautiful Movement intended to improve the declining city center. The basic principles were bringing light, air and green space to the city with the help of architecture and landscape design while creating livable sites with low densities.

3.1.1.2 The Effects of Technological Improvements and the Emergence of Electric Streetcar Suburbs (1880s - 1920s)

Pre-industrial cities had been basically pedestrian, generally having a radius no more than 2-3 miles. These compact, walkable urban areas had a mixed-use pattern, while transportation connections to the remote places were realized by the railroad in general until the late 19th century.

The first important improvement in transportation was the introduction of electric streetcars in the late 1880's. By the help of this improvement, horse-drawn streetcars were replaced by faster and cheaper brand new electric trolleys. Meanwhile, construction sector experienced a technological improvement after the introduction of light wood framing.

> The electric transit lines created a vast, new territory of urbanization, tripling the size of many older, 'walking' cities. Electrified transit combined with light wood-frame construction meant that the suburbs were no longer just for the rich (Gillham, 2002:28).

It can be argued that improvements in transportation and construction facilities enabled more families to move to the outskirts. However suburbs were still dependent on the city center, in terms of working, retail and entertainment activities. Although increasing urban land succession created the first clear division between city and suburbs in social and spatial terms, suburban movement of the early 20th century remained quite naïve when compared to the postwar suburban expansion.

3.1.2 The Repercussions of the First World War (1920s - 1940s) on Urban Areas: Postwar Suburban Boom

The first remarkable suburban boom was experienced in the 1920s, after the First World War, which was an important milestone for urban decentralization. Improvements in manufacturing, particularly in automotive sector, enabled more families to own a car. Increasing private car ownership contributed to the residential mobility and supported the urban expansion. Soja defines the characteristics of the postwar boom years, emerging between 1920 and 1940 as;

> Fordist and Keynesian, metonyms for a different mode of capitalist development built on mass production, mass consumption, mass suburbanization, and widely established "social contract" drawing together big capital (symbolized by the automobile industry), large national labor unions, and big government intervention in the economy to stimulate growth and provide for expanded social welfare (hence the Keynesian label) (Soja, 2000:111).

3.1.2.1 Motor Age Suburbs

Automobile enabled a horizontal development which tended to be different from the linear development of the former track system. However, apart from being faster and more comfortable than the streetcar, automobile provided the freedom of choice of location since everywhere turned to be accessible provided that a highway was built.

However building new motorways was not the only solution for the transportation problems, since the new suburban developments were lacking public transport. In fact, such a dispersed pattern could only be realized by flexible accessibility of the automobiles while any form of mass transit would make no sense. Therefore, suburbs continued to be automobile dependent.

Radburn in Fairlawn, New Jersey can be given as a typical example of the early motor age suburbs. Urban design principles such as separate pathways for

pedestrians and cars, cul-de-sacs serving to the clusters and parking lots, were imitated by the other suburban developments that built after Radburn. Nevertheless, these suburbs were exclusively residential and still dependent on the city center.

3.1.2.2 Decentralization of Commerce, Industry and Business

No sooner had housing moved to suburbs than the commercial activities and workplaces followed the spread-out. Initially, small scale retailing, generally on local level, became available in suburbs. Then larger stores started to locate outside of the city that Gillham asserts that the first real regional shopping centers were built in the 1920s and 1930s (Gillham, 2002:38).

Meanwhile, space-demanding industries based on assembly line system, began to agglomerate in ex-urban areas with the help of improving transportation technologies. Indeed the trend had already started after the Industrial Revolution, after the 1870s, but had not become widespread until the 20s. Decentralization of industry gained an important speed with the help of increasing transportation opportunities and developing technologies, like the use of electricity instead of steam power.

As a result, urban fringe started to take a new shape by comprehensive restructuring activities due to the urban decentralization. Suburbs began to loose their bedroom characteristic since shopping centers and workplaces started to relocate in suburban areas. On the other hand, city center started to loose its attractiveness and the deserted areas of downtown occupied by the mixed-uses such as housing and small work places.

3.1.3 Restructuring of Cities after the Second World War (1950s - 1980s)

Economies of the developed countries experienced a regression due to the great depression of the 1930s and the subsequent World War. In addition to this, urban

population which had declined significantly during the war years started to increase because of the returning veterans and new marriages. It was necessary to execute some urban restructuring measures and fiscal programs in order to revive the system and provide housing for the increasing population.

> During the Great Depression and the Second World War, a second round of crisis-generated urban restructuring reshaped cityspace again. For the most tendencies that were evident in the last three decades of the nineteenth century, but the cumulative effect would produce some significant changes in the specific geography of the industrial capitalist city. Backed by the powerful alliance of big government, capital, and labor, the growth of mass production and its space-consuming assembly lines, along with the even more space-demanding rise of the once highly centralized location of factories and blue-collar workers in and around the downtown area of the central city (Soja, 2000:115).

Housing shortage was an important problem of the post-war years because construction industry was not able to respond the emerging need. Indeed, it was not possible to build new housing units fast enough for the veterans and expanding families (due to the baby boom of the post-war years) with the conventional building techniques and inadequate amount of construction materials.

The improvement in mass housing production was introduced as a kind of remedy. Plywood, drywall, prefabricated building elements, and the use of mass production techniques all combined to accelerate the way houses were built (Gillham, 2002:38) and the fastest suburban growth started in the 1950s. The rate of suburban growth exceeded that of urban. In the US, for instance, particularly 'white' families, having a private car became the distinctive features of post-war suburban movement.

Apart from residential developments, suburbanization of retailing, industry and offices gained a significant speed at the outskirts in the restructuring years. In fact, population increase, newly built highways that improved the connection between central city and suburbs, expanding market size and the amount of workforce

within the suburbs attracted the investments which resulted in an economic development at the urban fringe. Great cities of the US were the typical reflections of the emerging dispersed pattern.

> By the late 1950s, full-fledged regional shopping centers began to pop up all over the nation in response to the flood of new suburban housing. Soon, all of the shopping and entertainment opportunities once available only downtown became available in the suburbs and by the 1980s, nearly two-thirds of all retail trade in the nation took place in large shopping centers outside the center city (Gillham, 2002:39).

The main stimulus of the industrial re-location was nearly the same as the residential and commercial development: cheaper and more available land. Relatively high-rise industrial buildings congested in small plots of downtown started to relocate at the periphery. Vast lands enabled to build industrial complexes with huge parking lots, which had been impossible within the city center.

The growth of suburbs created new outlying markets that justify the birth of new firms while reducing the suburbs' reliance upon the city's firms and institutions as suppliers of goods and services, and broaden the locational options for firms (Stanback, 1991:2). Table 3.1 demonstrates that the rate of change in employment and population in USA cities and suburbs in the restructuring period, which reveals a greater employment and population increase in suburbs than in central cities in three successive decades.

Table 3. 1: Average Annual Growth Rates of Central City and Suburb Population and of Manufacturing and Retailing Employment between 1940-1970 in USA.

	1940-1950		*1950-1960*		*1960-1970*	
	City	*Suburbs*	*City*	*Suburbs*	*City*	*Suburbs*
Population	0.80	4.19	-0.21	6.78	-0.54	3.35
Employment						
Manufacturing	10.39	12.16	-1.13	5.02	-0.04	4.21
Retailing	4.74	8.40	-0.52	7.69	-1.33	7.48

Source: Stanback, 1991:9 (cited in Stanback and Knight, 1976)

On the other hand, urban decentralization and the further expansion of suburbs accelerated the decline of downtown. Furthermore, due to the flight of population, commerce and production, economy of the city center confronted with a recession. It is important to mention that the term “decline” refers to various concepts such as decrease in population, deterioration of buildings, decrease in investments or increase in crime rates. Beauregard argues that a declining city is one that has become less desirable as a place of residence and less attractive as a location for capital investment in commercial and industrial activities (Beauregard, 1993:36).

In order to cope with physical decline and revive the economic activities, urban redevelopment and renewal activities were initiated. Between 1950 and 1970, transformation activities resulted in a recovery in physical pattern and fiscal capacity of the cities to some extend. Since the suburbs continued to expand and attract the capital, it was not possible to eliminate the entire financial difficulties, declining spatial and social quality as well as declining services at the city center.

3.1.4 The Effect of Globalization: from Metropolitan Urbanism to Post-Metropolitan Urbanism

After the 1980s, changing economic and political structure started to affect the spatial organization and socio-economic pattern of urban areas. Downtown was restructured by regeneration and revitalization projects while suburbs were urbanized in a significant way. In fact, the clear distinction between city and suburbs became blurred, metropolitan areas emerged and regional urbanism came into prominence.

3.1.4.1 Urban Restructuring during the 1980s and Metropolitanization

Throughout the 1980s, urban areas experienced an important transformation by means of the rediscovery of the city and urban revival activities. Urban gentrification started to be appreciated by some elites and professionals. They initiated the trend of 'returning to the city'. In addition to this, economic considerations contributed to this movement since fuel prices increased and commuting turned to be quite expensive due to the oil crisis of the 1970s. In the mid-1980s, young couples and singles were expected to live in 'revitalized' inner-city neighborhoods, and financial firms to construct and occupy office buildings in the downtowns (Beauregard, 1993:307).

However, it is a misconception to claim that suburbanization came to an end. On the contrary, urban sprawl continued without a cessation since the 'returning to the city' movement remained restricted to particular groups such as single professionals, young couples and elites. Soja states that the 1990 US census revealed that with few exceptions, the most rapidly growing areas were in suburban rings surrounding the defining central city or cities (Soja, 2000:237). The reason of such an intensive suburbanization can be explained with the Carmona's illustration of urban push and suburban pull factors in the new speculative housing system (Table 3.2):

Table 3. 2: New Speculative housing – push and pull factors

Urban Push Factors	%	Suburban Pull Factors	%
Traffic Problems/lack of safety	39	Attractiveness of development	57
Busy crowded nature of context	23	Quiet secluded area	46
Levels of crime	20	Good environment for children	30
Poor environment for children	17	Safety from traffic	29
Lack of adequate gardens	17	Good local schools	26
Poor parking facilities	15	Green open environment	21
Lack of privacy	13	Proximity to other families	20
Noisy troublesome neighbors	12	Clean unpolluted environment	19
High levels of pollution	12	Good views of countryside	15
Street disturbances	12	Good privacy	15
Poor standard of schools	8	Secure environment from crime	10

Source: Carmona, 2003:52.

In fact, suburbs grew significantly in both economic and spatial terms that it can be named as the urbanization of suburbs. Improving telecommunication, transportation, and housing technologies together with the developing finance opportunities and political interdependence assisted the process while city and suburb constituted a metropolitan system together. Stanback explains this complex symbiotic relationship as;

> The central city heavily draws upon the suburbs for its work force yet sends a substantial number of its resident workers daily to jobs outside its boundaries, and suburbs depend heavily upon the streams of income provided by the wages and salaries of commuters (Stanback, 1991:1).

The study of Moudon and Hess constitutes a relevant example revealing the transformation of suburbs. The researchers questioned the level of urbanization of suburbs and the future of outer city developments. They examined the development pattern of Puget Sound urbanized region in Washington State (USA), including four counties since mid-90s. Research area covered 85 suburban clusters (having an average of 3200 people per cluster) most of which have mixed-use

pattern including predominantly residential and then retail uses while some of them comprising open space, office, institutional and industrial uses.

In the study, population, housing stock, land use, urban services, transportation and infrastructure pattern and demographic composition of the households were analyzed. Afterwards, they concluded that the suburban quarters in the research area were both densifying and nucleating, often in conjunction with commercial functions (Moudon and Hess, 2000:260). The outcomes also asserted that suburban development appears to be evolving in much the same way as urban areas have in the past, different from the traditional perception of suburbs having a decentralized, low-density form and single family houses. Moreover, the researchers claimed that such a densified and nucleated suburban pattern was not unique to Puget Sound, indeed the phenomenon existed in other metropolitan regions as well (Moudon and Hess, 2000:262).

In consequence, it can be argued that suburbs are quite different from the previous counterparts in the emerging system because the new order reflects a metropolitanized pattern rather than a composition of several urbanized areas. Therefore suburbs, particularly those that have already been urbanized, are likely to encounter prospective urban decline problems and possibly Carmona's over-mentioned illustration of urban push and suburban pull factors may need to be re-illustrated somehow in the following decades.

3.1.4.2 Beyond Metropolitanization

The discussions concerning urbanization have gone far beyond metropolitan urbanization, by the 21st century. Until the past decade, there has been a vsible spatial and socio-economic decomposition of urban pattern: the city and the suburban developments. However, globalization have changed the overall system while removing the borders of classical nation-states virtually and creating a volatile, flexible world in both economic and social and even in spatial terms.

> …The first involves the breakdown or deconstruction of the longstanding conceptual division between city and region, and its reconstitution as a new combinatorial form, some variant on city-region, urban-region, or more broadly regional urbanism…These city-regions are a "fundamental unit of social life", comparable to the market, the state and the family. They are also "fundamental motor process in social life" as a consequential and filled with casual power as a technology, social stratification, and rational economic behavior (Soja, 2000:179).

In the emerging system, the concepts of urban area, suburb and rural have altered since many of suburban developments exceeded central city in economic and in spatial terms. Mono-centric urban development has been replaced by the poly-centric one and it turned to be difficult to limit the urban frontier. Instead, urbanized regions are started to be defined as a network of cities, suburbs, towns and villages.

3.2 Concluding Remarks

Up to the present, urbanization and suburban development have been influenced from the political and socio-economical transformations as well as the technological improvements. At the initial phases, suburbs were mainly residential quarters which tended to be totally dependent to the city, and those living at the outskirts were high-income groups who could afford to live far from the city. Then, with the help of technological developments, it turned to be affordable for the middle income groups to live far from the city.

Moreover isolated and central city dependent characteristics of suburban developments have changed by decentralization of retailing, industry and business. Suburbs became urbanized nodes, of which community has been socially and economically self-sufficient. In the past few years, diversified economic activities, increased networking and enhanced spatial reduced the clear distinction between city and suburbs, while regional urbanism gained importance.

CHAPTER 4

LOW-RISE HOUSING DEVELOPMENT IN TURKEY WITH RESPECT TO URBANIZATION AND URBAN DECENTRALIZATION

4.1 Urbanization and Urban Decentralization in Turkey

In this chapter, the history of urbanization in Turkey will be explained in five major stages beginning from the 19th century to the current era: the Ottoman Period, the early-Republican Era, Post-War Years, the Liberal Period and the Era of Globalization. In that sense, the effects of socio-economic structure and governmental regulations on planning practice will be discussed with respect to urban transformation, decentralization, suburbanization, and housing issues.

Urban development shows different characteristics in Turkey when compared to developed countries. To begin with, Turkey experienced the whole transformation process within a relatively short period of time. Second, while urban planning emerged as a reaction to the negative outcomes of industrialization in developed countries, in the late 19th century; it was developed as an aspiration to the modern world in Turkey, and it is important to mention that Turkey's industrialization process began in the 1950s. Third, urban fringe was initially occupied by the low-income migrants in Turkey; rather than the high and middle income groups of suburban settlers of developed countries.

4.1.1 19th Century Urban Form during the Ottoman Empire

Although industrialization initiated in the late 19th century and spread first through Europe than North America, its impacts reached Turkey nearly fifty years later. Tekeli states that since the Ottoman Empire had not been industrialized, urban

planning did not emerge as a reaction to the Industrial City (Tekeli, 2001:19) but urban areas were indirectly affected from the outcomes of the transformations which had been experienced in industrialized countries.

Different from the Industrial City, of which spatial arrangement based on social class segregation, Ottoman City was formed according to cultural and religious variations of the residents such as Muslim and Greek districts. Planning actions were quite restricted in Ottoman cities, and instead of comprehensive planning decisions, partial developments were common in practice.

İstanbul, the capital, was the prominent city and the highest portion of urban population used to live in there. The city was reflecting a compact form of which core was the Historical Peninsula, yet the initial traces of urban decentralization were apparent along the Bosporus, as well. Actually the residential development along the sea shore was reflecting a dispersed pattern and serving primarily as the summer houses of high status bureaucrats.

4.1.2 Urbanization after the Proclamation of the Turkish Republic (1923 – 1950s)

After the proclamation of the Turkish Republic in 1923, a new era was commenced. It was the prior objective of the state to create a modern nation. In order to accomplish this aim, comprehensive regulations were set forth in various fields, one of which was on urbanization. Indeed, urban planning was perceived as a crucial tool to achieve a comprehensive socio-economic and spatial transformation and create a modern society.

The most significant change experienced in urban sphere was the declaration of Ankara as the capital. In fact, Ankara is an example of re-constitution of a capital city[3](Tekeli, 2000:317). Great attention was paid to the restructuring of the city

[3] As Tekeli stated that, in the 20th century, re-location of capital city was used as a political tool in many countries, such as Canberra (Australia), Brazil (Brasilia), İslamabad (Pakistan) and Ankara (Turkey).

while emphasizing the revolutionary and modern ideals of the new regime, such as strengthening of the nation-state and creating modern citizens. It can be asserted that Turkish urbanization starts with Ankara (Tankut, 2000:301).

In addition to the planning practices in Ankara, intense urban transformation activities were initiated in İstanbul and in other big cities, as well. Urban population began to rise gradually due to the increasing birth rates and migration to the cities. However, in the early days of the Republic, population growth rate remained at moderate levels, yet it was noticeable to see the first indications of prospective problems.

During the former years of the Republic, urban sprawl was not realized in prudence and planned manner considering different components of urban development such as housing, transportation, environment and infrastructure. The only attempt was making the urban planning, which was experienced previously in Ankara, an obligation for all cities with the execution of Municipal, Public Sanitation and Building and Roads Law (Belediye, Umumi Hıfzısıhha ve Yapı ve Yollar Kanunu) in 1930 (Tekeli, 2001:25).

In spite of the planning attempts, former examples of unauthorized housing began to flourish those days. However government perceived the early unauthorized developments as negligible, and no measures were taken at the former stages, the number of these unauthorized units increased dramatically. Soon after, squatter settlements invaded urban periphery which resulted in legal, spatial, sanitary and social problems.

4.1.3 Urbanization Following the Post-War Years (1950s - 1980s)

Until the Second World War years, urbanization remained relatively naïve in Turkey. The Second World War was a breaking point for the urbanization story of the country. Although not taking part in the war, Turkey was affected from its outcomes significantly. During the post-war years, economic and political

transformations overturned the whole system which had considerable repercussions on urban sphere.

4.1.3.1 Industrialization by the 1950s and the Mass Migration from Rural to Urban

Beginning from the early 1950s, urbanization gained an important speed which led to mass migration movements from rural to urban areas. Figure 4.1 demonstrates that until the 1950s, the rate of urban population increased slightly, but afterwards, it increased dramatically and the trend continued in an ascending way permanently (Figure 4.1).

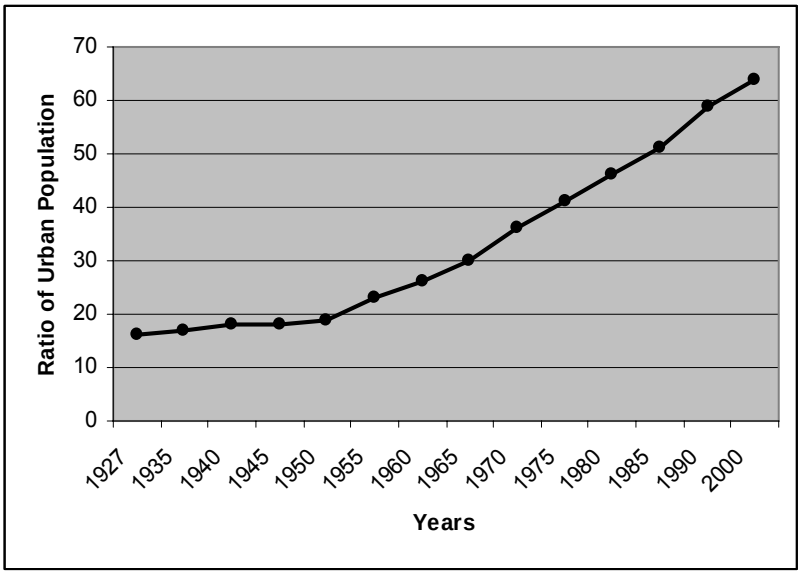


Figure 4. 1: Ratio of urban population between 1927 and 1980 in Turkey
Source: Tekeli and Güvenç, 1986:16 and SIS, http://www.die.gov.tr/nufus_sayimi /2000Nufus_Kesin.htm, last accessed: March, 2006

In fact, the process started with an important transformation which affected the agriculture sector. A rapid mechanization was realized in agriculture by means of foreign grants and loans, such as Marshall Aid. However, mechanization

disrupted the composition of factors of production and the need for labor power decreased, which resulted in an increasing unemployment in agricultural sector in rural areas.

Technological improvements influenced not only rural but also urban areas. Industrialization was initiated by the State through the implementation of fiscal programs supporting industrial investments in terms of grants and loans. Indeed, government aimed to strengthen industrial production, because it was considered as a growth engine as a result of having higher returns when compared to any other sector.

Consequently, diminishing job opportunities due to the substitution of capital for labor in agricultural sector and the new employment opportunities introduced by the thriving industry in cities resulted in the first great migration in the 1950s. Accordingly urban population increased in a significant way within a few years time, which gave the first indications of urban problems.

4.1.3.2 Urban Expansion by the 1950s and the Rising Problem: Squatter Housing (*Gecekondu*)

As mentioned before, Turkish cities followed a different urbanization and urban sprawl pattern when compared to the industrialized countries. For instance, in developed countries the first settlers moving to the urban fringe were the high income and middle income groups while leaving the downtown to the lower income groups. In Turkey, on the other hand, urban periphery was initially occupied by lower income groups who migrated from rural areas to cities. The new comers started to occupy unauthorized housing areas which were totally conflicting the planned suburban developments of the advanced countries.

The reason for such an illegal development can be addressed to the unprecedented population increase due to the rural to urban migration. The first problem was the sheltering of new comers since cities were totally unprepared for such a rapid

population increase. The number of housing could not be increased as rapidly as the population while the existing stock turned to be inadequate and expensive for meeting the requirements of them. Soon, Turkish cities were encircled by squatter settlements – named as '*gecekondu*' –.

> Government under pressure from ever increasing population failed to provide serviced land for low income groups. There just did not exist sufficient funds for this aim. The credit funds were channeled into productive sectors and whatever was allocated for housing was used by middle income groups. Government also failed to take the necessary measures to encourage private sector to share the problem. The private sector was functioning in a narrow area in the housing market producing luxurious housing for the upper income groups. The failure to provide cheap and developed land, the failure to prevent land speculation and soaring of land prices led the way to another unauthorized development on land beside the gecekondus, namely to hisseli tapu (shared deed) (Şenyapılı, 1996:52).

No sooner did the squatter housing areas invade the periphery than the urban problems emerged related to poor structural attributes as well as inadequate infrastructure and urban services. In order to overcome these troubles and discourage unauthorized housing, government put Amnesty Laws into practice in the 1960s and 1980s. Although the attempts aimed to upgrade the existing stock and prevent new *gecekondu* areas, they ended up with condoned unauthorized housing units, increased land invasion and unsolved urban problems.

Apart from illegal developments, it is important to mention that there were planned housing developments at the outskirts, as well. The authorized housing attempts can be named as the suburban developments, to some extent. However, they have some peculiar characteristics which can be mentioned as follows:

1. Cooperatives were the major housebuilders pioneering the suburban movement of middle income groups, particularly civil servants who want to live further from the declined city center but could not afford to build or purchase housing.

2. High-rise blocks were preferred as well as low-rise housing units by the housebuilders.
3. Urban sprawl was realized as an oil-spot form. Settlements were joined to each other disregarding the voids and green areas which tend to be quite important in providing air circulation and recreational facilities.

4.1.3.3 Government Interventions in terms of Laws and Financial Regulations

Government introduced a set of laws in order to meet the needs of developing cities as well as to control the uneven development on urban space. One of the most effective one was the Condominium Law (Kat Mülkiyeti Kanunu, Law No: 634) which was enacted in 1965. Due to the effects of the Law, number of stories of buildings in urban areas increased evidently and low-rise housing stock has been replaced by high-rise apartments within a few years time. This transformation has been realized mainly by small scale housebuilders named as '*yapsatçı*', in Turkey.

The financial source of the housing acquisition was individual equity in general. Apart from some finance providing institutions such as Emlakbank, SSK, Bağ-Kur and Oyak, it is hard to claim that there was a developed and functioning housing finance system in Turkey. Between 1963 and 1981, the share of all housing credit institutions remained 8%-17% in total private housing investment in all cities (Türel, 1986:56). Eventually after the crisis in the housing sector which was experienced in the early 80s, former state owned funding systems were abolished gradually and the Mass Housing Fund, which replaced the former funds, was introduced in 1984.

The other transformative intervention affecting the land use pattern and urban densities was the execution of the *Gecekondu* Law (Law No: 775) in 1966. The aims were upgrading the existing unauthorized housing areas or clearing them when upgrading is not possible and preventing the prospective squatter

developments by creating *Gecekondu* Prevention Areas. It was for the first time that *gecekondu* was recognized as a potential. Different from the latter Amnesty Laws, *Gecekondu* Law did not turn squatter housing into a speculative venture.

4.1.3.4 Concluding Remarks on Urban Development in Turkey in the 1950 – 1980 period and a Comparison of Turkey with the Industrialized Countries

The whole transformation activity and socio-economic changes have had a great impact on urban pattern, particularly on urban densities. In addition to the population increase, building densities and number of stories increased due to the superseding of low-rise housing units by the apartments. Table 4.1 shows the gradual increase of the share of apartments in total number of authorized housing during 1970-1980 period.

Table 4. 1: The change in the number of authorized housing units from 1970 to 1980.

Years	Low-rise Housing	Apartment	Total	Change in Housing Prod. (%)	Share of Low-rise Hous. (%)	Share of Apartment (%)
1970	51731	103984	155715	-	33,22	66,78
1971	55974	94383	150357	-3,44	37,23	62,77
1972	56054	105889	161943	7,71	34,61	65,39
1973	59597	135354	194951	20,38	30,57	69,43
1974	51142	109905	161047	-17,39	31,76	68,24
1975	55454	126231	181685	12,81	30,52	69,48
1976	57175	167405	224580	23,61	25,46	74,54
1977	52863	163265	216128	-3,76	24,46	75,54
1978	66640	170457	237097	9,7	28,11	71,89
1979	70275	181571	251846	6,22	27,9	72,1
1980	56435	147554	203989	-19,01	27,67	72,33

Source: Tekeli, 1982:95

On the other hand, centrally located neighborhoods were transformed mainly by the small scale house builders, namely *yapsatçı*, since the large scale housing

projects were still accepted as inefficient and unaffordable because of the low capacity of construction market. Tekeli states that between 1975 and 1980, *yapsatçı* house builders produced 47.000 units among the 80.000 authorized housing, while housing cooperatives supplied 11.200 units and mass housing firms-cooperative associations built only 1.000 units (Tekeli, 1982:89).

Apart from these, in terms of urban planning practices, legitimacy, house builders and the socio-economic composition of the occupants, Turkey was unable to catch up with the ongoing trends in the western world. Between the 1950s and the 1970s, industrialized countries were experiencing a comprehensive suburbanization and decentralization of retailing and industry. It was mainly a welfare period since the outer city was witnessing a development while downtown was re-explored and revived by restructuring activities.

On the other hand Turkey, as a newly industrializing country, just started to confront with the problematic outcomes of the industrialization and the subsequent mass migration, within the same period. Authorities failed to foresee different aspects of prospective problems and they intervene in the process only by putting some laws into effect. Indeed, due to the lack of monitoring systems, these laws could not be implemented in a regular way and remained inefficient to respond to the needs of urban areas. Moreover, Türel asserts that government was ineffective in establishing a sustainable and well functioning housing finance system which led to three important consequences in housing provision:

> First, for most moderate-to-middle income people home ownership could only be achieved through non-profit forms of provision. Second, speculative housebuilders have developed peculiar ways of producing and marketing housing in order to meet their own operating capital requirements and to bring convenient conditions of payment to house-buyers. Third, low income people do not have much chances of being home owners in an authorized housing stock. Since social rental housing does not exist as an alternative tenure, unauthorized housebuilding continues alongside authorized provision of housing (Türel, 1982:2).

As a result, in spite of some regulatory attempts, rapid industrialization, mass migration and financial constraints resulted in a dualistic urban form in Turkish cities after the 1950s: a declining urban core and a predominantly illegally occupied periphery. Urban sprawl as an oil-spot form, expansion of *gecekondu* areas, and new high-rise developments doubled urban problems since existing urban services, infrastructure and transportation facilities turned to be inadequate to meet the requirements of residential areas.

4.1.4 Housing Policies Affecting the Urban Fringe after the 1980s

After the mid-70s, world experienced a severe economic crisis due to the sharp increase in oil prices. The repercussions of the worldwide crisis affected Turkey soon, and economy went into stagnation. Housing was one of those industries being hit by the crisis in a devastating way. Both demand and supply sides badly affected from the economic situation while housing starts fell sharply in the 1980-81 period, following a peak in 1979 (Türel,1994:203).

4.1.4.1 Housing Sector Crisis in the early 1980s

The increase in oil prices created a chain effect and inflation rates increased extremely. Housing sector went into crisis because of the rising inflation rates, but despite the immoderate increase in inflation, bank interest rates remained almost the same (Figure 4.2). As a result, the institutions that were providing housing finance at fixed rates started to make severe losses.

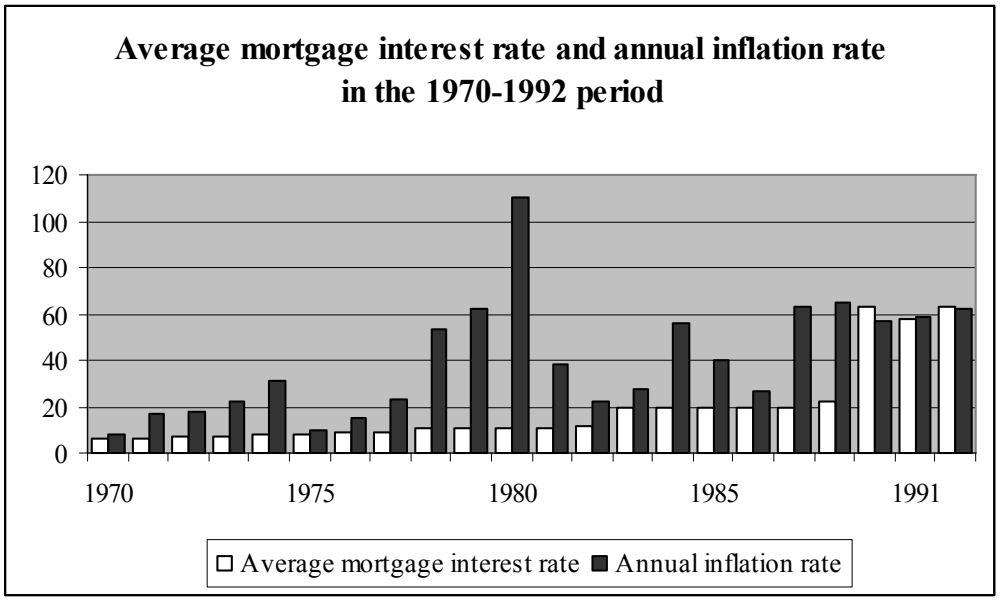


Figure 4. 2: Average mortgage interest rate and annual inflation rate between 1970-1992

Source: Türel, 1994:202

The stabilization program, which was introduced on 24 January 1980, worsened the situation since the decrease in real wages brought forth a decline in housing demand. Thus, housing starts ceased at the beginning of the 80s and many housebuilders, particularly the small capital ones, went into bankruptcy.

It was unavoidable for the state to intervene in the process in order to overcome the crisis and revive the housing sector. Türel asserts that the intervention was in the form of creating a new finance system under the direct control of the government (Türel, 1994:205). Two major mass housing acts were introduced subsequently while the funds of former state-owned institutions were transferred to the newly introduced mass housing fund.

4.1.4.2 Execution of the Mass Housing Acts and the Boom of Housing Cooperatives after mid-80s

The first attempt was enactment of the 1st Mass Housing Law (Law No: 2487) by the Military Government in 1981. According to the law, Ministry of Reconstruction and Resettlement was employed with developing publicly owned land and providing credit to housebuilders and purchasers. The act necessitated a minimum of 200 housing units for planned areas and a minimum of 15 hectares and 750-1000 housing units for unplanned areas to be determined as a mass housing area (Altaban, 1996:33,34). Cooperatives obtained finance with regard to this law, but unfortunately the system did not work properly because of regional funds not being transferred to the national budget.

As a result, a subsequent law, namely the 2nd Mass Housing Law (Law No: 2985) was enacted in 1984, after the election of the new liberal government. A 'Mass Housing Fund' was created as the main financial source and supplementary taxes were introduced as supplementary financial sources for housing credits. According to this law, the minimum area should be one housing block within the planned boundaries and should cover a minimum of population requiring an elementary school beyond the planned area. Different from the first one, second act enabled credits not only for cooperatives but also for individuals and producers of construction materials. Furthermore, unlike the previous law, there was no ceiling limit for the floor area of the dwelling for credit eligibility. Therefore, thousands of individuals and cooperatives applied on the mass housing fund and the number of new housing starts boosted, in a short period of time.

It can be named as the boom period of housing cooperatives (Table 4.2) since the number of cooperatives founded per year increased from 140 to 2787 after 1984. Indeed, the housing cooperatives pioneered the suburbanization by implementing mass housing projects at the urban fringe. According to the study[4] of Berkman

[4] Berkman and Osmay's study was based on a survey comprising 434 housing cooperatives in 58 cities, and it was conducted in 1992 with the support of Housing Development Administration of Turkey (Toplu Konut İdaresi)

and Osmay half of their locational choice for housing estate construction was in developing urban areas (Table 4.3) while nearly twenty percent of them were located beyond the municipal boundaries (Table 4.4).

Table 4. 2: Distribution of Housing Cooperatives According to Years

Years	Number of Housing Coop. Founded	Number of Housing Coop. that get Construction Permit	Number of Housing Coop. that get Occupation Permit
Before 1984	6010 (21%)	6328 (32%)	3724 (46%)
1984-1989	17475 (62%)	12042 (61%)	3727 (46%)
1990-1991	4822 (17%)	1474 (7%)	709 (9%)
Total*	28307 (100%)	19844	8160

* Since the foundation years of 24.3% of cooperatives are not known, these are not represented in both before 1984 period and the grand total

Source: Berkman and Osmay, 1996:4 (Ministry of Industry and Commerce, State Institute of Statistics)

Table 4. 3: Location of the Cooperative Plot

Location	Number of Cooperatives	%
1. Close to the City Center	102	24,1
2. In Developed Housing Areas	74	17,5
3. In Newly Developing Areas	212	50,0
4. Other	15	3,5
5. 1+2	11	2,6
6. 1+3	10	2,4
Total	424	100,0

Source: Berkman and Osmay, 1996:49

Table 4. 4: Location of the Cooperative Plot with regard to Administrative Boundaries

Location with regard to the adm. boundaries	Number of Cooperatives	%
1. Within the Municipal Boundaries	306	82.9
2. Within the Adjacent Area to Munic. Bound.	43	11,7
3. Beyond the Contigous Boundaries	13	3,5
4. Within the Village Boundaries	7	1,9
Total	369	100,0

Source: Berkman and Osmay, 1996:49

Although the housing cooperatives played important roles in the process, the transition in the form of mass housing developments was realized by the participation of various stake holders that Özüekren and Yirmibeşoğlu defined as cooperatives, Housing Development Administration, local governments with the assistance of Housing Development Administration, private developers and the housebuilding firm of Emlak Bank (Özüekren and Yirmibeşoğlu, 2002:97). It was an important step to take city boundaries further since the sites for the new residential developments were chosen among the areas from further locations which tend to serve suitable and cheap land for the producers.

Nevertheless, unstable character of Turkish economy prevented the system to be sustainable. Mass Housing Fund was abolished because it became impossible to compensate the credits with fixed rates in the volatile economy with high inflation rates. Moreover, the number of accepted credit applications was more than the capacity of the system.

As a result, some house builders went into bankruptcy while many others were not able to finish the projects which they had already started. Although some measures were taken on the basis of constraining the criteria of eligibility for the credit, system could not recover itself as 30 to 50 per cent of its income was transferred to the National Budget between 1989-1991 (Türel, 1989:153).

4.1.4.3 Introduction of the Amnesty Law and Its repercussions on Urban Land

The other important government intervention affecting the urban form and housing development during the same period was the Building Amnesty Law[5] (Law No: 2981), which was enacted in 1984. Different from the previous amnesty acts which had aimed to legalize the existing *gecekondu* buildings and prevent the new ones, 2981 aimed restructuring through urban redevelopment projects. It was purposed to create larger plots by conjoining the small parcels and building apartments on these plots in place of the *gecekondu* units.

However, such a transformation resulted in greater problems. Low-rise *gecekondu* areas were replaced by apartments and residential densities increased. Accordingly, urban services and infrastructure that had already been inadequate, could not respond to the needs of redeveloped areas. Moreover, populist policies increased land speculation, and provided unearned rent for *gecekondu* owners that were able to have more than one dwelling in newly built apartments instead of their shanties.

4.1.4.4 Review of Urbanization throughout the 1980s

Consequently, 80s was a transformation period in housing development with regard to the means of provision, house builder and household characteristics. Interventionist attempts of the Liberal Government, socio-economic restructuring, internal and external dynamics had considerable repercussions on urban space.

First, from the regulatory point of view, Mass Housing Law and Building Amnesty Law had crucial impacts on urban areas since the former was effectual in the legal housing development while the latter was influential in unauthorized housing development. Indeed, Mass Housing Law enabled large scale housing

[5] Although the full name of the Law is "İmar ve Gecekondu Mevzuatına Aykırı Yapılara Uygulanacak Bazı İşlemler ve 6785 Sayılı İmar Kanunun Bir Maddesinin Değiştirilmesi Hakkında Kanun", it is abbreviated as the "Building Amnesty Law".

projects at the outskirts while the Building Amnesty Law gave way to the transformation of squatter housing into apartments. However, new developments were not planned in a reasonable way generally, that many quarters were lacking urban services and suffering from inadequate infrastructure facilities. Moreover, these settlements were using the existing resources and opportunities which created a heavy burden on the existing system.

Second, when compared to the suburban areas of developed countries, urban fringe developed in a different way in Turkey since it covered both high-rise apartments and low-rise houses together. In fact, at the end of the 80s, cities were reflecting a densely packed pattern with a central city that was surrounded by high-rise blocks and the further expansion of unauthorized housing areas.

Third, housebuilder and household groups changed in the 80s in a considerable way. Although small capital speculative housebuilders had constituted the dominant group in the pre-80s, the share of cooperatives in housing provision increased significantly after the mid-80s, which were quite active at the urban fringe. In the meantime, outskirts experienced a transformation in terms of the major household type, since high-income and middle-income households started to move to the new housing estates at the outskirts. Urban periphery was not under the domination of squatter settlements and low-income groups anymore.

4.1.5 The Effect of Liberal Policies and the Former Transition Period on Urban Sphere after the 1990s

After the 1990s, globalization, started to be influential on urban space. With the new era, regulatory and interventionist roles of the State weakened, particularly in the economic arena. Being affected from the transformation, Turkish economy gained a neo-liberal, foreign oriented character and privatization came into prominance.

4.1.5.1 The Rise of the Private Sector

The new system encouraged private sector to participate in every kind of investments, including housing. Indeed, throughout the 1990s, housing production (both houses and apartments) was dominated by the private sector. Building construction statistics demonstrates that the number of newly built apartments was more than the number of houses (Figure 4.3) and apartments were quite favorable for private house builders as well as for individuals and enterprises (Figure 4.4).

On the other hand, construction cooperatives tended to supply two times more new low-rise housing units than apartments from 1993 to 2000 (Figure 4.5). Although public sector contribution to housing sector has never achieved a sufficient level, its share remained close to 0% in recent years. The significant dominance of private sector can be explained by both the fiscal and political deficiencies of the state as well as the effects of globalization.

