

ASSESSMENT OF SUB-CENTER DEVELOPMENT:
BATIKENT, ANKARA

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ABSTRACT

ASSESSMENT OF SUB-CENTER DEVELOPMENT: BATIKENT, ANKARA

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Sub-center formation is closely come out when urban environment started to grow and by decentralization and sub-urbanization process to lower the congestions and increase the efficiency in urban life. Besides, by means of rising problems of the growth in an urban area, there emerged the need to share the central activities within the metropolitan region.

The growth followed by creation of new towns in the peripheries. Within that organization of the city, sub-centers started to appear to share the burden of the city centers. In this study, the sub-center evolution will be examined with respect to its relationship to urban growth and development. Hence the sub-center formation will be defined and studied in terms of city center, neighborhood center and shopping center developments of the settlements.

The criteria on land-use, planning process, design of the built environment, district and neighborhood centers and policies of revisions in the suburb within world examples will help the study to develop principles for sub-center formation. This will provide us to build up some criteria for the central area especially in New Development areas.

After the 1970s, the city of Ankara expanded rapidly and there emerged new development areas of the metropolitan region in the West Corridor. With respect to these, Ankara is analyzed with a new urban development area in that corridor called Batikent. With the help of discussions and analysis on sub-center formation on smaller plots belonging to private and a world example of sub-center development produced by the government, design and planning principles of Sub-center growth and development will be proposed in case of Batikent.

Key Words: Sub-center Formation, New Settlement Areas, Town Center, Different Levels of Central Areas, Batikent-Ankara

ÖZ

ALT MERKEZ GELİŞİMİ ÜZERİNE BİR DEĞERLENDİRME: BATIKENT ANKARA ÖRNEĞİ

Celep, Serhat

Yüksek Lisans, Şehir ve Bölge Planlama Bölümü, Kentsel Tasarım
Tez Yöneticisi : Assoc. Prof. Dr. Baykan Günay

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Alt merkez gelişimi, kentsel çevrenin büyümesiyle ve merkezden uzaklaşma ile alt-kentleşme sürecinin merkezdeki sorunları azaltma ve kentsel yaşamın etkinliğini artırmaya yönelik amaçlarıyla birlikte ortaya çıkmıştır. Kentlerin ve kent merkezlerinin büyüme problemleri ile birlikte, merkezi alan aktivitelerinin dağılımı ve yeniden dağılımı ihtiyacı konusu ortaya çıkmıştır.

Kentlerdeki büyüme, kent çevrelerinde yeni kentlerin ortaya çıkmasıyla devam etmektedir. Böyle bir metropoliten kent şemasında, alt-merkezler, kent merkezinin yükünü azaltma amacı yönünde meydana gelmişlerdir. Bu çalışmada, alt-merkez gelişimi kentsel büyüme ve gelişmeye ilişkilendirilerek ele alınacaktır. Ayrıca alt-merkez gelişimi, kent, mahalle merkezi ve alışveriş merkezi gelişimleriyle birlikte incelenecektir.

Arazi kullanımı, planlama etapları, çevre tasarımı, bölge ve mahalle merkezleri ve revizyon politikaları ile dünya örneği üzerinden geliştirilen kıstaslar alt merkez gelişimi açısından ilkeleri ortaya çıkarmaya yardım edecektir. Bu, çalışmaya özellikle yeni gelişen kent parçalarındaki merkezi alan oluşturma ve geliştirme konusunda da kıstaslar geliştirilecektir.

Ankara kentinde Batı Koridoru'ndaki yeni gelişme alanları içinde, Batıkent'te bütün bu özellikler çözümlenmiştir. Özellikle 1970'lerden sonra Ankara'daki hızlı gelişmeyle bu koridorda yeni kent parçaları ortaya çıkmıştır. Alt merkez için yapılan bütün bu tartışma ve çözümler ve incelenen Dünya örneği sonucunda alt merkez gelişiminin ve büyümesinin tasarım ve planlama ilkeleri Batıkent örneğinde ortaya konulmaya çalışılacaktır.

Anahtar Kelimeler: Alt-merkez Gelişimi, Yeni Yerleşim Alanları, Kent Merkezi, Farklı Kademedeki Merkezi Alanlar, Batıkent-Ankara

To my Dad, my Mum and my Brother

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CHAPTER 1

INTRODUCTION

1.1. The Aim of the Study

The major aim of this study is to examine the reasons of the underdevelopment processes of town centers in sub-urbs in planned urban environment by discussing the relevance of sub-center formations throughout the theory. This study will be supported by discussing the sub-center development formations in both planned and spontaneous urban environment in case of Ankara to understand the relevance of central area developments, due to the fact that while the spontaneous urban environment in Ankara has a clear sub-centers, the planned ones could not have it through many years although they exist in their plans.

The sub-centers are the secondary heart of the urban metropolitan areas, considering the Central Business District (CBD) as a main heart of the whole system. The sub-centers should be considered as the heart of the close environment and surroundings. That is to say, while the CBD should be thought as the heart of the whole city, the *urb*, sub-centers should be considered as a heart of the town located in. It should be the *brain* of it and work as heart of the system. That is why this study will focus on the sub-center development in which it has not been developed well or could not be developed as it should have been specifically in planned urban environment.

The problem of the planned urban areas in view of sub-center development specifically in Ankara is that the plan and the structure of those areas are mainly under-developed or transformed into dissimilar uses differently as in the plan. At this point, the problem of planning structure and processes come to the subject. In the case of Ankara, the plan itself could not be enough to develop the central areas especially in Batikent, located in the West Corridor (Batı Koridoru) of Ankara. Although all the plans made for Batikent includes the

urban uses of sub-centers in the central area, the defined sub-central area is still acting as an empty land more than 25 years.

This study focuses on the relations between the planned and spontaneous urban environment with differences of sub-center developments considering the sub-center ingredients with planning processes. Through this, the problems in sub-center formation, creation, will be analyzed.

Sub-center development in planned urban environments of Ankara either has not been realized so far or has been realized physically, but in a different way considering their plan schemes and organizations. At this point, the problem of the property and the land divisions in planned areas come to the subject and this is going to be discussed to find a clarification for the sub-center development in case of Batıkent where the land belongs to the public.

As well as those problems in sub-center formation, the planning problems and the design of the built environment have also the significant responsibility in non-existence of necessary sub-centers. The problems of transportation, accessibility, urban elements for the direction in the town, other infrastructures, huge divergence in types of dwellings and other units, the problems of serving the land for a limited group, which does not have various kinds of land scales and variety of lands for a range of capital owners, problem of order in the design of the built environment, and lacking mixed use order both in building and site scale in the center move toward to the study as a question and problem to be worked out.

The main aim of this study is to examine the characteristics of sub-center development or formation in new urban development areas. So-called existing central area will be searched and examined in terms of design and planning principles. New criteria, characteristics and ingredients for a sub-center formation will be identified via the critique of the existing situation considering the planning projects made for the area and the search of successful examples in the world case.

- Defining and identifying the center and sub-center approach and its components in new towns like Batıkent, locating the characteristics of the sub-central areas
- Examining the theories of sub-centers and its relations with the CBD, including the relations with the environs and other sub-centers

- Observing the relations among the sub-center and other district centers with neighborhood centers in sub-urb development, identifying the differences or similarities between the relations of CBD (Ankara) with Sub-center (Batkent) and relations of Sub-center (Batkent) with District centers.
- Defining the difference in development processes of planned, newly developed towns-artificial development- or process of collective housing areas, spontaneous city sub-centers-natural development- or regular developed areas with small-private properties

Through this, sub-center planning criteria for central area development in satellites, in new planned towns of Ankara will be developed in this study. Especially defining the problems of sub-center in its planning and intervene process of the land and comparing sub-center formation in new towns with the world example and other spontaneously developed sub-centers will help the study getting the conditions or prerequisites for the development of new sub-centers for its space and plan organization.

1.2. Research Questions

The study aims to find clues for the sub-center development where the development is still lacking although it is proposed to be there and where they are differently built from the original plan in planned urban environment.

Sub center development in Ankara still has some problems in itself considering the problems in the CBD area and the newly developing areas and their relations to the central city. Therefore, studying the problems of the sub-urbs and their centers, namely sub-centers have become relevant for the study area. Specifically the problem of non-existence of the sub-urbs and the sub-centers in newly developing areas that are planned, not spontaneously developed urban areas has become the matter of the study.

Specifically, in planned urban environments, the sub-center or in a broader sense sub-urb creation is hardly done, that is it is different from the plan, or it is still lacking due to some problems in the area of suburb in Ankara. Batkent, a newly developed town in Ankara with the help of big public land still lacks a sub-center. The problem of the nonexistence of the sub-center will be searched due to the property relations in the area. Big lands to develop as

central area are still working as an empty land and the plan itself could not be enough to build a central area and activities to the site defined in the plan. This research is also going to be evaluated through the comparison of two newly developed urban environments in Ankara, Çayyolu and Batıkent. Because, although urban environments are planned in both of the sites, while the former has started to have a sub-central area in a linear shape by the transformation of some housing use to commerce or business, the latter still lacks despite having a central zone in the plan. Here, public property ownership in new urban development areas becomes as a question to the study. And hence, besides the property relations, the design of the built environment with the plan's land use decisions plays an active role in the creation of the sub-center.

Besides these researches, as Gruen stated, the urban environment works as a human body and when any one part of the body is lacking it creates diseases in urban life, and in its functions (1964). The central core area of the urban environment works as a heart of the whole metropolitan area or of the surroundings in the town. It is therefore the urgent need of the environment to have a heart and hence the *city's soul* and *urban spirit*. The question of what kind of heart this should be and what kind of ingredients should include is also problematic in this study. They will be analyzed from different authors' perspective that questions the components of the central area and this will help the study to develop a problem series in planning processes.

Considering these developments and theories about sub-centralization Ankara case will be examined. Ankara developed very rapidly after it became capital city with the foundation of Turkish Republic. With that development, the city became more and more insufficient to its citizens in terms of services and proximity to the users.

By the rapid growth in Ankara, the central areas started to move or get bigger and bigger. Considering this development, the problems of transportation, pollution, congestion, and similar matters became inevitable in the CBD areas. In addition to these, as population got higher, more spaces were needed for the central areas.

The central area Ulus became insufficient and a new place Kızılay for the central area of the city was considered as an alternative in the 1930s. With that, Ankara had a central spine starting from north (Ulus), to the south (Kızılay) in the 1950s. Most of the administrative and commercial units started to locate in Kızılay, and it become more attractive for them in terms

of space and proximity to the other housing districts. Ulus and Kızılay started to serve the districts of central facilities for different social groups. Therefore it divided citizens in terms of centre use, and that created two separate cities, like in colonial cities, within the same city (Akçura, 1971, p118). With the development of Kızılay region as a central space for Ankara, more space and land was needed to develop for business and commerce. After the transformation of housing areas into commercial or business land use in Kızılay, due to current demand for those uses, central area moved to Kavaklıdere, Tunalı Hilmi district and Çankaya as a sub-central zone.

Ulus and Kızılay districts reached almost its final step for commercial and business uses. They started to have problems in terms of congestion, day and night population, pollution, transportation, space quality, and similar issues.

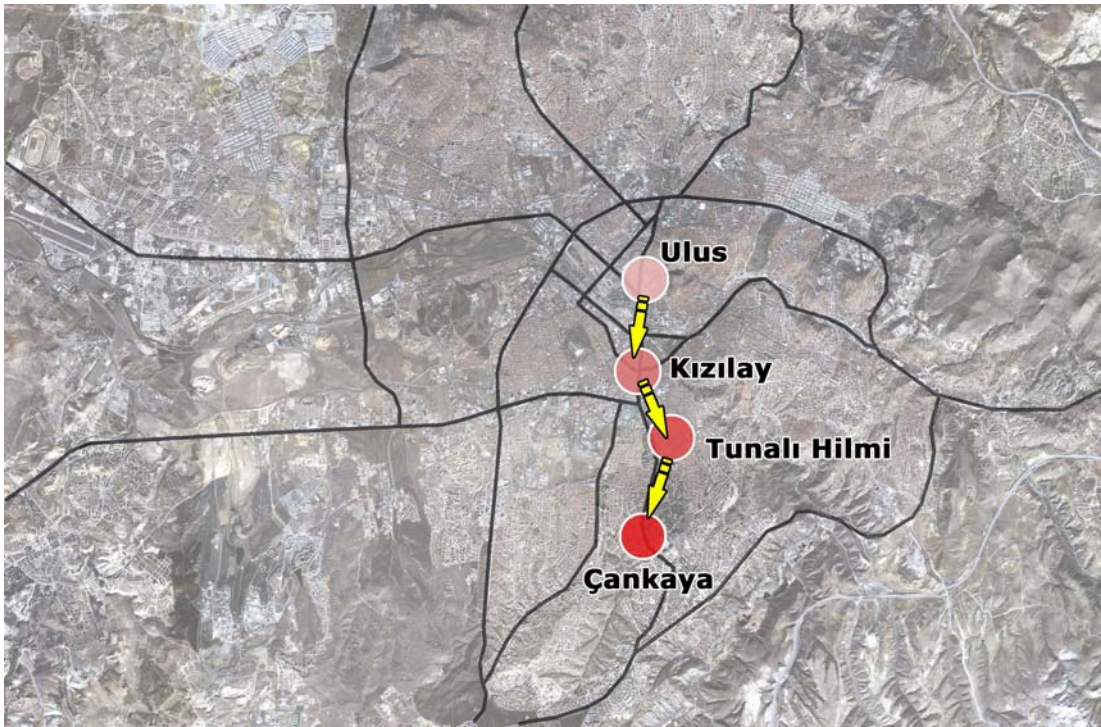


Figure 1-1 Central area development of Ankara

For these problems mentioned and their future growth, Ankara needed new centers to be solutions for them, and moreover the metropolitan region required new towns to provide effective cultural and social spaces, which were lacking for the whole urban area.

Among those needs of new centers in Ankara, the town of Batıkent was thought as a new Housing development area in 1970s. In the beginning of the project, Batkent was not a project of a new city element as a sub-center and therefore was not designed as a satellite city having a sub-center as a solution to the center's problems but it was thought to be a solution to housing need and squatter developments in Ankara.

While the CBDs are the places of main concentration in retail, business, civic services, and cultural activities (Meyerson, 1963), the sub-centers are also kinds of those places in which those activities should locate in smaller scales. The reason for Sub-center and sub-urban development is mainly the decentralization process as the city grows and as the main center becomes insufficient for all citizens. Sub-centers are formed with site selections for public institutions, residential settlements, industry, commercial and business development, new urban development projects, transportation systems, and road infrastructure. Hence, public and private office requirements, new housing for all different social groups, commerce, culture, tourism, services and recreation should all be provided in sub-centers.

With the decentralization process in Ankara, Batıkent project was launched in connection with the development idea in west corridor in Ankara at the end of the 60s. 1990 plan of Ankara proposed Batıkent housing area with the development of industrial areas in the close environment of Batıkent called Ostim and İvedik. The project area in a sense was not only housing but also an industrial zone. Apart from those ideas of working places like industry in west corridor, Batıkent could not be developed as a Sub-center or a new town in Ankara. But the area was developed as a solution to Housing need and neglected the Sub-center development considering the ingredient or characteristics of it. There were not more employment centers except for the industry, that is to say the project is lacking the central area and moreover it is lacking the central land uses and activities.

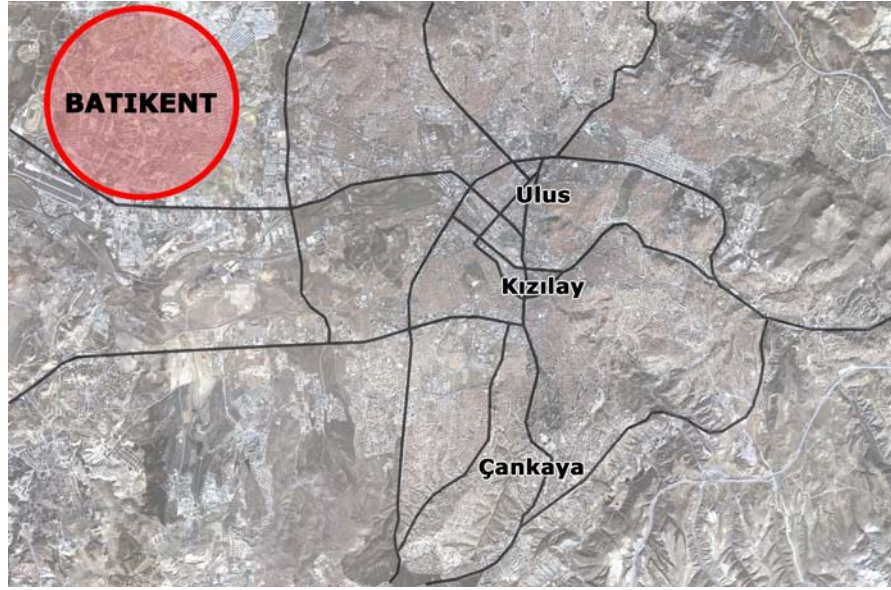


Figure 1-2 The location of Batıkent

From the first plan of Batıkent, it has a central area proposal having connections with the CBD. However, the central area, though defined as a Strategic Sub-center in Ankara 2025 plan, could not be developed so far. The area located as sub-center in the plan is still vacant.

Although some transportation systems developed like the metro plan which has been thought in the 1990 Plan of Ankara connecting west corridor, it still has problems in terms of the development of both the central area and Batıkent itself. There are still difficulties in terms of transportation mobility to the city center and to the south-west corridor of Ankara.

All the projects prepared for Batıkent showed us that almost nothing has been done to develop its central area as a sub-center. Most of the projects in Batıkent after the approval of the plan are housing units, recreational areas, small shopping districts or a mall construction, but nothing in the place is called sub-center. That the question of leaving the town center development to the last stage of the progress is a good or bad thing for the development of this newly settlement area comes to the mind. From transportation projects like metro, to shopping districts projects like existing ones close to the metro station, none of them was to develop or encourage the development of sub-center, on the contrary they had to be overdeveloped due to the needs of the population living in Batıkent, like civic, cultural or

commercial, hence, district centers overgrew and this effected the town center development as well.

Taking all the problems into consideration, Batikent center, as a part of the capital city, is not/should not be a district center or a sub-urban shopping center, but it should be a fully satellite with its own center, having administrative institutions and all those sub-center characteristics.

In this study, evolution of a new city; Batikent's sub-center will be discussed in terms of planning applications. Conceptual planning and design concepts will also be argued. Factors and the tools for planning and design of the central area in Batikent will be evaluated. After this evaluation, a planning program and design applications for the formation of Sub-center in Batikent will be proposed.

Within these questions and problems of sub-center growth in new and planned urban settlements, some hypotheses on Urban Land Use, Transportation, Planning Process, Property Pattern, Environmental and Metropolitan Area Relations, and Design of the Built Environment were developed. The six hypotheses related to sub-central development, given in the following, are tested and evaluated in the case of Batikent. In addition to this, some principles are developed and reexamined with the indicators in the case area and world example as well.

- The first hypothesis is about Urban Land Use, that is; Urban Land uses in sub-central area of a sub-urban development need to include all the public and common uses, special unique buildings of a town, and high rise blocks of urban utilities in a compact form enabling mobility of population in an organic way to form a sub-center development in the whole settlement.
- The second is about Transportation, that is; There has to be different kinds of transportation networks and links to CBD both for public and private transportation, namely for motorways and public transportation networks for the creation and development of sub-centers. Sustainable transportation systems like pedestrian, bicycle, public transportation and railway systems has to be encouraged in the central area to attract people and make them access and use the city center easily and to improve the nature of the central area.

- The third one is concerning the Planning Process; planning stages of new development urban areas and sub-urbs with their centers have to be enhanced in cooperation with the residential area development and central area growth so as to a create center and therefore activities for citizens and lower the rent in the area and achieving the solution earlier, forbidding the future problems and the rent matters.
- The fourth is regarding the Property pattern; Property pattern of the sub-centers needs to allow various kinds of capital owners in order to attract and construct the central uses and therefore develop the city centers. That is to say, different scales of the land need to be formed for different urban uses and for different scales of capital owners.
- The fifth hypothesis is about the relationship with the other centers and the CBD, that is; Sub-center has to have one or more units of government or administration of the town. Besides it has to include headquarters of companies or at least a unit of the firms as an employment area to have a relation with CBD and other sub-centers in metropolitan region needed for the creation of sub-center.
- The last hypothesis developed is pertaining to the design of the built environment; the environment of sub-center need to be designed very carefully in order to provide direction to the center and to the other district centers and it has to be developed in order not to create an area where pedestrians cannot access to impose the attributes of sub-center formation.

These hypotheses are evaluated through Batıkent, case area, Cergy Pontoise, world experience and some other Sub-centers in Ankara to make a comparison with other new settlements and spontaneous urban sub-center developments. The principles of these hypotheses are looked for and searched in the case area. In addition to these the indicators are defined and re-examined in these areas to understand whether the settlements meet the needs for the development of sub-center or not.