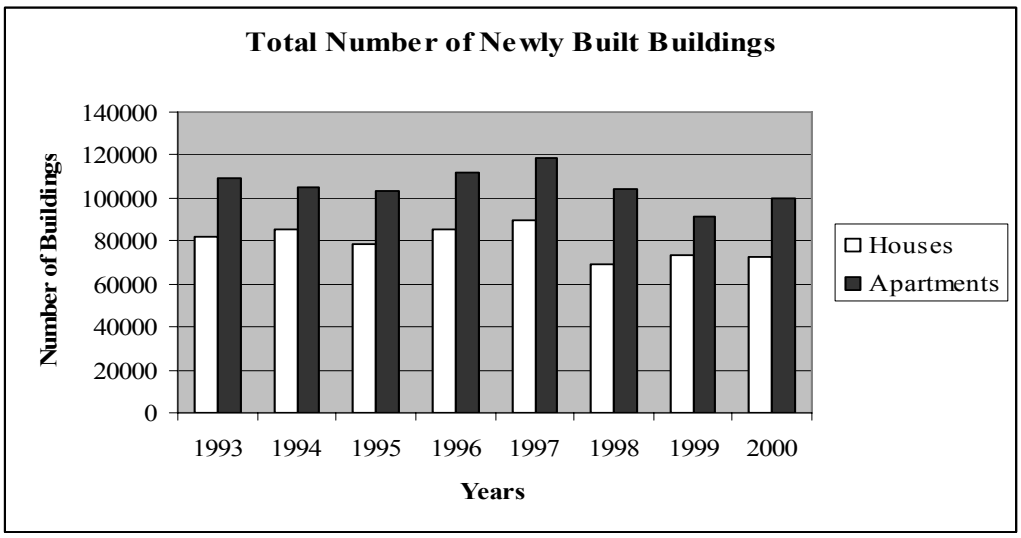


Figure 4. 3: Total number of completed or partially completed new buildings and extensions

Source: SIS, http://www.die.gov.tr/IstTablolar/17in226t.xls, last accessed: March, 2006

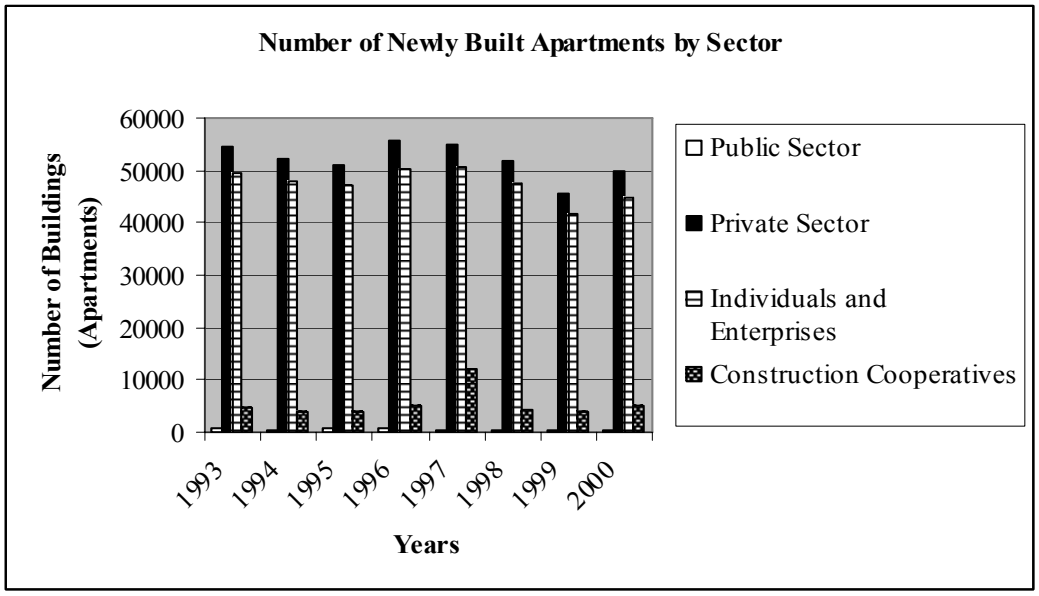


Figure 4. 4: Total number of completed or partially completed new apartments by sector

Source: SIS, http://www.die.gov.tr/IstTablolar/17in224t.xls, last accessed: March, 2006

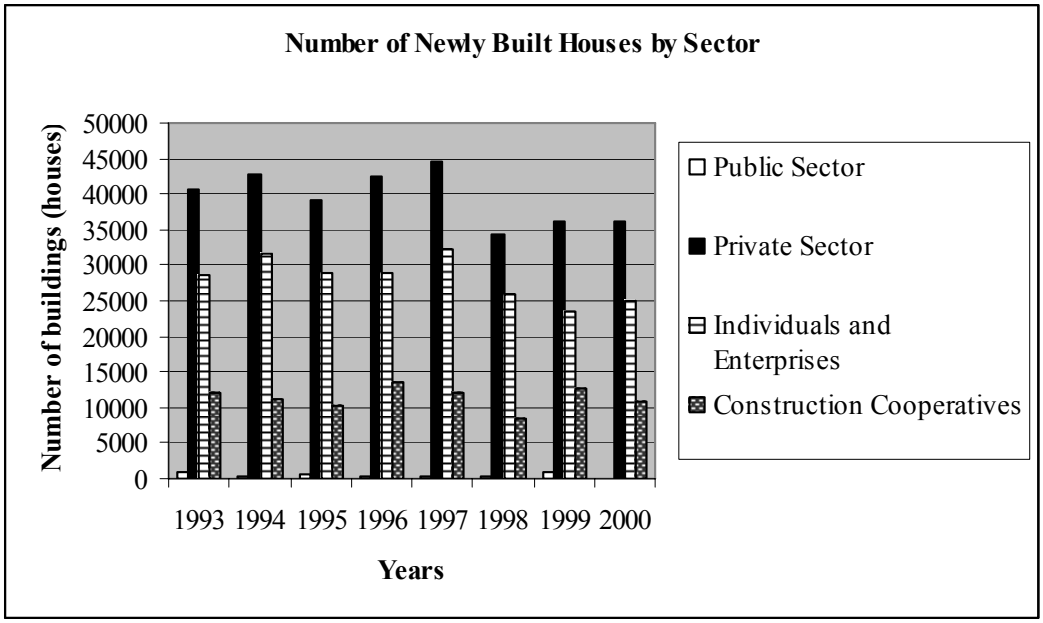


Figure 4. 5: Completed or partially completed new houses by sector

Source: SIS, http://www.die.gov.tr/IstTablolar/17in224t.xls, last accessed: March, 2006

Apart from the housing, comprehensive transformations were experienced in other sectors. For instance, transformation in socio-economic and cultural spheres in addition to increasing telecommunication opportunities, improving information technologies and the shift from industrial production to service sector, led to a global restructuring on urban space while functional and social fragmentation has sharpened in urban areas.

4.1.5.2 The Rise of Gated Communities

After the 1990s, spatial segregation increased. In residential areas, the concept of '*site*'[6] has pioneered this segregation. *Sites* have been quite common in new development areas at the outskirts, and some of them were built within the city. These residential areas covered either low-rise housing units or apartments or both of them. The ones covering only the low-rise housing units were organized like the post war suburban settlements of North American cities and generally occupied by the high income and the middle income groups.

'*Gated communities*', the isolated luxurious residential areas of the wealthiest groups, have been the ultimate form of *site* concept. In Ankara there are many examples such as Çamlık Sitesi, Beysukent and Angora Evleri. According to Baycan Levent and Gülümser, due to the lack of available land size, price and construction permit, these developments emerged in suburbs or around metropolitan boundaries of İstanbul (Baycan Levent and Gülümser, 2004:11) such as Kemer Country and Alkent 2000; while some of them were located in the prestigious districts of the city, in smaller plots such as Polat Tower Residence and Akmerkez Residence.

> The social and spatial polarization that is transforming contemporary İstanbul is a familiar story with familiar physical images. The urban elites who are benefiting from the project of global modernization are responding to the rising levels of chaos and disorder (represented by

[6] "*Site"* is a Turkish word, implying the cluster of housing units and/or apartments while some of them includes shopping centers, recreational and sports complexes but primarily serving as residential.

> squatter settlements) by moving out of the city to the luxury housing projects that are being developed on its edges…In the new peripheral estates, the idea of public space is being abandoned. There is nothing of the creative disorder (Sennet 1970) of urban life –no street culture, no complexity, no strange, chance encounters – just an exclusive and excluding order for those who want to escape the real city (Sandercock, 1998:177).

Therefore, gated communities have not only created a spatial segregation but also an isolation of high-income groups and the re-establishment of public space and private space paradox.

4.1.5.3 Current Problems Confronting the Urban Areas

After the 1990s problems related to inadequacy of affordable housing, prevalence of unauthorized housing, low quality of urban environment and traffic congestion came into prominence. The mismatch of 'need' and 'housing type' became evident while housebuilders have not considered low income groups usually. Although there have been many alternatives in luxurious housing stock, the options for affordable housing remained quite limited. Today, in many cities such as İstanbul, Konya, Trabzon, and Adana there is an important amount of unauthorized housing and these cities suffer from the lack of authorized housing supply (Çanga, 2002:53).

Nowadays, there is a comprehensive ongoing construction activity throughout the big cities of Turkey and individuals are encouraged to use long term housing credits with low interest rates in order to own a dwelling. The process contributes to the further expansion of urban areas. However, it is questionable that the system would be a remedy to the over-mentioned problems and provide adequate and qualified housing for different groups since prices and rents are increasing gradually and the ones who are likely to be negatively affected from this trend seems to be the low income groups.

4.1.6 The Composition of Housing Supply in Turkey by the end of the 1990s with regard to Building Attributes, Occupancy and House Builder Characteristics

In order to figure out the current situation of housing supply in Turkey, it is important to present some facts about the existing stock. The recent Building Census, 2000 of the State Institute of Statistics (SIS) provides a useful data for these analyses. The census covers the boundaries of 3212 municipalities and the adjacent area to the municipal boundaries, and includes data such as the use of buildings, owner of buildings, stories of buildings, etc.

4.1.6.1 Housing Production in the last Decade

To begin with, the number of urban population increased more in urban areas than the total population increase in 1990-2000 period. Today, nearly 65% of population live in urban areas in Turkey (Table 4.5). Meanwhile, total number of residential and mostly residential buildings as well as the number of dwellings increased in a significant way in 1984-2000 period (Table 4.6).

Table 4. 5: Population change in Turkey in the 1990-2000 period

	Population in 1990	**Population in 2000**	**% of Population Increase in 1990-2000 period (per year)**
Turkey	56473035	67803927	20%
Turkey-Urban	33656275	44006274	30%
% of Urban Population	59%	65%	

Source: SIS, http://www.die.gov.tr/nufus_sayimi/2000Nufus_Kesin1.htm, last accessed: April, 2006.

Table 4. 6: The increase in the number of residential and mostly residential buildings, and the dwelling units in Turkey

Years	The number of resident. and mostly residential buildings	% Change	The number of dwelling units within the municipality boundaries	% Change
1984	3.841.609	75%	7.096.277	77%
2000	6.735.813		16.235.830	

Source: SIS, 2001: 7,8

However, it is important to mention that construction sector was affected from the crises which hit the overall economy in 1994 and in 2001. In those years, GDP growth fell sharply (Figure 4.6 and Figure 4.7). The impacts of these crises on housing sector can be observed in the fluctuations in housing production (Figure 4.8). Gradual decline in residential housing production which started in 1994 reached at the bottom level in 2002. Then, as a result of government interventions the housing production started to increase and a recovery period commenced.

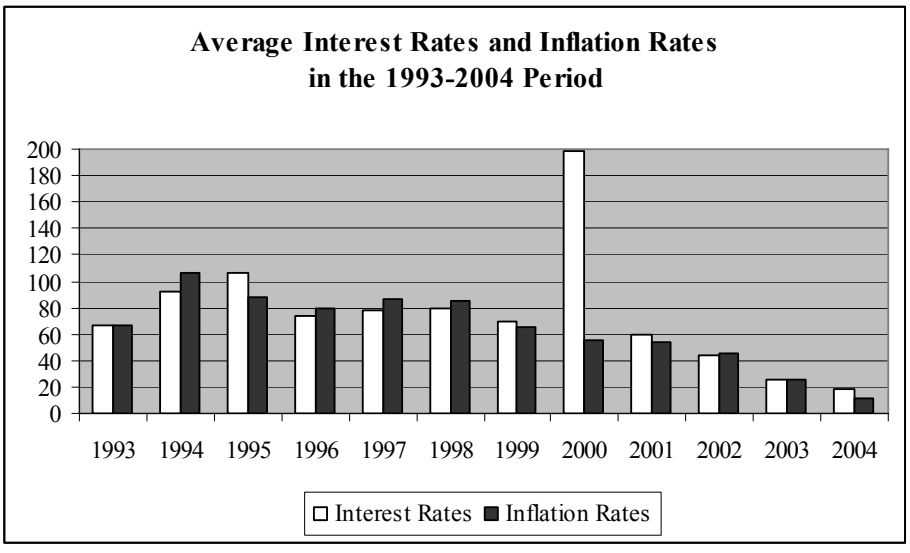


Figure 4. 6: Average interest rates, CPI (%) and inflation rates (%) in the 1993-2004 period

Source: Türkiye'de Dünya Bankası, 2005:2

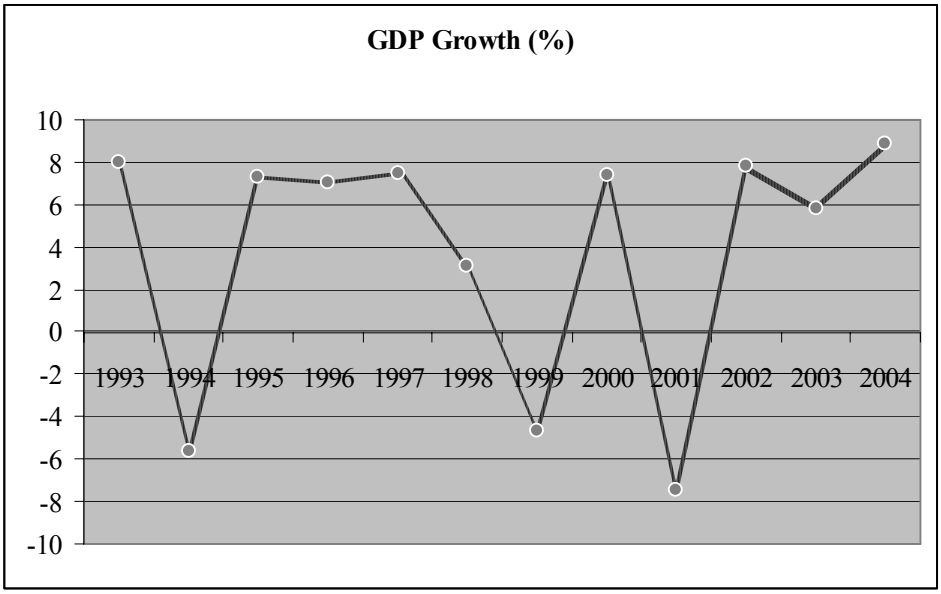


Figure 4. 7: GDP growth (%)

Source: Türkiye'de Dünya Bankası, 1993-2004, 2005:2

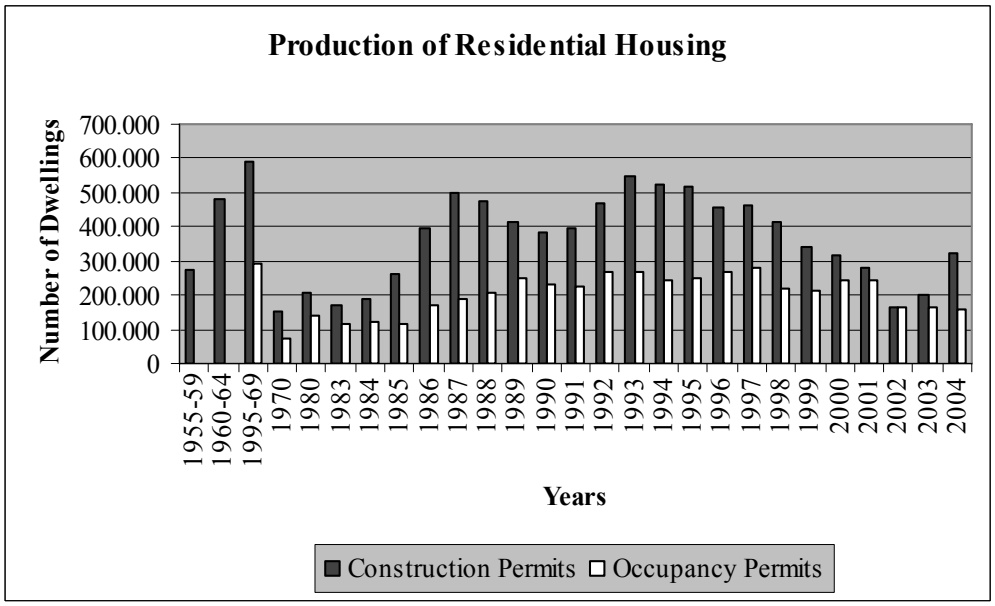


Figure 4. 8: Production of residential housing according to the construction and occupancy permits

Source: DPT, http://ekutup.dpt.gov.tr/ekonomi/gosterge/tr/1950-04/esg.htm, last accessed: May, 2006

4.1.6.2 Household Attributes

Building census, 2000 reveals that today nearly half of the urban population lives in apartments, built as a single block (Figure 4.9), and the number of households living in apartments are more than those living in single houses. However, it is a misconception to claim that there are more apartments than single houses by considering the number of households, since a single apartment includes more than one dwelling and the number of households increases with the number of dwellings as well.

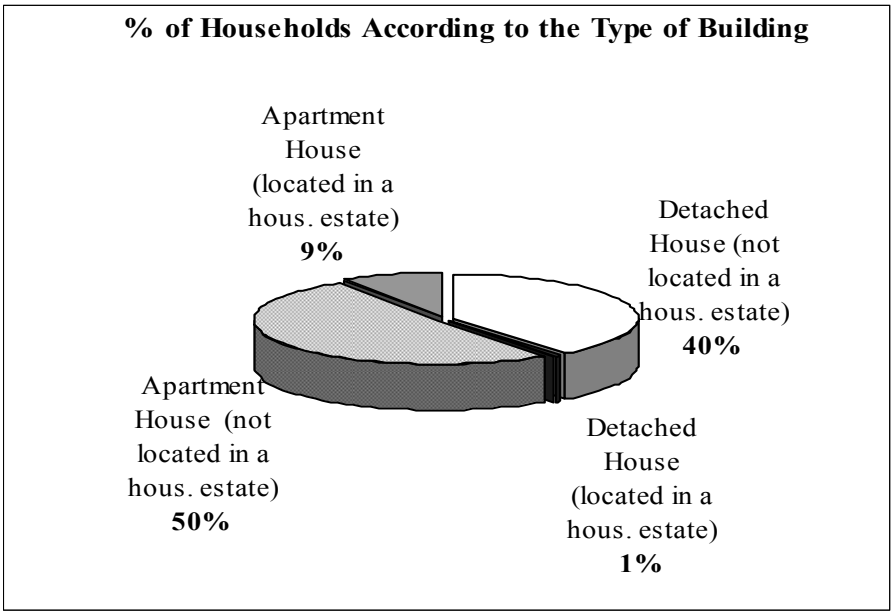


Figure 4. 9: Number of households by type of the building including the dwelling unit (Turkey-Urban)

Source: SIS, 2004:71

Housing survey also reveals that ownership is more prevalent than tenancy in Turkey (Figure 4.10). When the method of construction is examined, it is seen that approximately one third of the stock was built by the owner of the plot by

himself[7] or by hiring construction workers. Hiring a contractor in return to a flat and hiring a subcontractor are also favorable in house building while the share of public sector remains quite low (Figure 4.11)

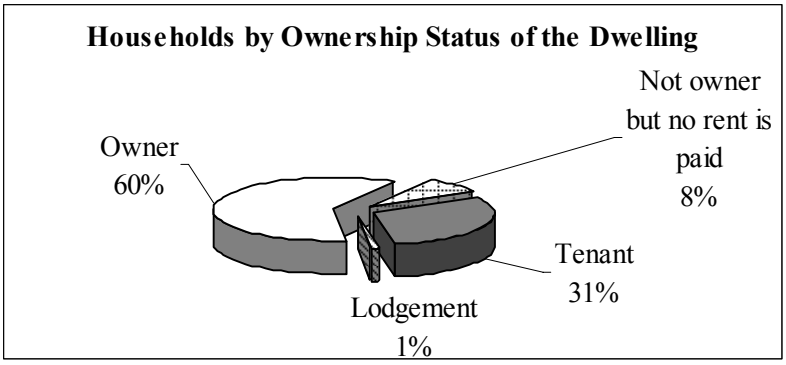


Figure 4. 10: % of Households by ownership status of dwelling (Turkey- Urban)
Source: SIS, 2004:118

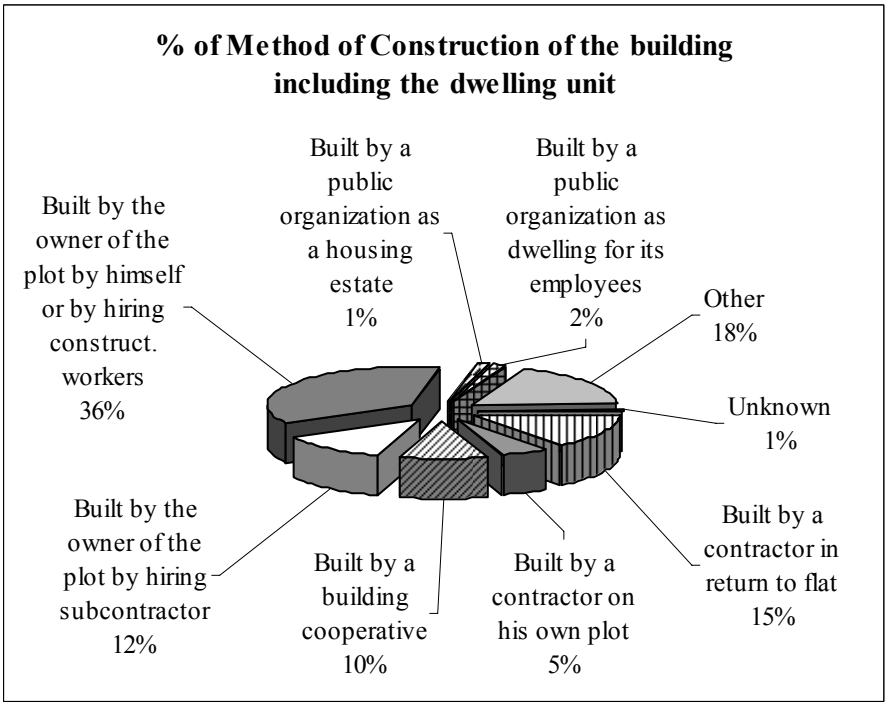


Figure 4. 11: Method of construction of the building (Turkey-Urban)
Source: SIS, 2004:95

[7] This ratio covers households in authorized stock as well as *gecekondu* owners.

Another significant outcome is that nearly 70% of the households living in urban areas are not satisfied with their dwelling units (Figure 4.12) and most of them would prefer to live in a detached house[8] (Figure 4.13). Such a preference can be a clue for prospective urban development pattern and it is expected that if people have possibility and financial opportunity to change their residence, they would likely to move to a single house since they perceive low-rise houses more livable than apartments.

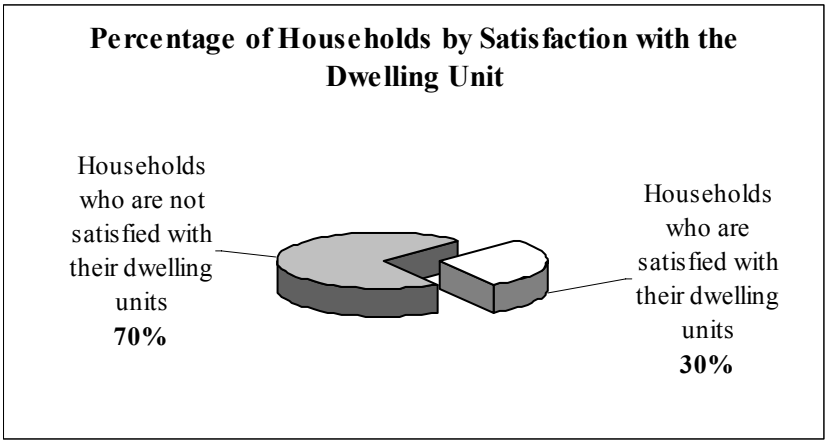


Figure 4. 12: Percentage of households by satisfaction with their dwelling unit (Turkey-Urban).

Source: SIS, 2004:151

[8] Here, detached house refers to low-rise housing unit owned/rented by a single household.

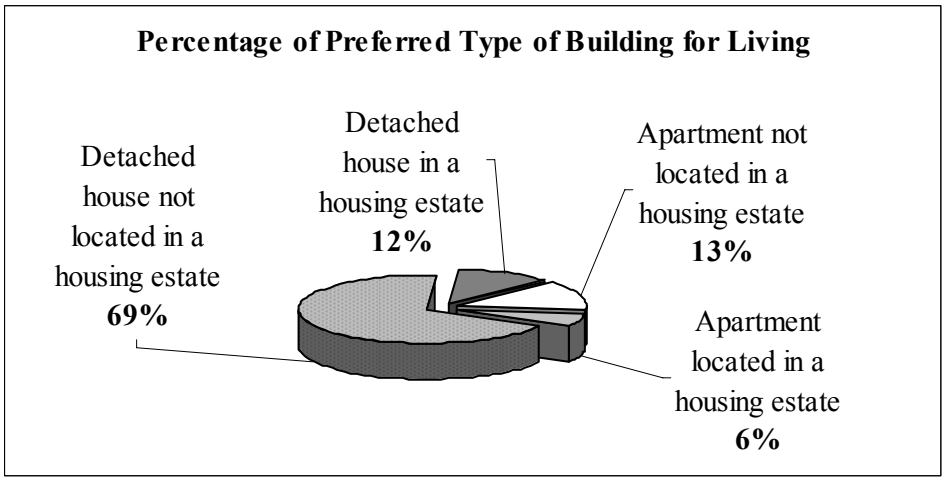


Figure 4. 13: Percentage of preferred type of building for living for those who are not satisfied with their dwelling units (Turkey-Urban).

Source: SIS, 2004:151

Finally, car ownership increased particularly during the 1990s. Statistics reveal that the number of motor vehicles increased in the last decade, since the total number of motor vehicles reached to 10.733.073 in 2005 with a 135% increase in 1992-2005 period. The increase in the number of automobiles has been more significant which was counted as 5.624.046 in 2005 with a 158% increase in the same period (Figure 4.14).

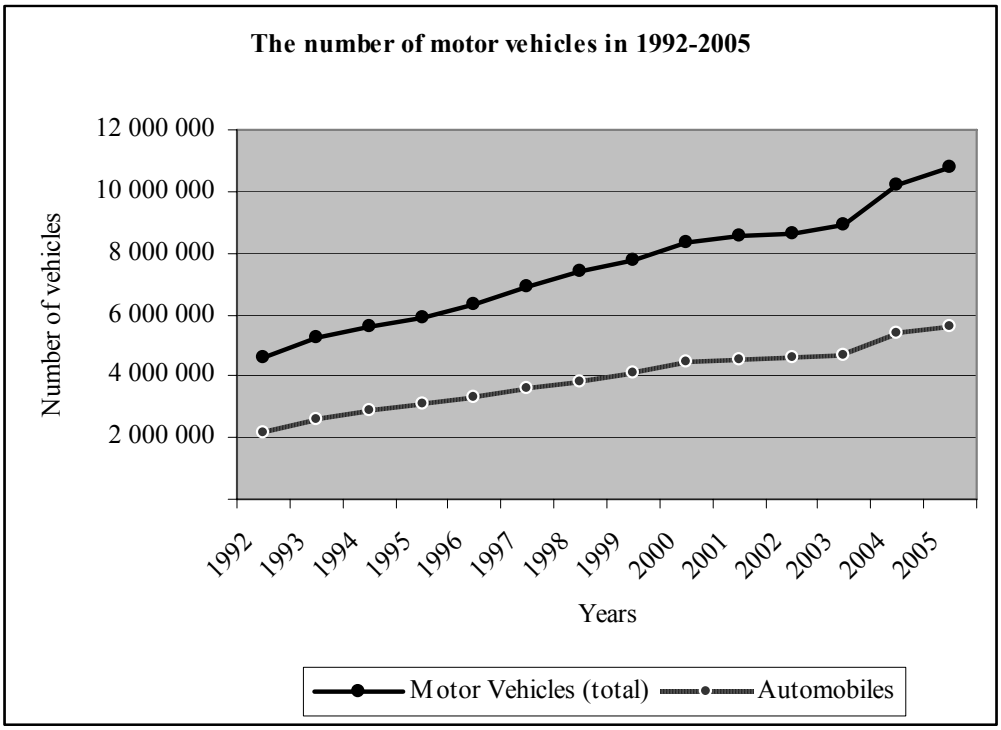


Figure 4. 14: The number of motor vehicles and automobiles in Turkey between 1992-2005.

Source: SIS, http://www.die.gov.tr/TURKISH/SONIST/TASIT/t3_191005.xls, last accessed: April, 2006

4.2 Concluding Remarks

To sum up, urbanization is highly connected with the political interventions and the economic conjuncture in Turkey. Due to the urban pull and rural push factors, as well as industrialization, population increased in cities greatly beginning from the 1950s. Such an unprecedented population movement from rural to urban areas created various problems, such as unauthorized housing, inefficient urban services, congestion and increasing urban densities. Housing finance has always been a problem since a well functioning system could not be established over time, which drove low-income groups to occupy the illegally developed stock.

Government put some laws into effect, in order to control the ad-hoc developments and to overcome unauthorized housing problem. However, these

attempts have not been resolute and consistent; indeed many of them served the populist policies. Urban densities increased gradually in urban areas while squatter housing developments occupied the urban fringe. Landowners and *gecekondu* owners made considerable profits out of the process (that can be explained by unearned rent); since the landowners benefited from increasing land rents while *gecekondu* owners benefited from the Amnesty Laws which turned their illegally developed housing units into legal status.

The problem of inadequate housing supply for the low income and the middle income groups intended to be solved by the enactment of Mass Housing Laws. With regard to these laws, housing cooperatives and some big firms initiated large scale projects at the outskirts where the land rents are lower and more available when compared to the urban core. However, it is important to mention that small scale house builders, namely *yapsatçı*, who work in relatively smaller plots within the city that were acquired from the landowners in return to flat, have dominated the house building industry at all time. The share of housing cooperatives and large firms increased particularly after the 1980s to some extend, but never exceeded that of small scale house builders.

The trend of low-rise suburban developments with spacious gardens is a new concept for Turkey. In recent years, some private firms and housing cooperatives initiated housing projects covering luxurious houses addressing especially to the high income groups. However, these residences tend to be unaffordable for the majority.

To sum up, housebuilders have preferred to produce not only low-rise houses but also high-rise blocks at the outskirts, for years. But the urban densities in such areas tend to be relatively lower, and the urban services and environmental qualities are relatively higher than the centrally located neighborhoods. Due to such advantages, many households moved to urban periphery especially in the last decade.

CHAPTER 5

LOW-RISE HOUSING DEVELOPMENT IN ANKARA

5.1 Urban Development in Ankara

Ankara followed more or less the same path with Turkey's urbanization story since the development of the city was affected from political and socio-economical transformations over time. In the following part, urban planning experiences in Ankara will be explained in five major subsequent phases: The Early Republican Period, the Period of Jansen Plan, the Period of Yücel-Uybadin Plan, the Period of Ankara Metropolitan Plan Bureau and the Period of the Greater Ankara Municipality.

5.1.1 The Early Republican Period (1923-1932)

After the proclamation of the Turkish Republic in 1923, Ankara was declared as the capital. This was a major watershed for the future of the city in many terms since Ankara was conceived not only as an official capital but also as the reflection of the desired modern community. New capital provided new job opportunities especially in public sector due to the foundation of governmental institutions, such as the ministries, and eventually such a transformation resulted in the first migration movements from rural areas and other cities to Ankara.

Until the 1930s, city was planned partially. In order to eliminate the housing shortage and provide a new image for the city, a development plan was submitted for Sıhhiye district in 1925. However, such a small scale pace was not effectual enough to meet the needs of new comers and to create a modern capital for the new Republic.

Thus, the idea of preparing a comprehensive plan started to be favored. For that reason, a restricted planning competition was arranged in 1927 and among the participants – Jausseley, Brix and Jansen – the plan of Herman Jansen (a German planner) was selected as the plan of Ankara, in 1928. The plan was approved in 1932, after making some modifications on the original one.

5.1.2 The Period of Jansen Plan (1932-1957)

Jansen Plan was compatible with the desire of the young republic to create a modern city and a modern urban lifestyle. German planner proposed an ecological, low-density Master Plan considering 300.000 inhabitants for the projected 50 years (Figure 5.1).

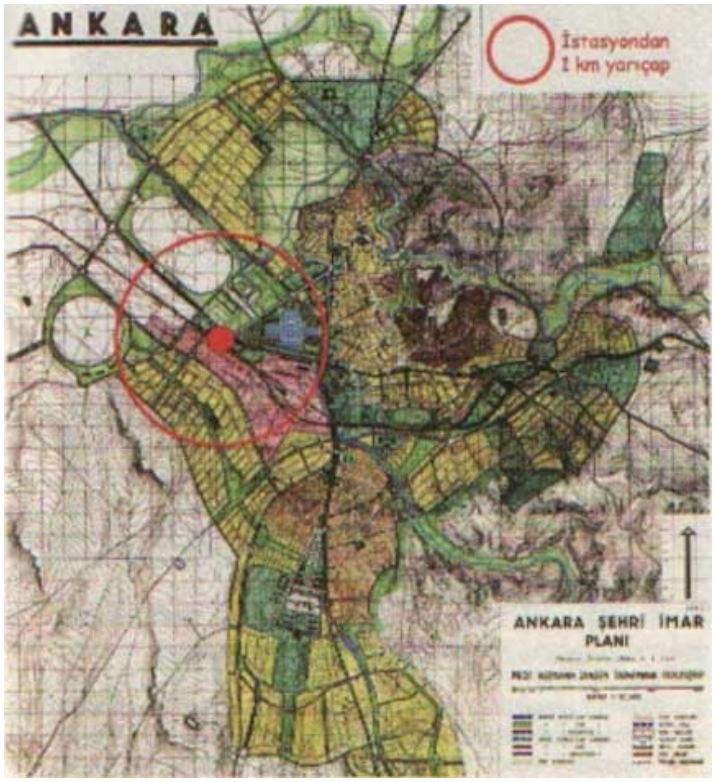


Figure 5. 1 : Jansen Plan
Source: Günay, 2005:73

Jansen Plan was reflecting a conservationist approach respecting the original peculiarities of the historical pattern and emphasizing landscape features. But unfortunately, the plan failed to respond to the unexpected growth of the city; and revisions were made in the following years, inevitably. Indeed, urban population exceeded what had been projected for the fifty years in just twenty years time, while the unexpected growth resulted in land speculation. In addition to this, unauthorized housing flourished, particularly in the northern part of Ulus (the historical center of the city).

> The cause of population increase was the mass rural to urban migration movement of the 40s. Nevertheless, there was neither organized industry agglomeration nor widespread small scale production to employ the settlers while the only place to employ this unskilled-inexperienced labor power was the city center. Therefore the new comers were shoved to the nearest places to city center that were not allowed settling because of having a slope over 25%, being a flood basin or prone to the land slide. (Şenyapılı, 1996:2)

In order to meet the housing need of increasing population, some attempts were made in the authorized housing supply, as well. The concept of housing cooperatives was introduced and the first example, Bahçelievler Housing Cooperative, was founded in 1935. Low-rise, low-density residential development suggested a prototype of highly qualified urban environment for a defined number of inhabitants (Figure 5.2). However, unanticipated population increase put a significant stress on urban land and it turned to be unfavorable to duplicate the Bahçelievler example in different parts of the city. Indeed, Bahçelievler itself could not withstand the increasing rent pressure. Housing cooperatives which acquired land around Bahçelievler carried out partial implementation plans which led to increase in the residential densities (Tekeli and İlkin, 1984:109) and the low-density, low-rise layout could not be sustained.

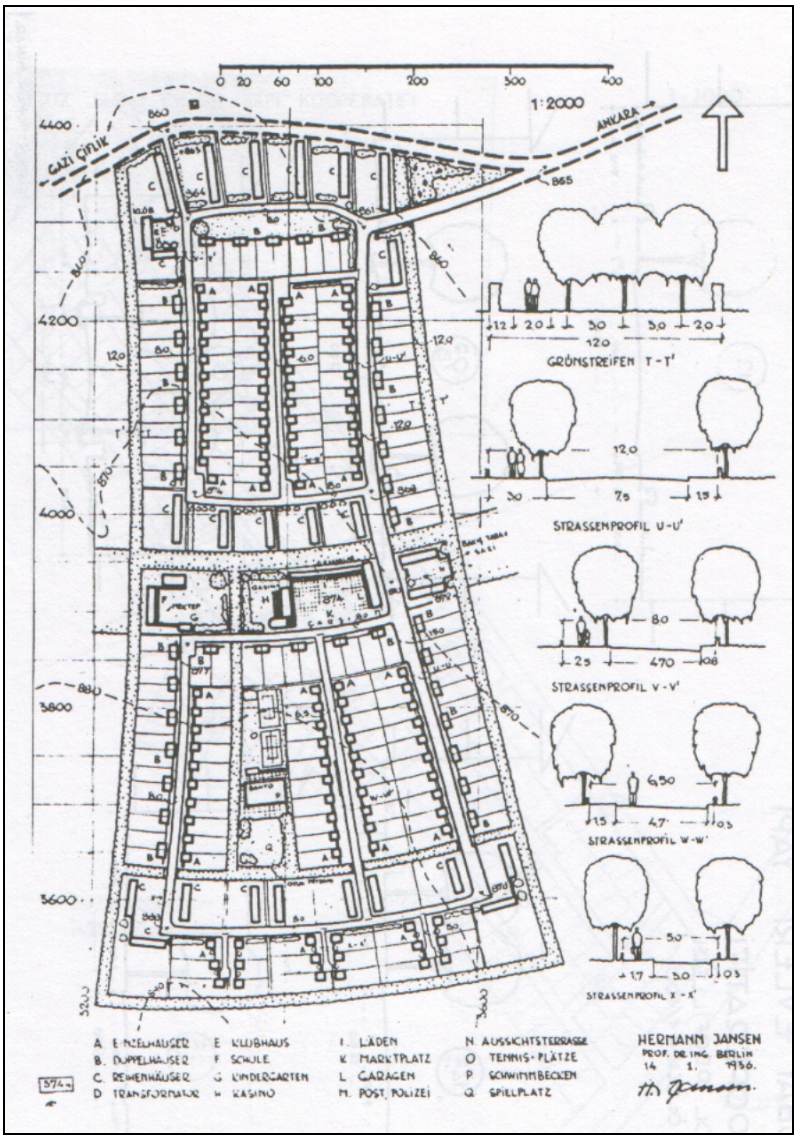


Figure 5. 2: Ankara Bahçelievler Housing Cooperative by Herman Jansen, 1936
Source: Cengizkan, 2001:260

Consequently, individual house building and housing cooperatives failed to respond to the need, and *gecekondu* areas became widespread which were occupied by the households who could not afford the existing stock. Housing shortage in authorized supply and unimpeded unauthorized housing prompted the government to take some measures. In that sense, the laws coded 5218[9] and

[9] Law No. 5218: The Law about Giving Ankara Municipality the Authorization of Conveyancing and Allocation of Certain Parts of Its Land and Parcel to the House Builders with Determined

5228[10], were put into effect in 1948. Parcel allocation with respect to the 5228 that was practiced first in Yenimahalle, then in Etlik. However these implementations just legalized the existing unauthorized stock, and triggered the eventual urban problems.

5.1.3 The Period of Yücel-Uybadin Plan (1957-1969)

Predictions of Jansen had already been digressed by the 1940s and it turned to be inefficient to execute the plan decisions any longer. Therefore, another planning competition was organized in 1955 and the plan of Nihat Yücel and Raşit Uybadin was awarded with the first prize (Figure 5.3). The plan was defined within the municipal boundaries considering a single city center and 750 thousand inhabitants living within the boundaries.

Bademli states that "the plan had born dead, in a sense" (Bademli, 1986:107) because projected population for the year 2000 exceeded the limit of 750 thousand soon before 1965 and the presumption of development within the boundaries triggered increasing densities and accordingly land values.

> The plan had initially suggested a low-density, balanced urban development especially in the northern part of the city, (100 inhabitants/ha for Keçiören, 250 inhabitants/ha for Etlik, 160 inhabitants/ha for Aydınlıkevler) and relatively higher densities in southern part of the city (300-450 inhabitants/ha for Esat, Çankaya, Ayrancı, Cebeci, etc.) (Cengizkan, 2001:238).

In fact, pre-determined densities were exceeded in a few years time due to the population increase as a result of rural to urban migration. The city was surrendered to the ad-hoc, speculative developments and expanded gecekondu areas (Figure 5.4).

Conditions not Depending on The Law No. 2490 (Ankara Belediyesine Arsa ve Arazisinden Belli Bir Kısmını Mesken Yapacaklara 2490 Sayılı Kanun Hükümlerine Bağlı Olmaksızın ve Muayyen Şartlarla Tahsis ve Temlik Yetkisi Verilmesi Hakkında Kanun)

[10] Law No. 5228: Encouragement of Building Costruction Law (Bina Yapımını Teşvik Kanunu)

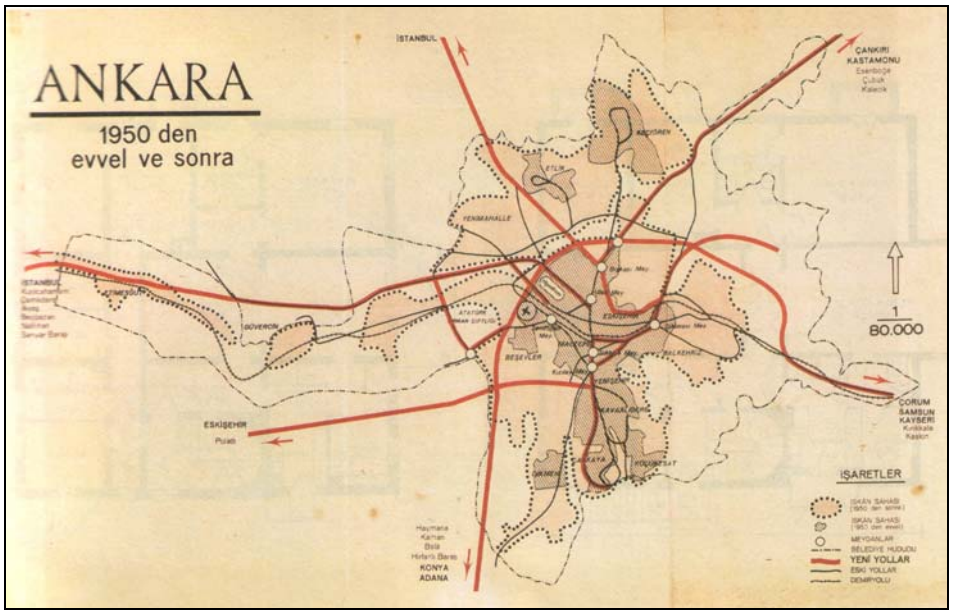


Figure 5. 3: Uybadin-Yücel Plan, 1957 (urban development before and after 1950)

Source: Cengizkan, 2001:255

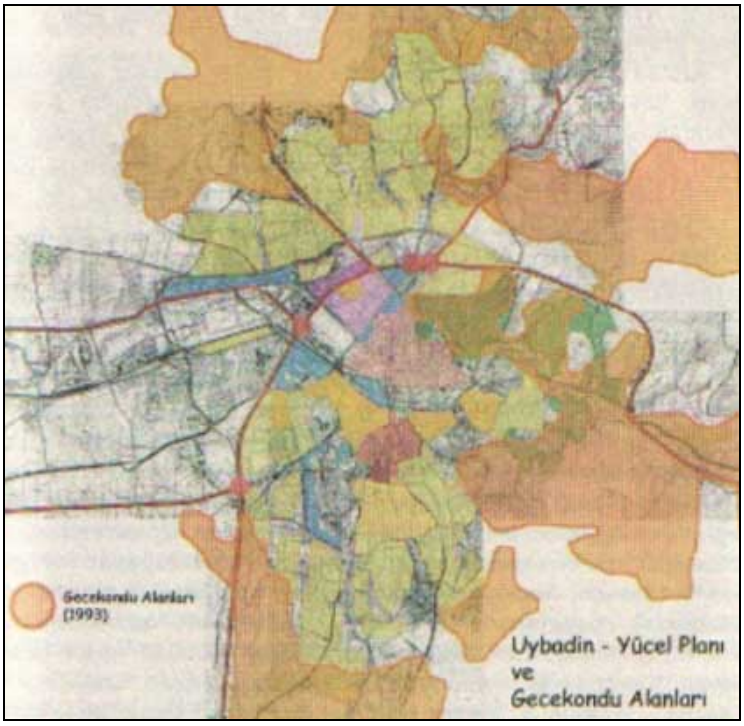


Figure 5. 4: Uybadin-Yücel Planı and gecekondu areas

Source: Günay, 2005:89

Particularly after the Second World War, in the period of economic stagnation, building a low-rise housing on a single parcel became unaffordable because of the increasing land values. The Municipality aimed to compensate rising land values with increasing densities. It is important to mention that the enactment of Condominium Act (Law No. 634) in 1965 assisted the process which led to the increase in number of stories through the 'demolition-reconstruction' process.