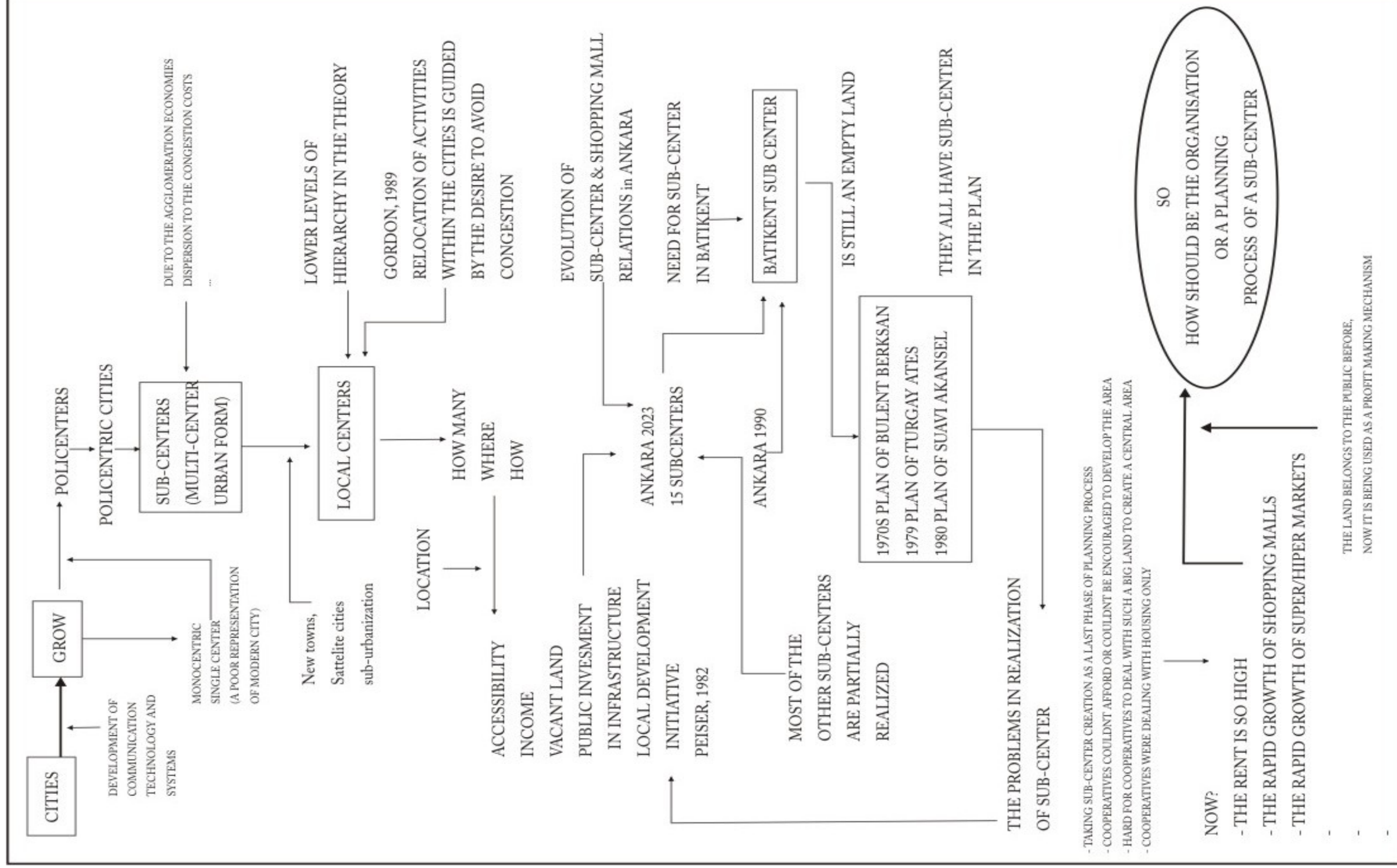


Figure 1-3 Relational Structure of the study

CHAPTER 2

THE KEY CONCEPTS

2.1. Concepts of city center / sub-center development

The origin of the city center is based on the antique Greece. Central activity requirements have existed after human started to settle. Agora is the center of Greek cities locating as the core of the volumes and center of the building complexes and activities. All the activities considering politics about the city, religious, commercial and similar facilities were done in Agora. In the time of Roman cities, Forum was the center of the city. Trade, business, worships and the justice were realized in that Forum. In the medieval towns, market square was the center of Middle Ages which was surrounded with church, town hall, some significant shops, business premises, and some hotels. It was a traditional meeting place for local people to trade. The market area was developed as Plazas in the following time of renaissance and baroque cities. Today's cities and centers have almost a part of those mentioned centers. At least, the city centers of today have the characteristics of those old center variations. Surely, actual city centers have more of it due to the improvement of the communication technologies and hence the problems.

Considering the origin and a basis of the city centers, the developing stages of the city centers mentioned before, it is not hard to deduce that the city core is the concentration of urban activities surrounded by public uses.

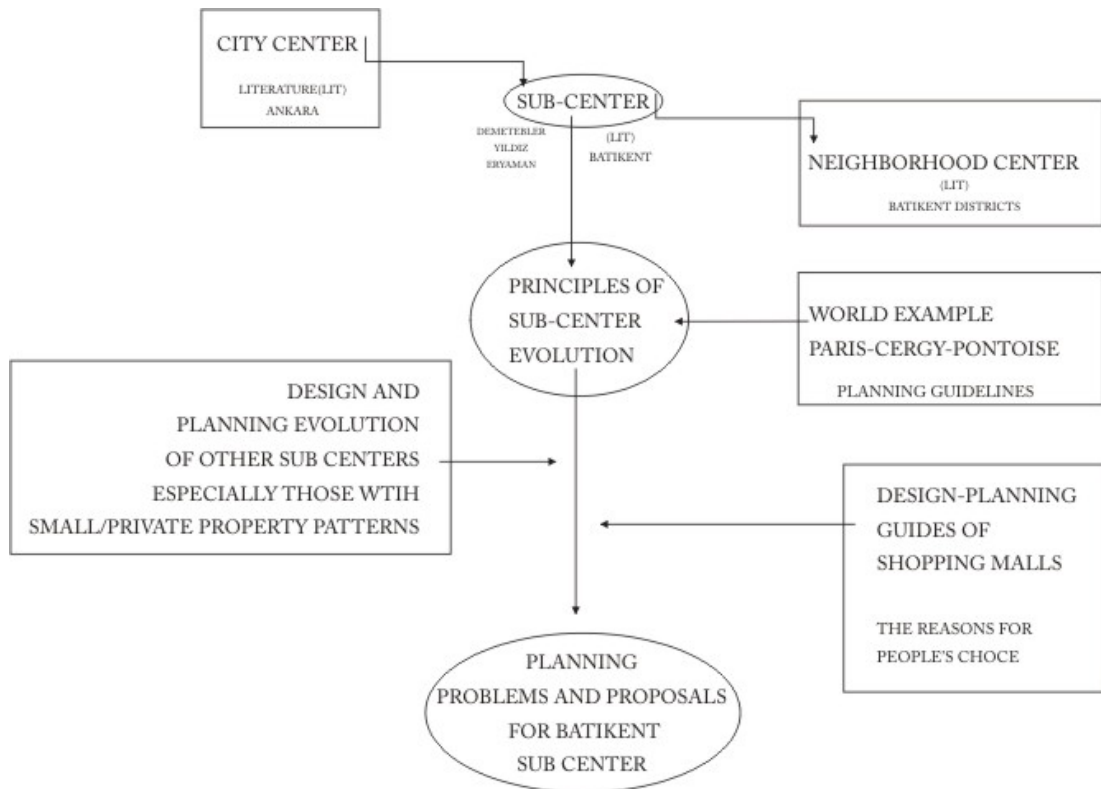


Figure 2-1 the Structure of the Study

2.1.1. City center

There are many definitions of the city center and there are general assumptions of the centers. They, in most of the definitions, are the places where the most accessible options are being offered. The centers are generally located at the center of the whole urban area. And moreover they are the places of concentration of activities and services which are appealing to the whole community. In this section of the study, although sub-centers are examined in different, the following, part considering the theory, the city center concept should be thought, observed and performed as a sub-center, but in a small difference that is to say in scale. Namely, if the city center is serving for the whole metropolitan area, the sub-centers do it for their environment with a relation to the other sub-centers and towns.

The ingredients of city center to have its name; it should have had a mixture of commercial, social, cultural, financial and administrative facilities. Those urban uses are concentrated in the city centers. Namely, the focus of the mixture of those mentioned activities for the

citizens dealing with or using the area for different types of aims are thought as the center of the city. It is the place of the center in which communication and transportation technologies do significantly create a node.

The city center serves intense urban uses in terms of economic functions like commerce, retail, finance and business. They all supply different kinds of goods and services with a large range of quality, price and types (Cornier, 1968). While Spreiregen explains the center having the highest concentration of services for the whole population, he also adds that the central area have some keys like change and development (1965). Therefore, the central area should be elastic to develop and change and hence the growth usually has been linear. In the theory, while some authors concentrate on the parts or ingredients of the central area use, some other do it not in the function but in the pattern, in the formation and leave the functions as the concentration of almost all urban activities. They do it considering the core as it should be a spontaneously developed area with the functions needed by community and leave other thoughts aside and they do not limit the central area use.

Although some of the definitions identify the center as functions and activities are located in, some concentrate on the action done in those centers. Aksel (2000), to illustrate, describes the city centers as they are the places of consumption. All the consumption types from eating habits to the other cultural traditions are to be found in those areas of urban land. The time spent in the city center is consumed and therefore it is defined as a consumption place. However, considering the future growth and development and moreover for the future generation and formation of the central area, namely to sustain it, it should have a role more than consumption but also production like working or business. It should have such a task that the thing done or created in a center could also be consumed both in it and in the environment and could also be re-done or re-created again in it.

“City centers” are the most interesting parts of the cities where major public buildings and special/unique buildings, commercial, administrative and cultural institutions are located in a space with high rise buildings, dense and mobility of population (Keleş, 1998, p.78). The basic character and the crucial role of the central areas of the urban environment as understood from the different definitions, is that being special, compact, namely highly dense, and concentration of the urban life, movements and facilities.

As mentioned before, the city center works as a heart and somehow as the brain of the human anatomy addressing and appealing to the whole citizens living around. Moreover, the city center, town center, should also attract not only the people living in the environment but also the other people living in other towns and sub-urbs as a second significant attraction. That is to say, the self-sufficient city will not be totally sufficient but should be integrated to the whole metropolitan area development and integration.

Moreover, political and administrative elements of the state are concentrated on the center and that makes it as a symbol of the ideological aspects of the state. It is the place of state functions and activities in which police stations, educational units, and state offices are included (Castells, 1977). Considering the utilities of these functions and urban uses, it can be understood that these are not the places of getting all the attraction of whole community. These functions can be grouped as working, safety and educational spaces of the urban area, but for being a city center there should be not only a *brain* but also the *heart* of the hinterland.

Güler (2000) explains the city center, considering the administrative functions of the city, with the ideas of Chicago School, as a brain of the city in which the decisions that will affect the whole metropolitan area are taken and that will affect the quality of life with those decisions. According to this thought, controlling power of the city on the communities is concentrated on the center by the management units of the industry, communication, information and state headquarters or offices.

Besides the administration functions of the center, the central areas are also the places of major concentration for socio-cultural facilities. Tunc (2003) adds that they are the places of inhabitants who go or visit there for several reasons in any time of the day, and they are the places of leisure, entertainment and cultural intensification. Therefore, the area of center is used all day and night. Steele in Tunç explains the central population is the highest daily population within the whole urban area because of those reasons mentioned.

In addition to the fact that different groups of people come and live together, share, and meet there, and besides their relation networks are high, City centers have a significance duty of information-knowledge and cultural communication of the citizens (Lefebvre, 1968). Castells (1977) defines the city center as a *ludic nucleus* containing highly dense leisure activities and states the core as the spatial setting of the *city lights*. Therefore he keeps on,

the core facilities of the town social processes and their inside dynamics. Two critical roles in an urban system; *integrating* and *symbolic* roles are also vital for centers. As some other authors explained city centers should have the task of creating social unity and within this duty, they should be concentrated on a social space of people to use.

According to Castells (1977), the activities of the following items should also be concentrated in the city;

- Exchange
- Distribution
- Administration
- Spreading of information

Those items he explained should be comprehended both in an ordered way and symbolically organize the conditions of communication among various actors of urban communities in the core area which are equally accessible for the whole.

2.1.2. Sub-center

The urban land, that supplies socio-cultural facilities as a center qualification and gathers some of the employment of the main center for not all the citizens living in the city but for the people living close to the located center and its environments, is called as “sub-center”. According to Dökmeci and Akkal (1993), the basic factors identifying the sub-centers are the more dense population in surrounding, employment (workforce) and commercial facilities. Besides the sub-center definition, the area should be thought as the center or a core of the surroundings and environment. Therefore the city core definitions are also valid for the sub-center definitions. Gruen(1964) defines those centers as they are the places of highly urbanized areas having a complete range of highest productive uses. Moreover, as well as the business and civic administration it should have the activities of cultural, recreational, social, spiritual and highly dense and qualified urban residential areas. That is to say having the unique functions of the hinterland in the town is therefore very significant role of the central area. If one or more of those functions is lacking in the core, this will create diseases or the non-existence, non-creation of the central area. Here the role of the planners and administrative units comes to the stage and decision makers should consider the demand creation points in the center and should consider locating all of those uses having the organic and physical relations among each other.

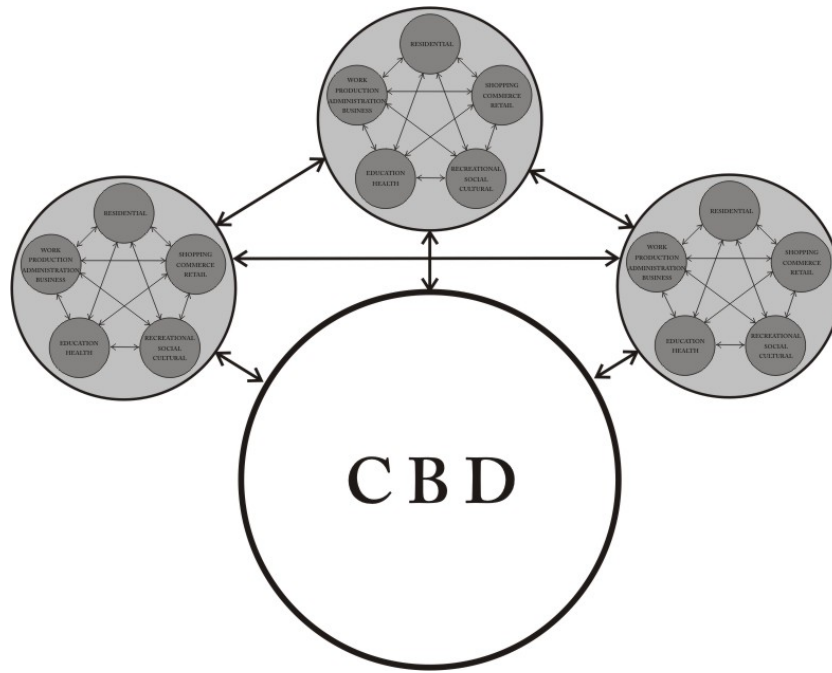


Figure 2-2 Schematic view of the CBD and the Sub-center Relations

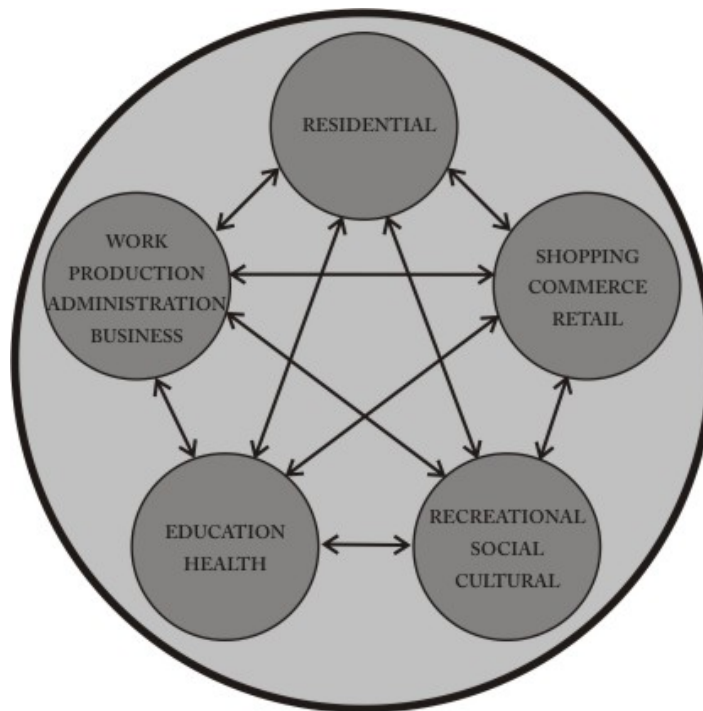


Figure 2-3 Detailed Schematic view of Sub-center organization with Relations among Urban Uses (developed from Tanghe, Vlaeminck and Berghoef, 1984)

Sub-centers are not only the densest places of commerce, or employment. They should provide more of it, like socio cultural activities, recreational activities, or administrative activities. A sub-center should be a part of the city in general. It should have relations with the main city center and with other sub-centers. Since the city is not an organism that has everything inside to live and grow, or as Alexander told “the city is not a tree” (1965) it should have more of those relations. Creating a sub-center should be thought as taking a part of the city and putting it somewhere to have some burdens of all. Here “all” is a land use including not only housing but also uses like administrative units, cultural elements, and recreational facilities and so on. In all aspects of urban life, sub-centers should supply to its citizens all central services.

Sub-urban Sub-centers according to Cadwallader (1996) are the centers that are joined CBD which is the most accessible for the entire urban area. These centers have and produce their own set of urban land use sectors like Commercial, Manufacturing, and Residential. It is the place of represented monocentric city structure. The description of the sub-center in his idea includes also the location of sub-centers by being located near the main motorway intersections. Transforming a monocentric city into polycentric is explained by the accumulation of different individual sub-centers. Namely, the sub-center formulation in an entire urban land is conceptualized by a trade-off between agglomeration economies. He emphasizes the sub-center generation should be explained by the numerous assessments of the individual companies and developers.

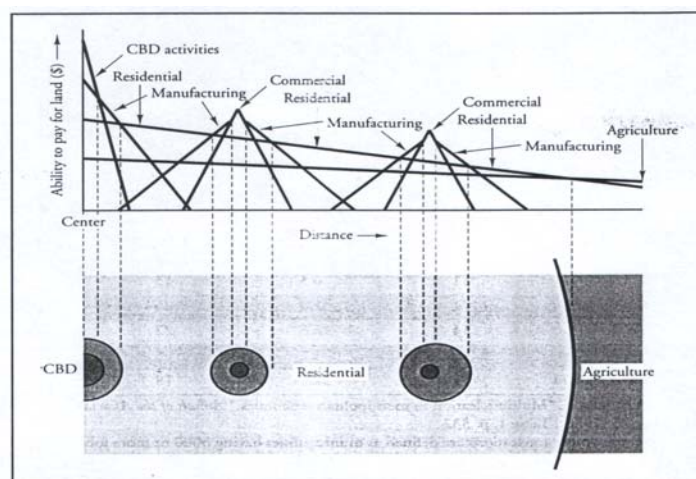


Figure 2-4 Land-use zoning developed by Cadwallader (Cadwallader, 1996)

Sub-centers as mentioned are the feeding parts of the metropolitan region but in this description of sub-centralization, some uses of urban life are missing. It is mainly based on only manufacture, commerce, and housing with only scale and size difference. That is to say, sub-center generation is catching only economic terms but lacking social, cultural, and relational approaches. Connected to the city center by lots of works and stuff, Keleş (1998, p.16) defines “sub-centers” are the places that meet -in a sense- the demands of smaller communities/people living in close environment in terms of commercial, cultural, recreation and amusement and similar facilities. They are secondary city centers, increasing the numbers as city grows.

In addition to sub-center definitions, the new town developments should also be evaluated in terms of sub-centralization. “New towns” are new and designed settlement areas, more or less in a self-sufficient environment, in the aim of supplying housing, working opportunities, working spaces and related easiness for the population proposed to live in. Any new settlements in London, built close to the city’s environment, aim to slow down the population flows to it and moreover to decrease its population, with an act built up in 1945, which is called as “new towns”. Their population was between 50 and 80 thousand (Keleş, 1998, p.140). This new town concept is also a suitable for the definition of sub-centers in most senses. Considering the urban hierarchy of core facilities, like CBD, Sub-centers, district centers and neighborhood centers, the new town developments are applicable for the evaluation of sub-center growth.

Besides, the satellite cities concept are also similar in that hierarchy with new towns, those cities are located outside of the city, being independent from legal entity of it, but settling in the territory in terms of social and economic factors, being obliged to meet most of the demands, are settlement places of people, most of which working in the business/work centers of the big city (Keleş, 1998, p.127). Satellite cities are built within related and integrated models of new societies and they are functioned as cores for new developments. They are multifunctional having higher degree than the regional shopping center having places for entertainment and offices (Gruen, 1973, p.18). Those cities, from the authors are being understood as not like a sub-center but they are in between regional shopping centers and sub-center more than a function for a central use, but not all functions that should be in a sub-center. Therefore, it is also applicable to consider for a sub-central development.

Lynch states for the urban core facilities that those areas should implicate several possibilities that are ranging from living, working, servicing and leisure with a highly concentrated area with a spoke of open spaces. Here he expresses not only functional but also physical sense. Therefore, he adds that the central area should be demarked and easily visible containing cluster of skyscrapers or a group of huge and unique urban uses like governmental or university (Spreiregen, 1965). Hillier (1999) defines the town center not much differently from the others but clearly identifies that the center is marked by focal “live center” of markets and retail, with a quieter districts of administration, business and religion in close spatial proximity defining the limits of the central area. Differently from other authors he describes the sub-center or a town center within the space organization. He states as “focus”, describing the “limits” and mapping the various “functions” in their locations in the same time. He does not separate but combines these three aspects of planning and space organization for the formation of the centrality.

2.1.3. Neighborhood center

Neighborhood unit concept and therefore the neighborhood center development term were developed by Clarence Perry in the beginning of the 19th century. Perry (1929) improved the idea of agglomeration of smaller units considering the safety of neighborhood facilities, civic benefits and moral and social values of the young and therefore the community. This agglomeration is composed of elementary school, public playground, and convenient local shops serving for 5-6,000 citizens where they live in almost 70 hectare area bounded but not crossed by major highways. The relations in these neighborhood centers will be face to face relations and nothing more than it in which homogeneity in it is produced. According to Perry, the automobilization forced the life of neighborhood because the motorways are cutting the neighborhood into small islands that creates separation. Neighborhood unit is defined by some principles including the *size* allowing the elementary school with the population served. Moreover, the principle of the *boundaries* is for neighborhood unit by being surrounded by arterial roads permitting the through traffic. System of parks and recreational areas are planned in neighborhood unit for the demand of citizens living in as an *open space* principle. In addition to these, area for the institutional sites, local shops and internal street system becomes as principles of creating neighborhood environment. Moreover, the neighborhood unit concept developer, Perry, built up various use of local shops that should be located in the neighborhood center. He mentioned both the

neighborhood facilities and services for a city wide range. He differentiated those types of the shops. Hence, it is reasonable considering or limiting the use of neighborhood centers in this study specifically in the case area. The restriction of the neighborhood shopping centers will encourage district centers and in addition to this the sub-center in Batıkent new settlement urban environment that will be discussed in the following parts.