Supplier composition shifted from individual housebuilding to small capital housebuilders who are called as '*yap-satçı*'. The brand new housebuilder type pioneered the process by demolishing the single, low-rise houses and building apartments instead of them. As a result of increasing densities and land values both speculative small capital housebuilders, namely '*yap-satçı*', and the landowners made ultimate profits during those years.

Drawbacks of the Yücel-Uybadin Plan were recognized soon after, since the city was subject to increasing urban problems like inefficient urban services, air pollution and unauthorized housing. Moreover, the city experienced a significant land speculation within the boundaries of planned areas as a result of demolition-reconstruction process and an uncontrolled urban expansion beyond the boundaries as a result of the 'Partial Urban Physical Development Plans' (Mevzi İmar Planı). According to the statistics, the total urban area which had been 1.500 ha in 1924, increased to 16.000ha in 1938 and 31.000ha in 1970 (Şenyapılı, 1996:2) which means that urban area expanded nearly 20 times in a 46 years time.

A Low-rise Housing Practice: Kavacık Subayevleri

There were some appreciable housing attempts in the 1950s. 'Kavacık Subayevleri Kooperatifi' (1950) is an important example reflecting the livable and affordable housing approach of the period. It was a low-density residential area comprising 1 or 2 storied houses with quite spacious front and back yards (Figure 5.5) which were addressing to the families with moderate income levels (particularly the civil servants).

Figure 5. 5: The pattern of 'Kavacık Subayevleri District' in 1/5000 Plan which was prepared with regard to the aerial photographs of 1970.

Source: Cengizkan, 2001:254

However, transformations on urban space, increasing population and land rent pressure soon affected the residential district and eventually the area was defeated by the land speculation in the following decades. Cengizkan remarks that dissolution of the pattern had started with the foundation of the district. As early as 1957, single storey houses asked for the permission of construction of another storey to the Municipality (Cengizkan, 2001:245). Demolition and reconstruction process accelerated after the 1980s, and today the residential composition of

Kavacık Subayevleri is quite different than that of the early days, both in physical qualities and socio-economic profile of the residents.

5.1.3.1 The Consequences of Yücel-Uybadin Plan

Urban densities increased both at the city center and at the urban fringe. While the low-rise housing stock was swept away within the city, some parts of the fringe were substantially occupied by squatter housing. In order to control the uneven development – particularly outer city developments –, it was essential to make a new plan. Ankara Metropolitan Plan Bureau, which was founded in 1969, under the Ministry of Public Works and Settlement, committed with the duty and proposed a master plan considering physical development pattern as well as social and economic aspects for the projected twenty years, after comprehensive analyses.

5.1.4 The Period of Ankara Metropolitan Plan Bureau (1969-1984)

'Ankara Metropolitan Plan Bureau (AMPB)'[11] introduced a Master Plan that was prepared as a structure plan at 1/50.000 scale (Figure 5.6) following a five-year long analyses, and the plan was approved in 1982. Bureau proposed a framework with a new approach considering the participation of different actors such as the local government, governmental institutions and universities.

The plan, named as '*Ankara 1990 Metropolitan Plan*', was emphasizing development along the western axis in order to relieve the high-density development within the boundaries of Yücel-Uybadin Plan. New policies paved the way of urban decentralization and enabled the city to expand beyond the traditional topographic thresholds. Developments along western axis were realized with regard to the plan and new neighborhoods were suggested such as Sincan, Fatih, Batıkent, Eryaman around the İstanbul Highway on the north-western part; and Çayyolu, Koru Sitesi, Konutkent along the Eskişehir Highway.

[11] Ankara Metropolitan Plan Bureau (AMPB): Ankara Metropoliten Alan Nazım İmar Plan Bürosu (AMANPB)

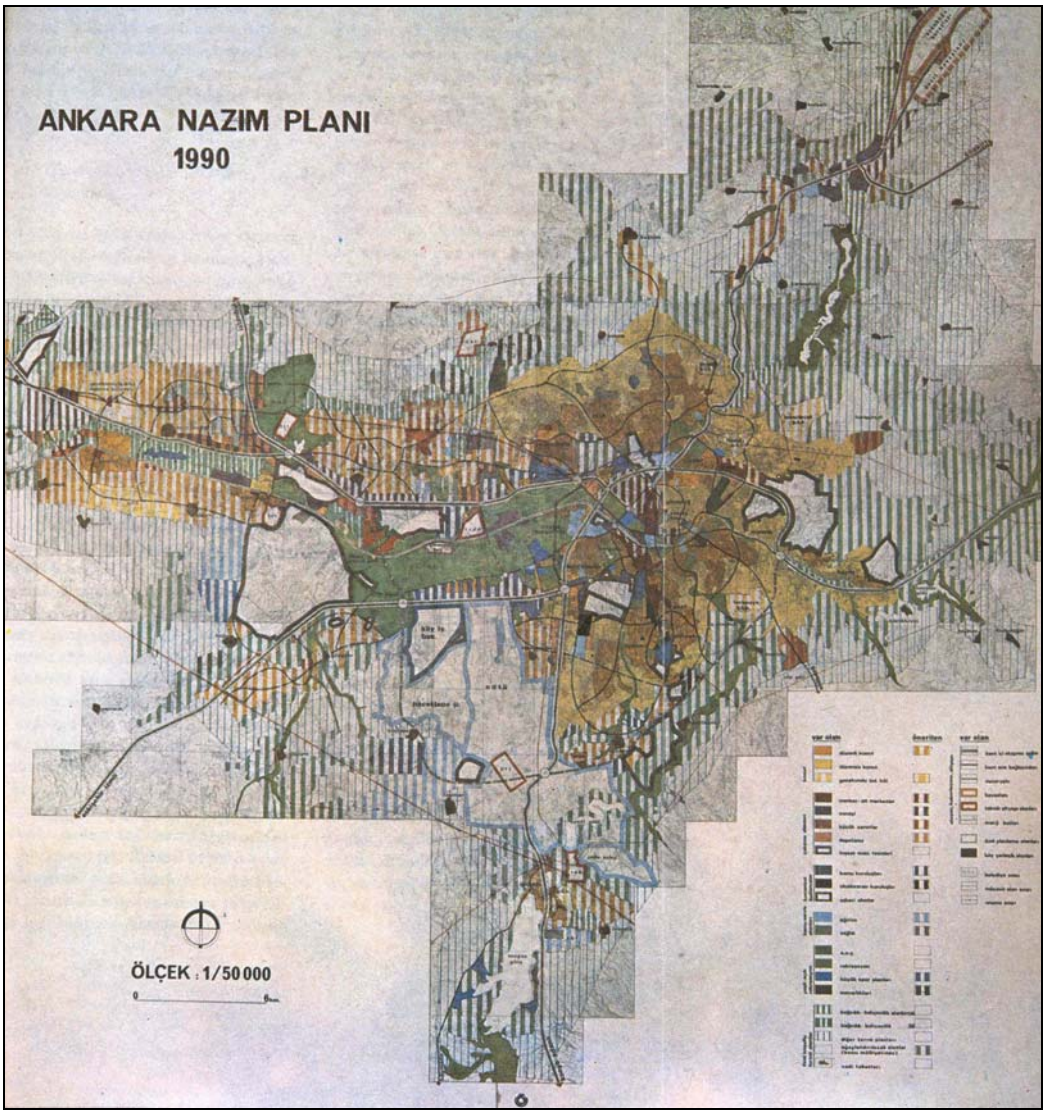


Figure 5. 6: Ankara Nazım Plan 1990
Source: Bademli, 1986:111

5.1.4.1 Mass Housing Developments during the 1970s

Mass housing developments came into prominence after the 1970s which enabled the city to expand in a planned way with the implementation of large-scale projects, considering open spaces and green areas. Urban decentralization gained a new momentum by mass housing projects while new developments located 10-15 km away from the urban core. It was an alternative development undertaken by

non-profit housing cooperatives or private corporations operating at the urban fringe in general to the speculative small-scale house-building operating at the centrally located neighborhoods. Batıkent, Eryaman and Or-An are the well known examples of mass housing developments, which were initiated in the 1970s, the former two by non-profit housing cooperatives, while the latter by a private corporation.

Batıkent Project

The most significant mass housing development of that period was Batıkent project. The initial aim of the project was to provide low-cost housing in a well planned and controlled way. Preparations started in the first half of the 70s and expropriation of the area was completed in 1978 (Birgül and Şahin 1984:83). 'Kent-Koop'[12] undertook the project management together with the participation of the Municipality of Ankara, and Batıkent Coordination Office was established in that sense between these bodies.

Project area was located at 13 km away from the city, covering 1035 hectares for an anticipated 250.000 inhabitants (Figure 5.7). Both low-rise houses and high-rise apartments were considered within the project with different density levels. For instance, densities were determined as 120-150 inhabitants/ha for 1 or 2 storey housing districts, while densities were as high as 530 inhabitants/ha and 695 inhabitants/ha in other parts (Birgül and Şahin 1984:93,94).

After the expropriations some corrections were made on cadastral maps and the Urban Physical Development Plans at 1/5000 scales were revised by the Municipality Planning Unit, during 1979. Afterwards, Urban Physical Development Plans at a scale of 1/1000 were approved and infrastructure projects were prepared. Finally, land was allocated to the cooperative unions. The first land allocation was made on 07.06.1981 (Aras, 1996:120).

[12] Kent-Koop is the first Housing Cooperative Association of Turkey, which was founded in 1979.

Although the project emerged in mid-70s, total implementation period continued approximately eighteen years because of the conflicts among the project management authorities, judicial issues and some technical problems such as invalid and out of date cadastral maps. In spite of all inconveniencies, Batıkent can be appreciated as a foresighted large scale project since it assisted the decentralization of residential areas towards the north-western corridor in a planned and controlled way, and the plan covered low-rise housing units as well as high rise blocks.

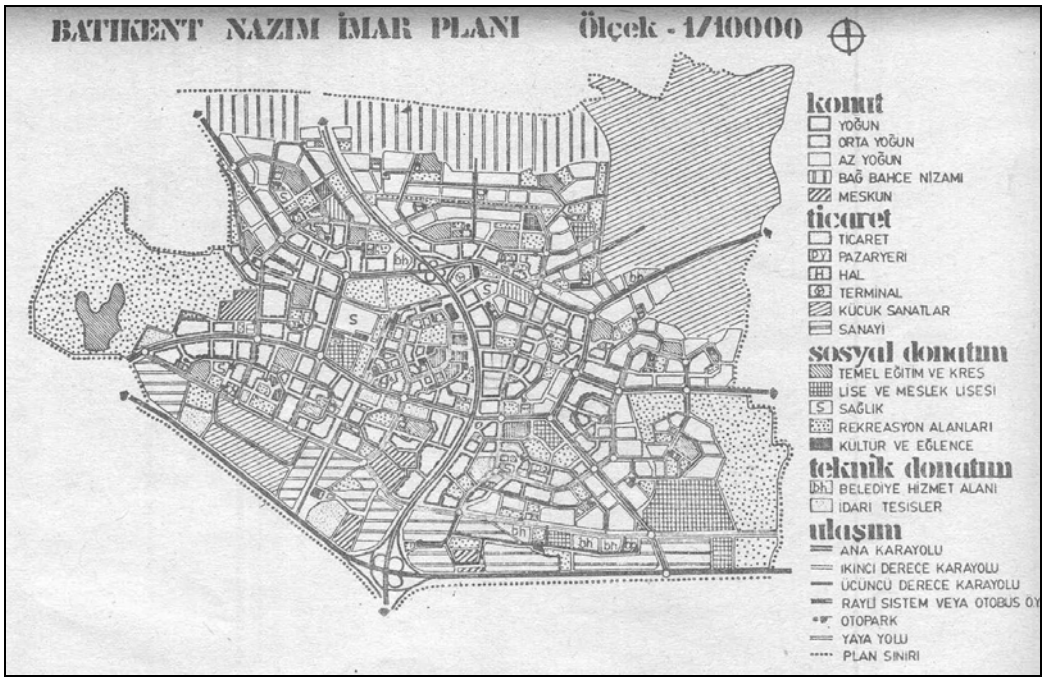


Figure 5. 7: Batıkent Plan
Source: Birgül and Şahin, 1984:107

Figure 5. 8: Aerial view of Batıkent
Source: Türkkonut, 2005:17

It is important to mention the differences of Batıkent in terms of developer characteristics, type of housing units and locational attributes from the suburban developments of western countries: Batıkent developed as an initiative of a non-profit housing cooperative, the project covers low-rise housing units and apartments together and the area is located at a moderate distance from the city center. In fact, due to the urban sprawl, the area has integrated with the city in recent years. Therefore, today Batıkent is an inner city district rather than an outer city suburban development.

Eryaman Project

Eryaman is another housing project which was located at the outskirts. The project was initiated by the 'Housing Development Administration'[13] (HDA), with regard to an Act introduced in 1979. Apart from the Treasure Lands, spacious expropriations were realized by the 'General Directorate of Land Office' (Arsa Ofisi Genel Müdürlüğü) in 1979, in an area of approximately 1100 hectares,

[13] Housing Development Administration-HDA (Toplu Konut İdaresi-TOKİ): HDA is a governmental institution which was founded in 1984 under the directorate of Prime Ministry. The aim of HDA is providing adequate shelter for all, in a livable environment.

nearly 22 km away from the city center which was tendered to 20 contractors in 1987 by HDA (Altaban, 1996:74).

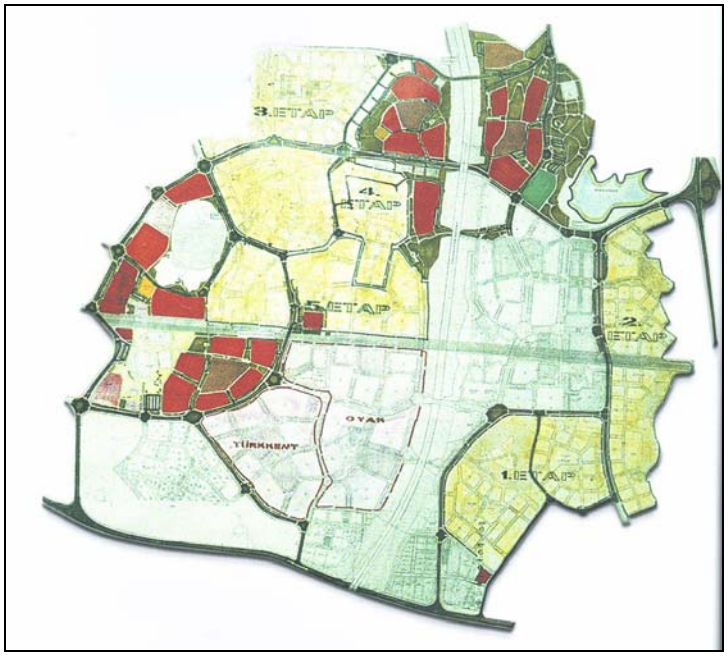


Figure 5. 9: Plan of Eryaman Mass Housing Area
Source: Türkkonut 2005:32

Eryaman project has many similarities with Batıkent project. First, it was a governmental initiative which was started in the late 1970s. Second, the project area was located at the north-west of the city, and third, the area covered both high-rise blocks (Figure 5.10) and low-rise housing units. Moreover, both of the projects made a great contribution to the development of north-western corridor while providing low-cost housing particularly to the middle income households by means of Housing Cooperatives. Construction process continued during 80s and 90s, and some construction activities are still going on today in the 6th, 7th, 8th and the 9th stages.

Figure 5. 10: Aerial view of Eryaman
Source: Türkkonut, http://www.turkkonut.com.tr/projeler.asp, last accessed: January 2006

Or-An Project

Apart from the housing cooperatives, construction firms initiated mass housing projects during the 70s. "Or-An" project is the most significant one, which was carried out by Orta Anadolu İnşaat A.Ş. The incorporation was comprised of engineers, architects and other professionals whose aim was to create a modern district by using scientific knowledge and modern technology. Project (nearly 110 ha) was located beyond the planned area on the southern part of the city, comprising about 7.000 housing units and 30.000 residents. Moreover, it was intended to strengthen the southern axis (Figure 5.11) and accordingly emphasize the southern districts in Çankaya.

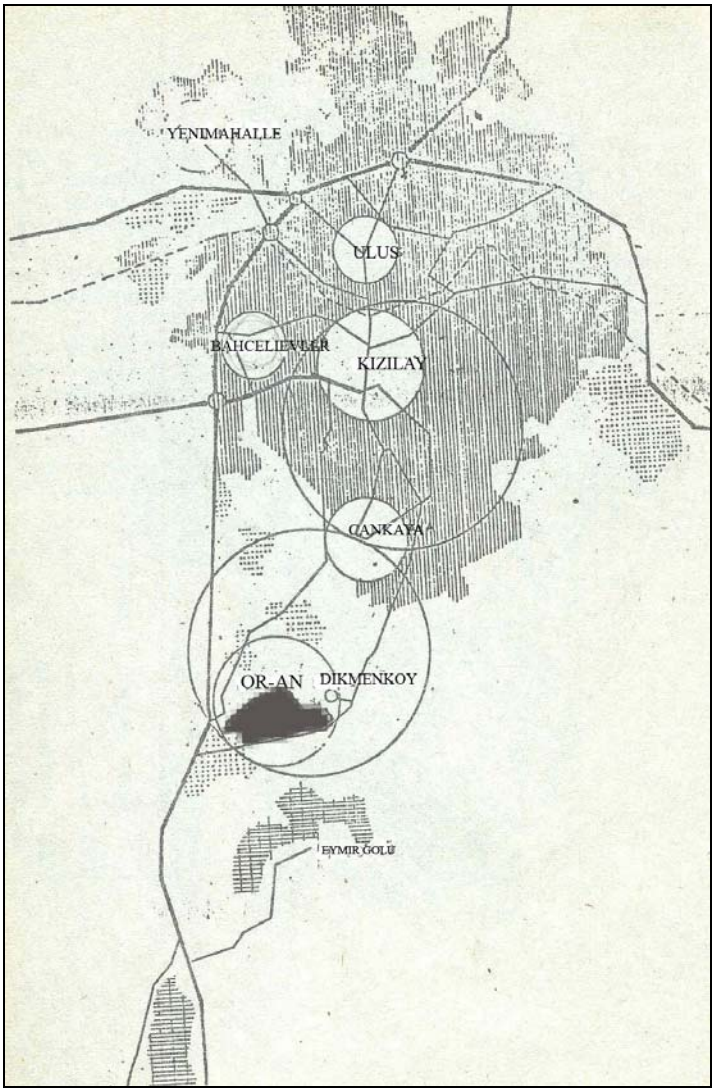


Figure 5. 11: Location of Or-An within the city
Source: Koparal, 1984:50 cited in Or-An preliminary report, 1971:46

Construction permissions were acquired in 1969 and building activities continued during 1970s. Housing units were designed with a minimum of 100 m^2 floor area in 4 and 8 storey blocks. Moreover, there was a 16 storey building at the center having a symbolic meaning. The average density was 280 inhabitants/ha, and the housing density was 70 housing unit/ha (Koparal, 1984:35).

Or-An project is important since it reflects the initial tendency of private sector to invest high-rise development at the remote areas from the center. Indeed, the project indicates that low-rise housing was not considered as profitable as the high-rise blocks by the private developers those days. But it is important to mention that urban densities remained lower when compared to the center in spite of the 4 and 8 storied apartments. In fact, Or-An can not be considered as an actual suburban development since the area was located 10 km away which tended to be quite close to the center and today it is already integrated with the urban core.

5.1.5 The Period of the Greater Ankara Municipality

After the election of the Liberal Government in 1984, new regulations were introduced which directly affected the administrative sphere as well as the urban development pattern. One of the most important laws introduced that time was 'The Law coded 3030 on the Management of Metropolitan Municipalities' and the 'Greater Ankara Municipality' was established with regard to this law. The other laws which gave a new direction to urbanization were the 2nd Mass Housing Law (Law No: 2985) and Urban Physical Development Law (Law No: 3194).

Greater Ankara Municipality was equipped with a significant authority and responsibility in planning in charge of the over-mentioned laws. It was determined to direct housing development through two major paths: mass housing projects on new development areas at the fringe and urban redevelopment projects on declining residential areas at the urban center.

Western corridor along the Eskişehir Highway, particularly the south-western part of the city was favored by the new housing investments, such as Çayyolu I, Çayyolu II, Konutkent and Ümitköy which gave a great impetus to urban expansion.

In fact, such a trend is an outcome of the historical process, in addition to the locational attributes and geographical formation of the city. At the initial phases of urban expansion, northern and north-eastern parts of the city experienced an intensive invasion of unauthorized housing areas. These *gecekondu* areas besieged particularly Mamak, Keçiören and the northern part of the historical city center, Ulus. Illegal developments had an off-putting effect for those parts of the city, and the new developments tended to be organized around western and southern parts.

Indeed, in the course of urban development, there has been an apparent socio-economic segregation of inhabitants throughout the city. A hypothetical line can be assumed passing through the railway and separating the city in two parts: the northern part and the southern part. Northern and north-eastern parts are primarily occupied by middle-income and low-income households, while southern and south-western parts are mainly occupied by high-income and middle-income groups. Thus, southern and southwestern parts turned to be more attractive for new housing developments

In addition to the spatial distribution of socio-economic groups, geographical attributes had an important effect on the development pattern of Ankara. The city has been surrounded by mountains from northern (Etlik Hills, 1050m and Karyağdı Mountains, 1200-1500m), eastern (Hüseyin Gazi Mountain, 1415m) and southeastern (Elmadağ, 1862m) sides (Altaban, 1986:7). Therefore, the topographical thresholds (Figure 5.12) prevented the city to expand through the northern and eastern parts, as well.

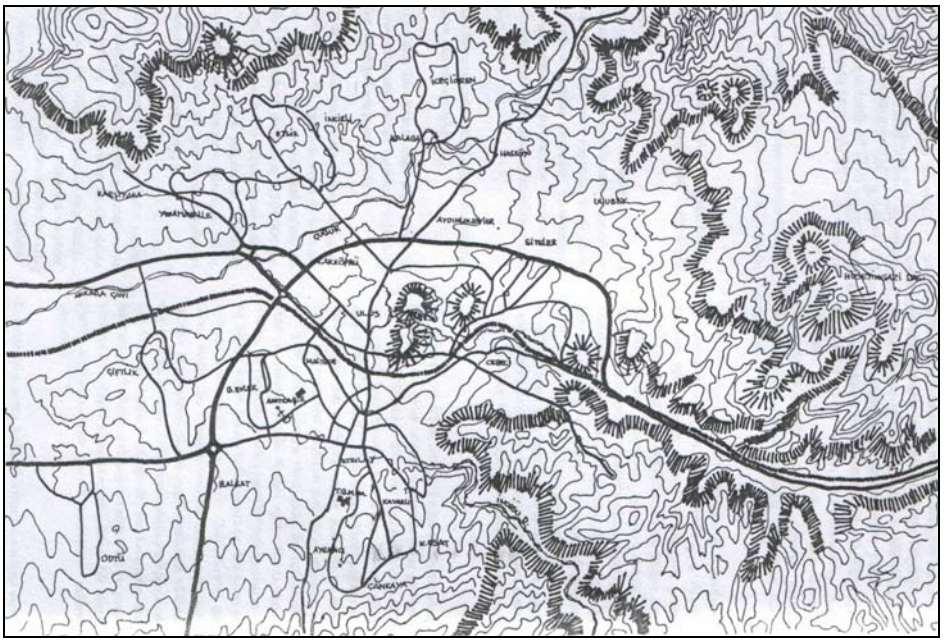


Figure 5. 12: Topographical formation of Ankara
Source: Altaban, 1986:9

As a result, beginning from the 1980s, the city expanded through south-western and southern corridors. Housing cooperatives were the main house builders, and new residential areas were developed in forms of housing estates named as *site*. No matter how far it was from the center, many apartment blocks were built in addition to the low-rise houses. In the following part, mass housing projects that were started in 80s on the southwestern axis and urban redevelopment projects will be mentioned briefly.

5.1.5.1 Mass Housing Projects and the Development of the South-western Corridor

The implementation of mass housing projects continued during the 1980s while new projects were introduced at the western part of the city, particularly along the Eskişehir Highway, such as Çayyolu, Mesa Koru Sitesi and Konutkent. These projects resemble with the former outer city mass housing projects since they

covered both low-rise and high-rise units together. Moreover, these projects assisted the south-western development axis (Figure 5.13).

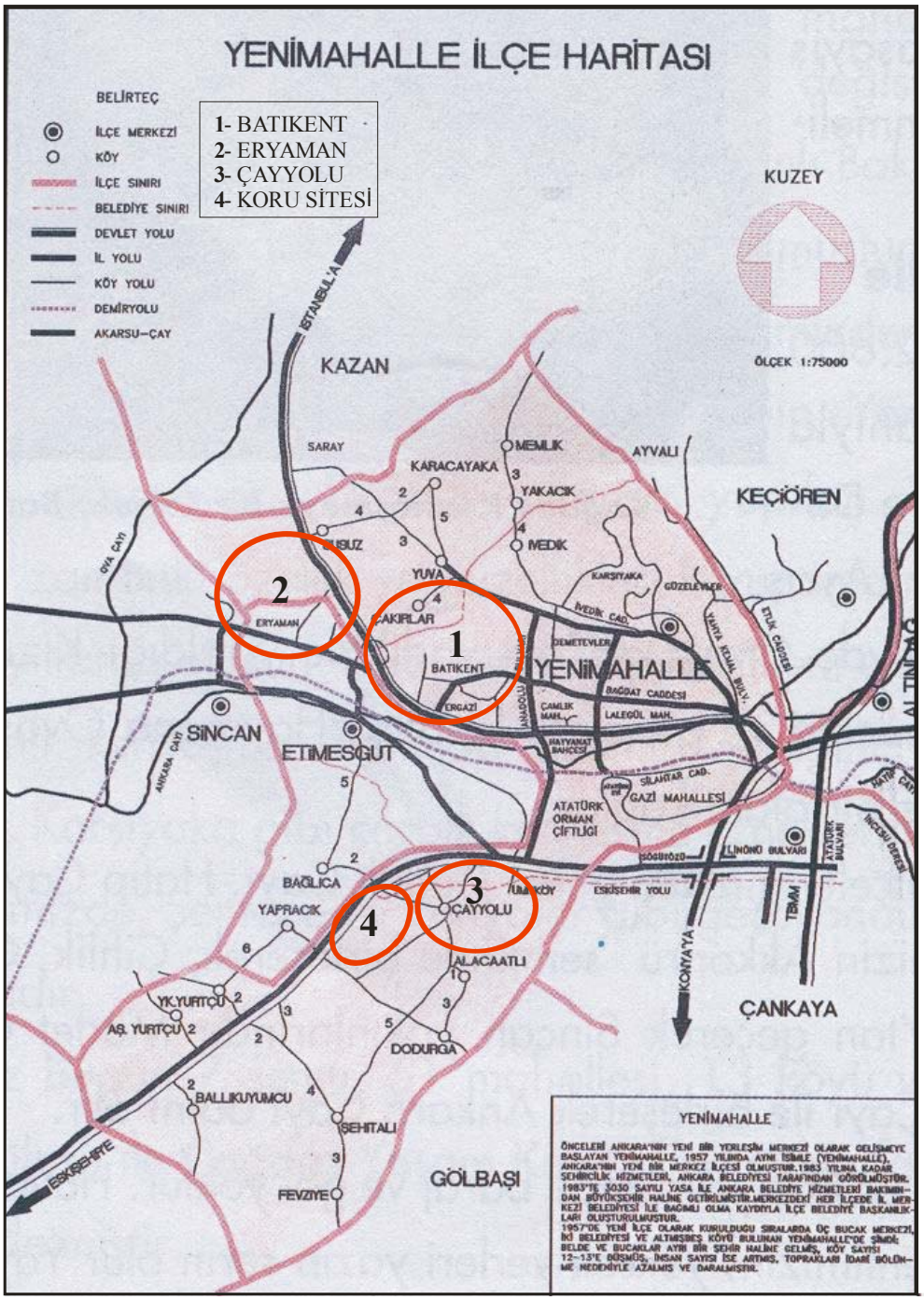


Figure 5. 13: Positioning of Batıkent (1), Eryaman (2), Çayyolu (3) and Koru Sitesi (4) within the Yenimahalle Municipality.

Çayyolu Project

Çayyolu is an important project which was initiated by the Greater Ankara Municipality in 1985, in accordance with the Master Plan decisions. The project was decided upon as an urban residential development corridor on the south-western growth axis of the City of Ankara (Aras, 1996:127) and it was undertaken by 'Türk-Konut', an organization having the cooperative central union status that covers housing cooperatives and housing cooperative associations. In the project, construction process was financed out of European Housing Fund credits.

The project was comprised of two stages: "Çayyolu I and Çayyolu II" (Figure 5.14). "Çayyolu I" was located about 17 km away from the city center covering 10.700 housing units on a 450 ha. area. Privately owned land was acquired by compulsory land purchase according to the Expropriation Law coded 2942 (Aras, 1996:127) and the construction of 3500 low-rise housing units (duplex) and 7200 apartment dwellings started in 1989. Total completion of the project took nearly nine years time.

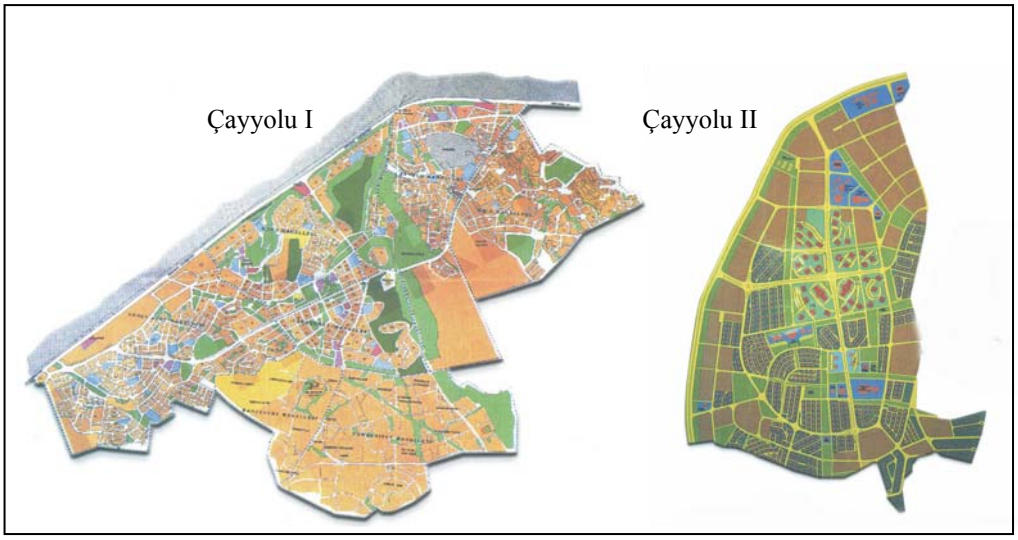


Figure 5. 14: Implementation Plans of Çayyolu I and Çayyolu II.
Source: Türkkonut 2005:18,22.

Different from the first stage, the Municipality did not partake within the process of the second stage. Türk-konut developed the area for 4000 units by acquiring lands directly from the landowners. Çayyolu II covers 1235 low-rise housing units (dublex) and 1896 apartment dwellings. The construction activity is continuing while the proportion of construction completion was reported as 86.43 % by December 1st, 2005 (Türkkonut, http://www.turkkonut.com.tr/eryaman/cayyolu.htm, last accessed: January, 2006).

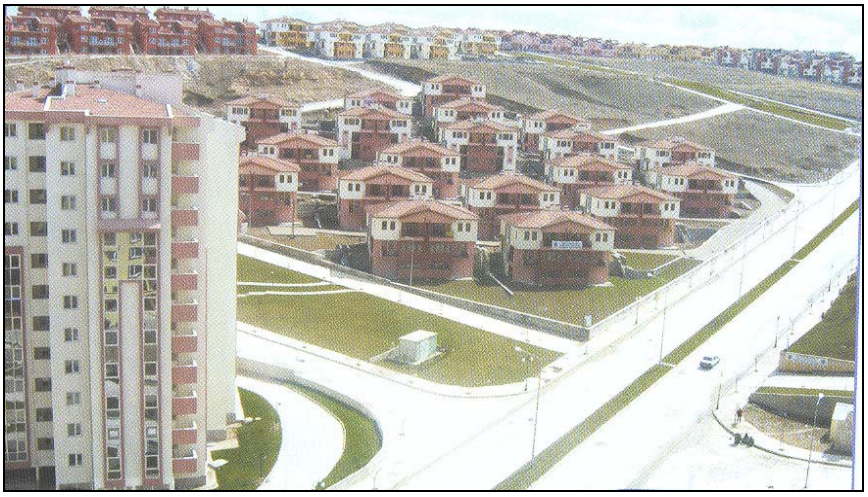


Figure 5. 15: Aerial view of Çayyolu II
Source: Türkkonut, 2005:30

Mesa Koru Sitesi

The project of Koru Sitesi which was developed by Mesa Housing Industries Corporation was started in 1985. The area is located along the Eskişehir Highway and it covers 1160 dwellings in two-storied row houses, twin and solitary houses, and apartment blocks ranging in height from 5 to 20 floors as well as 6 villas having approximately 2400 m^2 floor area (Figure 5.16). Koru Sitesi is a qualified housing estate having adequate urban services such as schools, green areas, parking lots and shopping centers.

Figure 5. 16: Aerial view of Mesa Koru Sitesi
Source: MESA, http://www.grupmesa.gen.tr/sirket_secme.asp?id=9&dil=tr, last accessed: January, 2006

Konutkent

Konutkent is the other significant project along the Eskişehir Highway. The first stage of the project, covering 1160 dwellings, was initiated in 1988 and completed in 1990 and the second stage, covering 1645 dwellings, was initiated in 1990 and completed in 1994. There are low-rise housing units (duplex and triplex) and apartment blocks of which heights are ranging from 5 to 15 floors (Figure 5.17).

Figure 5. 17: Aerial view of Konutkent
Source: MESA, http://www.grupmesa.gen.tr/sirket_secme.asp?id=7&dil=tr, last accessed: January, 2006

5.1.5.2 Urban Redevelopment Projects

Apart from the mass housing projects, comprehensive urban redevelopment projects were suggested in the late 1980s which were put into practice at the beginning of the 1990s. The most significant examples are Portakal Çiçeği Vadisi Project, Dikmen Vadisi Project, Geçak (Gecekondudan Çağdaş Konuta) and Doğukent Southeastern Ankara Development Project. These projects aimed to sweep away *gecekondu* areas and control the urban development pattern within the city, while providing livable residential estates equipped with infrastructure facilities and better urban services.

Land rents increased in a significant way after the implementation of those projects most of which were located at Çankaya. Koza Sokak, an urban redevelopment area within Geçak project, the residential areas in Dikmen and Yıldız turned to be rentable for the housebuilders. As a result of their increasing attraction, household pattern changed and high status bureaucrats and professionals started to occupy the dwellings in those prestigious sites.

5.1.5.3 Urban Development after the 1990s

After the 1990s the tendency of urban development along the south-western and southern parts of Ankara strengthened. Development activities in Çayyolu gained a significant importance while many new housing projects were initiated in the area. These projects, covering low-rise housing units and high-rise blocks (Figure 5.18) with better urban services and lower densities when compared to the central neighborhoods, have generally been developed by the housing cooperatives.

Apart from Çayyolu, other villages located inside the circumference motorway have been affected from the expansive residential development. Alacaatlı, İncek and Dodurga witnessed a significant urbanization. It is important to mention that the housing developments in these areas include luxurious villas which addresses to the high-income groups in general (Figure 5.19).

Figure 5. 18: A general view from Çayyolu

Figure 5. 19: Villas in İncek

The other important housing development was observed in Gölbaşı, after the second half of the 1990s. The Municipality of Gölbaşı joined to the boundaries of the Greater Ankara Municipality in 1991. After then, housing development gained an important speed. However, Gölbaşı is a distinctive area due to the existence of Mogan Lake and special planning regulations are required to prevent the natural resources being contaminated and damaged. With regard to this, a Physical Development Plan at 1/25.000 scale was approved in 1992. The plan was revised in 2004 and particular zoning decisions were enacted which allows only low-rise developments with specific restrictions. The neighboring area of the lake is subjected to these Natural Preservation Plan decisions.

Figure 5. 20: Residential developments around Gölbaşı

After the 2000s, urban expansion through south-western and southern parts of Ankara continued. The most considerable examples of newly developed areas are: Beytepe 3rd Stage Development Project in the Çankaya Municipality, Yenikent and Çayyolu Development Area (İlko Konutları) in the Yenimahalle Municipality. Urban expansion even passed beyond the Greater Municipality's boundaries, such as Temelli Yenihisar Villakent Project. Urban densities are quite low in these areas when compared to the centrally located neighborhoods and all of these newly introduced projects cover low-rise housing units and high-rise blocks

together, offering different dwelling alternatives to the households. Contemporary housing developments on the southwestern and the southern parts of the city will be discussed in a detailed way in the following chapter.

5.1.6 The Composition of Housing Supply in Ankara by the end of the 1990s with regard to Building Attributes, Occupancy, House Builder Characteristics and Household Preferences

It is important to demonstrate the current situation and actual formation of housing market in Ankara with regard to the household and housebuilder characteristics in order to reveal the dynamics assisting the urban sprawl and the population decentralization throughout the urban fringe.

5.1.6.1 Housing Production

Ankara is the second most populated city of Turkey, after İstanbul, and the increase of urban population in Ankara has not ceased yet, since the rate of urban population increase has been 22% in the last decade while the number of individuals living in Ankara (urban) reached 3.540.522 by the end of the 20th century (Table 5.1). In accordance with the population increase, the number of residential buildings and the number of dwellings increased in the last decade (Table 5.2). It can be argued that more apartments[14] were produced than single houses[15] in the 1984-2000 period since the proportional increase in the number of dwellings exceeds that of residential buildings.

[14] Apartment relates to multi-story residential buildings covering more than two dwellings.
[15] Single house relates to 1-2 story residential buildings.

Table 5. 1: Population change in Ankara in 1990-2000 period

	Population in 1990	Population in 2000	% of Population Increase in 1990-2000 period (per year)
Ankara	3236378	4007860	21.37%
Ankara-Urban	2836802	3540522	22.15%
% of Urban Population	87.6%	88.3%	

Source: SIS, www.die.gov.tr/nufus_sayimi/2000tablo3.xls, last accessed: April 2006

Table 5. 2: The increase in the number of residential buildings and dwellings in the 1984-2000 period in Ankara (within the boundaries of Greater Ankara Municipality)

1984		2000		% Increase	
Number of Residential Buildings	**Number of Dwellings**	**Number of Residential Buildings**	**Number of Dwellings**	**Number of Residential Buildings**	**Number of Dwellings**
203984	561953	304837	986865	49%	76%

Source: SIS

The data of construction permits and occupancy permits, which was provided from State Institute of Statistics (SIS) in May 2006, demonstrate that in the last fifteen years, more apartment dwellings were produced in Ankara (within the Greater Ankara Municipality's boundaries) when compared to the production of single houses (Figure 5.20). However, total number of apartment and single house production changes from one municipality to another.

For instance, in recent years the amount of the production of single houses is greater in Yenimahalle[16] than the other municipalities (Figure 5.21). The reason of high rates of single house production in Yenimahalle is mostly related to the low-rise housing developments in Çayyolu.

Apart from this, the increase in single house production is relatively high in Gölbaşı. Although the total amount of housing production is low, the share of the single house production exceeds the other municipalities – except for Yenimahalle –, in recent years.

However, the amount of the production of low-rise, single houses has always been quite low in Keçiören, Altındağ, Mamak and Sincan. On the other hand, it is obvious that apartment production has been favored in these municipalities as well as in Çankaya (Figure 5.22).

As a result, the share of single housing units is lower than the share of apartment dwellings in Ankara. When the housing production is considered in spatial sense, apartment production is more prevalent on the northern and on the south-eastern parts of Ankara while single house production is more prevalent in Yenimahalle (particularly in Çayyolu locality), Gölbaşı and Etimesgut than the other municipalities.

[16] Yenimahalle Municipality is comprised of two locationally separate areas: Çayyolu locality (on the south-western part of the city) and Yenimahalle-Batıkent locality (on the northern part of the city) (Figure 5.13).