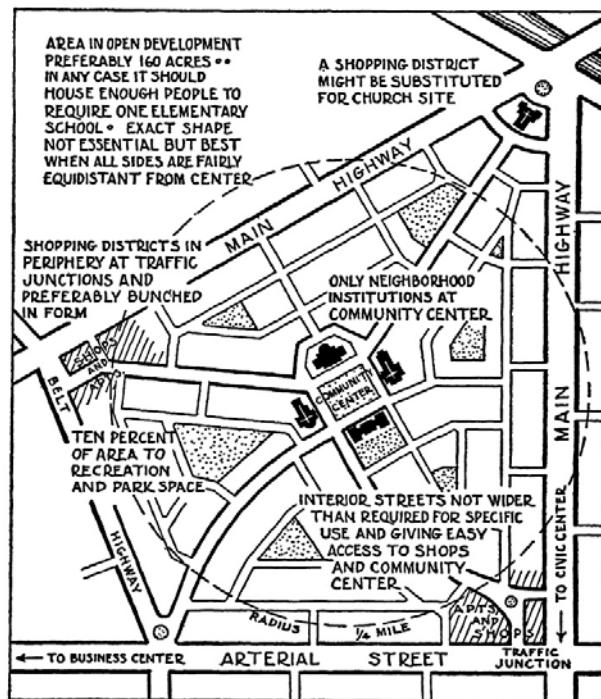


Figure 2-5 Principles of Neighborhood Unit and the Center by Clarence Perry (Perry, 1929)

Considering the idea of neighborhood unit that Perry mentioned (1929) and the technologies and population of the time, the neighborhood unit consisting 6000 people will have lots of shopping types and needs ranging from Grocery, Bakery, jewelry and Laundry for the population of 650, 2800, 6500 and 7800 respectively. He numbered many types of concern between Grocery and Laundry for neighborhood center; meat market, restaurant, druggist, garage, merchant tailor, plumber, confectionery, fruit and vegetable, hotel, furniture, dry goods, cigar and tobacco, undertaking, coal, shoe, clothier, florist, jewelry, millinery, hardware, cleaner and dyer, delicatessen. He has found a gap after Laundry considering the 7800 population serviced, that is Musical instruments as a need of almost 9800 people. He explained those concerns like musical instruments, banks, furrier, typewriter, sporting goods,

and department stores as a city wide activities servicing for 9800, 11000, 20000, 35000, 38000, and 45000 people respectively.

Neighborhood center is a shopping centre typically attached by a supermarket or drugstore and having a gross leasable area of 4,500 - 9,500 square meters (<http://www.creb.com.htm>). According to Kelly (cited in Aksel, 2000) those kinds of shopping centers serve minimum for 750 families, containing a supermarket, a drugstore and a few service stores. Those centers supply daily needs of the people living in the environment within the city. It satisfies day-to-day living requirements of close neighborhood.

Burns states many uses that neighborhood area requires for a healthy urban environment (1963). Children's playgrounds, gardens, open spaces for both recreation and social aspect, public buildings like health and educational activities, smaller shopping areas for daily needs and public houses, religious structures, meeting rooms and clubs should be located in the neighborhood centers for daily requirements and for taking the burden of the town center for those needs. However the mentioned term in the study is a bit different from those definitions. Neighborhood center is slightly different from neighborhood shopping center. Neighborhood center in the study used to define the center including neighborhood shopping center (a building), a space of entertainment or recreation like greenery area (an open space) and educational building or an area for health services. It is the smaller scale of the district centers, meeting the daily demand of people both physically and mentally.

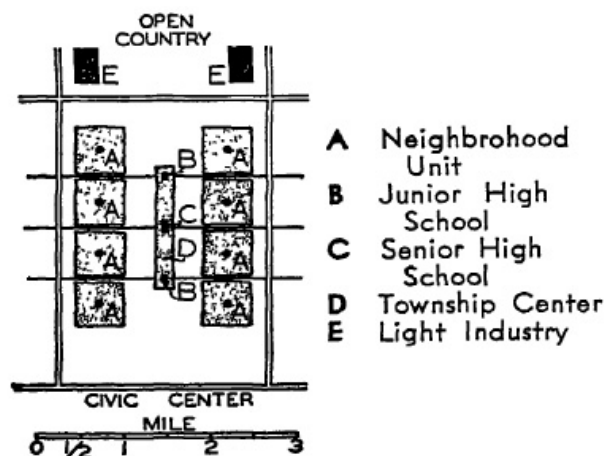


Figure 2-6 Neighborhood Unit and the Scheme by Jose Sert
(Gallion and Eisner, 1963)

Neighborhood center or unit concept was also re-evaluated by Jose Sert, having not much difference than the Perry, but including the relations between the township and the neighborhood uses. Six to eight Neighborhood units in Sert's idea form the neighborhood center with educational uses namely high schools for juniors and seniors (Gallion and Eisner, 1963). He names the township center for the neighborhood center surrounded with a greenbelt and including a concert hall, a community auditorium, meeting rooms, theaters, main shopping center, recreation and administrative uses. Moreover, his neighborhood units include a library, an elementary school, a kindergarten, play-lots, playgrounds, a church, an emergency clinic and shopping units. His description of those centers and units are like Neighborhood units equivalent to neighborhood centers, and township centers corresponding to the district centers evaluated in this study.

2.1.4. Shopping center

“Shopping centers” are the shopping areas in which the needed substances of the families are sold especially by the monopolized sellers, which are located far away, accessed by private cars, from the central areas of the cities and which in general have stability (Keleş, 1998, p.16). Shopping centers were developed by the growth of need for car parks with the improvement in the automobile technology and increase in car use. While large cities have the CBD as administrative and recreational facilities, smaller cities have central area of commerce as the main street (Redstone, 1973). Growing demand of car parks and increase in dissatisfaction due to walking distance for shopping different stuff and having enjoyed at the same time emerged the shopping centers supplying all those good things under the same roof in a limited space in urban area, lowering the problems and dissatisfactions of people.

The problem of the shopping centers are that they are working as a sub-center attracting lots of people for their consumption needs. Moreover, some of them are serving socio-cultural facilities to attract more people. Considering the urban uses of a sub-center, the shopping centers are the only a part of an urban center that has commercial or shopping facilities. Namely, they are the places of consumption and therefore should not be considered as a sub-center, due to lacking facilities of production, employment and similar services.

Although those shopping centers/malls are serving most of the human needs to illustrate for a month, they are not sufficient for the special requirements of people that live in the city centers. Therefore, the locations of those centers have a significant role in urban environment. In most of the European cities, those centers are located in the sub-center of the town, neither in the periphery nor in the neighborhoods. Only the regional shopping centers or shopping center of a special need (clothing, machinery, furniture or alike) are found out of the central area in a town. Those shopping centers of a special need are serving limited type of good and the regional shopping centers are working to meet daily needs of people although they are started to disappear part by part.

2.1.4.1. Regional shopping center

The regional shopping centers are defined with different terms like suburban shopping centers or downtown regional centers. Although the concepts are various, their meanings are almost the same. Redstone describes (1976) the regional shopping centers as they are whether a single megastructures covering one or two city square blocks or a complex of various buildings which are interrelated among each other in terms of aesthetics, physical by pedestrian ways, skywalks, ramps or alike. The confidences of those centers get the attraction of people as the center is being used as city center in daily life. That is why implementation of those centers is rapid and easier for the developer due to the services they supply and the demand of the consumers as a commercial complex. As stated before, those kinds of centers are not serving more than commercial uses or use for consumption, no production, no business, and no employment or in a sense no recreation.

Supplying enough car park space and being so close to highways are encouraging factors of those regional shopping centers. As seen in the image there are many individual buildings creating wholeness with a defined pedestrian way in the middle of those buildings. One can reach easily the center and do his/her shopping and go home in a confident way without any problems considering the congestion or energy consumed during shopping. However, those centers are not creating other central uses apart from commerce (shopping) and some recreational activities. Besides, the planners face with the problem of the location of those centers due to the cheaper land and accessibility principles. However, they should be considered as a central use of the town and those uses also should be located in the central area. The central area should get the attraction of both developers and consumers.



Figure 2-7 Regional Shopping Center in the 1960s, Northgate Center, Seattle
(Gruen, 1964)

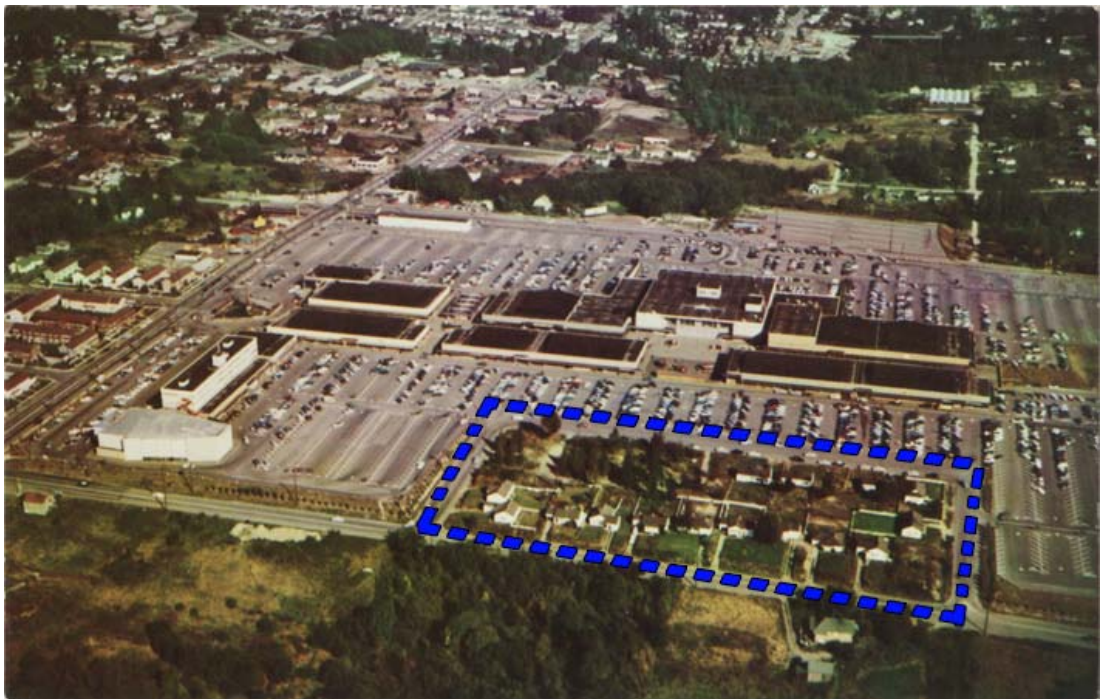


Figure 2-8 Regional Shopping Center in the 2000s, Northgate Center, Seattle
(<http://www.vintageseattle.org/2009/08/18/northgate-mall-by-air/>)