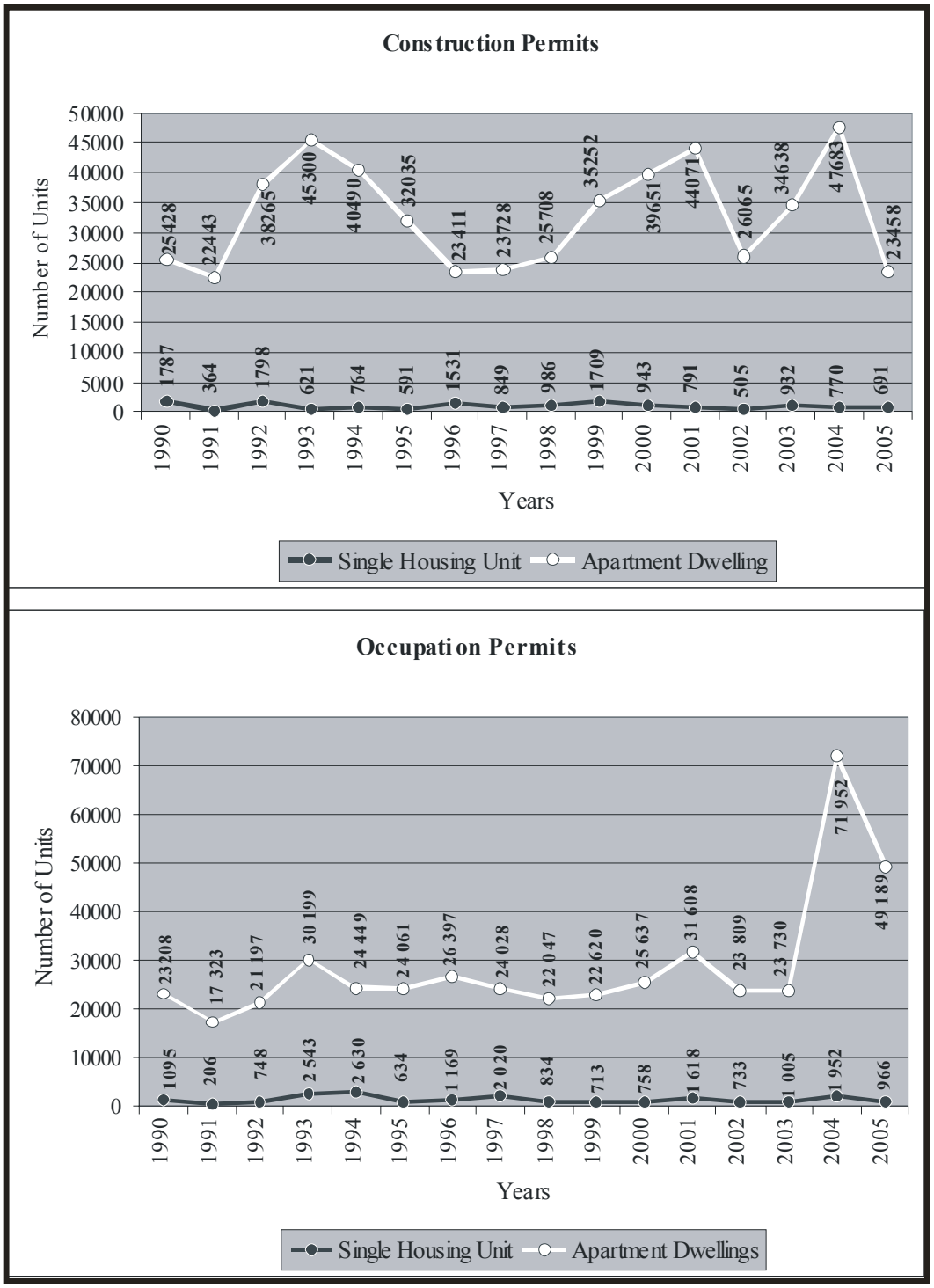
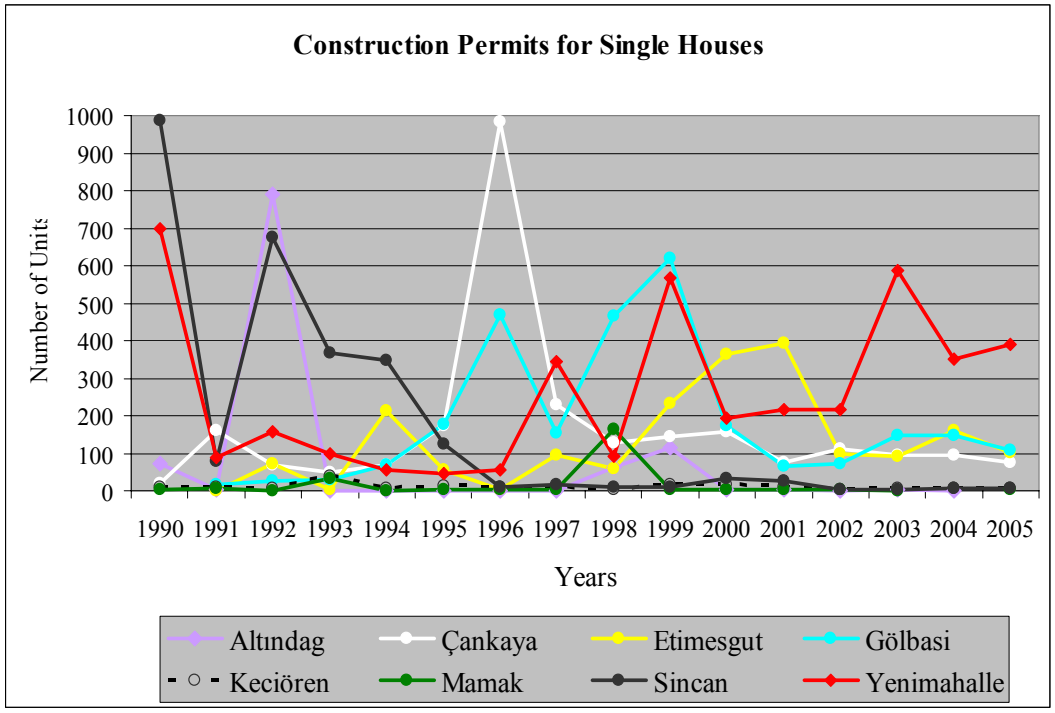


Figure 5. 21: Construction permits and occupation permits in Ankara in the 1990-2005 period.

Source: SIS, 2006



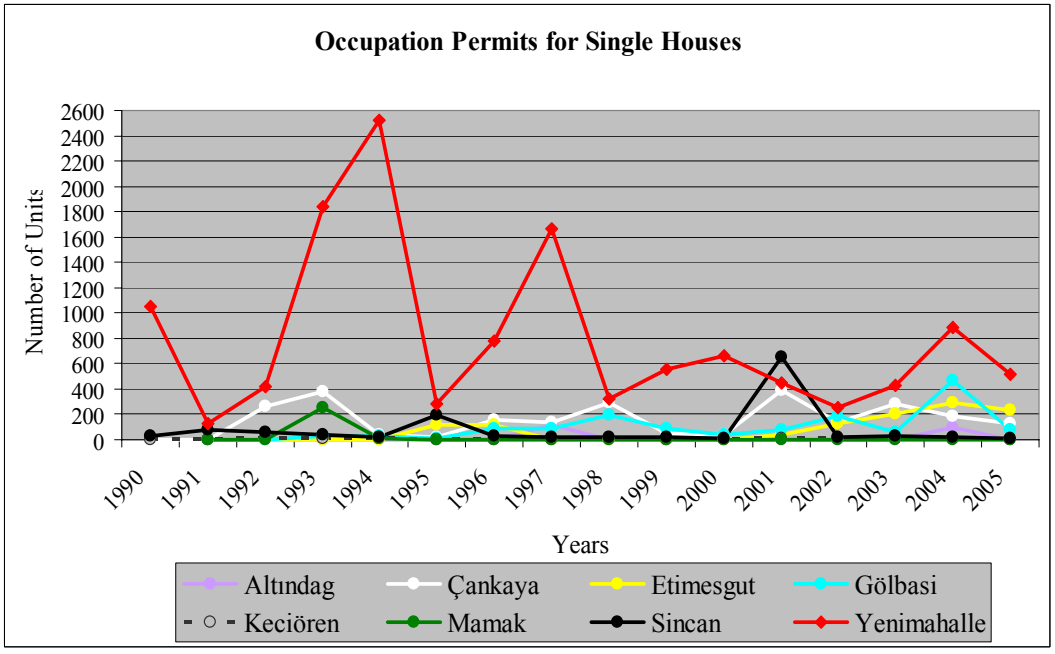
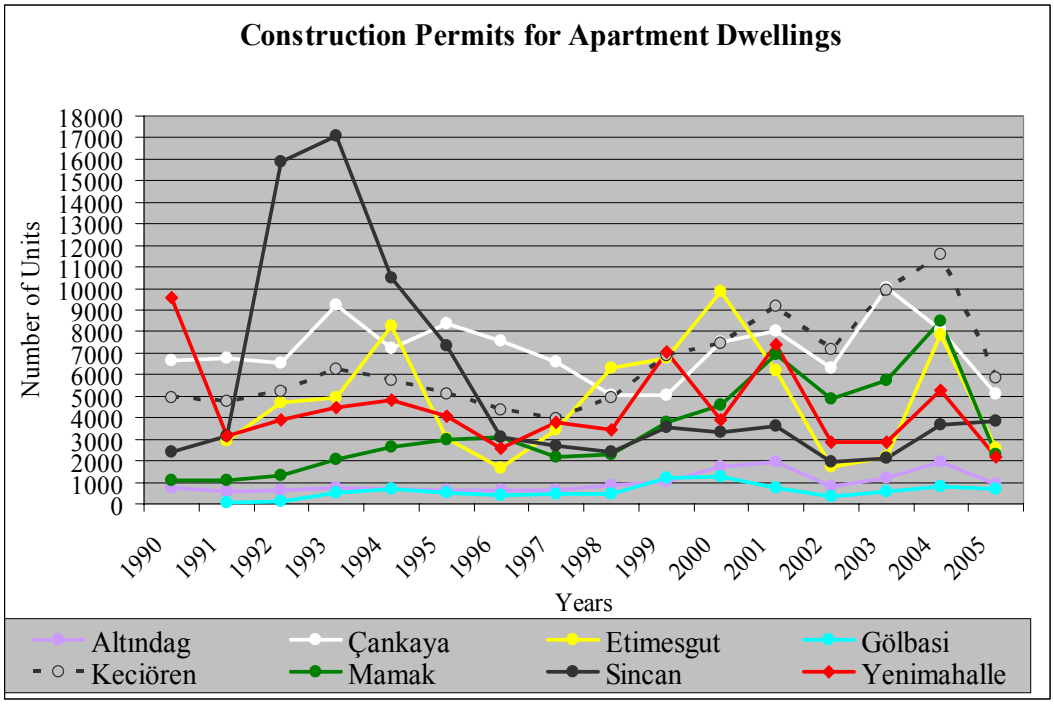


Figure 5. 22: Construction permits and occupation permits for the single houses in the 1990-2005 covering the municipalities within Greater Ankara Municipality

Source: SIS, 2006



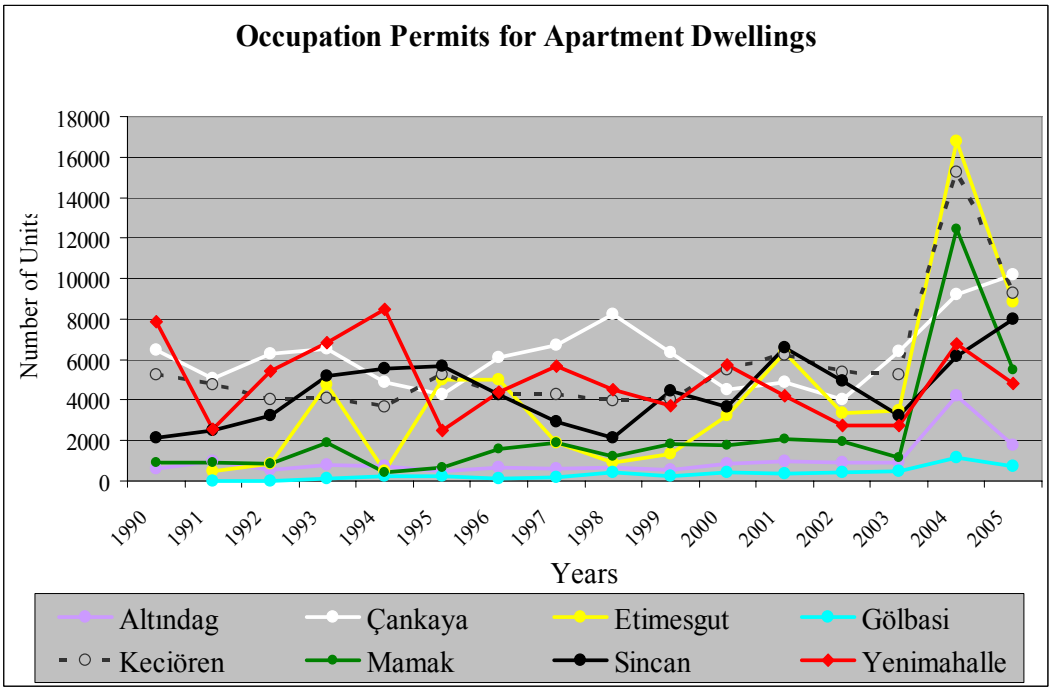


Figure 5. 23: Construction permits and occupation permits for the apartment dwellings in the 1990-2005 covering the municipalities within Greater Ankara Municipality

Source: SIS, 2006

5.1.6.2 Spatial Distribution of Population

Increasing urban population and planning decisions assisted the urban sprawl and resulted in the expansion of urban boundaries. Urban population which was jammed into an area of 11 km diameter from the center[17] during the 1970s started to move to the periphery, particularly after the second half of the 1980s and many households moved from the centrally located neighborhoods to the outskirts.

After the 1990s, decentralization process accelerated and extended towards the areas beyond the 11th km. For instance, Or-An is located between the 11th and 12th circles along the southern corridor, Batıkent is between the 16th and 20th circles and Eryaman in between the 21st and 22nd circles along the north-western corridor while Çayyolu is located between the 14th and 15th circles along the western corridor. Today, although the population agglomeration is quite high between the 3rd-13th km from the center, it decreases to moderate levels after the 13th km and residential areas expand even beyond the 28th km from the city center (Figure 5.24).

[17] Topçu states that The Hittite Sun Statue on Sıhhiye Square is accepted as the central location (Topçu, 2004:70).

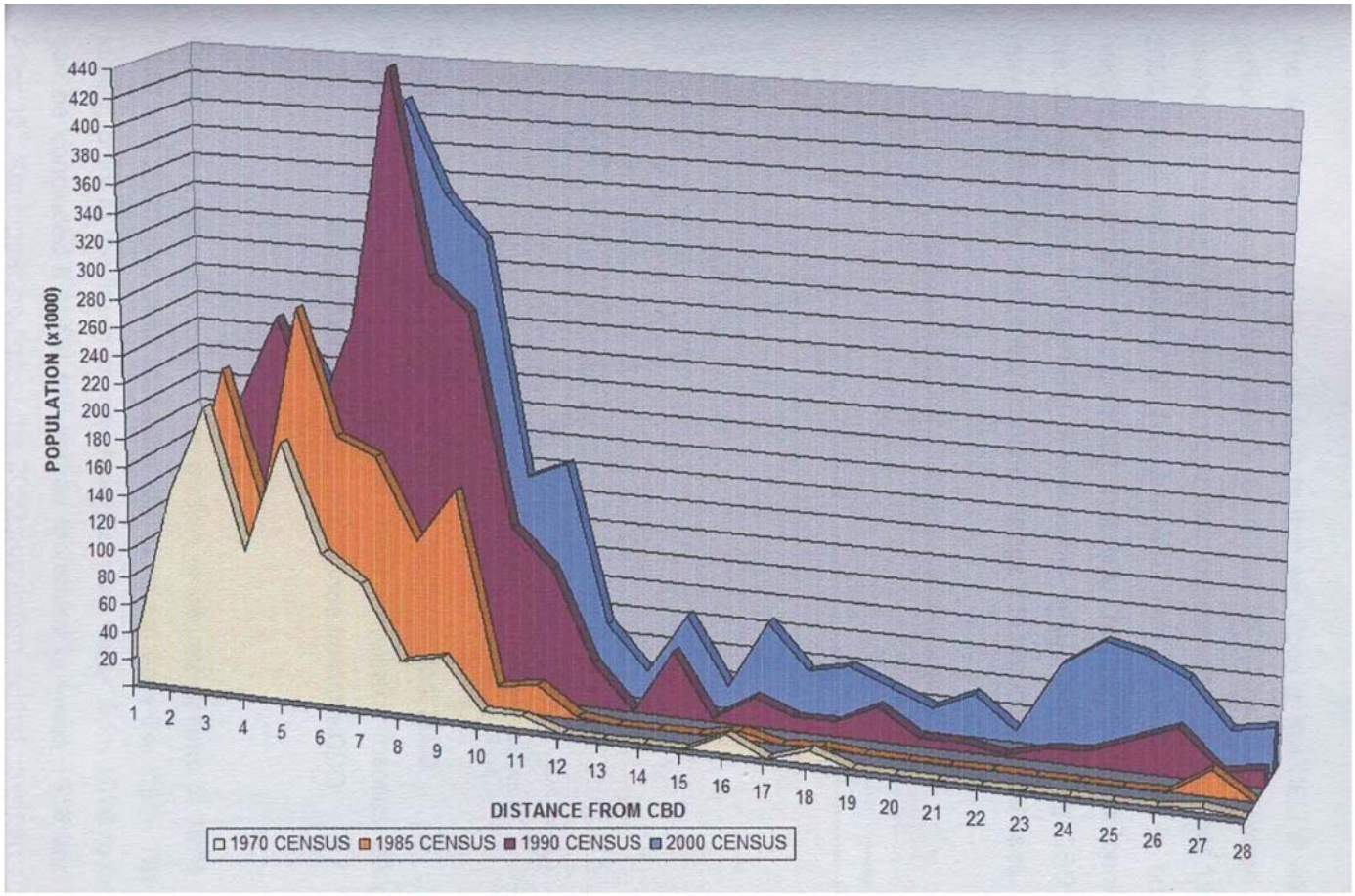


Figure 5.24: Comparison of 1970, 1985, 1990 and 2000 population censuses in terms of the population distribution With distance from the CBD in Ankara.
Source: Topçu, 2004:75

5.1.6.3 Housing Characteristics, Household and Housebuilder Attributes

State Institute of Statistics (SIS) carried out a housing survey in 1999 covering 9 cities: Adana, Ankara, Gaziantep, İçel, İstanbul, İzmir, Samsun, Şanlıurfa and Van. The survey aimed to reveal the housing characteristics and the households attributes in these cities. In order to reveal the general housing and household characteristics in Ankara, the findings of this survey will be used in the following part.

The evidences show that most of the households are living in apartment dwellings in Ankara (Figure 5.25). Indeed apartment dwellers constitute approximately 70% of the households. Most of them used to live in 4 or 5 storied apartments which are not located in housing estates (Figure 5.26). At this point, it is important to mention that the percentage of detached houses not located in a housing estate appears to be high since the number includes *gecekondu*s.

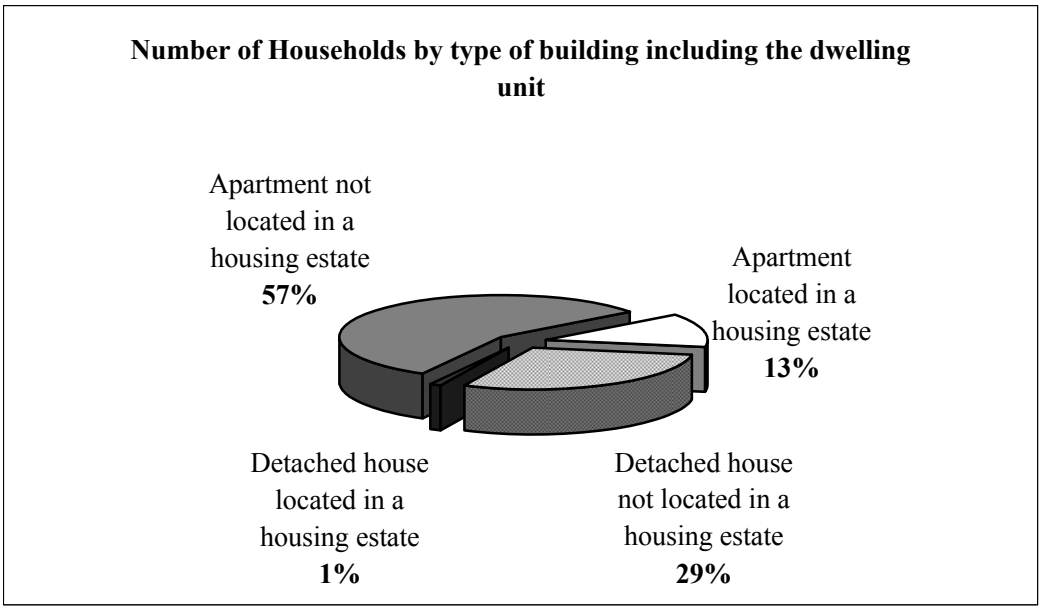


Figure 5. 25: Percentages of households by type of building including the dwelling unit in Ankara

Source: SIS, 2004:79

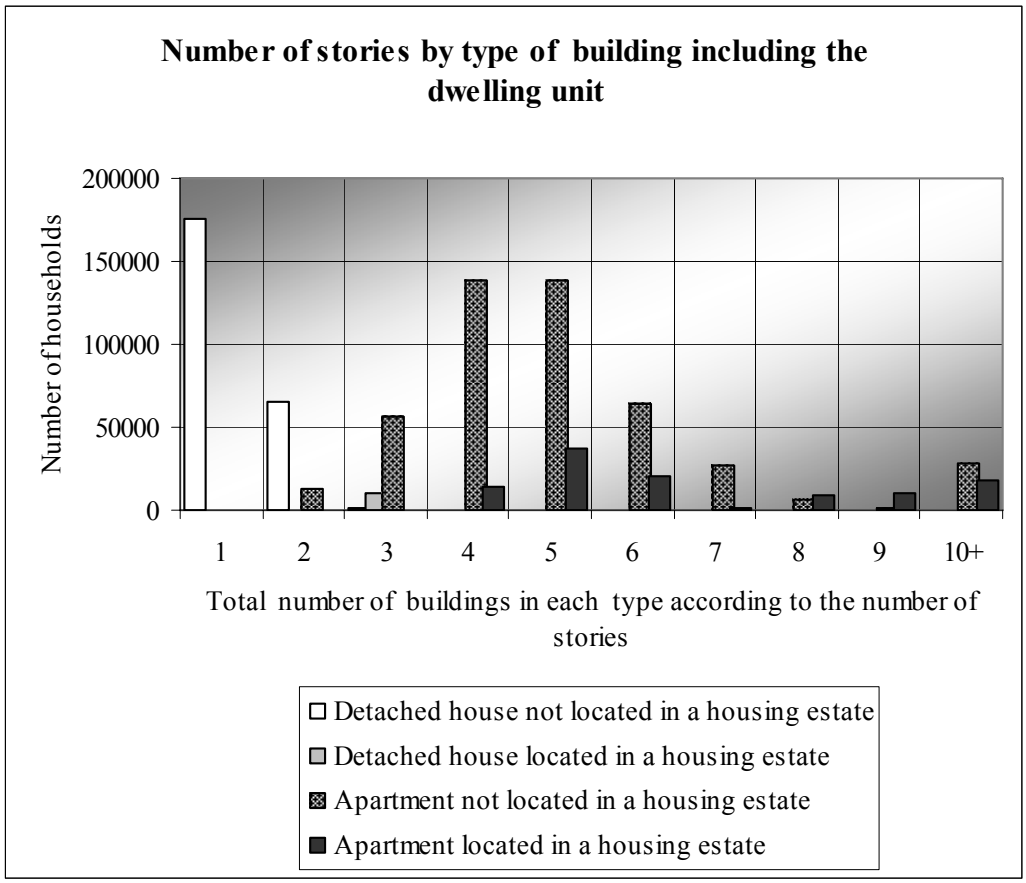


Figure 5. 26: Distribution of households with regard to the number of stories by type of building in Ankara

Source: SIS, 2004:80

Ownership is quite prevalent among the households (Figure 5.27). However, it is important to remind that the percentage covers *gecekondu* owners as well. When the way of owning the dwelling is questioned, it is appeared that nearly 60% of them bought the dwelling from a contractor, the previous owner or a public institution (Figure 5.28).

Furthermore, one of the most interesting outcomes is that nearly three-forth of the households are not satisfied with their dwelling units (SIS, 2004:106) and 74% of them would prefer to live in a single house (Figure 5.29).

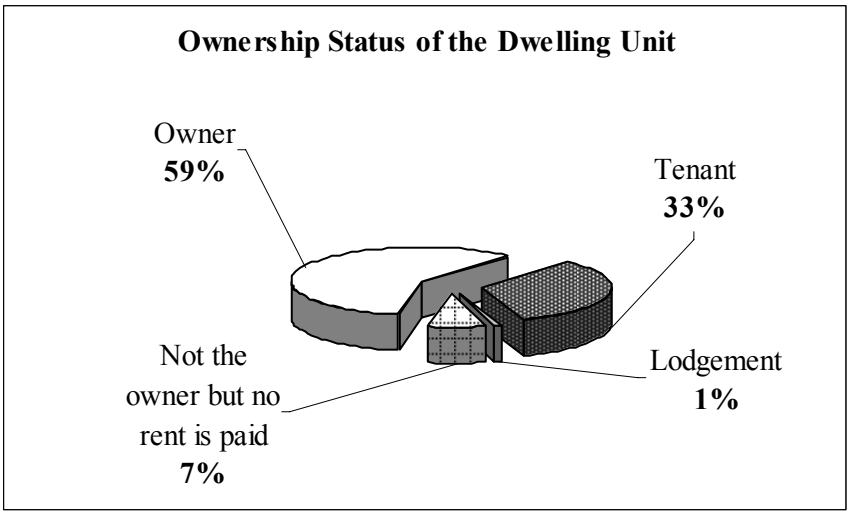


Figure 5. 27: Percentages of ownership status of the dwelling units in Ankara

Source: SIS, 2004:92

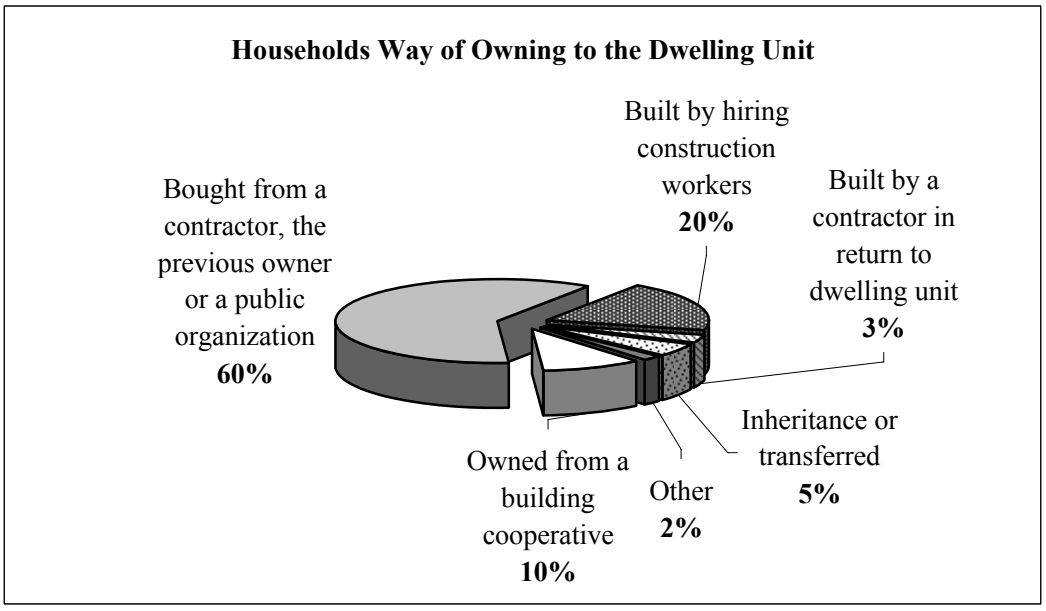


Figure 5. 28: Percentages of households' way of owning the dwelling unit in Ankara

Source: SIS, 2004:93

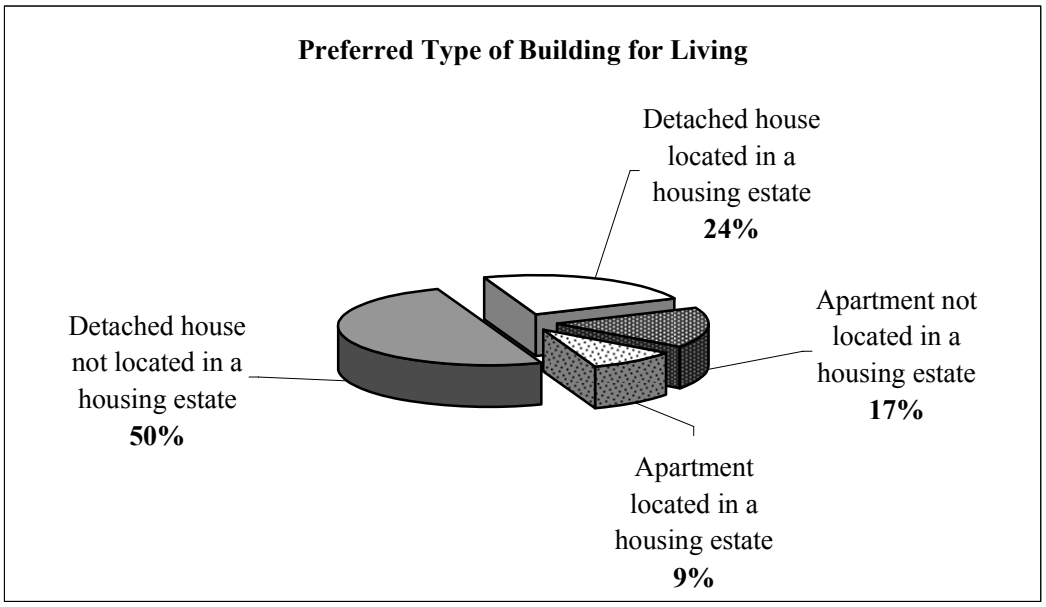


Figure 5. 29: Percentages of preferred type of building for living in Ankara
Source: SIS, 2004:107

Apart from these, it is a fact that private car ownership has become prevalent among the households in recent years. The car ownership reached 196 cars per 1000 person in 2003 according to the SIS statistics (SIS, http://www.die.gov.tr/nuts/121d3.xls, last accessed: April, 2006). The rate of increase accelerated obviously after the 90s (Figure 5.30) while nearly one third of the households own at least one car by the end of the 20th century (Figure 5.31). However, public transportation (including public bus, minibus, metro, and railway) is still the most used commuting mode among the individuals (Figure 5.32). The median time for different modes are 20 minutes for private car, 30-35 minutes for public transport, 30 minutes for service and 15 minutes for walking (SIS, 2004:78).

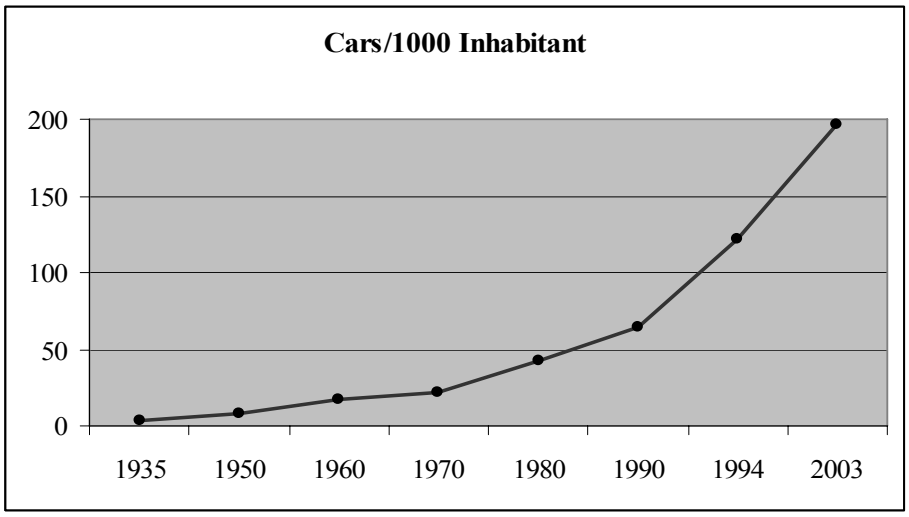


Figure 5. 30: Car ownership levels in Ankara since 1935.
Source: Babalık, 1996:73 and SIS, http://www.die.gov.tr/nuts/121d3.xls, last accessed: April, 2006

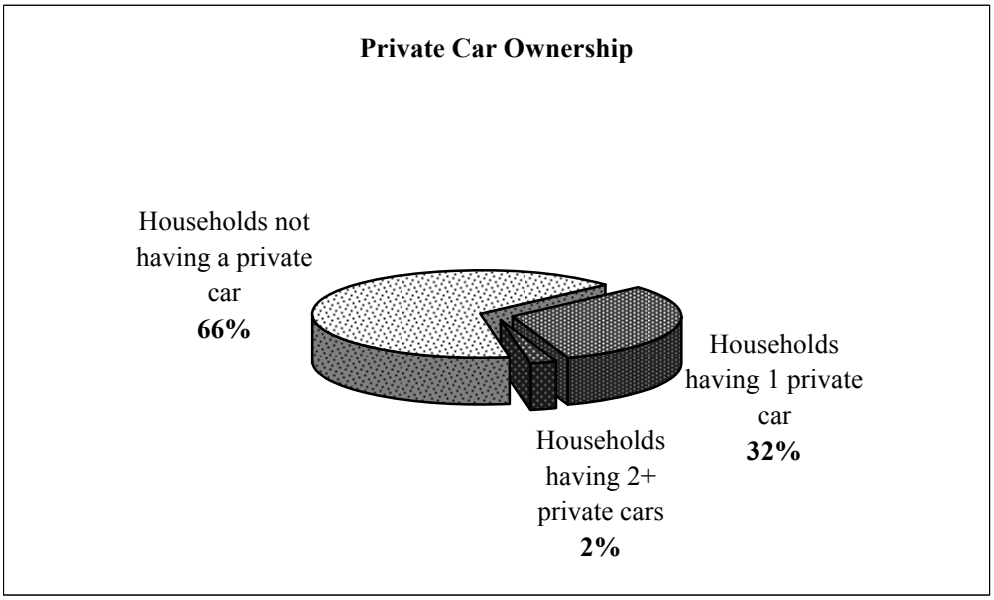


Figure 5. 31: Percentages of private car ownership in Ankara
Source: SIS, 2004:111

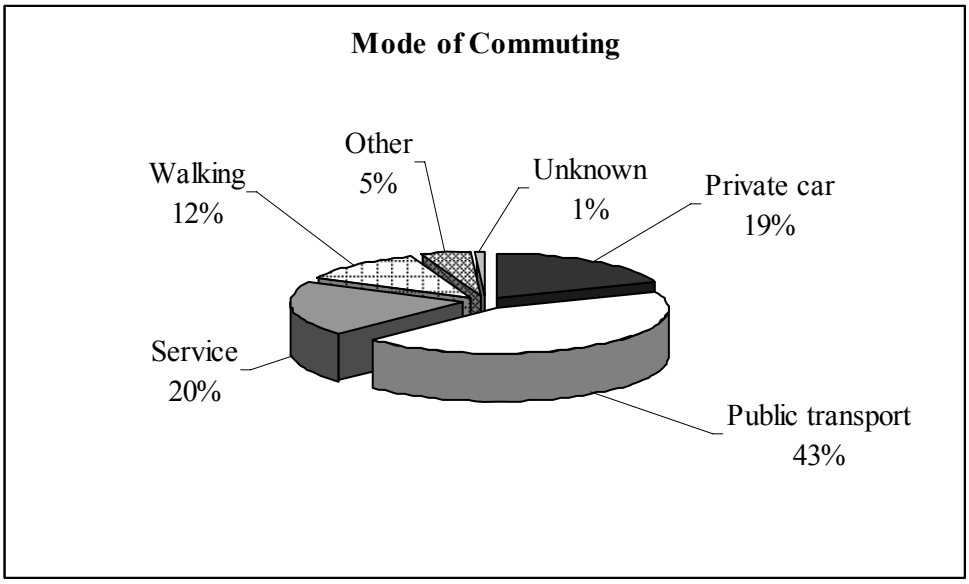


Figure 5. 32: Mode of commuting in Ankara
Source: SIS, 2004:78

Finally when the housing supply side is considered, it is obvious that private sector housebuilders – particularly the contractors that work in return to flat – dominate the industry while the share of house building cooperatives is 13% which tents to be above the Turkey average. Public sector, on the other hand, appears to be not very active in housing production (Figure 5.33).

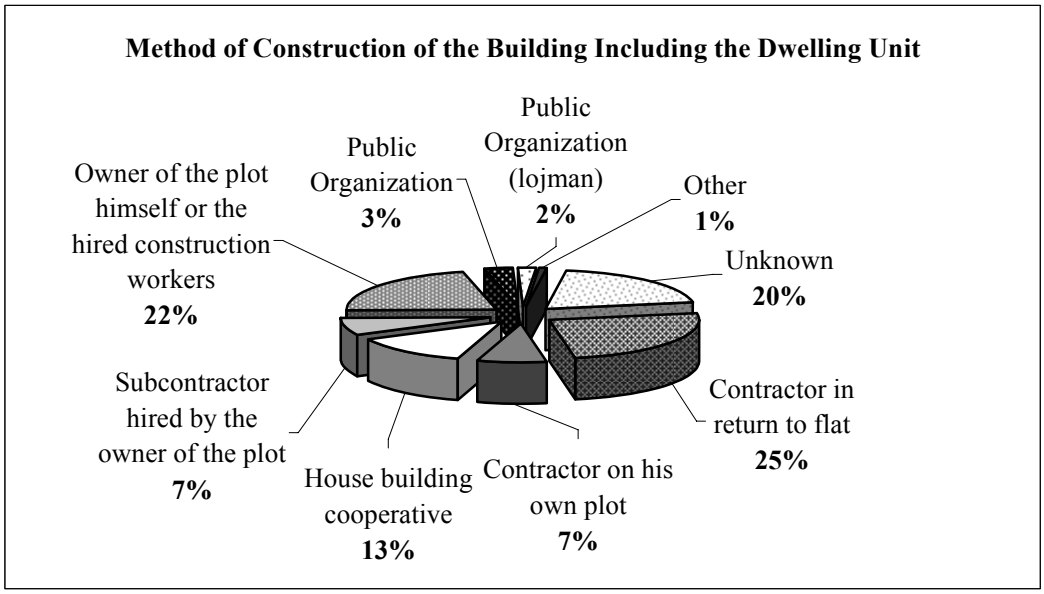


Figure 5. 33: Percentages of the buildings including the dwelling unit according to the type of housebuilders in Ankara

Source: SIS, 2004:83

5.2 Critical Review of (Sub)Urban Development in Ankara

Urban pattern of Ankara has changed due to demographic movements, socio-economic conditions, planning decisions and externalities, since its proclamation as the Capital of Turkish Republic. At the initial phases the city was reflecting a compact form, but after the 1970s urban decentralization started to relieve the increasing urban density stress at the center, to some extend.

The first problem facing the city was increasing urban population as a result of the rural to urban migration. Housing prices increased due to the inadequate supply; thus, the new comers, for whom the existing stock was unaffordable, began to occupy the unauthorized housing units named as *gecekondu*. After the 1940s, the periphery was mainly occupied by *gecekondu* areas and the city was jammed into a restricted urban area. At the meantime, many of these illegal developments were legalized by some Amnesty Laws which tended to serve for populist policies.

Meanwhile authorized low-rise housing stock which dominated the city space in the early days of the Republic replaced by apartment blocks particularly after the enactment of the Condominium Law (Kat Mülkiyeti Kanunu, Law No: 634) in 1965. Increasing densities within the city together with illegal housing developments at the urban fringe brought about many successive problems such as declining urban core, congestion, inefficient urban services, inadequate infrastructure facilities and air pollution. Unfortunately the planning attempts were imprudence and ineffective to control the ad-hoc sprawl of the city and prevent urban decline.

In order to manage the urban development and cope with the increasing problems, Ankara Metropolitan Plan Bureau was founded. After comprehensive analysis a new Structure Plan was introduced aiming to bring to the city a new vision and give to the urban development a new direction. The most significant decision related to the formation of urban fringe was the introduction of mass housing projects. The projects were suggested to overcome the congested pattern and provide affordable housing units for particularly the middle income groups. Urban periphery, previously occupied by illegal housing developments started to acquire a new form by these large scale projects.

In fact the introduction of mass housing projects was a milestone for development of low-rise housing. Increasing land prices within the urban area due to the intensive urbanization prevented low-rise, low-density housing areas to be developed in the city. On the other hand relatively lower land prices and available land gave the opportunity of developing low-density estates comprising low-rise housing units.

After the mid-80s, urban decentralization and mass housing developments became quite prevalent and the locational choice for the urban development shifted from north-western parts to the south-western (particularly along the Eskişehir Highway) and southern (particularly in Gölbaşı) parts of the city. Particularly after

the second half of the 1990s, luxurious housing estate development became popular at the urban fringe.

It is worth mentioning that there is still an emphasis on the development of the western and the southern corridors. Newly built sites and prospective projects cover low-rise housing units and apartments together but the high-rise blocks are compensated with relatively lower densities and better urban services when compared to the centrally located neighborhoods. Housing cooperatives dominate the large scale projects at the fringe and daily commuting is fundamentally based on private cars because it is difficult and inefficient to provide a functioning public transport system for the newly built sites which are scattered on a large area.

5.3 Concluding Hypotheses

In the first chapter, a general deduction is represented considering two sides of housing sector – the demand side and the supply side – in a theoretical framework. In the forth chapter, Ankara case is focused on pursuant to the explanation of (sub)urbanization and accordingly low-rise housing development in developed countries and in Turkey. After discussing the rationalities of households and housebuilders on the basis of urban economic approach, as well as considering the special characteristics of low-rise housing development in Ankara, following hypotheses are put which will be questioned in the case studies.

- H_o: Urban densities and accordingly floor area ratio (FAR) falls with increasing distance from the city center for all types of housing. [1]

- H_o: Outskirt developments comprise both low-rise housing units and high-rise apartments together in Ankara which are compensated with lower densities and better urban services when compared to the centrally located neighborhoods. [2]

- H_o: Households who are living at the low-rise housing units at the fringe are expected to be the owners and generally families with children while the unit is expected to be large in size having more than three rooms in each unit. [3]

- H_o: Households preferring the low-rise residential areas at the fringe are expected to be the professionals and high-status managers with a good educational background in general. [4]

- H_o: Households, living at the low-rise housing areas at the outskirts are expected to use the private car in daily commuting. [5]

- H_o: Households are supposed to consider the distance between the house and the workplace when they are deciding the location of their residences, however living close to the workplace is not the only and the prominent factor of the locational choice of the house. [6]

- H_o: Households are expected to compensate the negative transport costs and high maintenance costs of low-rise houses with intimacy, a prestigious environment and better urban services. [7]

- H_o: The main housebuilder group is expected to be the housing cooperatives for the low-rise residential development while private sector/speculative housebuilders continue to prefer building high-rise apartment estates at the fringe. [8]

CHAPTER 6

LOW-RISE HOUSING DEVELOPMENTS ON THE SOUTH-WESTERN AND SOUTHERN PARTS OF ANKARA: A FURTHER STUDY ON ÇAYYOLU AND GÖLBAŞI

In this section, low-rise housing developments on the south-western and southern parts of Ankara will be focused on, considering the formerly put hypotheses. In that sense, the study is divided in two major parts: the development along the Eskişehir Highway and the development in Gölbaşı. First, suburban development along the Eskişehir Highway will be studied with regard to the municipal boundaries. Then, Gölbaşı case will be examined according to the zoning regulations entailed by the Natural Preservation Plan decisions. Finally, the case studies will be complemented with a questionnaire to reveal household attributes and preferences living in low-rise houses in these areas.

6.1 Urban Development on the South-western Part of the City along the Eskişehir Highway

Low-rise housing development along the Eskişehir Highway will be discussed in three subheadings since the area is under the authorization of two municipalities (Çankaya Municipality and Yenimahalle Municipality) and there are also some developments beyond the Greater Ankara Municipality's boundaries such as Temelli Yenihisar Villakent Project.

6.1.1 Low-rise Housing Development along the Eskişehir Highway ,within the Boundaries of the Çankaya Municipality

The two considerable low-rise housing developments within the boundaries of the Çankaya Municipality along the Eskişehir Highway are Beysukent and Angora Evleri. Another area, Beykent 3rd Stage, has been recently developed by the Municipality (Figure 6.1).

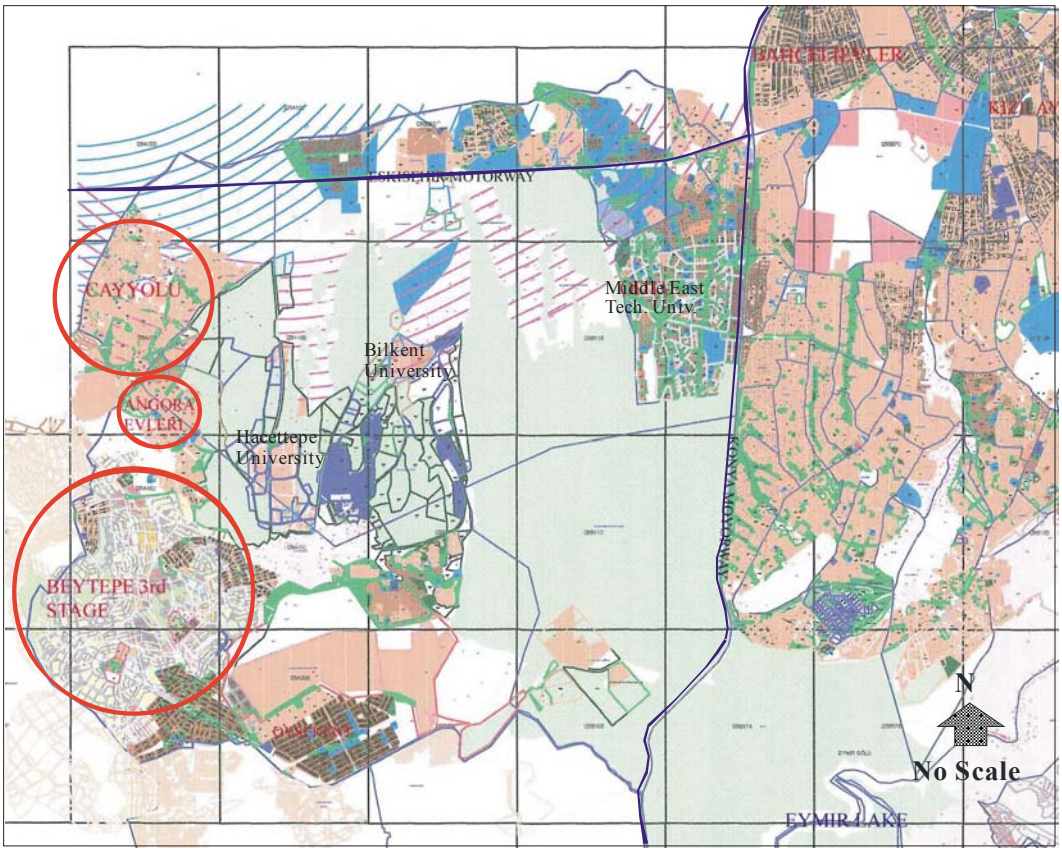


Figure 6. 1: Development plan of the Çankaya Municipality, Ankara

6.1.1.1 Beysukent

Beysukent is located next to the Hacettepe University Campus in Çayyolu District (Figure 6.2). The area covers only low-rise houses. Development of the area,

which was started in late 1980s, was undertaken by the housing cooperatives (Figure 6.3) as well as the individual house builders (Figure 6.4). There are housing estates such as Beyköy Sitesi, Altınşehir Sitesi, Ankara 85 Sitesi in addition to individually built houses. Today, Beysukent comprises approximately 700 housing units, of which Floor Area Ratios are ranging between 0.35 and 0.70.

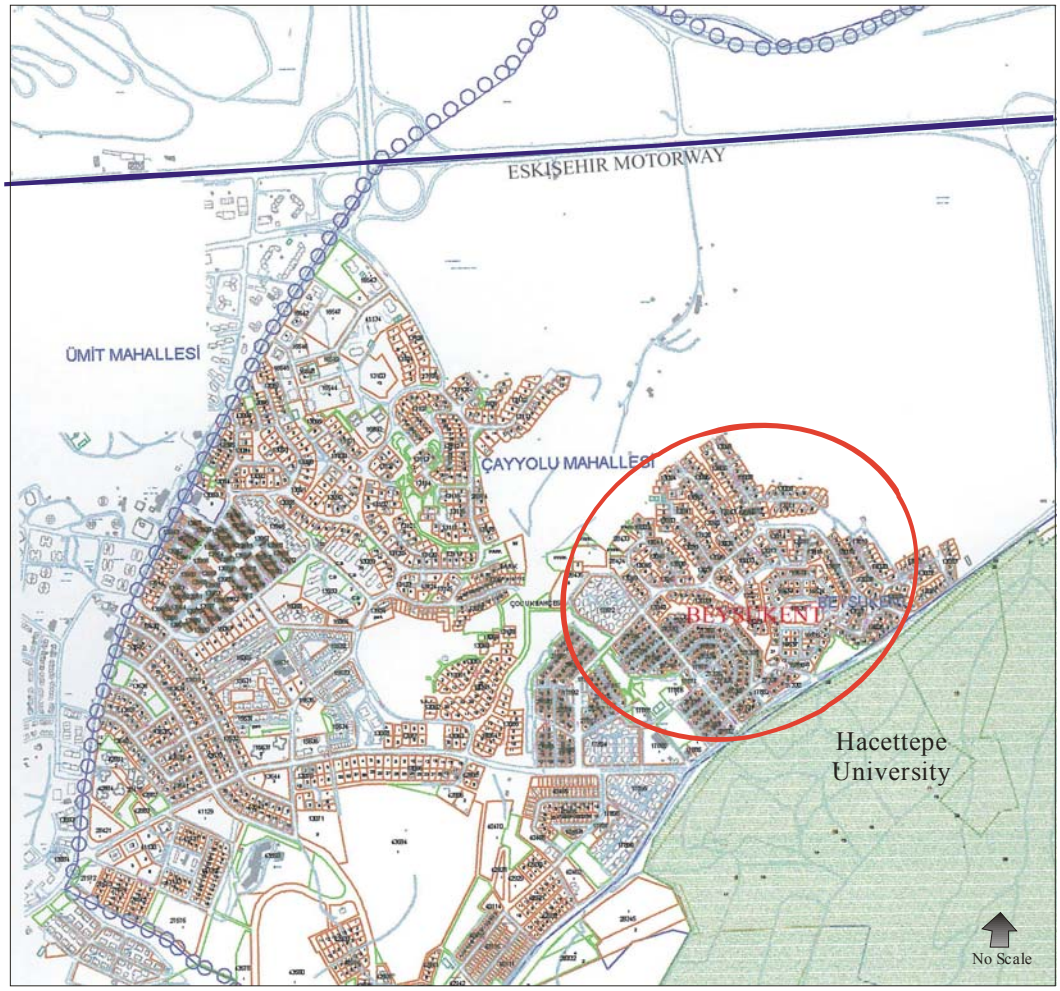


Figure 6. 2: Location of Beysukent

Figure 6. 3: Ankara 85 Sitesi, Beysukent

Figure 6. 4: Individually built houses in Beysukent

6.1.1.2 Angora Evleri

Angora Evleri is one of the most prestigious sites of Ankara which is located on the southern part of Beysukent, next to the Hacettepe University Campus (Figure 6.5). The area, of which development started in the 1990s with the expropriation of an area of nearly 200 ha around Beysukent locality by the Greater Ankara Municipality, covers luxurious villas and apartment dwellings.

Figure 6. 5: Locality and Urban Design of Angora Evleri

Barmek İnşaat undertook the project on behalf of SS Konut 18 Yapı Kooperatifi. Proposed plan was covering 930 villas (Figure 6.6) and 1030 apartment blocks (Figure 6.7). The area was designed in terms of building blocks, instead of single parcels and there are three major types of buildings: Villas, Row Blocks (4 or 5 stories) and Point Blocks (10, 12 or 14 stories). Areas of 6 building blocks are given on Table 6.1 as examples which cover different types of buildings.

Figure 6. 6: Villas, Angora Evleri

Figure 6. 7: Row Houses and Point Blocks, Angora Evleri

Figure 6. 8: Plan of Angora Evleri

Table 6. 1: A Sample of the Building Block Number, The Area of the Building Block and the Total Number of Housing Units of Different Types on that Building Block

	Building Block	Area (m²)	Housing Units on the Building Blocks
A	18949	11067	16 villas
B	18951	25703	1 point block, 6 row blocks, 17 villas
C	18957	22852	2 point blocks, 6 row blocks
D	18979	23251	4 row blocks, 26 villas
E	18999	7321	1 row block, 8 villas
F	18998	5959	8 villas

It is important to mention that both the villas and the dwelling in high-rise units are quite spacious. There are five types of villas: Barmek Villa, Triplex Barmek Villa, Barmek Villa with basement floor, Cooperative Villa with basement floor and Cooperative Villa without basement floor. Row Blocks, either 4 storied or 5 stories are divided into two groups: those with garage and without garage. Point Blocks are uniform regardless of the number of stories (Table 6.2).

Table 6. 2: The Total Building Areas of Cooperative Villas, Row Blocks (5-storied) and Point Blocks (10-storied)

	Villa	
	with basement floor	without basement floor
total building area (net, m²)	347	285
total building area (gross, m²)	403	329
	Row Block (5 stories)	
	without garage	with garage
total building area (net, m²)	2944	4744
total building area (gross, m²)	3388	5458
	Point Block (10 stories)	
total building area (net, m²)	5037	
total building area (gross, m²)	5722	

Although Angora Evleri is one of the most prestigious and qualified housing estates in the city, the legal process has not been performed regularly in the previous stages of development and even the Subdivision Plans (Parselasyon Planı) have not been approved by the Municipality yet. Therefore, the area has an unauthorized status today.

6.1.1.3 Beytepe 3rd Stage

The most recent project that was developed by the Çankaya Municipality is 'Beytepe 3rd Stage Project'. The implementation plan covers 800ha area, at the southern part of the Çayyolu District and subdivision plans have been recently approved by the Municipality. Project area covers both low-rise housing units and apartments where the Floor Area Ratios are determined as 0.50-0.75 for detached houses and villas, and 1.30-1.50 for apartment blocks. (Figure 6.9).

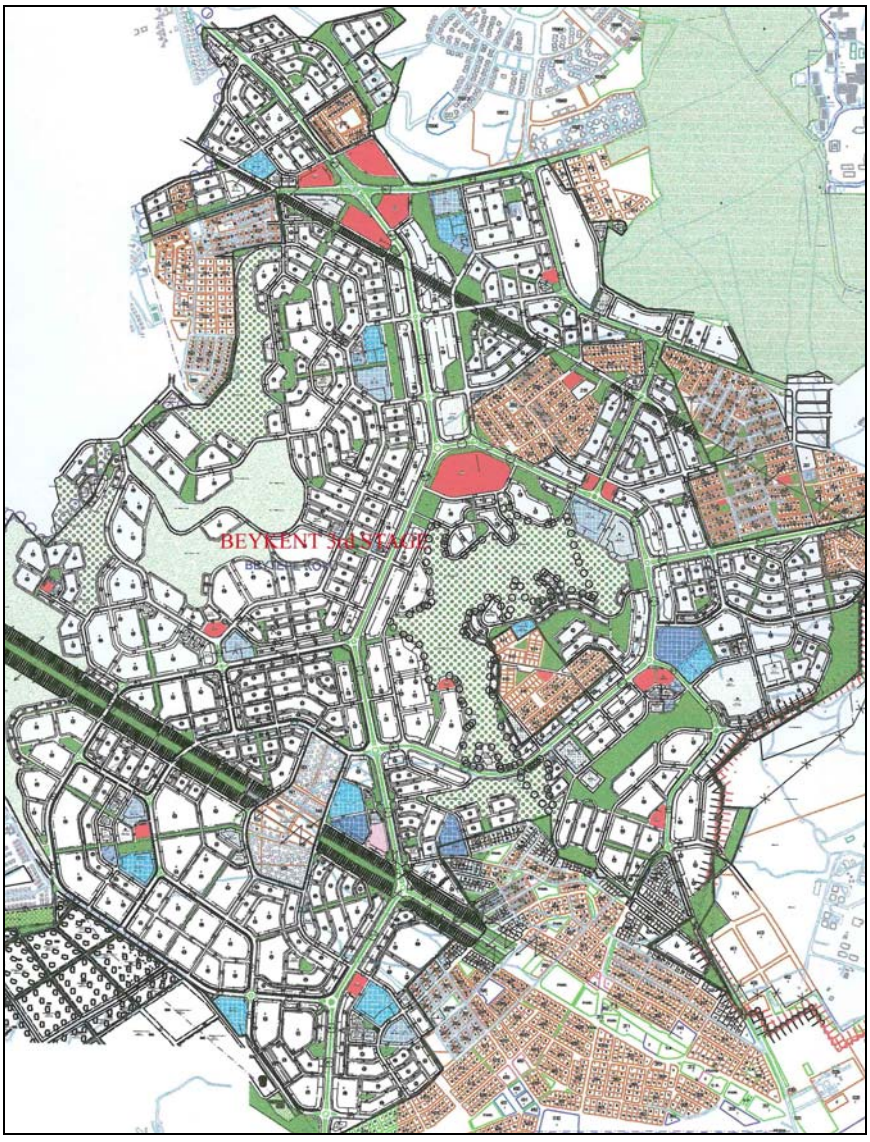


Figure 6. 9: The Plan of Beykent 3rd Stage

6.1.2 Low-rise Housing Development along the Eskişehir Highway, within the Boundaries of the Yenimahalle Municipality

Urban development on southwestern part of the city administrated by the Yenimahalle Municipality covers 5 major districts – Ümitköy, Koru, Konutkent, Buketkent and Yenikent – as well as Çayyolu II. In addition to this, municipial boundaries enclose two major villages – Alacaatlı and Dodurga – which have already been affected from the mass suburbanization.

Housing cooperatives pioneered the residential development and they are still the major house builders of low-rise housing developments operating in the area. Housing estates are comprised of either low-rise houses or high-rise apartment blocks, or in some areas both of them. There are more than 30 housing estates covering only the low-rise houses such as Hukukçu Dostlar Sitesi, Çamkoru Sitesi, Gözde Sitesi; in addition to the housing estates covering both low-rise and high-rise blocks together such as Mesa Koru Sitesi (Figure 6.10).

The number of housing units in the existing low-rise housing stock covered by the over-mentioned housing estates is nearly 3000 (Table 6.3), but the vast construction activities – particularly in Çayyolu Development Area and in Yenikent – are signaling that the number will likely be doubled in a few years time.

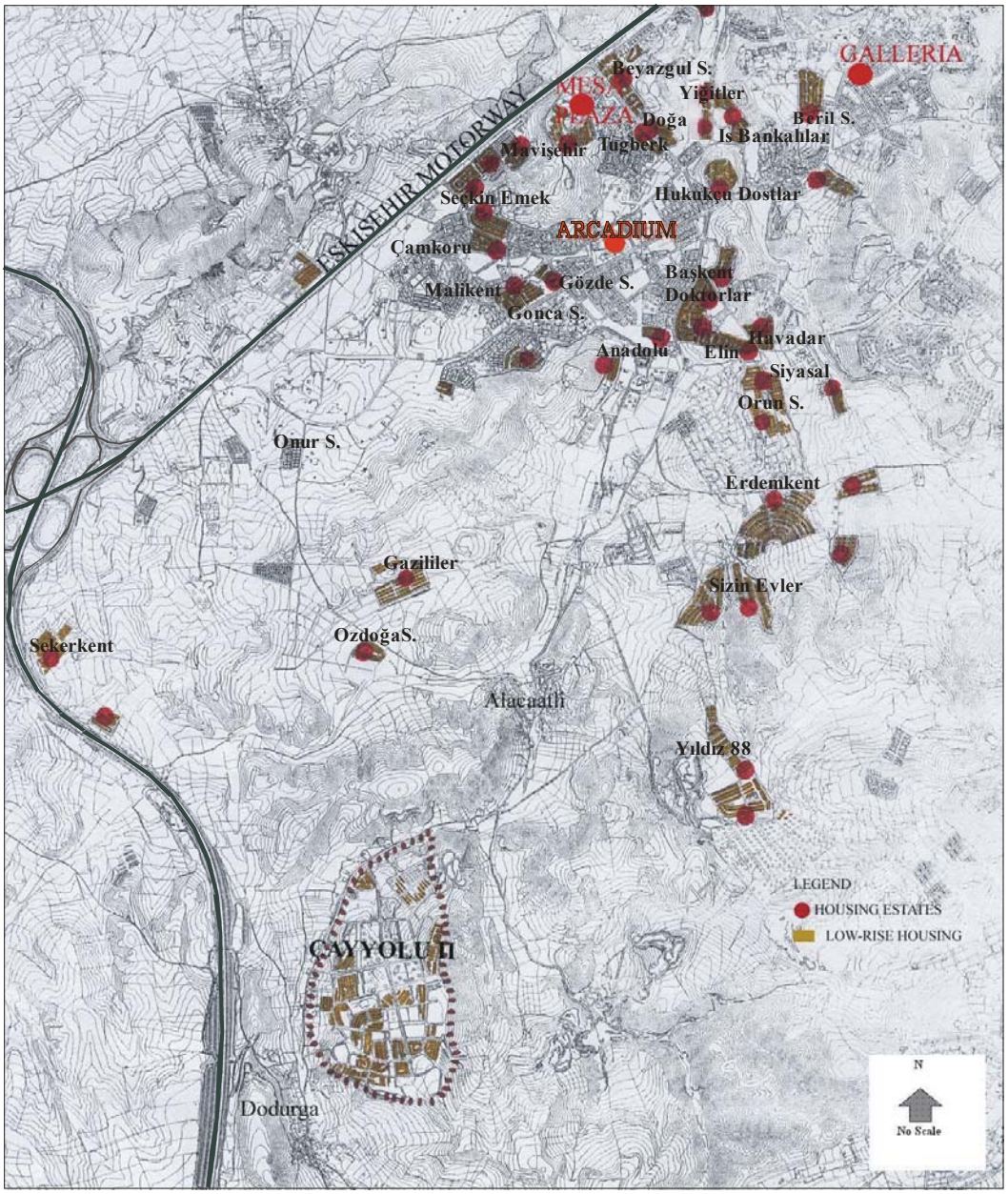


Figure 6. 10: Housing Estates Comprised of Low-rise Housing Units in Çayyolu, within the Boundaries of the Yenimahalle Municipality

Table 6. 3: Housing estates covering low-rise houses and the total number of units

Names of the Housing Estates (*Sites*)	**Total Number of Housing Units**
Seçkin Emek Sitesi	148
Yeşilkent Sitesi	105
Atakent	104
Yeni Mavişehir Sitesi	85
Apkan Sitesi (Yeşiltepe Evleri)	159
Çamkoru Sitesi	110
Gözde Sitesi	65
Gonca Sitesi	88
Malikent	42
Altın Terazi Sitesi	100
Başkent Doktorlar Sitesi	100
Deste Sitesi	174
Güvengir Sitesi	100
Elin Sitesi	82
Havadar Sitesi	104
Doruk Sitesi	28
Yiğitler Sitesi	48
Yarenler Sitesi	62
İş Bankalılar Sitesi	80
Tuğberk Sitesi	60
Doğa Sitesi	100
Beyazgül Sitesi	324
Birlikkent	30
Beril Sitesi	154
Temsa Sitesi	24
Ankara Evleri	24
Hukukçu Dostlar Sitesi	150
Anadolu Evleri	52
Mesa Koru Sitesi	120
Siyasal Sitesi	60
Orun Sitesi	108
TOTAL	2990

6.1.2.1 Explanatory Values (Land Coverage Ratios, Floor Area Ratios and Total Gross Area of Buildings) for the Developed and Developing Parts of the Area

Land Coverage Ratios (LCR) and Floor Area Ratios (FAR) of low-rise housing areas, and total gross area of single building take different values in already developed areas and developing parts. Indeed, LCRs are changing among 0.20, 0.30, 0.35, 0.40 and FARs are changing among 0.40, 0.60, 0.70 and 0.80.

In housing estates such as Seçkin Emek Sitesi, Mavişehir Sitesi, Çamkoru Sitesi, Akşar Sitesi, Başkent Doktorlar Sitesi, Tuğberk Sitesi, Doğa Sitesi, İş Bankalılar Sitesi, Yiğitler Sitesi, Yarenler Sitesi etc. (Figure 6.11), gross areas of each house is determined as 120m^2 while LCR is 0.40 and FAR is 0.80.

Beril Sitesi and Mesa Koru Sitesi differ from the other housing estates in terms of LCR, FAR and gross area of each single house. In Beril Sitesi, LCR is 0.35 and FAR is 0.70 according to the subdivision plan notes coded 72600. Moreover, it is determined that gross area of a house should not exceed 135m^2 in detached villas while the maximum height should be 6.50m (Figure 6.12). In Mesa Koru Sitesi (Figure 6.13), LCR is 0.30 and FAR is 0.60. It is clear that, FAR and LCR values are smaller in these housing estates while the total gross areas of the buildings are larger when compared to the other housing estates.

Figure 6.11: Examples of Currently Occupied Housing Estates in Çayyolu

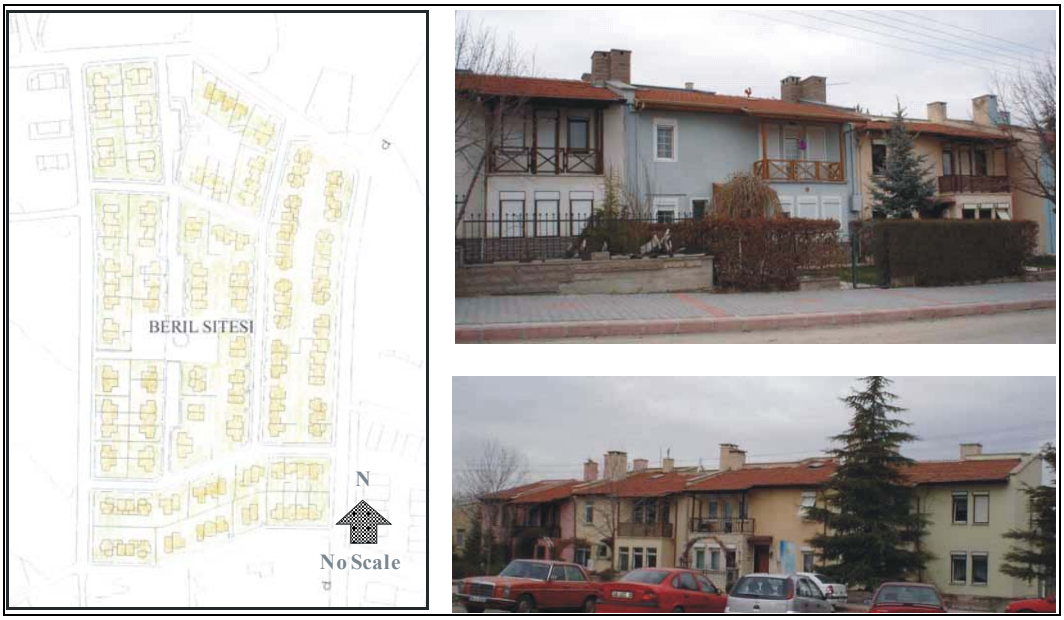


Figure 6. 12: Plan of Beril Sitesi and photographs from Beril

Figure 6. 13: Plan of Mesa Koru Sitesi and photographs from the Mesa Koru

Apart from the existing housing estates, there are two considerable low-rise housing development examples: Çayyolu Development Area and Yenikent Bahçelievler (Figure 6.14), within the boundaries of Yenimahalle Municipality.

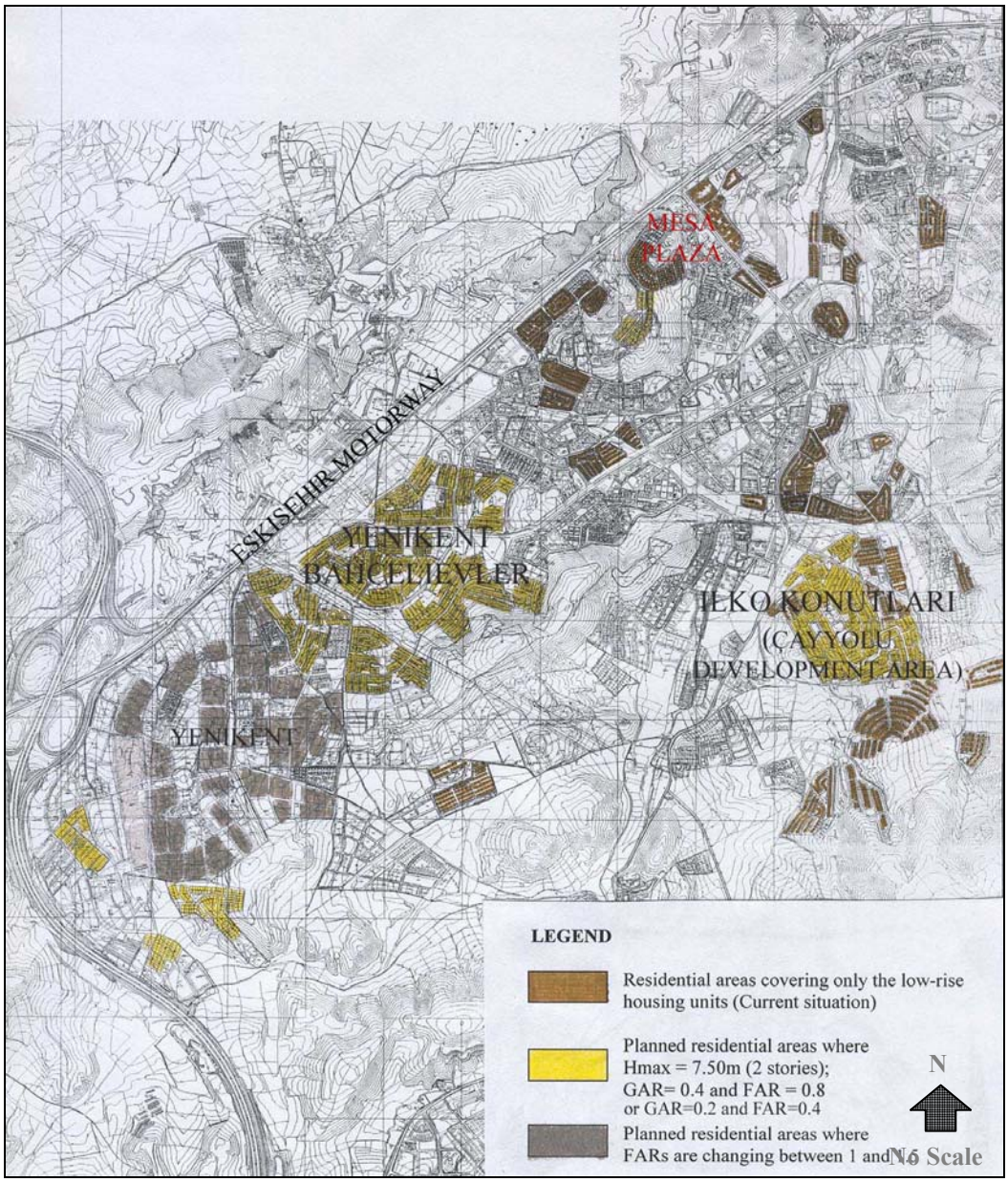


Figure 6. 14: Developing Areas in Çayyolu: Yenikent and İlko Konutları

Development area of Çayyolu, has been developed by İLKO Housing Cooperative, therefore the area is generally known as İLKO Konutları (Figure 6.15). Housing Cooperative provided the land and the architectural plans of housing units for the households. Then, individuals either built their houses themselves or get them built. The process, which was started in the second half of the 1990s, has not been completed yet but the construction activities are continuing extensively (Figure 6.16).

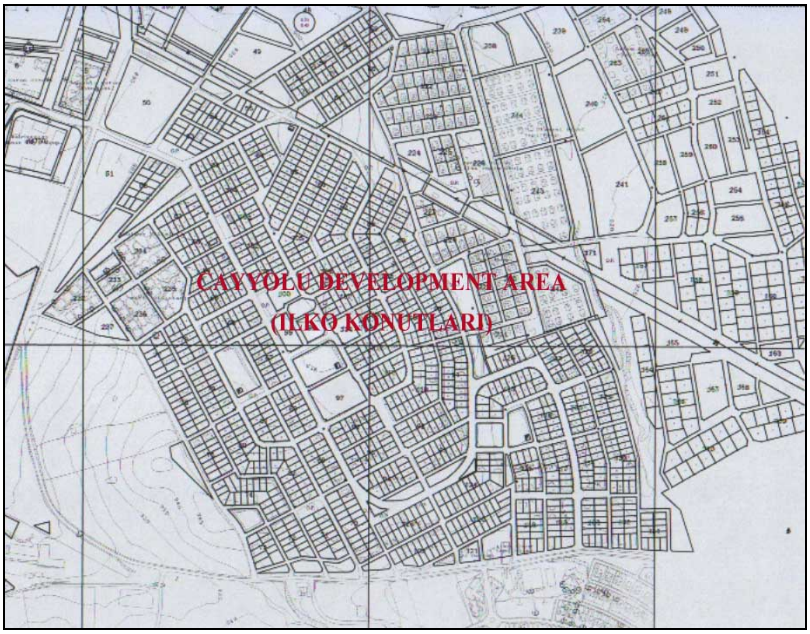


Figure 6. 15: Subdivision Plan of Çayyolu Development Area (İLKO Konutları)

Plan notes state that houses in İLKO should have 2 stories of which LCR is 0.20 and FAR is 0.40, while only one duplex house can be built on a single parcel. In addition to this, it is stated that facades should be minimum 13m in corner parcels and 11m in other parcels. It can be inferred from the plan decisions that a low-rise and low-density suburban area intended to be developed. But it will likely take some time to create a qualified living environment since the area has an appearance of a worksite currently while lacking some basic services such as street lightening and public transportation.

Figure 6. 16: İlko Konutları

There are some other developments neighboring İLKO, such as Metiş Country Villaları (Figure 6.17) on the northwestern part, Orun Villaları (Figure 6.18) and Siyasal Sitesi (Figure 6.19) on the northeastern part and İshakağa Konutları on the eastern part (Figure 20). These housing estates are comprised of luxurious, large villas. For example in Metiş Country Villaları, there are 32 villas; the net area of each is as large as 450 m^2.

Figure 6. 17: Metiş Country Villaları

Figure 6. 18: Orun Sitesi

Figure 6. 19: Siyasal Sitesi

Figure 6. 20: İshakağa Villaları

Yenikent Bahçelievler is the other important residential development area (Figure 6.21). It is asserted that LCR is 0.40 and FAR is 0.80 in two-storied houses in subdivision plan notes coded 84016/3. Yenikent Bahçelievler also covers three-storied buildings where floor areas are allocated to commercial activities while the second and the third stories are allocated to residential use. In such areas, LCR is determined as 0.40 while FAR is determined as 1.20. Although the subdivision has already been completed, construction activities are quite few currently (Figure 6.22).

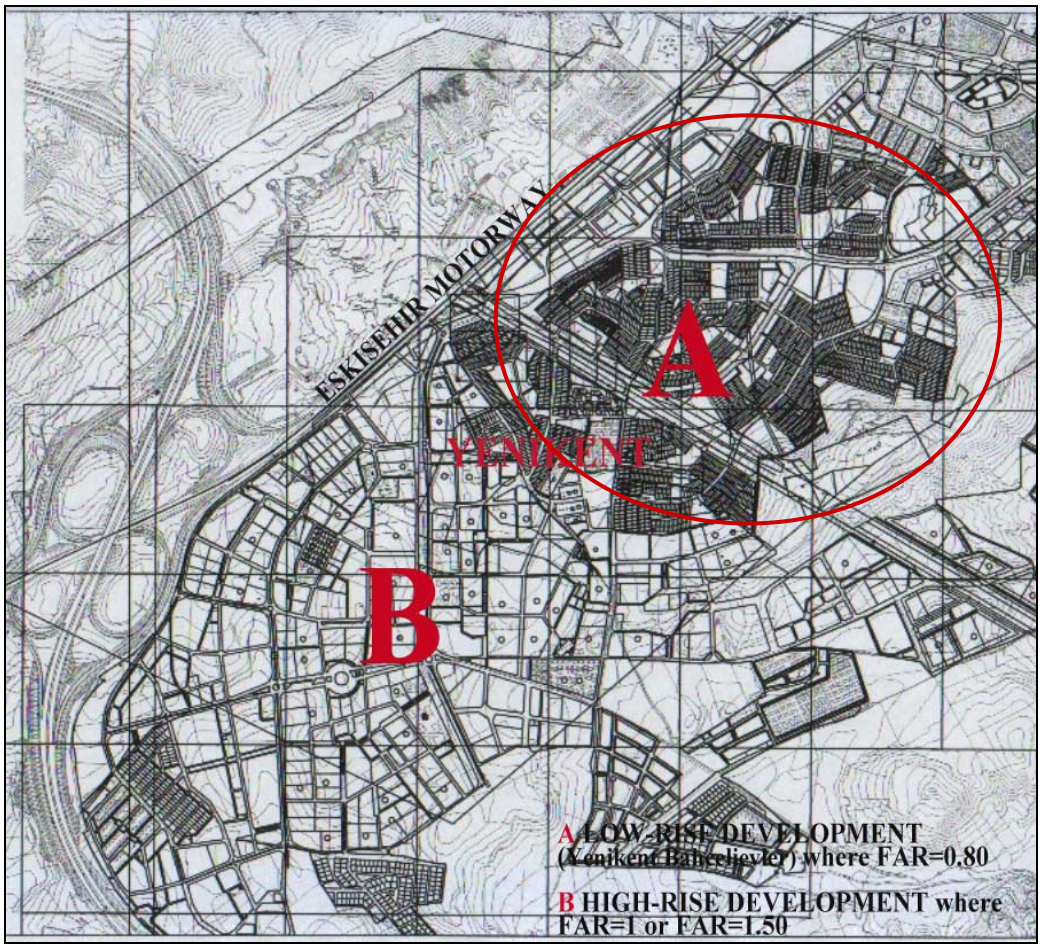


Figure 6. 21: Subdivision Plan of Yenikent

Figure 6. 22: Current Situation of Yenikent Bahçelievler Development Area

Apart from the low-rise developments, considerable high-rise developments have been planned by the Yenimahalle Municipality (Figure 6.23) where LCR is determined as 0.35 and FAR is determined as either 1 or 1.50 in the plan notes. For instance, subdivision plan notes coded 84159 assert that gross densities would be 200 people per hectare and maximum gross area of a dwelling should be 150 m^2 except for the balconies.

Figure 6. 23: High-rise Blocks in Yenikent

6.1.3 Low-rise Housing Development along the Eskişehir Highway, beyond the boundaries of the Greater Ankara Municipality: Temelli Yenihisar Villakent Project

The other conspicuous residential development of the recent years is Temelli Yenihisar Villakent Project which was initiated in the 2000s. The area is located about 45 km away from the center of Ankara along the Eskişehir Highway within the boundaries of the Temelli Municipality (Figure 6.24). The project, which covers about 2740 low-rise housing units (villas) and 150 apartment blocks, is undertaken by Türkkonut. In low-rise housing areas FARs are ranging between 0.40 and 0.50, while in high-rise apartment areas the value is increasing to 1,00 and 1,20.

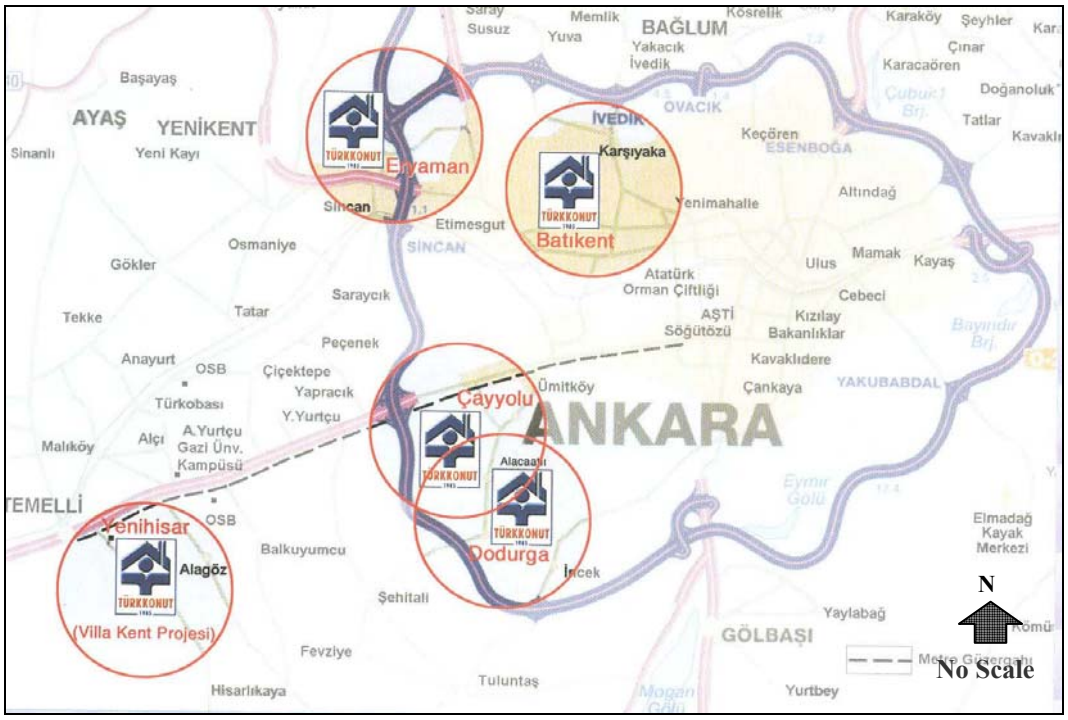


Figure 6. 24: Location of Temelli-Yenihisar Villakent Project in Ankara Metropolitan Area

Source: Türkkonut 2005:41

Türkkonut provides the infrastructure of the area and architectural plans of the units. Housing cooperatives or individuals are expected to build the houses according to these architectural plans. The system is named as 'make your home yourself (kendi yuvanı kendin yap)'. In the area, health and sports centers, kindergartens, schools, a police station, post office, cultural and convention centers and shopping centers have been suggested in the project.

Moreover, financial opportunities are also provided for the households in terms of long-term, low-interest rate bank credits. Among the 8 housing cooperatives which undertook some parts of the project, 2 of them have started the construction activities recently.

Figure 6. 25: Model of the Temelli-Yenihisar Villakent Project

Apart from the project area developed by Türkkonut, there are two distinctive areas adjacent to Temelli Yenihisar Villakent Project which have been developed by İdareciler Housing Cooperative and Bayındır Housing Cooperative (Figure 6.26).

Figure 6.26: Plan of Temelli Yenihisar Villakent Project

The importance of the project comes from its uniqueness of being an actual satellite town in Ankara. The leap-frog development will obviously take the outer-city development pattern of Ankara Metropolitan Area one step further through the western corridor. Moreover, it is important to mention that although the area is located quite far from the city; both low-rise and high-rise housing units have been provided.

6.2 Urban Development in Gölbaşı

In recent years, areas around the Mogan Lake within the Gölbaşı Municipality have experienced a rapid development. Gölbaşı Municipality joined the Greater Ankara Municipality boundaries in 1991 and the number of suburban developments has increased greatly, since then. It is important to mention that the residential development pattern of Gölbaşı is different from the other development areas because the land around the Mogan Lake, covering a 245 km^2, has been declared as the 'Natural Preservation Area' (Figure 6.27). Therefore urban development is subject to certain regulations and restricted building codes, considering the natural environment preservation requirements here.