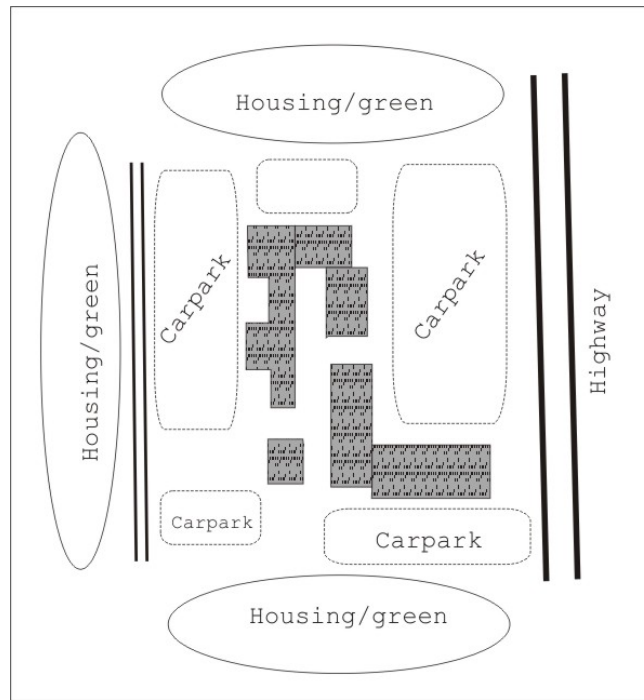


Figure 2-9 the Schematic view of the Regional shopping centers (developed by Serhat Celep, based on the research of the study)

Those centers supply lots of goods and service all centers apart from the CBD. Kelly (cited in Aksel, 2000) states that those areas are equal to the decentralized downtowns. In a sense, they offer stuff like sub-centers do. But the idea of similarity of decentralized sub-centers (downtowns) is likely to come from some commercial, entertainment and retailing activities, but Kelly does not mention other urban uses that should be located in sub-centers.

2.1.4.2. Town/community shopping center

According to Gruen (1973, p. 17-18) shopping center should meet all the necessities of daily life, but in addition it can also include post office, circulating library, doctor offices, and rooms for club activities. To him, shopping becomes a pleasure, recreation rather than a chore.

In addition to Gruen's definition, Kelly and Dunne et al (cited in Aksel, 2000), states that community shopping centers provide a large range of activities and facilities for the sale of soft or hard materials like clothing or furniture. They need to have professional offices and in

general a bank, serving 15,000 to 30,000 population. Community shopping centers are considered as the middle centers between the neighborhood centers and regional shopping centers. Considering planned environment, they serve citizens more than their daily needs as in neighborhood centers, but also serve less than the sub-center facilities. In this study, in Batikent new settlement area, the community shopping centers are described as District centers considering their characteristics in the following parts. The problem of their level of services is discussed in the subsequent chapters. The metro station and its environment uses should be called as Community shopping center in Batikent case although it works as a sub-center due to some factors and planning problems that will be criticized later. To illustrate those town shopping centers in the close environment of Batikent are Carrefoursa, Optimum, and Gordion (under construction)

2.1.5. Unifunctional center

Unifunctional centers are the places of the concentration of units of an urban use in a specific place. Those urban uses can be shopping for shopping center, administration for civic center, and business for financial center or educational for educational centers. These uses or activities can also be numbered much, but to understand the characteristics of the sub-center, it is needed to evaluate each of these one-functioned concentrated urban lands. The problems and the characteristics of these centers will help the study to make the reason of the ingredients in the sub-centers clear. In fact these centers defined as uni-functional centers are not the centers but the concentration of one activity in a specific zone. It is just concentration or centralization of an activity or facility.

The regional shopping centers are one of the examples of the unifunctional city centers. Unifunctional centers were born before the regional shopping center and became one of the biggest reasons causing the collapse of the urban centers. There are few types of unifunctional city centers and each having one facility demanded and very intense. But for the urbanism, Gruen states (1973), creating unifunctional centers make contribution to the downfall of it. Unifunctional centers are characterized with its dominant and very dense urban uses. Those centers may be Industrial, Civic, Financial, and Cultural, and include Art and Education rooms, Offices and Church (religious). Creating a center with the districts of those mentioned activities in unifunctional centers will be more desirable for urbanism.

However, planning those centers as a sub-center in a sense will mostly probably create more problems for the city and its center.

Industrial centers are created by the management of industrial entrepreneurs with irremovable distributing personalities by grouping in a space. They may depend on some specific transportation type to create those centers. They also need employment due to the working stuff in, and therefore the center needs some other urban services with residences. Financial centers are agglomeration of banks, stockbrokers, and stock markets in which the technology is used much as a communication device.



Figure 2-10 Industrial Center of Wilmington
(<http://www.gfipartners.com>)



Figure 2-11 Civic Center of Los Angeles, California
(Gruen, 1964)

Civic centers are enormous accumulations of governmental office organizations in which bureaucrats meet only bureaucrats and are separated from those citizens or people whom they are obliged to provide. Those centers are alive in the day, but they usually do not work in night times. Therefore, those places or centers become a matter in terms of safety and alike in night times and in holiday times.

Cultural centers are the centralization of the activities, facilities and urban uses like museums, galleries, exhibit halls, that are placed in good place which is isolated for those participating in culture. Centers for the performing art are also centers allocation a number of theaters, an opera house, and concert halls on an isolated urban land. Those centers may create some congestion in the beginning stage and in the ending time of the show time. This will not be a problematic due to the fact that it would not last long and would not be the same everyday.

Educational centers should not be isolated or in fact there should not be isolated centers for only education in an urban life because those centers comprise ghettos for the young whether they are high-school or university campuses. They separate younger generation from the older one, and also the studying population from the working one. Doing so, the universities become an urban use, un-interested from urban life. They become inactive socially and culturally within the city-space. Therefore those uni-functioned, educational centers create a different generation whom don't know much about what is going on in the city.

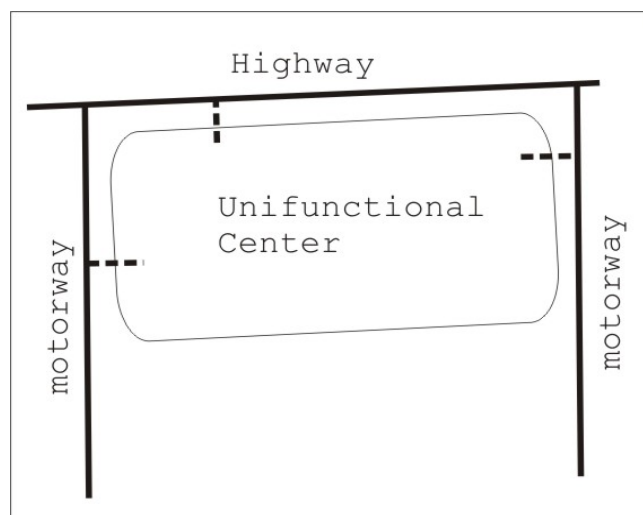


Figure 2-12 the Schematic view of the Uni-functional centers (developed by Serhat Celep, based on the research of the study)

Office centers are created by the concentration of private corporations with the headquarters and skyscrapers. They usually generate traffic at office opening-closing times and hence emptiness in the evenings, nights, and holidays. However, for city-center's to be alive, livable and active, those centers, employment areas, are needed to be located.

Those listings never end. One can add any kind of use in the city with the concentration of those in one area of the city. As Gruen describes, amusement centers, restaurant centers, radio and TV centers, automotive centers, and giant centers like cemeteries can be added to the list. Moreover, those unfunctional centers can also be unique centers that are accordingly created owing to the city's special characteristics and qualities. But inevitably, those centralization of activities as a unfunctional center will affect urban life and planning.

2.1.6. Multifunctional center

City centers are crucial multifunctional social spaces and precise urban environments in which social institutions and activities, social communication and contacts are highly dense. According to Bianchini (cited in Tunc, 2003), city centers are vital parts of the public sphere as they include most significant civic spaces and buildings, public buildings and open spaces and because they are places where community events, fairs, street markets and meetings occur. Bianchini's approach repeats Lefebvre's concept of social space which is the space of social communion with high stages of chance for social relations and the space of daily experiences.

Gruen explains the multifunctional centers as a building type which in degree, is higher than the regional shopping centers as he defines.

“...It represents, in fact, the natural and organic organization pattern which has existed since the founding of human settlements and has expressed itself everywhere as the nomadic hunter turned to the pursuit of agriculture, the activities of craftsmanship and of trade.”
(Gruen, 1973, p.96)

He accepts as nothing in the world is something new, and besides, he says those structural forms have appeared due to the reasons of changing sociological circumstances, and the scientific technological inventories. The multifunctional centers meet the demand in a certain old means of life. Close to our date, the multifunctional centers have started to have

problems of overloaded through the amount of vehicles, both parking and traffic. Its humane activities and facilities and in fact the structure of the system started to go off due to those problems. Gruen also states that streets, squares, plazas, lanes creating the physical arrangement of the center became a conflict with the development of contemporary technology. "Its structures and facilities, usually of old vintage, no longer fulfill the requirements of "modern living standards." (1973, p.96-97).

2.2. Summary and Evaluation

The centers discussed in previous part are the helper for the place of a sub-center in the hierarchy of the central settlements. Moreover, by stating the ingredients of a sub-center and hence, limiting its character considering the CBD or increasing the functions considering the district centers, neighborhood centers and shopping centers has a significant role in defining the sub-center. Sub-center is needed to be defined with a town center, in fact. Namely, "sub" in the term sub-center should be considered as identifying only the hierarchy and therefore not all people use the area as a central activity zone in the metropolitan area. Sub-center and sub-urb is the town center and the town. That is to say, what is needed in a town or in a city is also a requirement, but in a smaller scale, namely for sub-citizens. Considering the sub-center development, it is vital to think through the sub-urb development as a new town development. Moreover, neighborhood centers and district center helped the study determine the kind of development needed for, the sub-center should be born in mind.

Types of central area development are listed as City center, sub-center as a secondary center in metropolitan region, neighborhood center as a third center in sub-center of the town and shopping centers with other unifunctional centers. Shopping centers are also unifunctional centers considering the urban use of consumption and in some cases with socio-cultural urban activities. If Neighborhood centers meet the demand of citizens for a daily life, sub-centers do it for a week or a month and the CBD does meet the demand of humane activities for a month or a year if one does not work in CBD. That is to say, the neighborhood center facilities or district center activities need to be defined clearly and need no to be overloaded to affect the town center development. If it is not clearly defined, they will develop more due to the needs of the citizens and the main center of the settlement will be discouraged to develop. Some uses will start to locate in district centers or in neighborhood centers, moreover in the CBD although they need to be placed in town centers.

CHAPTER 3

HISTORICAL DEVELOPMENT OF SUB-CENTERS

The city center can be described as a place where the most accessible options is included in and a place where specialized and differentiated working places that serving the highest number of people, where the activities need to be located together densely in a limited area due to decision process and related facilities (Akçura, 1971, p.119). However with the development of many factors containing transportation improvements and growing displeasure with quality of life in central cities, the sub-urban areas started to emerge and jobs and people started to move these urban areas. Cadwallader (1996) explains this process as it is done by cheap governmental loans for housing, created the decentralization process. As this housing, commercial, and industrial development occurs, many other facilities in these urban areas became needed for a qualified urban life. Governmental service and activities (fire and police protection, health services, education, and libraries) were the main required items in these developments. The development of the central areas and requirement of new spaces to grow mainly resulted in sub-center generation. That is to say, new centers were needed with the development of new settlements, new towns. Although this is thought to be the agglomeration economies, there is understood that there is more of it, like more social, cultural, recreational and similar aspects of urban life considering the quality and quantity of urban land to have a better life.