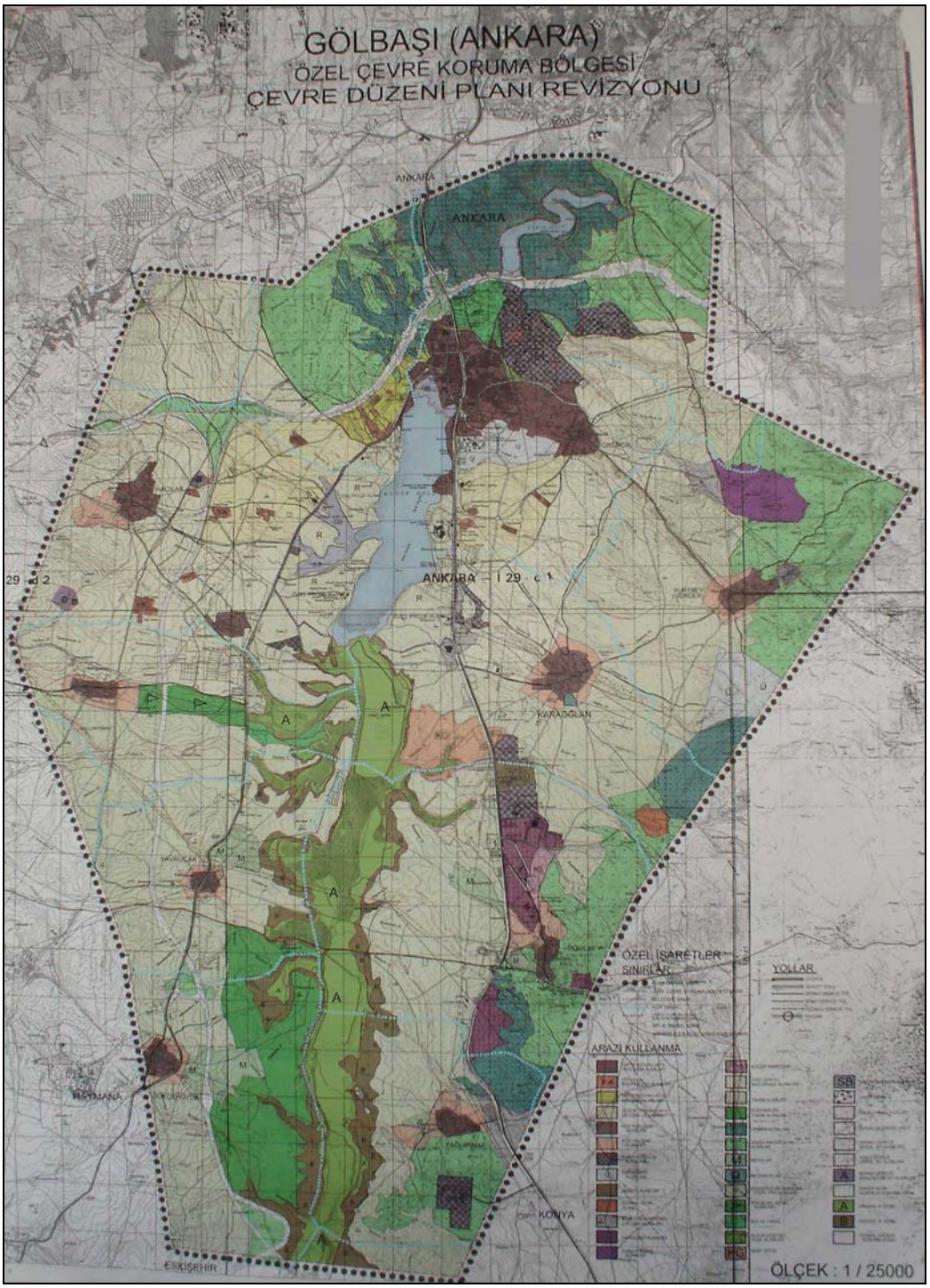


Figure 6. 27: 1/25000 Natural Preservation Plan of Gölbaşı

According to the Plan Notes, the area is divided into particular zones with respect to their locality and development potential, except for the already developed areas and the village of Gölbaşı. In the first zone, adjacent to the Gölbaşı village, FAR is determined as 0.20, while the minimum subdivision of land is 750m^2, and the maximum building height is 6,50m. In the next zone to the new development area, which has lost its agricultural characteristics and where the demand for urban land-uses is quite high, FAR is determined as 0.15, the minimum subdivision of land is 1500m^2, and the maximum building height is 6,50m. There are more than 40 Housing Cooperatives[18] operating currently within the Natural Preservation Area, in these two zones of development (Figure 6.28).

Apart from the development areas, 10 villages (Hacılar, Hacıhasan, Ballıkpınar, Yavrucak, Gökçehöyük, Yağlıpınar, Oğulbey, Karaoğlan, Yurtbeyi, Örencik) are located within the boundaries of the Natural Preservation Area. In these areas FAR is determined as 0.20 while the minimum subdivision of land is 1000m^2, and the maximum building height is 6,50m. In their neighboring development areas to these villages, FAR is determined as 0.20 while the minimum subdivision of land is 1500m^2, and the maximum building height is 6,50m.

[18] Tuhafiyeciler Koop., Avcılar Koop., Adost Koop, Fizikçiler Koop., Elektrokent Koop., Güvencem Sitesi, Müzikçiler Koop., Göl Koop., Müzik Sevenler-1 Koop., Müzik Sevenler-2 Koop., Ak Konut Koop, Şiringöl Koop., Villa Kur Koop., Yurdum Koop., Kır Konakları, Uçhisar Koop., Merkez Kent, Oğuz Koop., Gülce Koop., Göl Koop., Songülen Koop., Öğretmenler Koop., Huzur Sitesi, Mogan Koop., Görkem Koop., Demirkent, Örenkent Koop., Doktorlar Sitesi, Hipokratlar Sitesi, İlk Şafak Koop, Başkent Koop., Ece Koop., Yurdum Koop., Gölköy Koop., Yeşil Dostlar Koop., Özgür Koop., Umut Park Koop., Rüya Kent Koop., Öztürk Koop., Papatya Sitesi, TRT 1 Sitesi, Haber 1 Sitesi.

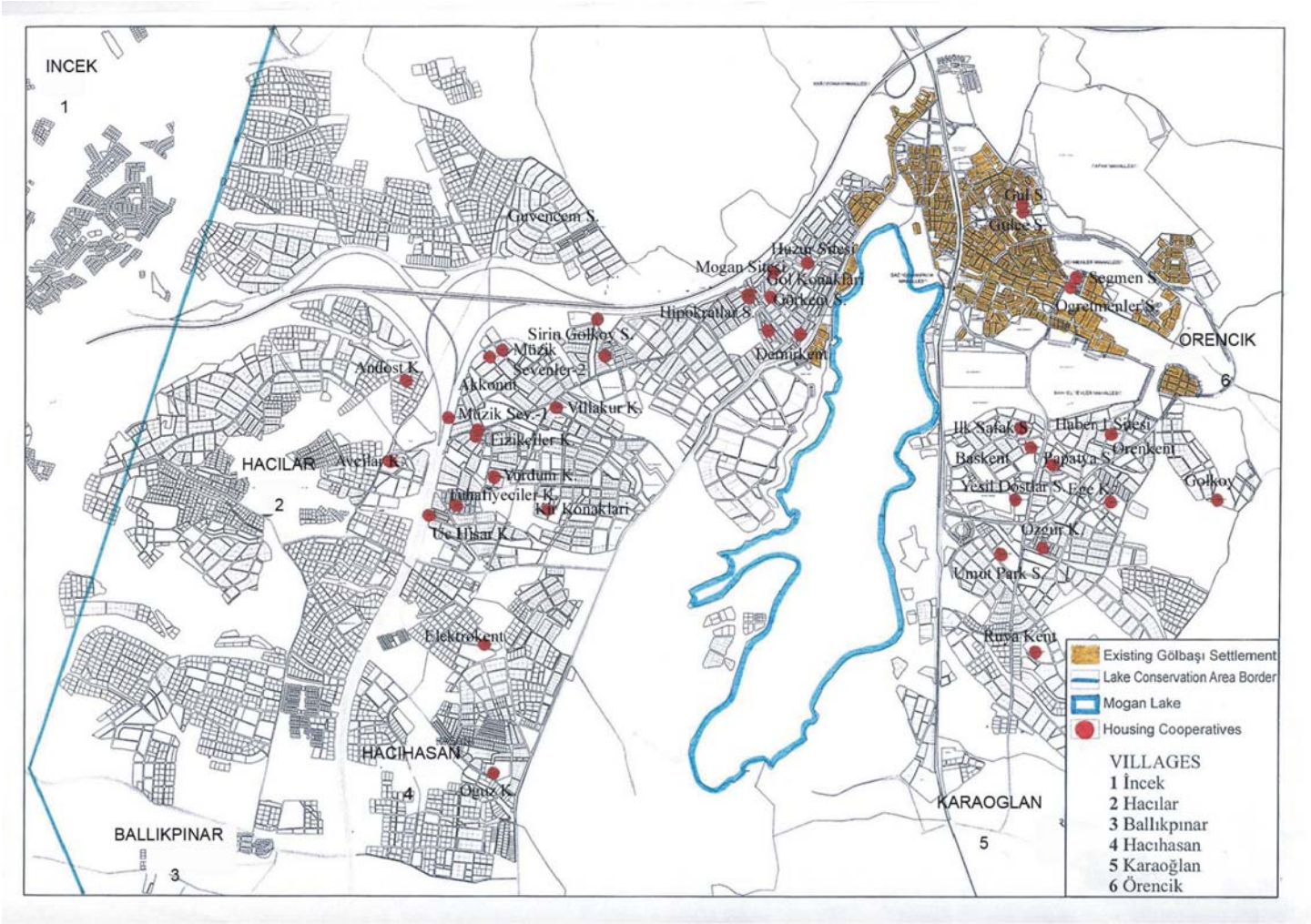


Figure 6.28: Examples of Currently Occupied Housing Estates in Gölbaşı

Figure 6.29: Housing Estates from Gölbaşı

To sum up, Gölbaşı development area comprises only low-rise, low-density housing areas as a result of the Natural Preservation Plan decisions. However, urban sprawl is not restricted within the boundaries of the Natural Preservation Area. Indeed, there is an ongoing suburbanization outside the boundaries, particularly in İncek, Dodurga and Tuluntaş. İncek primarily covers luxurious low-rise housing estates while Tuluntaş, which locates beyond the circumscribing motorway, covers both low-rise housing units and some high-rise blocks, as well.

6.3 Floor Area Ratios of the Study Areas

Urban land rent theories, which were discussed in the second chapter, suggest that the land rents decrease with the increasing distance from the center, and FARs are expected to be smaller at the outskirts when compared to the center. With regard to this, the hypothesis was put in the previous chapter stating that urban densities and accordingly floor area ratio (FAR) falls with increasing distance from the city center for all types of housing (Hypothesis [1]).

In that sense, average FARs are calculated for the study area, which covers the south-western corridor and the southern part of the city. Findings are substantially in accordance with the theory and the facts support the hypothesis, since FARs decrease gradually from the CBD to the outskirts. Indeed, the values which are changing between 2.00 - 4.50 at the center (Topçu, 2004:95), fall to 0.80 and even 0.50 at the outskirts (Figure 6.30).

Moreover it was stated that outskirt developments comprise both low-rise housing units and high-rise apartments together in Ankara which are compensated with lower densities and better urban services when compared to the centrally located neighborhoods (Hypothesis [2]). As mentioned before, currently developed areas and developing areas cover low-rise houses and apartments. But it is important to remind that average FARs are still quite low when compared to the centrally located neighborhoods and these areas are designed considering better urban services which will be explained in the household questionnaire in a detailed way.

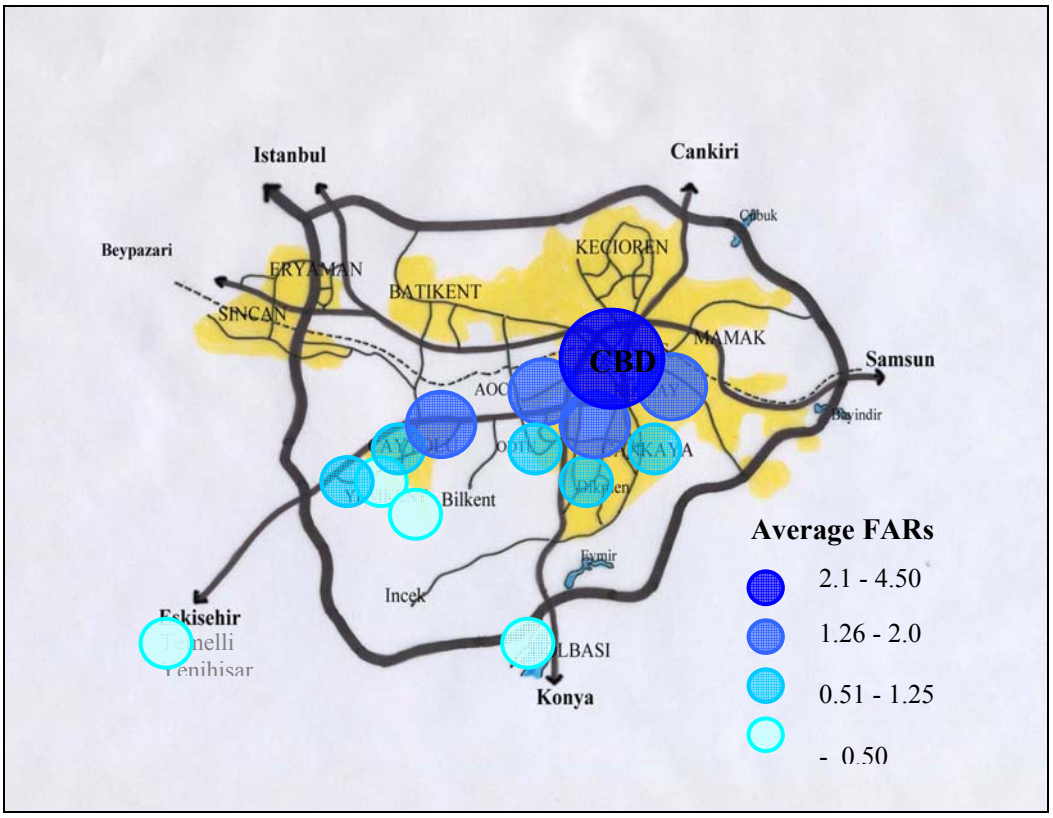


Figure 6. 30: Average FARs at the CBD and on the southern part of the city

6.4 Evaluation of the Household Questionnaire

Households living in low-rise houses in Çayyolu have some common attributes. In the previously stated hypothesis, these households are expected to be mostly the owners and generally families with children, while the units are expected to be large in size, having more than three rooms in each unit [3]. They are also expected to be professionals and high-status managers with a good educational background [4] who generally use private cars in daily commuting [5]. Moreover, it is expected that they do not consider living close to the workplace as the prominent factor of the locational choice of their residences [6] and they compensate transport costs and high maintenance costs of their houses with intimacy, prestigious environment and better urban services [7].

A household questionnaire survey was carried out in order to reveal the characteristics of the low-rise housing developments in Çayyolu with respect to household and housebuilder attributes. Among the 45 housing estates which cover only low-rise houses, 20 of them[19] were selected randomly and the survey was performed on 196 households. The number of households was determined with regard to the total number of housing units in each housing estate. Indeed, 14 households were questioned in the housing estates where the total number of housing units exceeds 100, while 7 households were questioned in other housing estates where the total number of housing units is below 100.

The questionnaire aimed to demonstrate the general characteristics of the households, their residential preferences, commuting activities, trade-offs that are facing them and the level of their satisfaction from the residences and the urban environment. The outcomes are quite informative to understand the household rationality, and to deduct a rough categorization of individuals who prefer to live in low-rise houses which are relatively far from the city center.

6.4.1 General Characteristics of the Households

The outcomes show that most of the households are the owners while only 20 households are living in tenant status (Figure 6.31). Monthly rents are changing between 450 YTL and 1200 YTL, most of which are between 550 YTL and 750 YTL (Figure 6.32). Moreover, 89% of the households had been living in an apartment dwelling before moving to their low-rise houses (Figure 6.33).

[19] The selection of samples and the execution of interviews were undertaken by 'Veri-Araştırma A.Ş.', on contract with the Scientific Research Projects (BAP) of coordination unit of METU. The names of selected housing estates are: Seçkin Emek Sitesi, Yeşilkent, Uyum Sitesi, Atakent, Mavişehir, Gözde Sitesi, Gonca Sitesi, Çamkoru Sitesi, Akşar Sitesi, Malikent, Doğa Sitesi, Beyazgül Sitesi, Mesa Koru Sitesi, İş Bankalılar Sitesi, Hukukçu Dostlar Sitesi, Başkent Doktorlar Sitesi, Beril Sitesi, Altınşehir Sitesi, Ankara 85 Sitesi and Beyköy Sitesi.

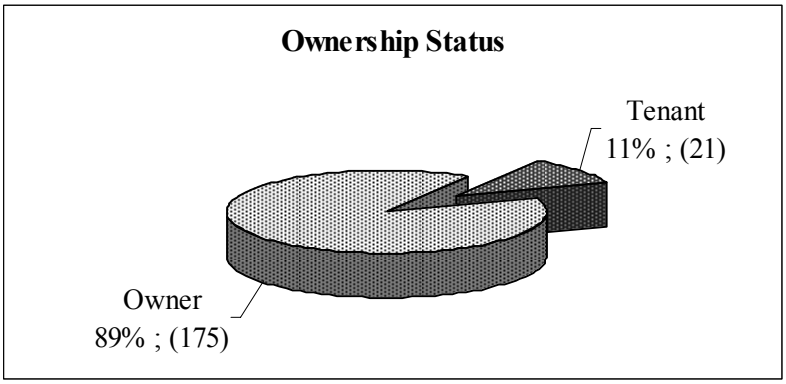


Figure 6. 31: Ownership statuses of the households

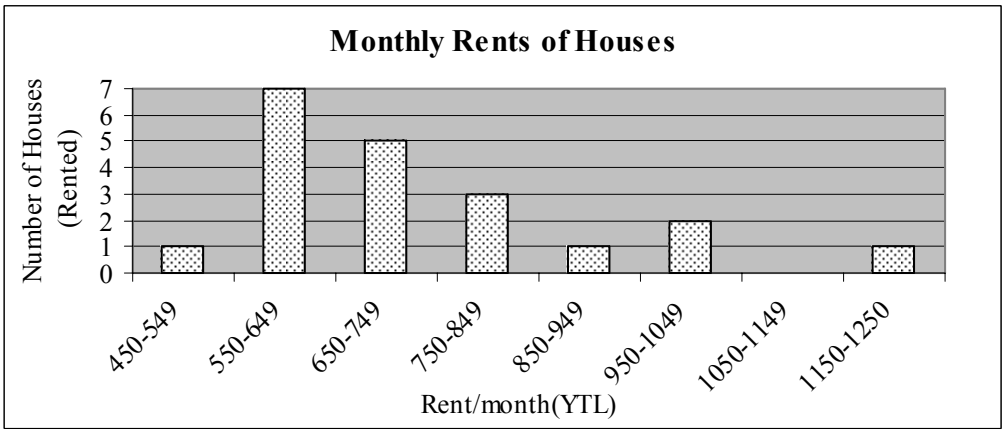


Figure 6. 32: Monthly rents of the houses

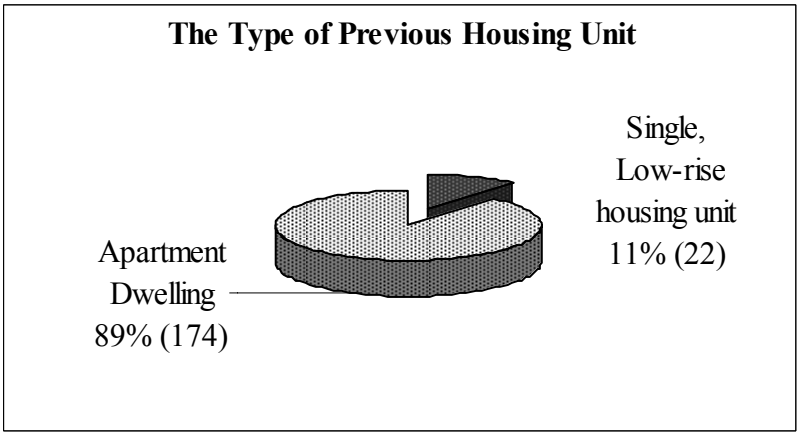


Figure 6. 33: The type of the previous housing unit

Family sizes are generally ranging between 3 and 5, while there are some households who live single and a few of them are couples (Table 6.4). The total number of children in 196 houses equals to 192. In 22 houses there is one child and in 23 houses there are 2 children who are not studying. In addition to this, there is one child in 43 houses, 2 children in 34 houses and 3 children in 5 houses who are studying (Table 6.5). Most of studying children are university students, while 55 of them are studying in Ankara and 7 of them are studying out of Ankara[20].

Table 6. 4: Household Sizes

Number of Persons in the Household	Number of Housing Units
1 person	7
2 people	60
3-5 people	124
6 and more	5
Total	196

Table 6. 5: Number of Children with regard to their Education

Education of the children		Number of the children
Not studying		68
Studying		124
Elementary school	33	
High school	29	
University	62	
Total		192

[20] They are studying in Boğaziçi University (İstanbul), Anadolu University (Eskişehir), Erciyes University (Kayseri), Kıbrıs and in the Netherlands

Apart from the ownership pattern and family sizes; households' education level, employment status and occupation are important indicators that help to reveal the socio-economic status. To begin with, education levels appear to be quite high since 76% of the household heads have an undergraduate degree and 15% of them have a graduate degree (Figure 6.34). The number of university graduates is also high among the household heads' spouses (Figure 6.35).

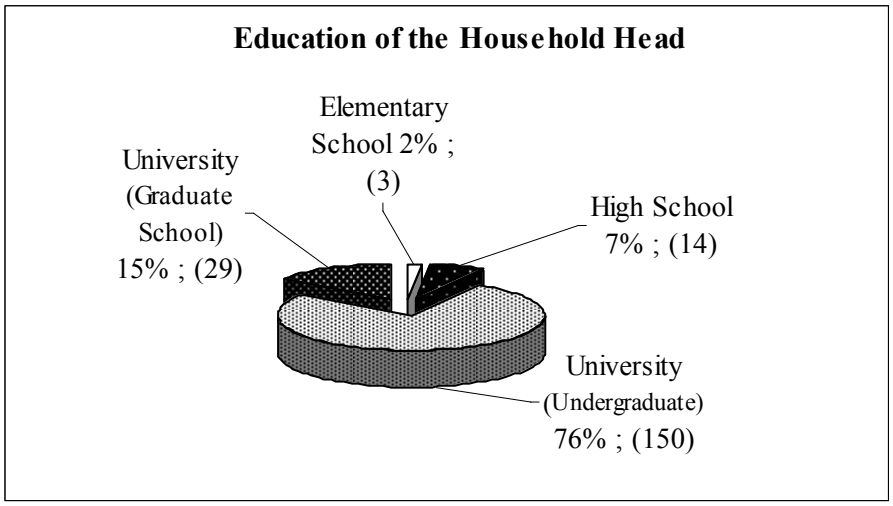


Figure 6. 34: Education of the Household Head

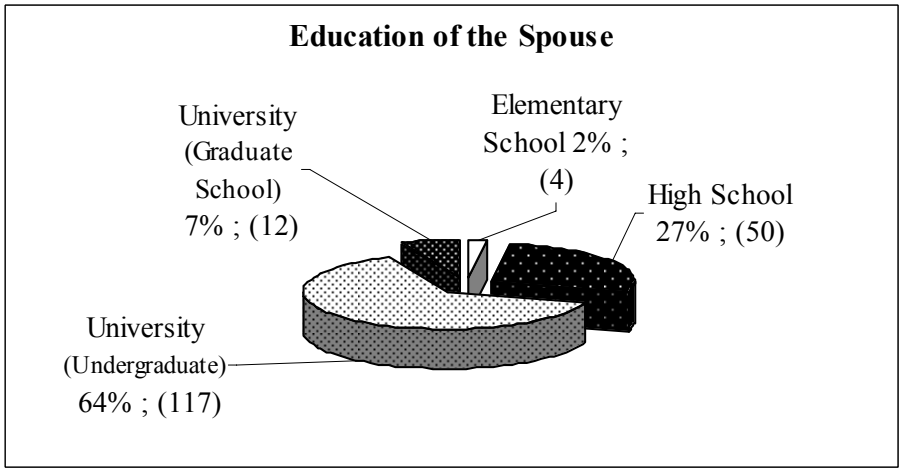


Figure 6. 35: Education of the Household Head's Spouse

When the employment status and occupation are in question, it is worth mentioning that at least one household is working in 140 houses, while the total number of working population is equal to 228 (Table 6.6). On the other hand, the percentage of retired households are considerably high, since 41% of the household heads and 40% of the household heads' spouses are retired (Figure 6.36 and Figure 6.37). The fact can be explained as the houses are preferred by retired people due to some advantages, such as better environmental quality, quietness and peace. Another explanation would be that retired people who do not need to commute choose to live in a low-rise house at the periphery. This will be discussed in detail way while mentioning the reasons that motivate the households to move to their low-rise houses and their level of satisfaction from their residences.

Table 6. 6: Working Population

Number of Working Individuals of the Household	**Number of Housing Units**	**Working Population**
No working household	56	
1 person	63	63
2 people	68	136
3 people	7	21
4 people and more	2	8
Total	196	228

The number of regular employees (that covers civil servants and other wage owners) seems to dominate the others among the working population, since 35% of household heads and 22% of spouses are working in that status. Household heads are generally working as scientific, technical and professional staff or as administrative and managerial staff. The ratio of employment is relatively low among the spouses; but among the employed ones, scientific, technical and professional staff is relatively higher then the other occupations (Figure 6.36 and Figure 6.37).

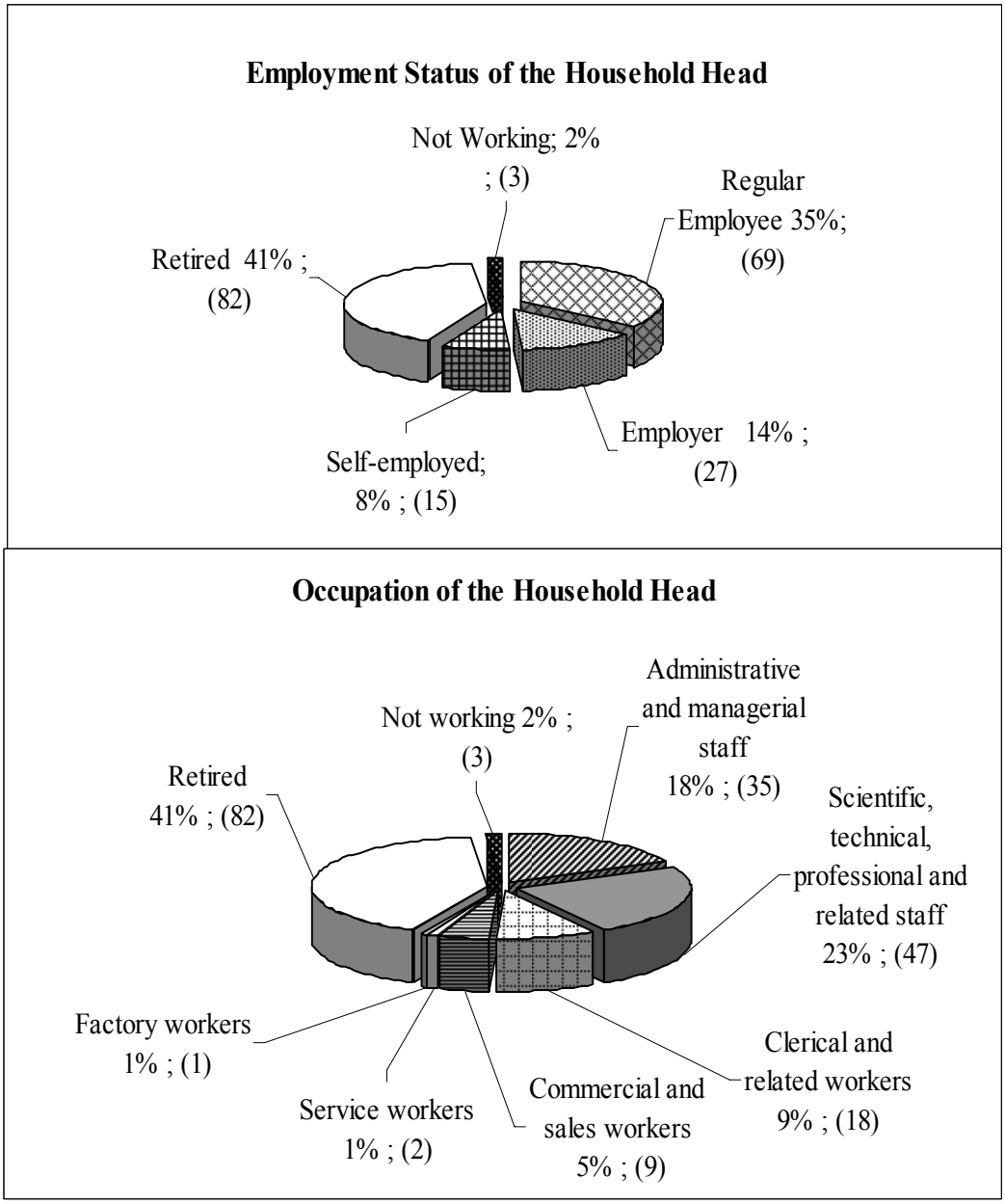


Figure 6. 36: Employment status and occupation of the household head

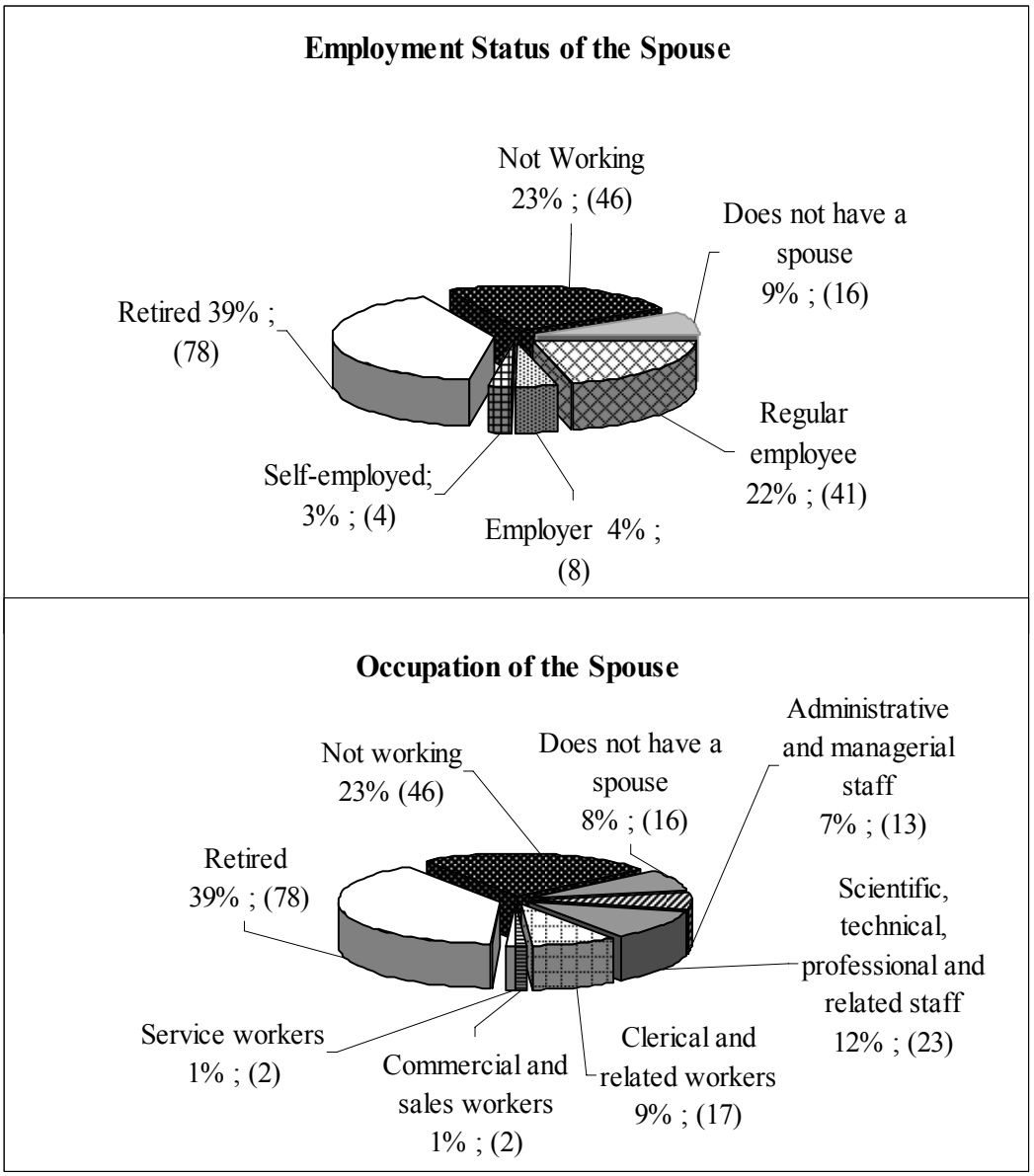


Figure 6. 37: Employment status and occupation of the household head's spouses

In accordance with the education levels and employment status of the households, monthly incomes are relatively high[21] since 82% of the households' monthly incomes exceed 2.000 YTL while 25% of this 82% group monthly incomes are over 5.000 YTL (Figure 6.38). Regarding the relatively high socio-economic status and the preference of living far from the city, the level of car ownership is

[21] 8 households did not mention their monthly incomes.

expected to be high. The outcomes confirm this argument since there is at least one private car in 92% of houses (Figure 6.39).

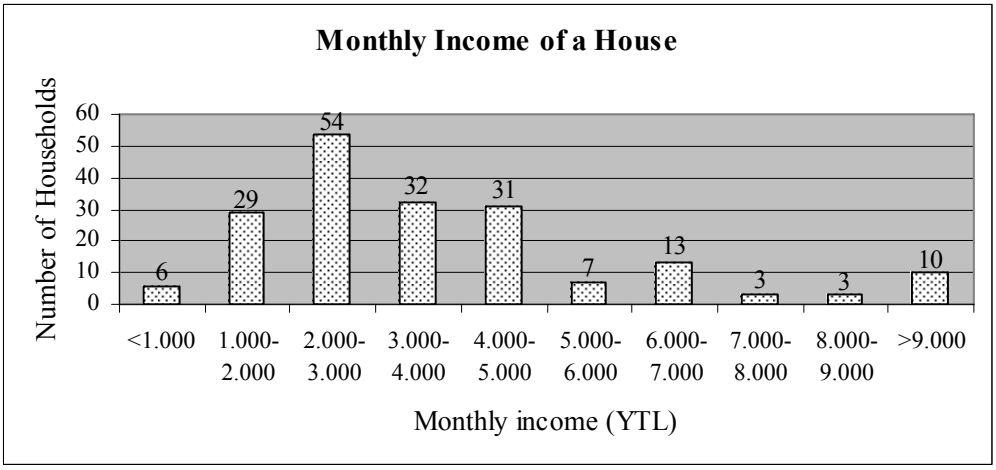


Figure 6. 38: Monthly income of households

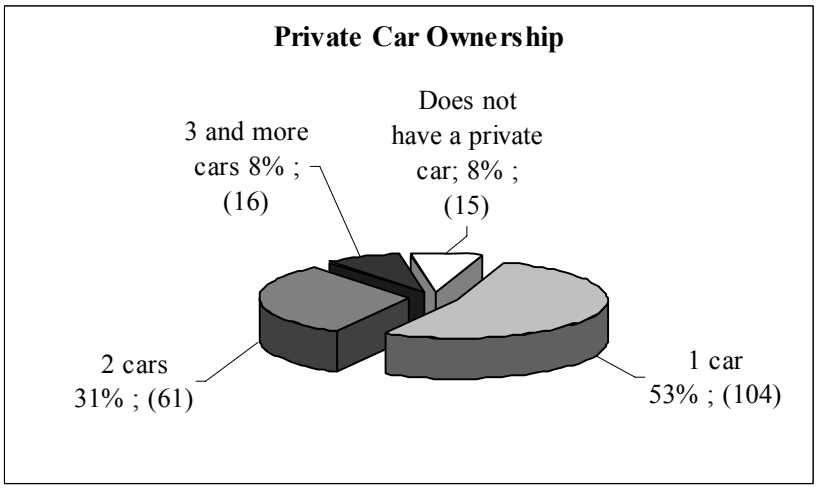


Figure 6. 39: Private car ownership

In fact, correspondence analysis demonstrates that the incomes of the households who have a private car are relatively higher and those whose monthly incomes are below 1.000 YTL do not have a private car (Figure 6.40).

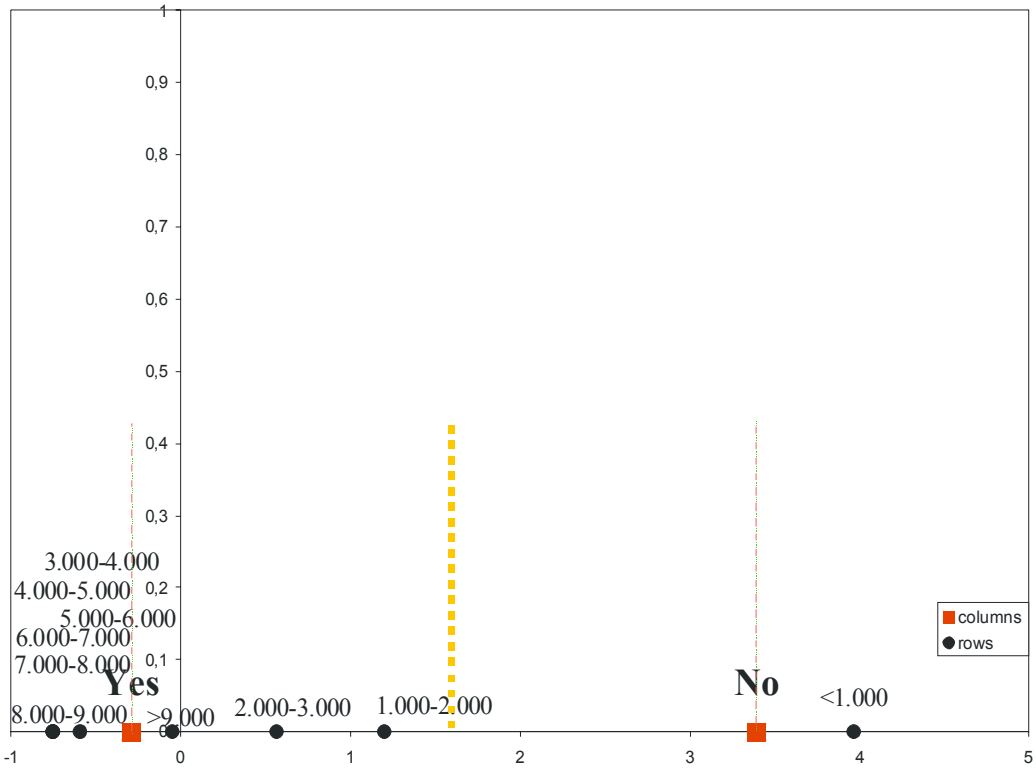


Figure 6. 40: Correspondence between monthly income (YTL) and private car ownership

6.4.2 The Reasons that Motivate the Households to Move to their Low-rise Houses in Çayyolu

Households change their residences due to various reasons. Now, it is important to reveal that reasons which motivate them to move to their low-rise houses in Çayyolu as well as their locational considerations and the level of their satisfaction from their residences.

To begin with, 90% of the households had been living in Ankara previously, while 9% of them came from other provinces (İstanbul, İzmir, Antalya, Trabzon, Sivas, Hatay, Tekirdağ, Van and Şırnak), and 1% of them came from abroad (Belgium and Malaysia) to Ankara, Çayyolu (Figure 6.41).

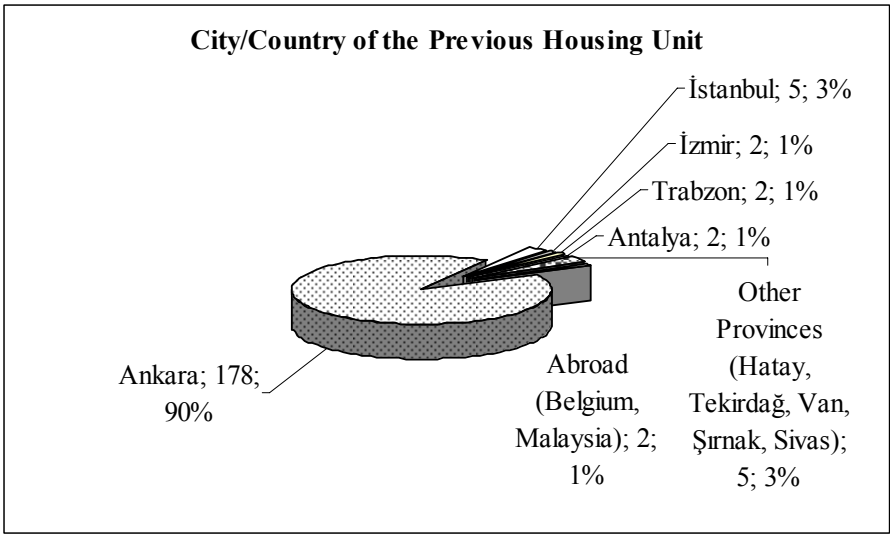


Figure 6. 41: City/country where the previous housing unit is located

Those who had been living in Ankara moved from different districts to Çayyolu. The most significant movement within the city had been from Çankaya-Gaziosmanpaşa (GOP). In fact 44% of households relocated from Çankaya-GOP (particularly from Gaziosmanpaşa, Ayrancı, Küçükesat and Oran) to Çayyolu. The second major group including 26% of households moved from Kızılay, Bahçelievler and Emek to Çayyolu. The residential movement within Çayyolu remained relatively lower since only 13% of households changed their residences within the same district (Figure 6.42).

On the other hand, the percentage of those that moved from the northern part of the city to Çayyolu is considerably low. Indeed, only 10% of households had been living in Keçiören, Mamak and Yenimahalle, and 7% of them had been living in Batıkent, Eryaman and Sincan, before settling in Çayyolu (Figure B). As a result, it can be argued that the ones who are living in the low-rise housing areas in Çayyolu generally came from the south-eastern parts and the centrally located neighborhoods of the city (Figure 6.43).

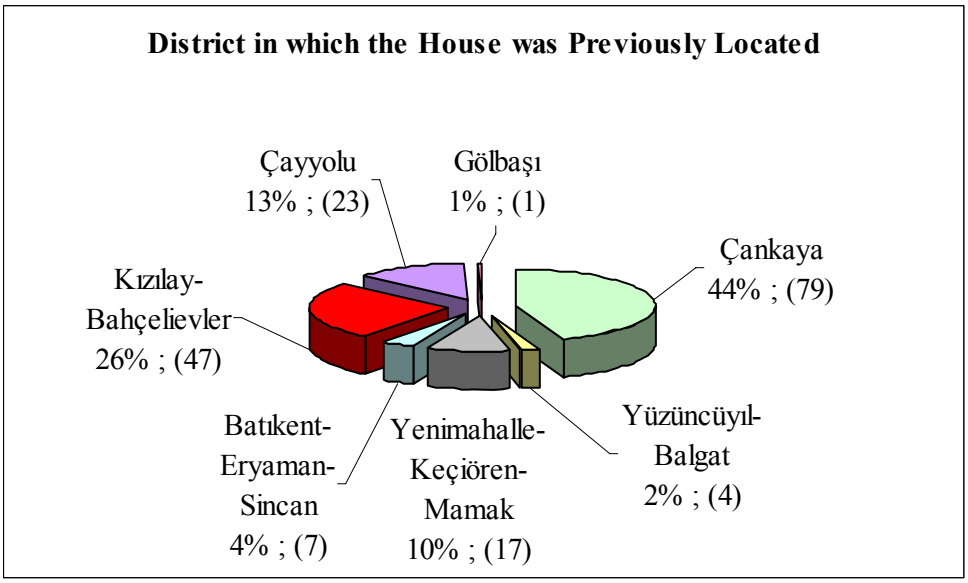
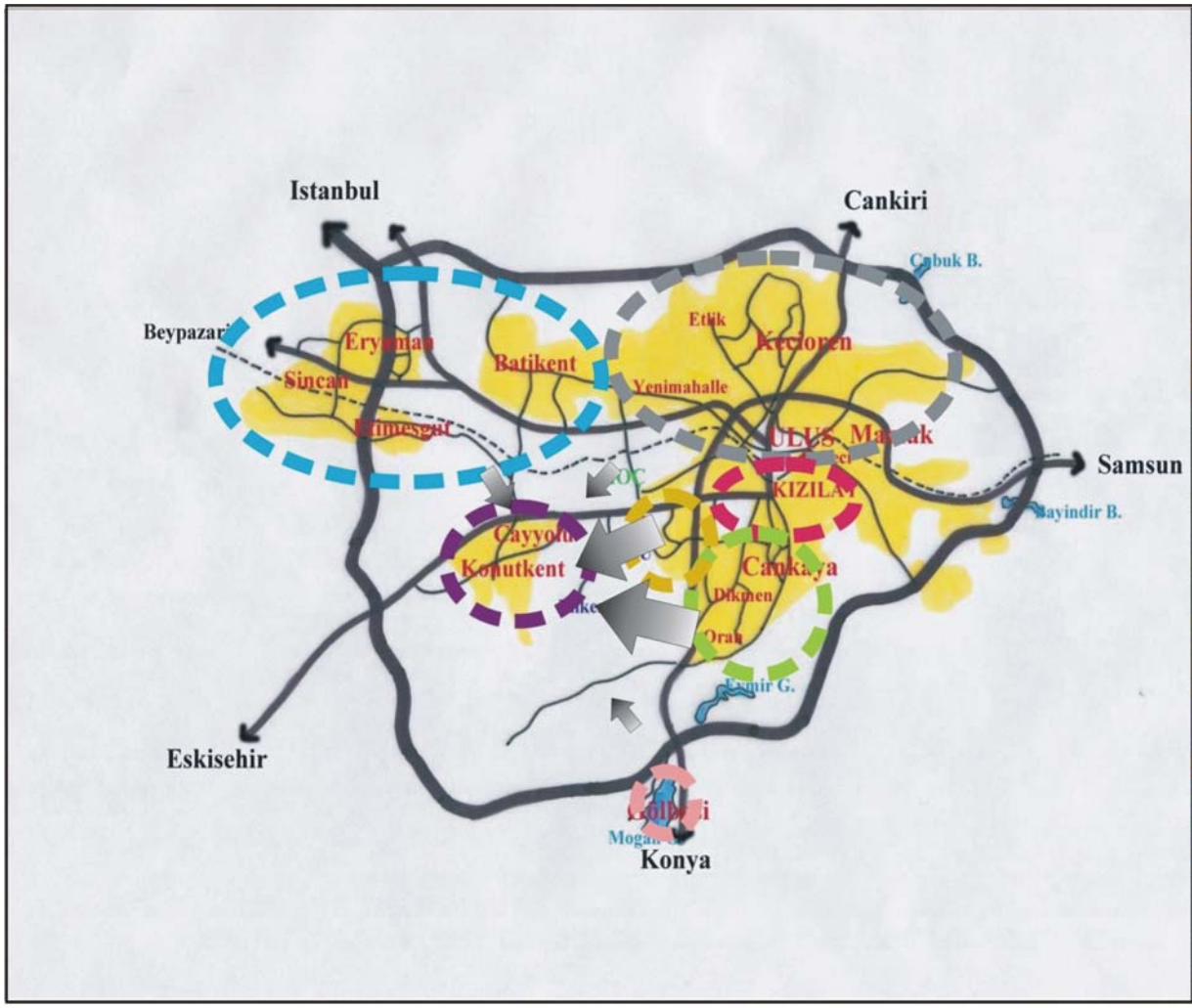


Figure 6. 42: Location of previous housing units in Ankara



DISTRICT THAT THE PREVIOUS HOUSING UNIT WAS LOCATED	NUMBER OF HOUSING UNITS
BAHÇELIEVLER	14
ANITTEPE	1
KIZILAY	10
CEBECI	3
EMEK	7
BESEVLER	4
KOLEJ	1
KURTULUS	1
TANDOGAN	5
BAKANLIKLAR	1
ÇANKAYA	16
ÇETIN EMEÇ	3
AYRANCI	13
KUCUKESAT	12
KAVAKLIDERE	6
GAZIOSMANPASA	17
DIKMEN	5
ORAN	7
SOGUTOZU	2
YUZUNCUYIL	1
BALGAT	1
ÜMITKÖY	6
ÇAYYOLU	17
GÖLBASI	1
BATIKENT	4
ERYAMAN	2
SINCAN	1
ETLIK	5
YENIMAHALLE	4
KEÇIOREN	4
MAMAK	4
TOTAL	178

Figure 6.43: Previous locations of the households before moving to Çayyolu

Now, it is important to discuss the reasons that motivated the households to move to low-rise houses in Çayyolu. In that sense, households were asked to mention the two most important reasons affecting their residential preference. The results show that households consider the size of the houses as the most important reason. Second, the prestige and the quality of the housing estate, and third, opportunities provided by the estate such as green areas, playgrounds and parking lots are important for the households while moving to their low-rise houses. Households also appreciate privacy, quietness, unsoiled nature and fresh air (Table 6.7).

Table 6. 7: The most important reasons that motivate the households to move

Ranking	Reasons that Motivate the Households to Move that House	Frequency
1	The house is large in size	63
2	Prestigious site and better environment	61
3	Opportunities such as green areas, playgrounds and parking lots	60
4	Owning the house	51
5	House has its own backyard	21
6	Privacy and comfort due to being a detached house	16
7	The environment is quiet and peaceful	15
8	House is close to the schools of children	12
9	The environment is clean, nature is unsoiled and full of fresh air	10
10	Close to the children's houses	4
11	House is convenient to feed pet	4
12	House is close to the workplace	4
13	Transportation is easy	3
14	Value/rent of the previous residence was high	3

Actually, in accordance with the ranking, houses are large enough since 174 units' floor areas are greater than 60 square meters[22] and 34 of them greater than 120 m² (Table 6.8)[23]. On the other hand, plots are also large in size since the areas of 119

[22] However, in many houses, floor areas recorded in construction permits do not include basement and roof floor, which are being added after getting occupancy permits to the useful space of dwelling units.

[23] 12 households did not answer the question about the area of the house.

plots are greater than 150 m² (Table 6.9)[24]. Moreover, in 175 houses there are at least 4 rooms and in 35 houses there are more than 6 rooms (Figure 6.44)[25]. Indeed, there is an obvious correspondence between "monthly income and the number of rooms", since the households with higher incomes live in the houses that have more rooms (Figure 6.45)

Table 6. 8: Floor Area Ratios of the Houses

	Floor Area of the House (m²)					
	<60 m²	**60-79 m²**	**80-119 m²**	**120-159 m²**	**>160 m²**	**Not known**
Total Number of Houses	10	102	36	22	14	12
%	5%	53%	18%	11%	7%	6%

Table 6. 9: Plot Areas

	Area of the Plot that the House is Lying on (m²)							
	150- m²	**150-199 m²**	**200-249 m²**	**250-299 m²**	**300-349 m²**	**350-399 m²**	**400+ m²**	**Not known**
Total Number of Houses	31	15	42	25	23	6	8	46
%	16%	8%	21%	13%	12%	3%	4%	23%

[24] 46 households mentioned that they did not know the exact area of the plot, so they did not answer this question.
[25] 2 households did not respond to the question about the number of rooms in the house

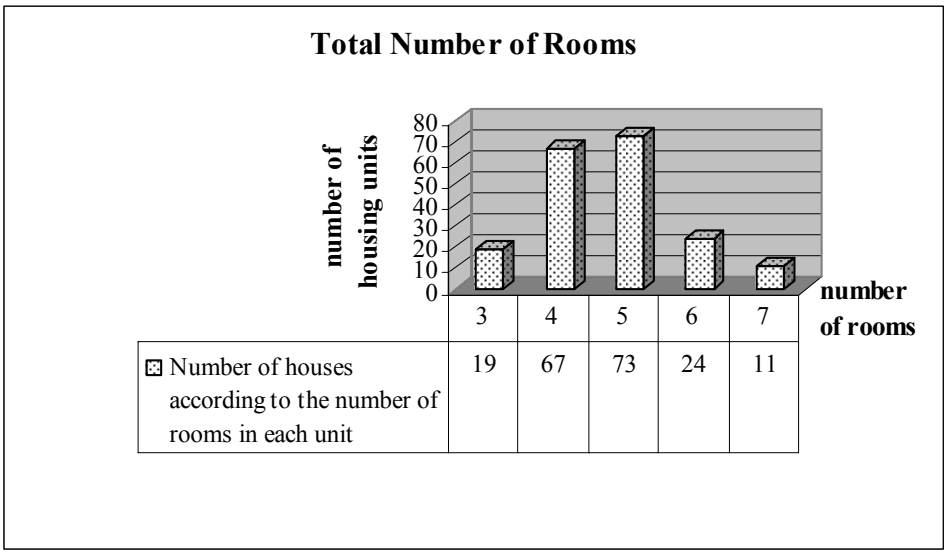


Figure 6. 44: Number of rooms per housing unit

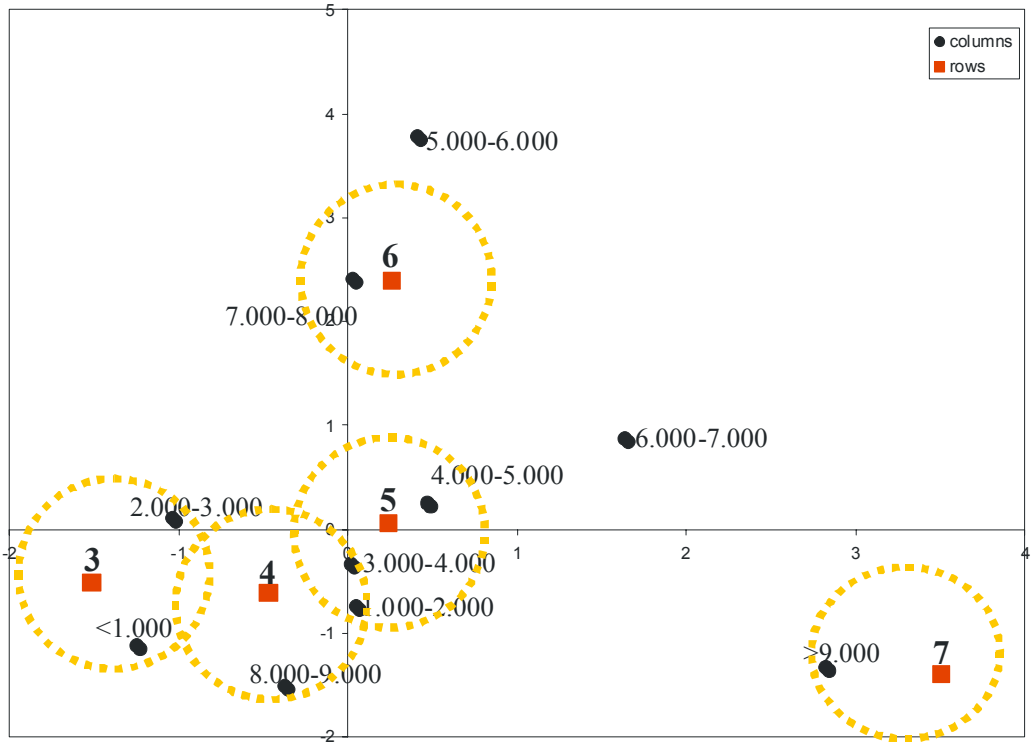


Figure 6. 45: Correspondence between monthly income and the number of rooms

6.4.3 Evaluation of the Workplaces and Commuting

Being close to the workplace is not considered to be the most important consideration of the households while making the residential decision. Only 4 households mentioned that one of the most important reasons that encourage them to move is closeness of the house to their workplace. Such an outcome may partly be explained by the high proportion of retired or not working households, since 44% of the household heads and 67% of the spouses have been retired or not working, as mentioned before. Those who are working, on the other hand, may probably think that the distance between home and workplace is surmountable.

However, location of the work places is important to figure out the daily commuting activity in the city. The outcomes indicate that most of the household heads' workplaces are located either at the CBD or on the south-eastern parts of the city. Indeed, an important percentage is working in Kızılay (30%), Dikmen-Gaziosmanpaşa (23%) and Ulus (7%). Those who work in the same neighborhood with their residences remain relatively small in number (11 household heads, corresponding to 6% of total working household heads). Those who are working on the northern part of the city are 12 households while 5 households are working out of Ankara (Figure 6.46 and Figure 6.47).

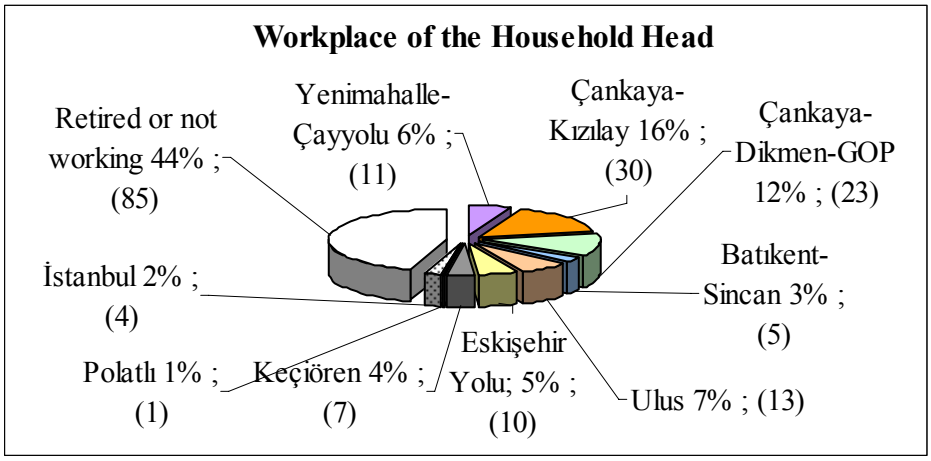
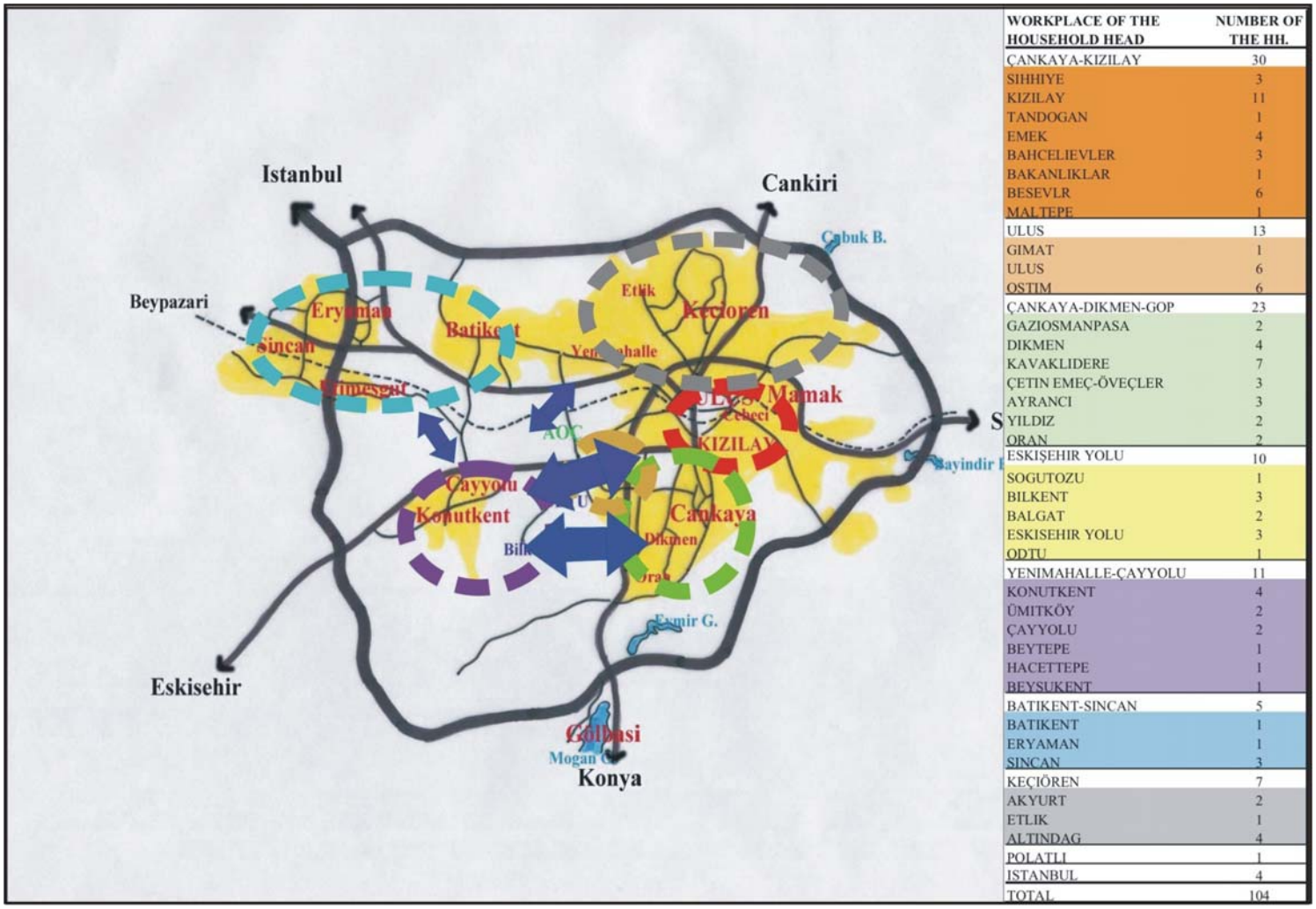


Figure 6. 46: Workplaces of the household heads



WORKPLACE OF THE HOUSEHOLD HEAD	NUMBER OF THE HH.
ÇANKAYA-KIZILAY	30
SIHHIYE	3
KIZILAY	11
TANDOGAN	1
EMEK	4
BAHCELIEVLER	3
BAKANLIKLAR	1
BESEVLR	6
MALTEPE	1
ULUS	13
GIMAT	1
ULUS	6
OSTIM	6
ÇANKAYA-DIKMEN-GOP	23
GAZIOSMANPASA	2
DIKMEN	4
KAVAKLIDERE	7
ÇETIN EMEÇ-ÖVEÇLER	3
AYRANCI	3
YILDIZ	2
ORAN	2
ESKIŞEHIR YOLU	10
SOGUTOZU	1
BILKENT	3
BALGAT	2
ESKISEHIR YOLU	3
ODTU	1
YENIMAHALLE-ÇAYYOLU	11
KONUTKENT	4
ÜMITKÖY	2
ÇAYYOLU	2
BEYTEPE	1
HACETTEPE	1
BEYSUKENT	1
BATIKENT-SINCAN	5
BATIKENT	1
ERYAMAN	1
SINCAN	3
KEÇIÖREN	7
AKYURT	2
ETLIK	1
ALTINDAG	4
POLATLI	1
ISTANBUL	4
TOTAL	104

Figure 6.47: Locational distribution of the household heads' workplaces

The number of households that do not have a spouse is 16. Among the spouses, the percentage of the working ones is quite low, as more than half of them are either retired or not working (Figure 6.48).

When the working spouses are considered it is appeared that the locational distribution pattern of their workplaces is similar to that of household heads', since most of them are working either at the CBD or on the southern part of the city. Those who work on the northern part are negligible (Figure 6.49).

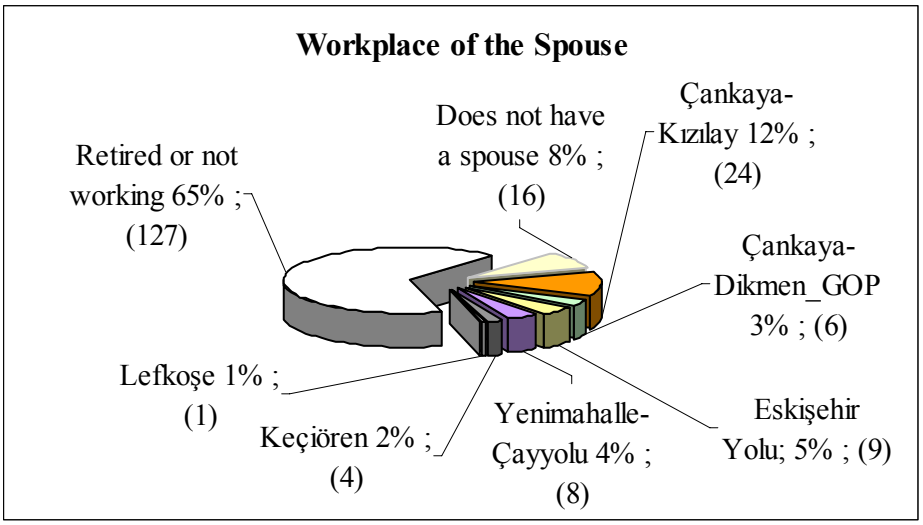
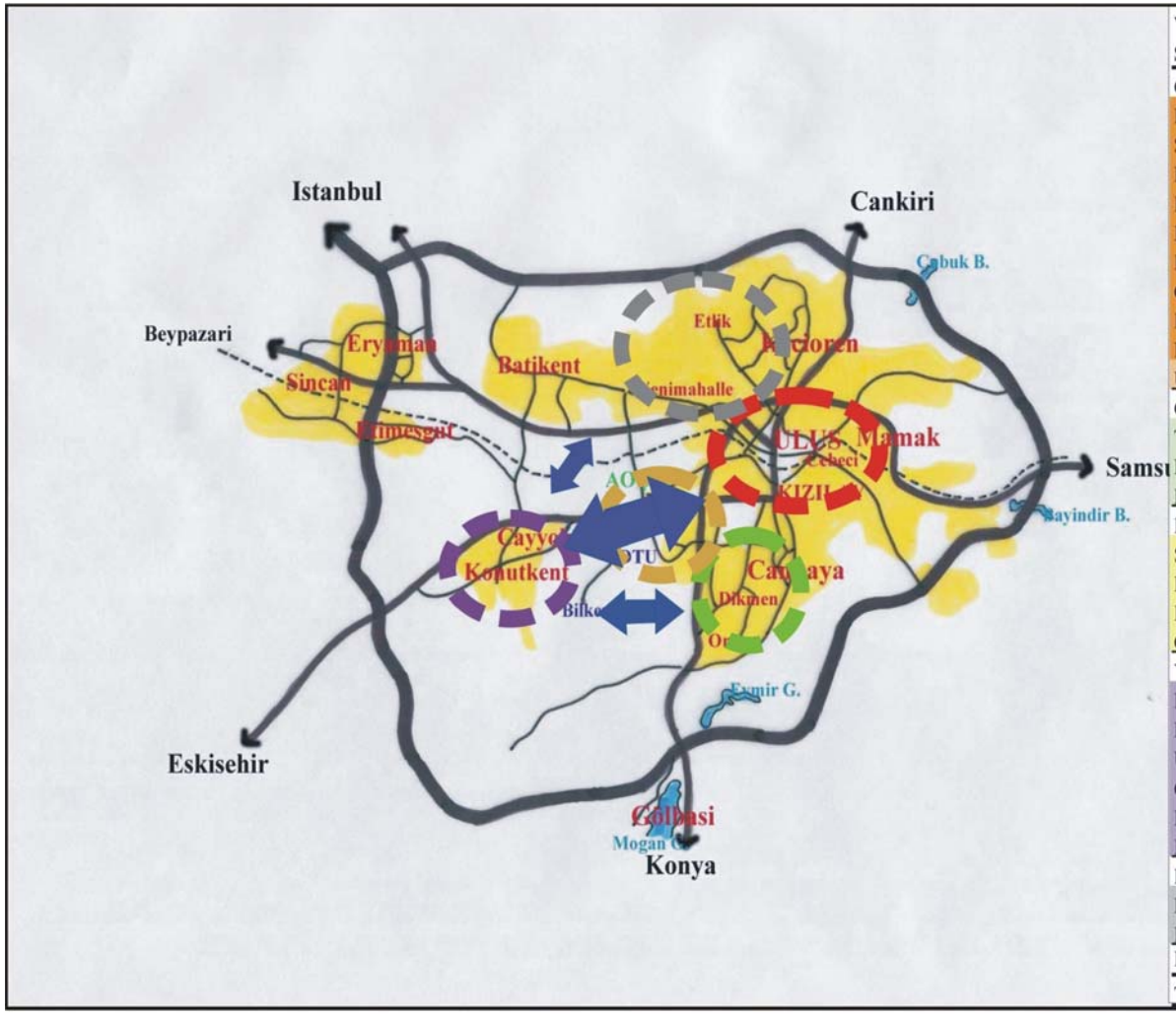


Figure 6. 48: Workplaces of the household heads' spouses



WORKPLACE OF THE SPOUSE	NUMBER OF THE HH.
ÇANKAYA-KIZILAY	24
KURTULUS	1
SIHHIYE	4
KIZILAY	5
BAKANLIKLAR	1
EMEK	3
BAHÇELIEVLER	2
CEBECI	1
BESEVLER	4
MALTEPE	2
ULUS	1
ÇANKAYA-DIKMEN-GOP	6
TUNALI HILMI	2
KAVAKLIDERE	3
KÜÇÜKESAT	1
ESKISEHIR YOLU	9
SÖGÜTÖZÜ	2
BALGAT	1
ESKISEHIR YOLU	4
ODTÜ	2
YENIMAHALLE-ÇAYYOLU	8
BEYTEPE	1
KONUTKENT	3
ÜMITKÖY	1
ÇAYYOLU	1
BEYSUKENT	1
INCEK	1
KEÇIÖREN	2
DISKAPI	1
ETLIK	1
LEFKOŞE	1
TOTAL	50

Figure 6.49: Locational distribution of the spouses' workplaces

After mentioning the location of the workplaces, it is important to give some details about the commuting behavior of the households. Commuting is divided into three major categories: private car, public transport and service buses. Public transport refers to public buses and minibuses. Service buses are the buses or minibuses that belong to the working place or the carrier firms.

The outcomes reveal that both the household heads (Figure 6.50) and the spouses (Figure 6.51) use private car generally in daily commuting while the shares of public transport and service buses appear to be quite low.

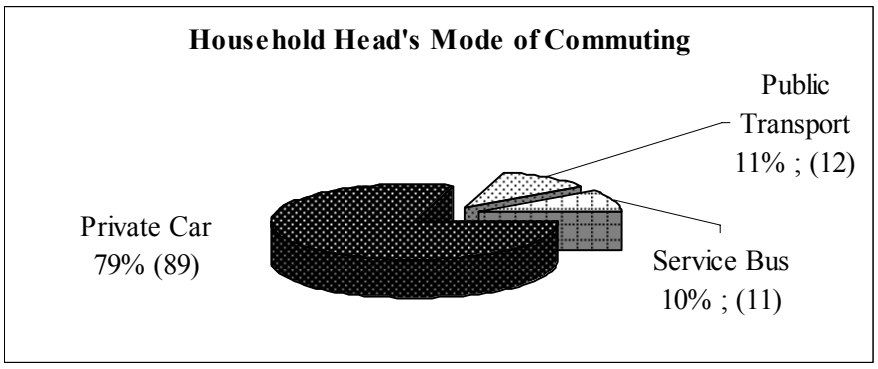


Figure 6. 50: Household head's mode of commuting

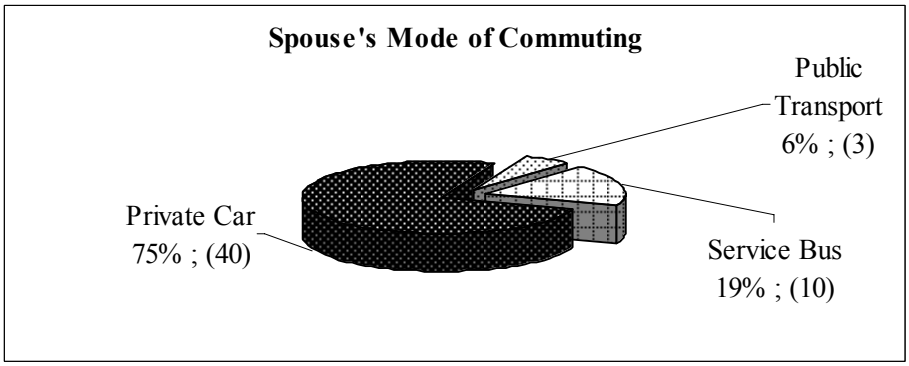


Figure 6. 51: Spouse's mode of commuting

Furthermore, commuting times are changing due to the location of the workplace, and for some households one way commuting may take about 70 minutes. However, one-way commuting is between 15 minutes and 40 minutes in general. That means households spend averagely one hour for transportation in a day, while in some cases the duration reaches to two hours or more (Figure 6.52 and Figure 6.53).

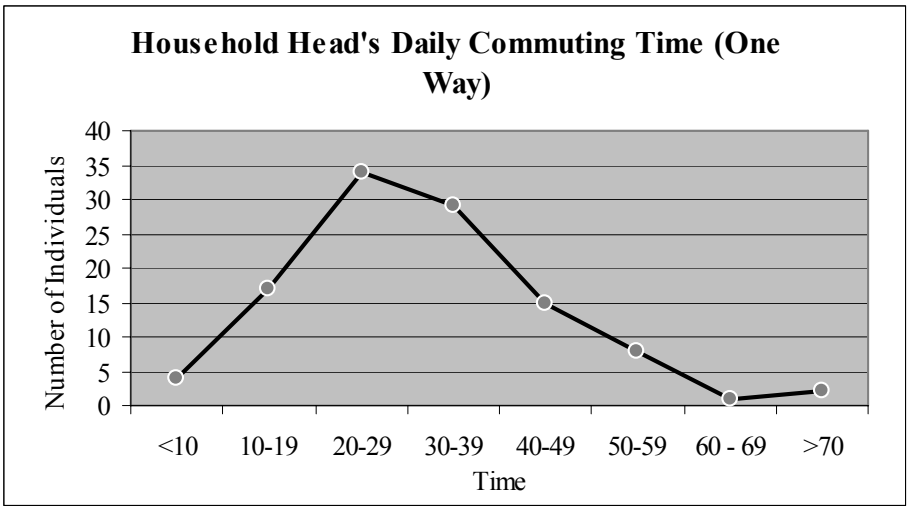


Figure 6. 52: Household head's daily one way commuting time

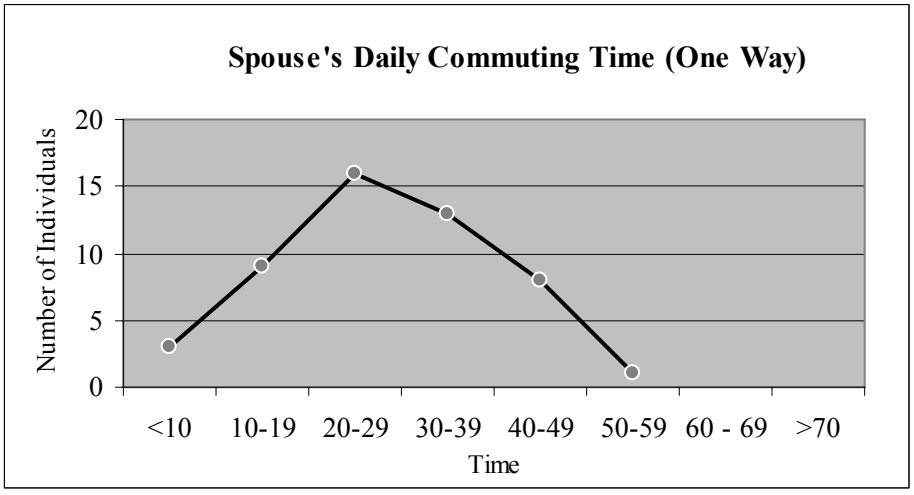


Figure 6. 53: Household head's spouse's daily one way commuting time

Indeed, analysis shows that there is a relation between monthly incomes and commuting modes. Households, whose monthly incomes are between 4.000 YTL and 9.000 YTL, use their private cars. On the other hand, those earning 1.000 YTL - 4.000 YTL generally prefer public transport while the use of service buses is quite prevalent among the households whose monthly incomes are less than 1.000 YTL (Figure 6.54).

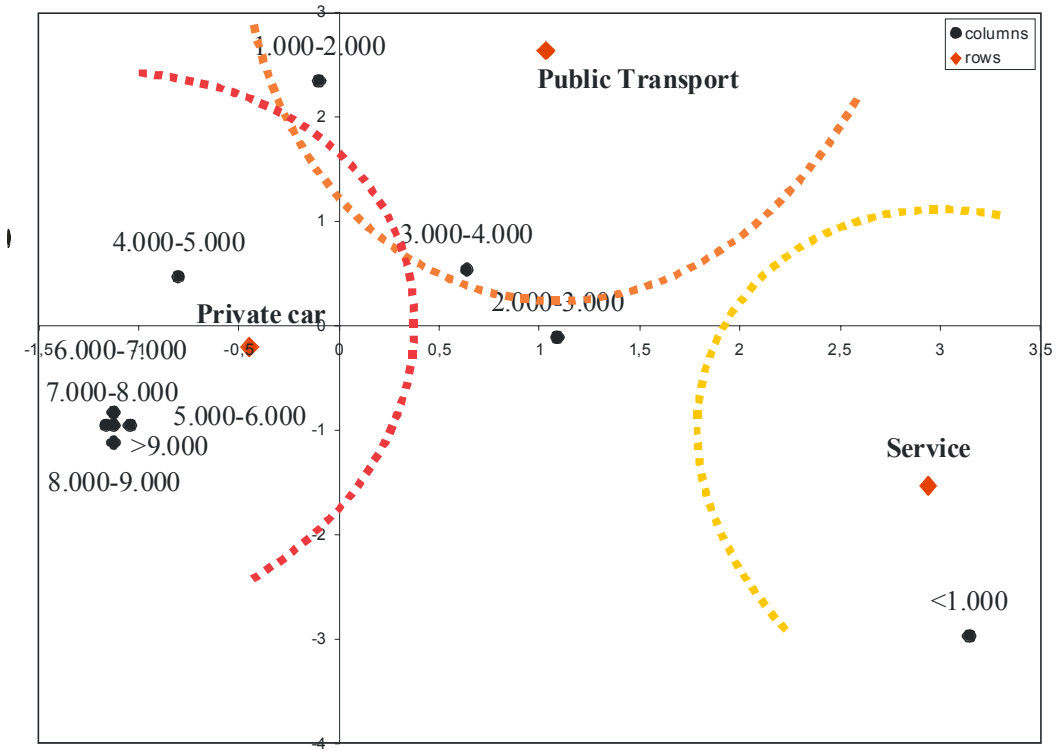


Figure 6. 54: Correspondence between monthly income and the mode of commuting

Another relation is evident between occupation of the households and commuting modes. Professionals, managers and service workers prefer to use private car, while clerical workers (including the civil servants) generally use service buses (Figure 6.55).

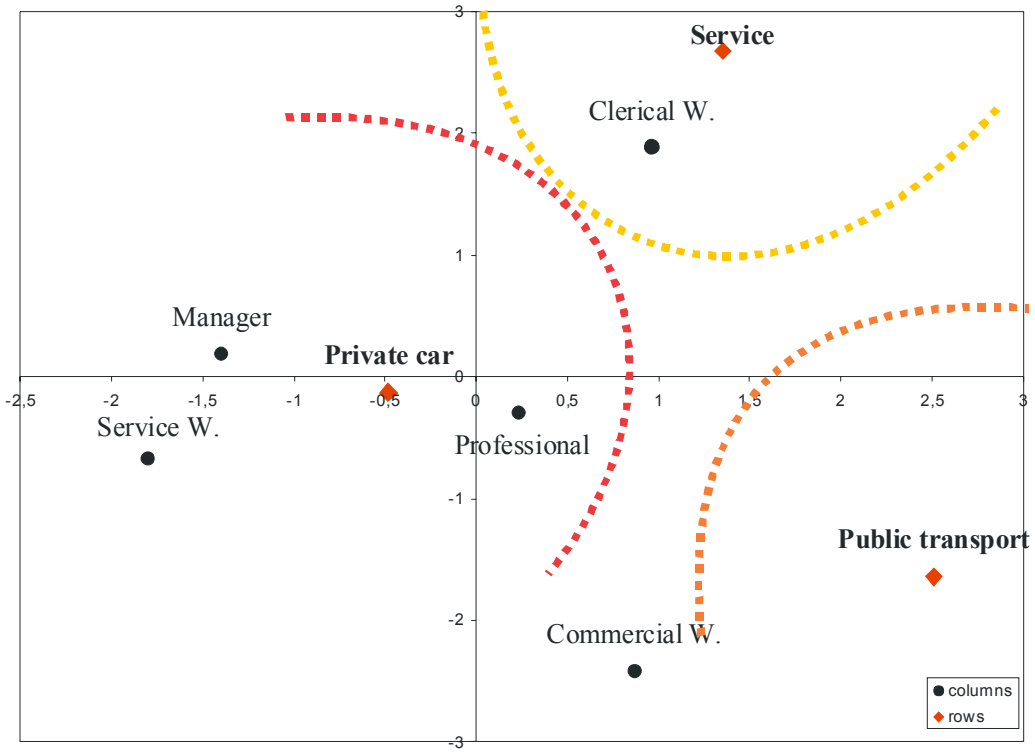


Figure 6. 55: Correspondence between occupation and the mode of commuting

Apart from the workplaces and daily commuting of households', locational distribution of children's schools is also important for the daily inner-city activity. Here, most of the children are going to the schools located within their neighborhoods or close to their neighborhoods. Eskişehir Highway and Çankaya-Kızılay are the other districts where the schools are located mostly. There are only 3 students whose schools are on the northern part of the city (Figure 6.56 and Figure 6.57).

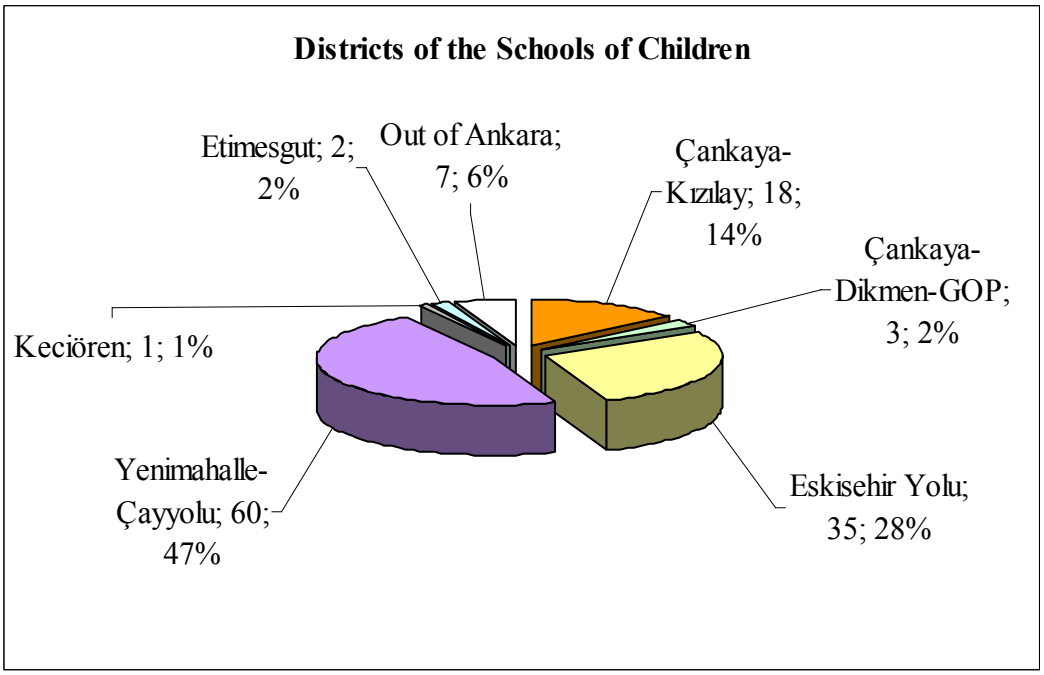


Figure 6. 56: Location of the schools of children in Ankara

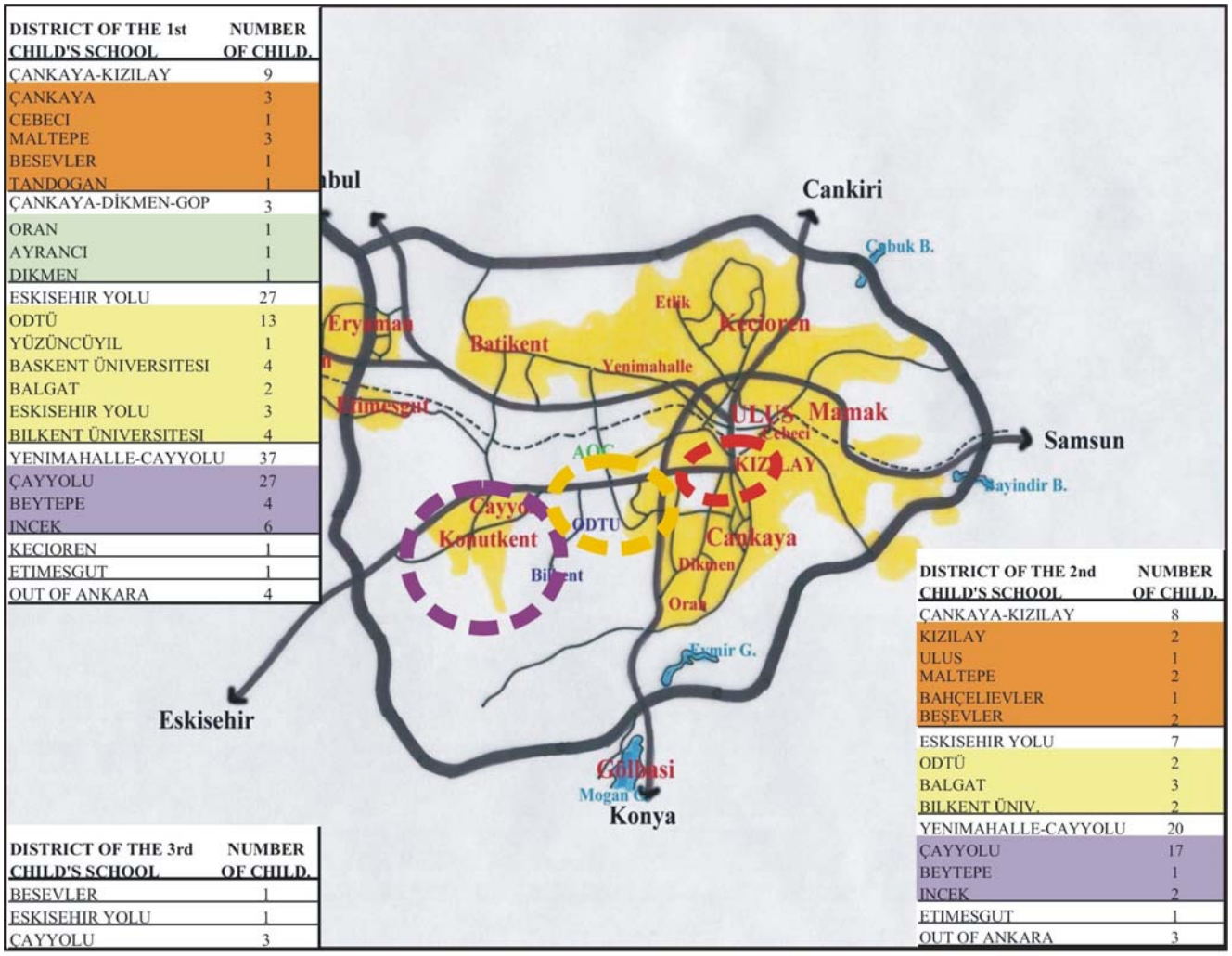


Figure 6.57: Locational distribution of the schools of children

As a result, it is clear that workplaces are generally either at the CBD or on the southern part of the city. In addition to this, schools of children are located within the same district of their homes or in the neighboring districts. For that reason, there is an apparent horizontal transportation movement from the south-western part of the city to the center and to the south-eastern part of the city. Moreover, the use of private car in daily commuting is quite high among the households. Particularly managers, professionals and those working in the service sector, whose monthly incomes are relatively high prefer private car for commuting.