3.1. City center evolution

City centers are the most commonly used and densest urban parts of the city systems. The development of those places is like a never ending process through urban development. By this development, the problems and congestions in almost all aspects of urban life and planning get bigger and bigger. Due to this, the need for new lands for the center or other lands for the center becomes inevitable. Therefore new types of relations are expected to

occur. Those difficulties in the centers have been developed by the improvement of the information technology and by the improvement of motorcars use. And hence, the needs for the new lands for the central area and suburban areas of the cities to share the burden of the center have born.

Increasing the car ownership and use and the insufficient transportation systems has created problems in the centers. Therefore, the sub-urban areas have become responsible for the needs of the citizens living in the environment as the main center started to have problems in socio-economic aspects of life, such as employment, cultural activities, proximity to the residential.

3.2. Analysis of the city centers

The facilities that are concentrated on the centers have some commonness in terms of their qualifications. Retail commercial areas and service types are intended to choose their location in the center because of the high accessibility possibilities. Lots of costumers needed activities or commercial facilities like department stores, bigger shops and closed shopping areas or very specialized shops can last their existing in the central areas. The most specialized and different services need the biggest number of people as customer and they can be found in the central area (Akçura, 1971, p.118). The centers do drag the facilities that needs and have relations among each other. Akçura, moreover, explains these circumstances due to the fact that those facilities or uses have to be in a space that has close proximity in physical sense to be aware of the related others.

However, with the development of communication technologies and transportation developments, this criterion started to melt. On the other hand, this development made possible to decrease the congestion caused by the concentration of the activities in the same place, and made possible to decentralize, moreover to separate or to break up the physical relations in the center. The basis of the sub-center evolution in fact, started in that point of view.

The crucial goal of the city centers, according to Redstone (1976), is to produce an environment conducive to an active, satisfying day and night variety of people facilities. To get this aim, the central area should include activities and structures that attract people also

after working hours. Besides, the diversification of new professions and a raise in employment opportunities, the diverse residential units for a range of income groups, provision of pedestrian areas linking the central uses to encourage them get into the central area and car parks both for public and private developers on or under the ground.

Considering the studied theories and prerequisites of city center, it is adapted that the central area should have the functions of almost all types of urban uses. To emphasize more on it, as Burns stated (1963), the following items are numbered for they should be available in the central zone; The traffic junction point, Shopping spaces, Pedestrian zones and circulation system, Car parks, Office spaces, Estate agents and furthers who requires lodging on the ground floor, and properly reside in shopping type floor space, Hotels and Public houses, Markets, Banks, Post offices, Local government offices, Public Halls, and additionally religious, social and cultural facility buildings and open spaces, and Residential areas. Besides, the relations of the town center with the surroundings and other town centers in the metropolitan area with Metropolitan city center should be thought and created.

3.3. The problems of the city centers that led to sub-center development

In today's cities the problems of the central areas are arising generally because of the high concentration of facilities and activities in the center and besides due to the unifunctional growth in. Many high rise buildings and office blocks are built in the same centers (centralization of activities in one core) and hence the problems started to emerge due to the un-development of infrastructure in the same time.

3.3.1. Transportation

As Erpi stated both for the urban settlements and the central areas (1980); the basic problem in the core area lays in accessibility both in terms of traffic flow of the motorcars and pedestrians. With the development of industry and machinery the use of cars has rapidly been increased and therefore new motorways started to build or the existing ones started to be enlarged. However, this type of solution emerged new problems in the centers. In addition to these problems, more motorcars started to come to the center and therefore private car ownership has increased and that made more and more private cars go into the city centers.

Besides, the parking space became insufficient and there were needed more space for carpark in the central area. Congestions due to the traffic, noise and the gas also started to emerge.

The city center became dominant in motorways although they are started or are needed to be encouraged in terms of pedestrianization or as Erpi stated (1980) the segregation of the traffic flow from the pedestrian flow are needed both in neighborhood units and central areas. Moreover, the insufficient systems in public transportation also increase the problems of the center in terms of car usage and pedestrian usage. When it becomes hard to access to the center, people will tend to have a private car or will use the center less. Therefore it is vitally significant to develop public transportation system, even in shorter distances for pedestrians, to encourage the center use.

Sasaki mentioned that the nonmonocentric city structure is allowing the low cost for the transportation expenses (1990). The monocentric city structure is limited and restrictive in terms of land-use patterns. However, suburbanization and sub-centralization of firms and populations, instead of concentrating in CBD, creates savings costs both for land, labor inputs and therefore transportation costs. Hence, polycentric city structure is supported and encouraged to emerge. This happens with development of telecommunication technologies and therefore the decrease in the demand for being close to CBD and by this, the decrease in trip needs and transportation requirements.

3.3.2. Population

City centers have a vital aim of producing an active space, fulfilling day and night population in the environment with variety of people playing differently in the center according to Redstone (1976). To get this, the centers are supposed to consist of activities and structures that attract people also after working hours. That is to say, central area population does differ during the day. The day and the night population of the center have big gap in general. Being the major city center, having administrative, business and alike activities, has very huge population during the day owing to the fact that they work during the day. Absence or having little socio-cultural facility areas and residential districts makes the center low populated during the night time. Not the major city center but the secondary town centers which are far to the CBD should balance the day and night population. To do

this, mentioned activities which lack much in the major centre, should be located in the town center. Moreover, the car-pedestrian zone districts should clearly be separated to attract more people to visit.

3.3.3. Pollution

The single center dominated model of urban system has started to decrease its significance when the importance to the recently locating company of agglomeration opportunities in the CBD no longer govern the congestion, pollution, or overcrowding costs associated with being in city center or when other potentials of greater advantages of agglomeration over congestion exist elsewhere, namely in sub-urbs and sub-centers (Kumar, 1990). As a consequence of centralization of lots of activities in the center, it is inevitable pollution to occur in terms of physical, visual, perceptive and sensitive factors. Having very different facilities will result in it if there is not clearly separation of motorcars and human and if there is not enough precautions. Those actions may be locating enough green space, hiding noisy activities, and so on.

3.3.4. Housing

The provision of housing in the central areas of the urban environment have a vital role due to the fact that some people want to live in the center or some people who want to accommodate closer to working space will want to reside in the center. That is also valid for the differentiation of residential units and for the people who use their home as home-office (Redstone, 1976). Besides, the housing areas with the centralization of more and more activities have started to diminish in the centers. Those diminishing process is also due to the fact that people living in the centers are afraid of the night life and moreover, they may not find living spaces in the centers without any noise and pollution. Therefore, if no action is taken, people tend to live far to the centers.

3.3.5. Sustainability

With the decentralization process and suburbanization, region has started to have many sub / secondary central towns as in Paris, Ile de France region. According to Sherlock in 1996

those centers should provide their facilities, accessible on food, with strong communities in the urban texture of the metropolitan areas. These thoughts have been emerged with the development of the term “urban village”. Besides, after the sub-centralization and creation of new towns, the new distinction between CBD and suburb should be replaced by *urban village* and *counter-urbanization*. Creating those centres/nodes on rail network will also encourage sustainable travel and city development in a sustainable way (Johnson, 1974; Kumar, 1990). In the creation of new towns of Paris region in 1970s, the idea of agricultural environment is considered as well. To illustrate, the parks created in new towns became a habitat for some birds by sustainable town planning and agriculture policies in the town, like using pesticides by farmers around the town (Charre, 2004; Warnier 2004). Moreover, it is told that the natural conservation of both the new towns and metropolitan areas is a fundamental fact for urbanization.

3.4. Decentralization of city centers

Altering economic face of the industrial and post industrial societies, there has been an increase on contemporary problems as well as the eternal problems. Therefore suburbanization in the decentralization process of the cities became as a solution to those problems. Twin cities and satellite towns were seen as an answer to that problem. That is to say, development of alternative growth of the other regions became counter response (Keskinok, 1990, p.32-33).

Castells (1977) states that the commercial activities and facilities of the city center started to decentralize since the city started to grow. And hence, the mobility of people started to enlarge. That is to say, the major city center began losing various numbers of commercial facilities. Besides, the activities of administration and information in the city center increased. The process of decentralization of those activities, according to him, could be seen when the shopping malls and centers started to locate in suburban areas of the metropolitan region.

When the central agglomeration creates problems and congestion and hence when it becomes high enough to take care of it, some of the central activities are needed to decentralize and they will be relocated outside of the central core. According to Giuliano and Small (1990), if those agglomerations are too feeble, they will relocate, decentralize to

isolated, locations in the far regions. However, in that decentralization process, if they are quite strong, they will locate in the secondary central zones and clusters and that are called sub-centers (Giuliano & Small, 1990, p.3).

3.5. The need for suburbs /satellite cities/sub-centers

In city centers, some activities need to be in close interrelation both in physical and location terms. In fact, this existing together and having possibility to contact easily in the center creates obstacles for the central area to grow more in physical formation. This obstacle, as the city grows, makes the center grow in both vertical and horizontal density. Besides, they become a barrier for the activities which demands to be in the central zone of the city and they throw away some other activities located in the center by competition. The reason of decentralization or breaking out of the residential, extensive industries and depots from the center is because of these obstacles (Akçura, 1971, p.118-119).

Multifunctional centers in some examples are threatened because they do not meet the demand of today's people. Those centers remain operative in central cores of some settlements. The central activities change according to the people of different countries. Center for some Australians is the city itself. Therefore their demand for the center gets higher. In European cities, the city signs on the highways show the inner city, directly to the center. In London, for example the towns are submitted as a great financial center and it is used much in a distorted logic. In United States, moreover, the center is known as the CBD. Therefore, in new towns of United States, the centers become unifunctional, that is the employment area, especially for white collars (Gruen, 1973).

The creation of sub-centers is related to the suburban growth (suburbanization and decentralization). The suburban growth in Europe emerged in the 1950s, with the extension of green belt idea around the cities. By this, the sub-center development in European cities has triggered. It has been generally on the rail system by attending specific development points. In recent years, those points or towns have the characteristics of sub-centers in most of the cities of Europe (Johnson, 1974). These development plans started with putting forward of suburban shopping centers. The decentralization process of cities needed it. Newly office blocks policies and creation of employment sub-centers were defended by administrators with the help of technology. Therefore we can say that Sub-urbanization and de-

centralization processes had been a reason for the creation of sub – office centers / block and thus sub-centers, especially with the retail enterprise. Those applications had started with retails and turned gradually to sub-centralization.

3.6. The new city development ideas

It would be easy to understand and develop a planning and design scheme or principles by evaluating Sub-center with reference to the ancestors of new city development ideas. The planning and design problematic for human in each will help us through creating the space for and in sub-centers. Considering the evolution and existing of sub-centers, one can find himself on those following development ideas throughout the world. Howard's idea of *Garden City*, Corbusier's City of Tomorrow, and Wright's Broadacre City development thoughts are going to help for the understanding of needs and requirements in the sense of central / sub-central areas developments.