6.4.4 Acquisition of the Houses

As mentioned in the previous parts, housing cooperatives are quite active in the production of low-rise houses in Çayyolu. When the outcomes of the questionnaire are examined it is observable that half of the households acquired the houses by means of the housing cooperatives. In addition to this, nearly one forth of the households bought the houses from the previous owners and a small number of households bought the units from house builders (Figure 6.58).

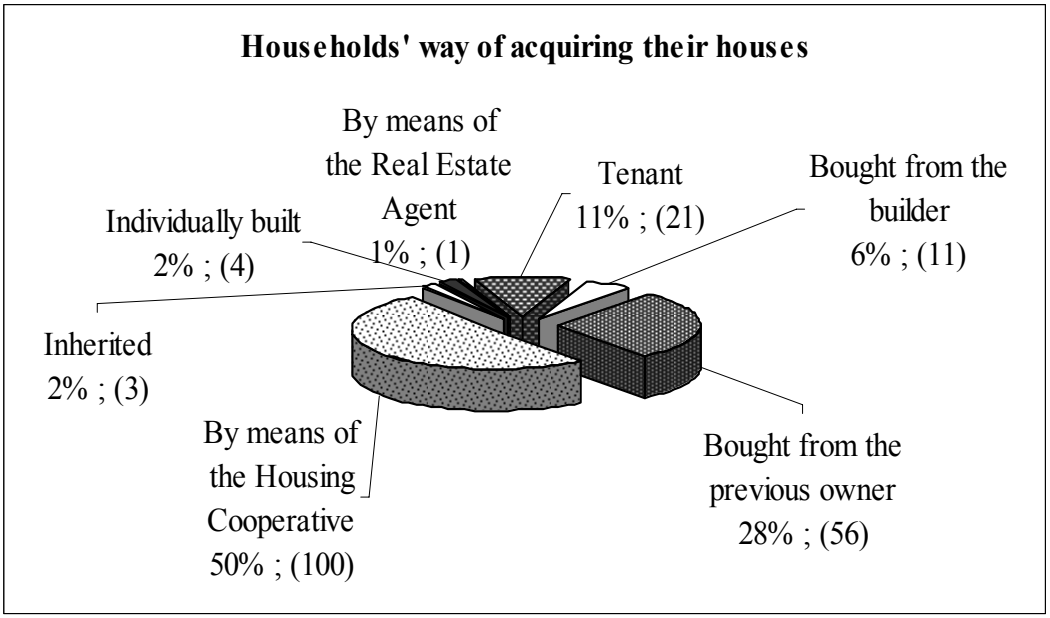


Figure 6. 58: Households' way of acquiring their houses

There is a significant relation between monthly incomes and the ways of acquiring the houses. For instance, the highest income groups bought the units from house builders in general. The lowest income groups, on the other hand, bough their houses either from previous owners or by means of housing cooperatives (Figure 6.59).

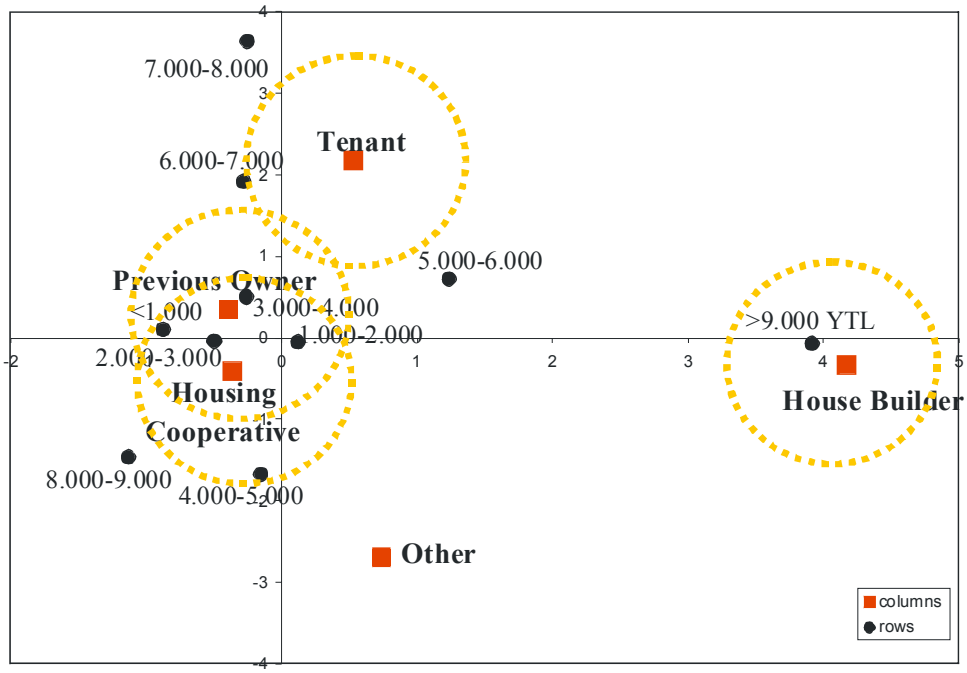


Figure 6. 59: Correspondence between monthly incomes and the ways of acquiring the houses

In addition to this, most of the households who acquired their houses by means of housing cooperatives have been living in their residences for more than 5 years, while 8 of them have been living for more than 15 years. In recent years, the changeover has increased since many households, who have been living in their houses for 1 to 5 years, asserted that they bought their houses from the previous owners. Most of the tenants, on the other hand, moved to their houses in the previous 5 years (Table 6.10).

Table 6. 10: Household's way of acquiring the house with regard to the duration of stay

	Ways of Acquiring the House				
Years	Tenant	House Builder	Previous Owner	Housing Cooperative	Other
<1 year	5	-	6	1	1
1-5 years	10	2	15	12	1
5-10 years	6	2	25	40	4
10-15 years	-	5	10	39	3
>15 years	-	1	-	8	-

6.4.5 Households' Opinions about their Houses, and the Level of their Residential Satisfaction

In the questionnaire, households were asked to mention the two best sides and the two worst sides of their houses in order to figure out their opinions about the advantageous and the disadvantageous attributes of living in the low-rise houses far from the city center. Afterwards, it was asked if they want to move to another house and if so, whether they will actually move in 6 months time.

The outcomes for the positive aspects are similar with the previously-mentioned reasons that motivate them to move, but with a different ranking. Households find the opportunities such as green areas, playgrounds and parking lots, as well as the quietness and tranquility of the environment as the most advantageous sides of their houses. Privacy and comfort of the detached house is also important for the households since it was mentioned for 33 times. However, the size of the house and the prestige of the estate which were the two most important motivations for their residential choice ranked at the lower levels, which can be explained as either the households have changed their opinions after moving or they have not been satisfied enough about these items.

Table 6. 11: The Two Most Important Advantages of the Houses

Ranking	Best Sides of Living in a Low-Rise House in Çayyolu	Frequency
1	Opportunities such as green areas, playgrounds and parking lots	145
2	The environment is quiet and peaceful	132
3	Privacy and comfort due to being a detached house	33
4	The house is large in size	12
5	Prestigious site and better environment	11
6	The environment is clean, nature is unsoiled and full of fresh air	10
7	Better social environment	4

Maintenance costs, on the other hand, appear to be the most important problem for the households. Moreover, many of them mentioned that transportation is difficult, while 54% of the households asserted that public transportation is not adequate. Additionally, some of them find the interior design of the houses unpractical. Being far from the city center was mentioned for 12 times as a disadvantage, which can be explained as the households do not consider being far from the center as a crucial drawback. On the other hand, it is important to mention that 56 households think that the house does not have a negative side, which means they are quite satisfied with their houses (Table 6.12).

Table 6. 12: The Two Most Important Disadvantages of the Houses

Ranking	Worst Sides of Living in a Low-Rise House in Çayyolu	Frequency
1	Maintenance is costly and tiresome	94
2	There is not any negative side	56
3	Transportation is difficult	48
4	Drawbacks of the interior design (stairs, communication difficulties in the house, etc.)	16
5	Far from the city center	12
6	Urban services are inadequate	8
7	Feeling of loneliness and insecurity	6

When it is asked if they want to move to another house, only 16 households mentioned that they want to move. 6 of them asserted that they want to change only their house while another 6 households mentioned that want to move to another district (4 households to Çankaya-GOP, 1 household to Çayyolu II and 1 household to Eryaman). Furhermore, 4 households denoted that want to move to another city. Among these 16 households, who want to move to another house, 5 of them asserted that they will actually move to another house within the following 6 months time (2 of them will stay within the same district but change his house, 1 will move to Çayyolu II, 1 will move to Antalya and 1 will move to Denizli).

Briefly, it can be argued that in spite of the drawbacks such as maintenance costs and transportation difficulties most of the households are satisfied with their houses and the urban environment. Actually, 92% of them do not want to move to another house while 56 households think that their houses do not have any negative side.

6.5 Review of the Household Questionnaire

To sum up, the survey questions the validity of the previously stated hypotheses for the residents of low-rise units in Çayyolu. It is important to remind the hypotheses (the number of hypothesis is given in angular parenthesis) which state that:

a) Households are expected to be mostly the owners, while the house is expected to be large in size, having more than three rooms in each unit [3].

b) They are also expected to be professionals and high-status managers with a good educational background [4].

c) They use private cars in daily commuting in general [5].

d) They do not consider living close to the workplace as the prominent factor of the locational choice of the residences [6].

e) They compensate transport costs and high maintenance costs with intimacy, prestigious environment and better urban services [7].

f) Housebuilders, on the other hand are expected to be generally the housing cooperatives for the low-rise residential development while private sector/speculative housebuilders continue to prefer building high-rise apartment estates at the fringe [8].

In fact, the outcomes of the questionnaire have highly compatible results with these hypotheses, which can be explained in sequence as follows:

a) Ownership is quite prevalent among the households (89%), and the houses are large and roomy. In fact, nearly half of the units' floor areas are greater than 80 m^2. Since the houses are 2-storied (except for the roof and the basement floor), the size of each unit tend to be quite large. Moreover, it is important to mention that in 175 houses, there are more than 3 rooms [3].

b) Here, there is a slight deviation from hypothesis due to the high proportion of retired households. But the statement is valid for the working population since most of the household heads are working as scientific, technical and professional staff (23%) or as administrative and managerial staff (18%). The rate of retired (39%) or not working (23%) spouses are quite high, either. However, most of the employed ones work as scientific, technical and professional staff (12%).

   Although working population is lower than expected, households' educational backgrounds are compatible with the hypothesis, since the 76% of household heads and 64% of spouses have a university degree

(undergraduate), while 15% of the household heads and 7% of the spouses have a graduate degree. [4]

c) Private car ownership is significantly high, since 92% of the households have at least one car. The use of private car in daily commuting is also quite prevalent since most of the household heads (79%) and spouses (75%) use their private cars in daily commuting. [5]

d) Households mentioned the factors that motivate them to move to their houses in Çayyolu. It is obvious that they considered 'the size of the house', 'environmental quality' and 'the opportunities such as green areas, playgrounds and parking lots' primarily when making their residential decision. 'Being closer to the workplace' is ranked as the 12th important item, since only 4 households mentioned it as one of the most important factor. However, it is crucial to remind that the high percentage of retired population may contribute to such a result. [6]

e) Households are asked to indicate the best and the worst sides of their houses. Actually, they think that 'opportunities such as green areas, playgrounds and parking lots' as well as 'environmental quality' and 'privacy' are the advantages of their living environment. On the other hand most of them find the maintenance of the unit expensive and tiresome. Moreover, some of them think that transportation is difficult and public transportation is inadequate.

Nevertheless, after considering all the advantages and disadvantages, only 16 households mentioned that they have a desire to move to another house In other words, 180 households are satisfied with their residences. Indeed, 56 of them mentioned that there is not any negative side of their house. Therefore, it can be argued that households' residential satisfaction is quite high and they trade off transport costs and high maintenance costs for intimacy, prestigious environment and better urban services. [7]

f) Half of the households acquired the houses by means of housing cooperatives while nearly one forth of them bought the unit from the previous owner. When the tenants (11%) are omitted, the share of housing cooperatives increases to 54%, confirming the domination of housing cooperatives in the area. [8]

Apart from these, other findings of the questionnaire are also worth mentioning. First, most of the households (89%) were living in apartment dwellings before. Previous housing units were mostly located at the center (Çankaya-Kızılay) or on south-eastern part (Çankaya-Dikmen-GOP) of the city. Second, their workplaces are generally located at the center or on the south-eastern part of the city. Third, the schools of children are located within Çayyolu, or close neighborhoods. Therefore, it can be concluded that the households have a strong connection with the center and the southern part of the city.

In conclusion, it can be argued that the facts support the validity of the hypotheses in general. Households who were questioned in the survey have some common characteristics and attitudes which can be considered as the representative of the households living in low-rise houses at the urban fringe.

CHAPTER 7

CONCLUSION

Low-rise housing development in Ankara is a special issue which has economic, social, political and spatial aspects. In that sense, theoretical frameworks with respect to urban economics and historical process of the suburbanization movement and urban development in Turkey considering local, socio-economic and political structure are explained in order to constitute a theoretical as well as an informative background for the issue. Then, urban fringe of Ankara, particularly south-western and southern parts, are focused on since these areas cover considerable amounts of low-rise housing developments.

Initially, theoretical framework of low-rise housing development at the urban fringe is discussed, and spatial housing is explained through an urban economic approach. At that point, urban land use theories are stated, which provide a better understanding to the distribution of different sectors – particularly housing –, on urban land, since the theories suggest decreasing land prices with increasing distance from the center, and reveal the economic rationality of households and housebuilders.

Households, as the demand side of the housing sector, are expected to allocate their incomes among housing and all other goods and services. Moreover, location of the housing unit directly affects residential decisions of households, since moving further from the city center increases transport costs which lead to a decrease in the households' net incomes. As well as the economic matters, they pay attention to the urban environmental quality, availability of urban services and the structural attributes of housing units.

Households who live in the centrally located neighborhoods used to consume less housing and suffer from the negative sides of the city center such as congestion, pollution and crime. However, they spend less for the transport costs and they live close to social and cultural amenities. On the other hand, those who live at the urban fringe used to consume more housing and enjoy the positive sides of being far from the city center such as unsoiled nature, better urban environment, quietness and peace. Nevertheless they have to endure transport costs both in monetary and time senses. Therefore, households try to find an optimum location which maximizes their residential satisfaction while minimizing the negative sides of living far from the city center.

Housebuilders, as the supply side of the housing sector, use the optimum composition of capital and land in housing production in order to maximize their profits. To be economically rational and make more profit, they use less land and produce more dwelling units (i.e. high capital/land ratio) at the city center where the land prices are high. For that reason, there is a high-density urban pattern with high-rise blocks built on single plots at the central places. On the other hand, land prices decrease with increasing distance from the center and land becomes cheaper and more abundant in amount at the outskirts. Accordingly, housebuilders use low capital/land ratios and it becomes economically feasible for them to build low-density, low-rise residential areas at the urban fringe.

It is obvious that economic considerations of both sides –households and housebuilders– affect housing development. With respect to this, low-rise houses are usually located at the peripheral areas and these units provide some advantages such as spaciousness, privacy and better urban environment, as well as some disadvantages such as monetary and time costs of transportation for the users.

In addition to the urban economic framework, historical context is important while discussing low-rise housing. In fact, low-rise housing development at the urban fringe is highly related to the suburbanization movement in developed

countries which emerged as a reaction to the negative outcomes of industrialization. Households, first high-income then middle-income groups, moved from the densely congested urban core to the new residential areas covering low-density, low-rise housing units at the urban fringe. Decentralization of other uses like retail and industry contributed to the process and suburbs became urbanized areas, eventually. It is worth mentioning that, increased networking due to the globalization created a symbiotic system of city and suburbs while regional urbanism came into prominence in recent years.

Turkish cities experienced a rather different urbanization process when compared to the developed countries. Turkey experienced industrialization fairly late while the drawbacks of industrialization on urban land hit Turkish cities about 50 years later. Mass migration movement from rural to urban areas was one of these problems. In fact housing supply was limited in amount and the existing stock was inadequate to meet the increasing demand. Due to the limited number of units, price of housing increased and newcomers could not be able to afford housing from the existing stock. As a result, they started to occupy squatter housing areas, namely *gecekondu*, at the periphery which resulted in various urban problems such as increasing urban densities and inadequate urban services.

Meanwhile government took some regulatory measures in order to overcome these problems and to cope with the unauthorized developments. The most important ones, affecting the urban development were the Amnesty Laws and the Mass Housing Laws. Amnesty Laws, aimed to regularize and upgrade the existing *gecekondu*s, clear the ramshackle shanties and prevent new *gecekondu* developments, but caused further increases in urban densities. Especially after the 1980s, low-rise *gecekondu*s were replaced by apartment buildings, which created more problems rather than solving it. Mass Housing Laws, the other important regulatory attempt, encouraged urban decentralization in terms of mass housing projects. The initial authorized low-rise housing developments were realized by means of mass housing projects mainly carried out by housing cooperatives. On the other hand it is important to mention that not only low-rise houses but also

high-rise blocks were produced at the outskirts. This is a characteristic of housing development at the urban fringe that it covers both low-rise houses and multi-storey apartments together no matter how far it is from the center.

When Ankara case is focused on, it is worth mentioning that the city, as a result of being proclaimed as the capital in 1923, has a unique place in the urbanization history of Turkey in terms of being considered to be the model for the other cities on behalf of creating a modern country. For that reason, Ankara experienced various planning attempts from the early phases of the Republic. However, population increase due to the rural to urban migration, populist policies and economic instability prevented the city to develop in a fully planned way.

Beginning from the 1940s, migrants started to occupy the periphery particularly the northern and eastern parts of the historical center, Ulus. The city was jammed in a highly-densed urban core, encircled by the unauthorized housing areas. With the introduction of the Condominium Law in 1965 urban densities started to increase within the city, in authorized stock, since the low-rise houses were replaced by the apartments. Eventually, Ankara started to suffer from congestion, air pollution and inadequate urban services because of the increasing urban densities.

Urban decentralization movement, initiated by the Ankara Metropolitan Planning Bureau, aimed to relieve the congestion at the city center. In order to realize the residential decentralization, mass housing projects were suggested at the urban fringe with regard to the Structure Plan developed by the Bureau. Numerous projects were undertaken by housing cooperatives, such as Batıkent and Çayyolu projects, and Ankara started to expand through the north-western and the south-western corridors. No matter how far it is from the city center, apartments were produced as well as low-rise houses. Nevertheless, floor area ratios tended to be lower at the outskirts when compared to the centrally located neighborhoods.

From the second half of the 1980s, low-rise housing production gained importance at the south-western corridor (along the Eskişehir Highway) and on the southern part of the city (in Gölbaşı). South-western part of the city, particularly Çayyolu, experienced a comprehensive residential development covering low-rise housing units as well as high-rise apartments. In Gölbaşı, on the other hand, residential developments have been in terms of low-rise houses only (except for the existing Gölbaşı village) with regard to the development regulations entailed by the Natural Preservation Plan decisions.

Most of the low-rise houses are produced by means of housing cooperatives while private housebuilders prefer to build high-rise blocks, generally. This should be related to low acquisition price of land by housing cooperatives, either through a public institution or purchasing land beyond the boundaries of planned areas, and subsequently obtaining planning permits. It appears that firms are less interested in the latter form of land acquisition and development, as it would be a risky venture that may take a long time. Moreover, in some areas such as İLKO Konutları, the housing cooperative provided land and the architectural projects of the units, and then households build the houses individually or get them built by hiring construction workers.

Housing developments along the south-western and southern parts of the city are consistent with the urban land use theories due to having relatively lower-densities when compared to the centrally located neighborhoods. In fact average FARs, which are ranging between 3.50 and 4.50 at the center, decrease to 1-1.50 in Çayyolu and 0.50 in Yenikent Bahçelievler and in Gölbaşı. Such a layout demonstrates decreasing FARs from the center to the peripheral areas as explained in the urban economic approaches.

Certainly, households who prefer to live in low-rise houses far from the city center enjoy the advantages of being away from the congestion, pollution and inadequate urban services. On the other hand, they have to afford transport costs and maintenance costs of their houses. Therefore, it is obvious that they are

subject to certain trade-offs; for instance, they have to compensate the transport costs in both monetary and time senses with larger houses, privacy and livable urban environment.

In order to figure out to what extend households living in low-rise houses far from the city center in Ankara comply with the trade-off theories, a household questionnaire was carried out in Çayyolu. In this survey, 196 households were selected randomly from 20 housing estates (covering low-rise houses only) and particular questions were asked to test the validity of previously mentioned hypotheses.

The hypotheses state that households are expected to be the owners in general. They are also supposed to be professionals and high-status managers with good educational backgrounds. Moreover, the use of private car in commuting is expected to be high. Being close to workplaces is not expected to be the prominent factor affecting the locational choices of their residences. They are supposed to trade off the transport costs and high maintenance costs for larger houses, intimacy and better urban services. Apart from these, housebuilders of the low-rise housing areas are expected to be generally housing cooperatives.

The findings of the questionnaire survey reveal that most of the households (89%) were living in apartment dwellings before moving to their low-rise houses. The locations of the previous housing units were mostly on the south-eastern part of the city (Çankaya_GOP) and at the central places (Kızılay-Bahçelievler). However, those who were living on the northern part of the city remain quite low (14%). Furthermore, owners (89%) are far more than tenants (11%).

Almost forty percent of the households are retired, and this can partly be explained by having an opportunity to own a house at older ages, particularly by retirement, and those who do not need to commute would likely prefer to live far from the city center. Such a high rate of retired and non-commuting population

among the residents of low-rise housing appears to be a special case to Ankara, which has not been reported in other countries in the literature.

Working individuals, on the other hand, are professionals and managers in general. Workplaces of households are generally located at the CBD (Kızılay) and on the south-eastern part of the city (Çankaya-GOP). Only 7% of the household heads and 4% of the spouses are working on the northern part of Ankara. In addition to these, education levels are considerably high since nearly 90% of the household heads are 70% of the spouses are university graduates. 92% of the households have at least one private car and the use of private car in commuting is significantly high, as well.

Households do not think that 'being close to workplace' is as important as 'the size of the house', 'environmental quality' and 'the opportunities offered by their housing estates such as green areas, playgrounds and parking lots', since it was ranked as the 12th item of the most important motivations that affect their locational choice of residences. It is crucial to remind that this may be related to the high percentage of retired households, and could be an indication of relatively lower levels of disutility of commuting by car in Ankara, although congestion is becoming a serious problem recently along the Eskişehir Highway connecting Çayyolu District to the city center.

Although many households find the maintenance costs expensive and tiresome, and transportation difficult, they seem to be quite satisfied with their houses since 92% of them do not want to move to another house. Actually they appreciate the environmental quality and privacy as well as the roominess of their houses, and they compensate the negative sides of living in low-rise houses away from the city center with such advantages provided by their houses and the urban environment.

More than half of the households acquired their houses by means of housing cooperatives, and nearly one-forth of them bought their houses from the previous

owners. Eventually, the findings confirm the domination of housing cooperatives over the other housebuilders in low-rise housing production at the outskirts.

Obviously, the findings are highly compatible with the before-mentioned hypotheses and quite explanatory to portray the characteristics of the households, the reasons that motivate them to live in low-rise houses which are relatively far from the center and whether they are satisfied with their residences.

Therefore, it can be argued that low-rise housing development in Ankara has certain characteristics. Low-rise residential areas are quite prevalent on the south-western part (particularly in Çayyolu) and on the southern part of the city (Gölbaşı) and urban densities are lower in those areas when compared to the centrally located neighborhoods. Households who prefer to live in the low-rise houses at the outskirts trade off the transport costs and high maintenance costs of the housing units for larger houses, livable urban environment and better urban services. Moreover, the findings indicate that spatial patterns of housing development and consumption that are observed in the cities of developed countries and being theorized in the second chapter of this study are also taking place in the south-western part of Ankara.

Finally it is important to mention that this study provides a basis for the further studies. Housing developments in study areas can be discussed with respect to their inner characteristics as well as their relationship with the whole city. In that sense, it can be argued whether they have formed a neighborhood pattern with distinctive ways of life and to what extent they have integrated to the city in economic, physical or social senses.

From the economic point of view, the costs of low-rise and low-density developments at the urban fringe to the whole city can be questioned. Considering the spatial aspects, the urban development pattern created by these residential areas can be discussed. From the social point of view, the form of social sphere created in these areas can be argued and it can be asked if such developments lead

to a kind of social fragmentation. In addition to these, it is important to mention that the study carried out along the south-western development corridor of Ankara is characterized by being the residential area of moderate to upper income groups.

In order to reach to a more comprehensive conclusion, similar studies have to be undertaken in other parts of the city, most notably in Batıkent, which covers a substantial low-rise housing stock. Such a comprehensive study covering low-rise houses in many parts of Ankara can provide an explanatory framework to the relationship between the choice and living conditions of low-rise housing and the social characteristics of the population.

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APPENDIX A

Construction and Occupation Permits in the 1990-2005 period in Ankara

YAPI RUHSATI

	1990		1991		1992	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	71	760	2	555	789	607
Çankaya	19	6675	162	6 788	70	6 525
Etimesgut			---	2 900	71	4 709
Gölbaşı			17	53	26	133
Keçiören	9	4915	9	4 746	6	5 234
Mamak	3	1072	7	1 085	---	1 295
Sincan	987	2407	79	3 162	677	15 856
Yenimahalle	698	9599	88	3 154	159	3 906
	1993		**1994**		**1995**	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	1	744	1	684	---	642
Çankaya	48	9 249	70	7 197	174	8 371
Etimesgut	4	4 919	212	8 260	57	3 025
Gölbaşı	29	520	68	680	176	521
Keçiören	40	6 243	7	5 744	12	5 080
Mamak	33	2 037	---	2 657	2	2 966
Sincan	367	17 090	349	10 475	123	7 344
Yenimahalle	99	4 498	57	4 793	47	4 086
	1996		**1997**		**1998**	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	---	648	1	607	62	872
Çankaya	983	7 554	228	6 602	128	5 052
Etimesgut	2	1 664	94	3 455	60	6 280
Gölbaşı	469	419	153	449	467	437
Keçiören	9	4 353	10	3 979	2	4 918
Mamak	2	3 094	3	2 174	164	2 320
Sincan	11	3 092	16	2 680	10	2 410
Yenimahalle	55	2 587	344	3 782	93	3 419

	1999		2000		2001	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	115	1 017	3	1 741	2	1 936
Çankaya	145	5 022	156	7 520	75	8 034
Etimesgut	232	6 777	364	9 872	395	6 212
Gölbaşı	619	1 184	173	1 244	65	729
Keçiören	18	6 904	16	7 448	10	9 196
Mamak	4	3 790	3	4 588	2	6 943
Sincan	9	3 528	34	3 314	26	3 625
Yenimahalle	567	7 030	194	3 924	216	7 396

	2002		2003		2004	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	-	793	3	1 205	1	1951
Çankaya	112	6 328	96	10 028	96	8105
Etimesgut	97	1 722	91	2 174	161	7868
Gölbaşı	71	316	146	583	148	790
Keçiören	4	7 171	5	9 923	7	11552
Mamak	2	4 879	-	5 748		8477
Sincan	4	1 970	3	2 093	5	3646
Yenimahalle	215	2 886	588	2 884	352	5294

	2005	
	Ev	**Apartman**
Altındağ		913
Çankaya	74	5121
Etimesgut	101	2559
Gölbaşı	109	702
Keçiören	8	5868
Mamak	2	2280
Sincan	7	3844
Yenimahalle	390	2171

YAPI KULLANMA İZİN BELGESİ

	1990		1991		1992	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ		634	---	994	2	524
Çankaya	4	6442	3	5 088	262	6 280
Etimesgut			1	515	---	828
Gölbaşı			1	---	1	---
Keçiören	1	5223	1	4 742	6	4 016
Mamak		938	1	920	---	837
Sincan	34	2130	74	2 521	58	3 257
Yenimahalle	1056	7841	125	2 543	419	5 455
	1993		**1994**		**1995**	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	---	767	---	723	---	482
Çankaya	375	6 527	37	4 876	18	4 280
Etimesgut	---	4 735	1	462	118	4 999
Gölbaşı	27	134	29	250	12	234
Keçiören	8	4 062	10	3 669	3	5 246
Mamak	254	1 921	11	449	---	645
Sincan	35	5 195	18	5 545	197	5 692
Yenimahalle	1 844	6 858	2 524	8 475	286	2 483
	1996		**1997**		**1998**	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	---	670	114	616	-	657
Çankaya	153	6 118	132	6 684	290	8 216
Etimesgut	118	4 987	2	1 884	-	918
Gölbaşı	89	118	88	156	197	429
Keçiören	1	4 286	---	4 246	5	3 938
Mamak	---	1 584	---	1 862	-	1 223
Sincan	26	4 243	22	2 931	20	2 157
Yenimahalle	782	4 391	1 662	5 649	322	4 509

	1999		2000		2001	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	2	568	1	829	1	963
Çankaya	46	6 375	38	4 515	386	4 893
Etimesgut	1	1 359	1	3 243	43	6 330
Gölbaşı	92	263	39	436	74	364
Keçiören	-	4 051	1	5 465	12	6 228
Mamak	-	1 801	1	1 744	-	2 055
Sincan	17	4 480	11	3 688	655	6 575
Yenimahalle	555	3 723	666	5 717	447	4 200

	2002		2003		2004	
	Ev	**Apartman**	**Ev**	**Apartman**	**Ev**	**Apartman**
Altındağ	2	933	-	917	102	4183
Çankaya	134	4 029	279	6 427	182	9216
Etimesgut	124	3 361	203	3 497	288	16785
Gölbaşı	182	456	60	509	471	1131
Keçiören	12	5 375	8	5 250	6	15272
Mamak	-	1 943	2	1 132	3	12428
Sincan	23	4 940	27	3 257	16	6173
Yenimahalle	256	2 772	426	2 741	884	6764

	2005	
	Ev	**Apartman**
Altındağ	2	1769
Çankaya	122	10213
Etimesgut	230	8867
Gölbaşı	79	724
Keçiören	4	9294
Mamak	1	5498
Sincan	13	7998
Yenimahalle	515	4826

APPENDIX B

A Sample Household Questionnaire

S1) [X2]Bu konutta kaç yıldır oturuyorsunuz?

1. ( ) 1 yıldan az bir zamandır
2. ( ) 1-5 yıl
3. ( ) 5-10 yıl
4. ( ) 10-15 yıl
5. ( ) 15 yıldan fazla

S2) [X3]Önceki oturduğunuz konut ev miydi, yoksa apartman dairesi mi?

1. ( ) Müstakil ev
2. ( ) Apartman dairesi

S3) O (önceki) konutunuz neredeydi? Hangi kent ve hangi semtteydi?

[X4]Kent:..... [X5]Semt:.....

S4) Şu anda oturduğunuz bu konutun, toplam oda sayısını, arsasının kaç metrekare olup evin tabanının kaç metrekareye oturduğunu öğrenebilir miyim?

[X6]Oda Sayısı	[X7]Taban Alanı (m²)	[X8]Arsa Alanı (m²)
.....	.....	.....

S5) [X9]Bu oturduğunuz konut kendinize mi ait kira mı?

1. ( ) Evet Kendimize ait
2. ( ) Hayır kendimize ait değil, Kira
   [X10]Aylık kirası ne kadar: ..... YTL Soru 7'ye geç

S6) [X11]Bu konuta nasıl sahip olmuştunuz, kimden almıştınız?

1. ( ) Yapımcıdan satın aldım
2. ( ) Önceki sahibinden satın aldım
3. ( ) Kooperatif yoluyla
4. ( ) Miras
5. ( ) Diğer (lütfen belirtiniz).....

Kontrol Değişkeni [X12]

S7) [X13]Bu konuta taşınmanızın en önemli 2 nedeni, bu gösterdiğim seçeneklerden hangileridir?

1. ( ) Konutu satın almak
2. ( ) Konutun geniş olması

3. ( ) Konutun işyerine daha yakın olması
4. ( ) Konutun çocukların okuluna daha yakın olması
5. ( ) Konutun daha prestijli ve çevre kalitesinin yüksek olması
6. ( ) Konutun ulaşımının daha kolay olması
7. ( ) Önceden oturulan konutta kiranın/fiyatın yüksek, burada ise daha uygun
8. ( ) Park, oyun alanları, otopark gibi olanakların bulunması
9. ( ) Diğer (lütfen belirtiniz).....

S8) [X14]Hanede siz dahil,toplam kaç kişi yaşıyorsunuz?

1. ( ) 1 kişi
2. ( ) 2 kişi
3. ( ) 3-5 kişi
4. ( ) 6 kişi ya da daha fazla

S9) Bu hanenin, aile reisinin ve eşinin eğitim düzeyini öğrenebilir miyim?

	[X15] Aile reisi	[X16] Eşi
İlkokul	1. ( )	1. ( )
Ortaokul	2. ( )	2. ( )
Lise	3. ( )	3. ( )
Üniversite	4. ( )	4. ( )
Lisansüstü	5. ( )	5. ( )

S10) [X17]Bu haneden, kaç kişi gelir elde etmek üzere bir işte çalışıyor?

1. ( ) Çalışan yok
2. ( ) 1 kişi
3. ( ) 2 kişi
4. ( ) 3 kişi
5. ( ) 4 kişi ve daha fazla kişi

S11) Aile reisi ve eşi çalıştıkları işlerde hangi statüyle çalışıyorlar? Ücretli-maaşlı mı, işveren mi, kendi hesabına mı çalışıyorlar?

	[X18] Aile reisi	[X19] Eşi
Ücretli veya maaşlı	1. ( )	1. ( )
İşveren	2. ( )	2. ( )
Kendi hesabına çalışan	3. ( )	3. ( )
Ücretsiz aile işçisi	4. ( )	4. ( )
Diğer (lütfen belirtiniz)	5. ( )	5. ( )

S12) Aile reisi ve eşinin meslek grubu, aşağıdakilerden hangisine uygundur?

	[X21] Aile reisi	[X22] Eşi
Müteşebbis, müdür, üst kademe yönetici (Şirket sahibi, şirket müdürü, müsteşar, genel müdür vb.)	1. ( )	1. ( )
Profesyonel meslek mensubu (Mühendis, doktor, avukat, mimar, şehir plancısı vb.)	2. ( )	2. ( )
Memur, idari personel, vb.	3. ( )	3. ( )
Ticaret ve satış personeli	4. ( )	4. ( )
Şahsi hizmetlerde çalışan (Otel, lokanta, kuaför, temizlik vb. iş personeli)	5. ( )	5. ( )
Tarım, hayvancılık, orman, balıkçılık veya avcılık ile ilgili işlerde çalışan	6. ( )	6. ( )
Fabrika ve diğer kuruluşlarda çalışan işçi	7. ( )	7. ( )
Zanaatkar	8. ( )	8. ( )
Emekli	9. ( )	9. ( )

S13) Aile reisinin ve eşinin işyerleri nerede, hangi semtte?

	Mahalle/Cadde/Sokak	Semt
Aile Reisi	[X24].....	[X25].....
Eşi	[X26].....	[X27].....

S14) Bu hanede okula gitmeyen ya da ilköğretim okulu, lise, üniversiteye giden çocuk var mı? Varsa kaçar çocuk?

	[X28] Okumuyor	[X29] İlköğretim	[X30] Lise	[X31] Üniversite
Yok	0. ( )	0. ( )	0. ( )	0. ( )
1 çocuk	1. ( )	1. ( )	1. ( )	1. ( )
2 çocuk	2. ( )	2. ( )	2. ( )	2. ( )
3 çocuk	3. ( )	3. ( )	3. ( )	3. ( )
4 ve üzeri çok	4. ( )	4. ( )	4. ( )	4. ( )

S15) Çocukların okulları hangi semtlerde?

	Semt
1. çocuk	[X32].....
2. çocuk	[X33].....
3. çocuk	[X34].....

Section 1.01
Kontrol Değişkeni [X35]

S16) [X36]Buraya yeteri kadar otobüs, dolmuş gibi toplu taşım aracı geliyor mu, var mı?
1. ( ) Evet, yeteri kadar var
2. ( ) Hayır, yeterli değil

S17) Aile bireyleri işe/okula nasıl, hangi araçlarla gidip geliyor?

	Özel Araç	Otobüs	Dolmuş	Servis	Diğer
[X37] Aile reisi	1.( )	2. ( )	3. ( )	4. ( )	5. ( )
[X38] Eşi	1.( )	2. ( )	3. ( )	4. ( )	5. ( )
[X39] 1. çocuk	1.( )	2. ( )	3. ( )	4. ( )	5. ( )
[X40] 2. çocuk	1.( )	2. ( )	3. ( )	4. ( )	5. ( )
[X41] 3. çocuk	1.( )	2. ( )	3. ( )	4. ( )	5. ( )

S18) Aile reisi ve eşi işlerine kaç dakika da gidiyorlar, gidebiliyorlar?

[X42] Aile reisi	[X43] Eşi
……..(dakika)	……..(dakika)

S19) [X44] Bu hane üyelerinden birinin bir kaçının arabası var mı, varsa kaç tane?
1. ( ) Hayır yok,
2. ( ) Evet var. ... [X45]Kaç tane? 1. ( ) Bir tane 2. ( ) İki tane 3. ( ) Daha fazla

S20) [X46] Sizce bu evde oturmanın en iyi yanları neler? (En fazla 2 seçenek işaretleyebilirsiniz)
1. ( ) Mahremiyet
2. ( ) Sessiz ve sakin oluşu
3. ( ) Rahat bir çevrede yaşamak (bahçesinin, otoparkının, çocuk parkının olması vb.)
4. ( ) Prestijli oluşu
5. ( ) Apartman dairesine göre daha geniş olması
6. ( ) Diğer (lütfen belirtiniz).....

S21) [X47]Sizce bu evde oturmanın en kötü yanları neler? (En fazla 2 seçenek işaretleyebilirsiniz)

1. ( ) Masraflı oluşu
2. ( ) Yalnızlık ve güvensizlik duygusu vermesi
3. ( ) Hizmetlerin (çöp toplama, içme suyu temini, posta hizmetleri vb.) yetersiz oluşu
4. ( ) Ulaşımın zor oluşu
5. ( ) Diğer (lütfen belirtiniz).....

S22) [X48]Buradan taşınmak istiyor musunuz, istiyorsanız nereye?

1. ( ) Hayır taşınmak istemiyoruz
2. ( ) Evet taşınmak istiyoruz? ....[X49]Nereye Taşınmak istiyorsunuz?
   1. ( ) Aynı semtte bir başka eve,
   2. ( ) Bir başka semte .. [X50]Hangi semt?.....
   3. ( ) Bir başka kente [X51]Hangi kent? .....

Kontrol Değişkeni [X52]

Section 1.02

S23) [X53]Önümüzdeki 6 ay içinde bu evden taşınmanız gibi bir olasılık var mı?

1. ( ) Hayır böyle bir şey yok
2. ( ) Evet taşınmak istiyoruz? .. SORUNUZ... [X54]Nereye Taşınmak istiyorsunuz?
   1. ( ) Aynı semtte bir başka eve,
   2. ( ) Bir başka semte .. [X55]Hangi semt?.....
   3. ( ) Bir başka kente [X56]Hangi kent? .....

S24) [X57]Eğer sakıncası yoksa, bu haneye giren aylık ortalama geliri öğrenebilir miyim? Bu haneye giren aylık gelir karttaki hangi gruba girer?

1. ( ) 1.000 YTL'ye kadar
2. ( ) 1.000-2.000 YTL
3. ( ) 2.000-3.000 YTL
4. ( ) 3.000-4.000 YTL
5. ( ) 4.000-5.000 YTL
6. ( ) 5.000-6.000 YTL
7. ( ) 6.000-7.000 YTL
8. ( ) 7.000-8.000 YTL
9. ( ) 8.000-9.000 YTL
10. ( ) 9.000 YTL ve üzeri

Görüşülen kişinin;

Adı Soyadı: …….

Telefonu: …….

Adresi:

İlçesi:…….....Mahallesi: ……...…..……Site adı: …….....……Daire no:…….