3.6.1. Ebenezer Howard-garden city 1900s

The idea that Howard developed through Garden city is mainly based on the reintegration of urban and rural character with full range of urban development issues. He proposed his idea due to the fact that people, no matter who they are or in which social group they belong to, were still migrating or continuing to stream into the already over-crowded cities, from countryside to the city centers, resulting in depletion of countryside, rural environment (Legates and Stout, 1998 and Howard, 1902). With the three magnet diagram he has developed; it is adopted that something in the middle of town and country should be created with less problems and congestions of negative stuff. He combines the advantages of town and the benefits of the country by discarding the difficulties of the city life and disadvantages of the country life. Therefore he defined the town-country and designed the scheme of the *garden city*, having easy access to any consumption good or any urban use with healthy urban life by good drainage and infrastructure.

His thoughts attracted enough interest and financial backing to begin Letchworth Garden City, a suburban garden city in the north of London. Welwyn Garden City, was started after World War I as a second garden city. His contacts with Hermann Muthesius and Bruno Taut

caused the application of humane planning and design principles and criteria in many large housing projects built in 1920s. Hermann Muthesius also played an important role in the creation of Germany's first garden city of Hellerau in 1909, the only German garden city where Howard's ideas were thoroughly adopted.

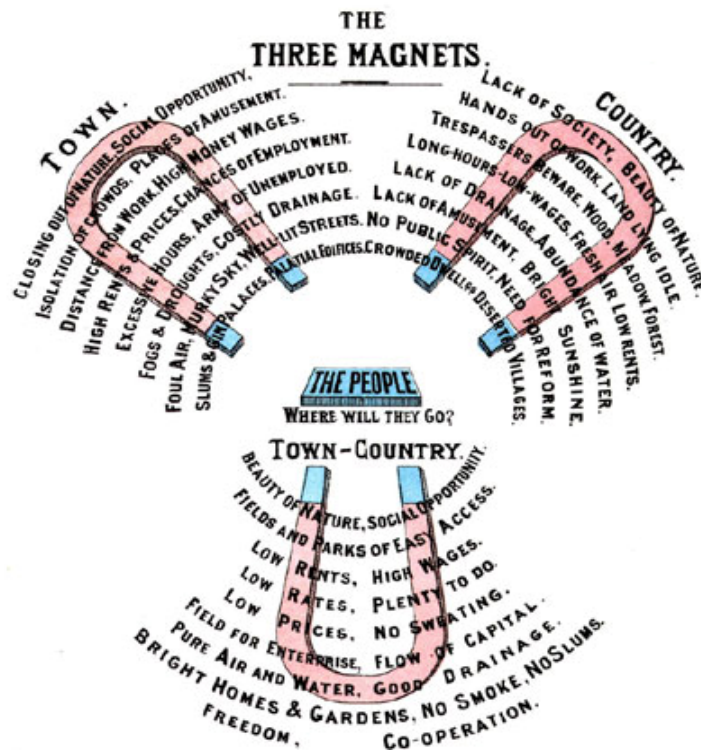


Figure 3-1 the three magnet diagram of Howard (Howard, 1902)

The attractions of Town magnet are social opportunity, and places of amusements, high wages, together with high rents, foul air, and social isolation. On the other hand, the Country magnet includes low rents, fresh air with natural beauty, merged with long hours, lack of amusements, and the society. The Town-Country magnet he has developed, besides, consists of the best characteristics and features of urban and rural life.

The vision he proposed was developed in the times of flow of people to the cities and when disappearance problems of region boundaries were emerged specifically in England and some other countries (Fishman, 1989). With the idea of Howard, garden city association defined “garden city” as it is designed for an industry and a healthy life supplying all stuff for life to the whole community living in the city. It is the city where the whole land belongs

to the public or whole land is attained by a trust for the community having surrounded with rural belt which is not so large.

Legates and Stout states (1998) that the garden city itself attributes an entire array of municipal services and amenities like parks, public gardens, tree-lined boulevards, hospitals and asylums. In spite of the fact that the garden city is attached to a larger system of *social cities* by railways and canals, the city therefore will be self-sufficient with its own production units, factories and workshops. Therefore, they add, the city is not working as a bedroom sub-urb for commuters or a satellite to the available city center.

Howard in this city center scheme suggests that this center should be serving for more people considering the future growth and he continues to have sub-cores of 30.000 people in the town (Eryilmaz, 2003). Those centers in his idea is related with each other in a railway system besides, these centers should be tied up to main city center in a different network of transportation system. His utopia in his time was relevant, on the contrary considering today's need and space arrangements say that this utopia is applicable not as the same as physically in the scheme, but in the idea.

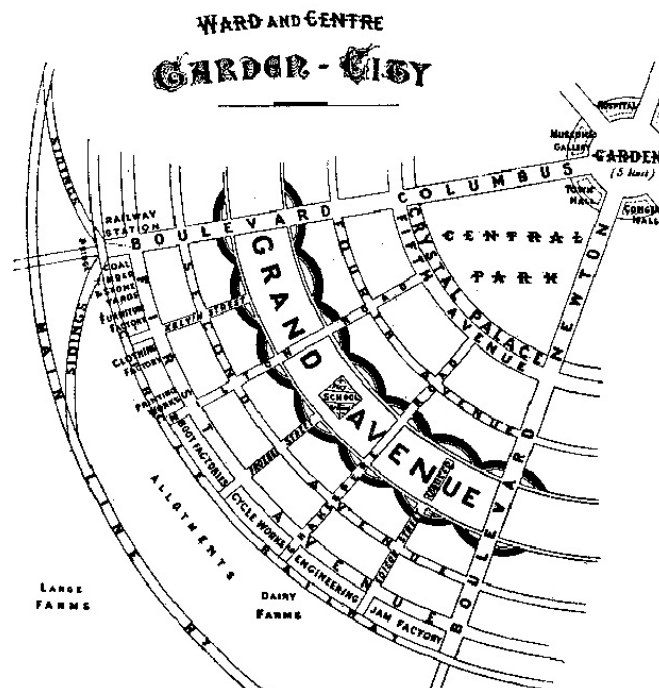


Figure 3-2 The garden city diagram of Howard with its center (Howard, 1902)

As adopted from the schemes of Howard's city, he proposed a center of 5 acre garden that is surrounded with the Town Hall, Concert and Lecture Hall, Theatre, Library, Hospital and Museum and Gallery. He tries to bring the community together by putting large public buildings around the central garden. That is to say the city center is located in an area of Culture, Philanthropy, Health, and Recreation, Mutual Cooperation, and Civic spirit.

He required the thoughts of setting applied to developments for the working class, who feels desire, the respite more than the wealthy people. His sketches showed towns built in circle type grids – starting with a “central park” with residential areas and the networks of the street system radiating from the central garden. He also proposed that once a town has a population of 30,000 people, planners should leave it as it is and start a new town with the next development (<http://fthats.files.wordpress.com>). This was more of a political concept than something meant to be constructed to plan, but his understanding of the relationship between town and country and the community in both still seems relevant.

3.6.2. Le Corbusier-the city of tomorrow 1920s

The city of tomorrow of Corbusier in the early 1920s was planned for contemporary city of three million people with high rise skyscrapers that are evenly spaced in a park. His futuristic idea was seen as the prophet of high rise downtown commercialism and command and control bureaucratic states of all political persuasions (Legates and Stout, 1998). His main mission was to produce a city completely in which man, nature and the machine would be brought together. His idea discourage the spontaneous urban environment in a sense, because he believed that the organic city structure belonged to the past, and the modern world cities should have been designed by the principles of nature, harmony, order and beauty with pure forms artificially.

According to Fishman (1929), Corbusier idea's central use were excluding the civic monument or a cathedral and lacking the symbolic value of a city center, but servicing a central activity as a place of exchanging ideas, information, talents and joy. His contemporary city structure consists of skyscrapers in the intersection of superhighways, subways, access roads, and other small sustainable transportation modes like bicycling and walking. The skyscrapers in the idea would be working as a brain of the city including almost all central uses of the urban environment in a concentrated space.



Figure 3-3 The central Paris development scheme of Corbusier
(Corbusier, 1987)

Corbusier designed his city idea with huge building blocks having fast and hierarchical incity roadway transportation network. He proposed his idea for a city where middle classes are concentrated. He tries to have green open spaces as much as possible and therefore accepts some principles like concentration of buildings in the central area should be lowered due to the fact that the center is being used by many blocks with lower flats and core area of the town is invaded somehow by buildings. Therefore high rise buildings should be located and circulation among those buildings should be created. Green and open spaces should be as much as possible in his ideal thought. Skyscrapers for business and employment in the city center should be placed in a walking distance. This center in the idea will be surrounded with residential units and those areas will be surrounded by a green belt in the city. Considering the central development of the Paris area where his proposal was schemed, he planned a method with high rise residential blocks having bigger greenery areas between and in the environment as understood from the figure.

3.6.3. Frank Lord Wright-Broadacre City 1930s

Wright idea of Broadacre city is an ideal for middle class urban flight and automobile based sprawl suburbia. Besides Corbusier, Wright vision has a naturalistic approach, not hard edge cubist conceptions. Mobocracy, self administration was emerging self creation both in their

lifestyle and in the urban space that citizens uses (Legates and Stout, 1998). The city is family based and he created extraordinary housing units that were combined with the nature. Therefore the idea was condemned as anti-city for some authors.



Figure 3-4 Broadacre City of Wright
(Fishman, 1989)

Broadacre City was an urban or suburban development idea futured by Frank Lloyd Wright. He offered the idea in his article *The Disappearing City* in 1932. Afterwards, he revealed a very detailed 3.7 by 3.7 m scale model on behalf of a theoretical 10 km² community. Many of the building models in the theory were totally new designs by Wright, while others were refinements of old ones, some of which had been rarely seen.

Gallion and Eisner (1963) state Wright distributed the industrial, commercial, residential, social and agricultural facilities throughout the city along the railroad. The significant point in his idea is an acre unit of dwellings, namely production units of self-sufficient city. In addition to this, Broadacre City, for some authors, was the exact opposite of a city and the apotheosis of the newly born suburban area shaped through Wright's particular vision. It was both a planning report and a socio-political system by which each family would be given a 4,000 m² (1 acre/person) plot of land from the federal lands reserves, and a Wright-conceived the society would be built a new from it. In a sense it was the exact opposite of transit-oriented development. There is a train station and a few office and apartment buildings in Broadacre City, but the apartment residents are likely to be a small minority. All

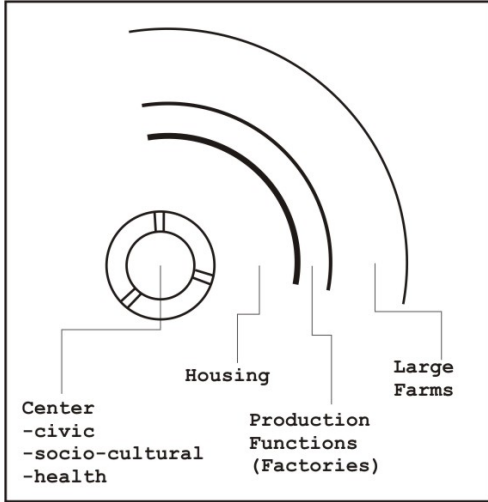
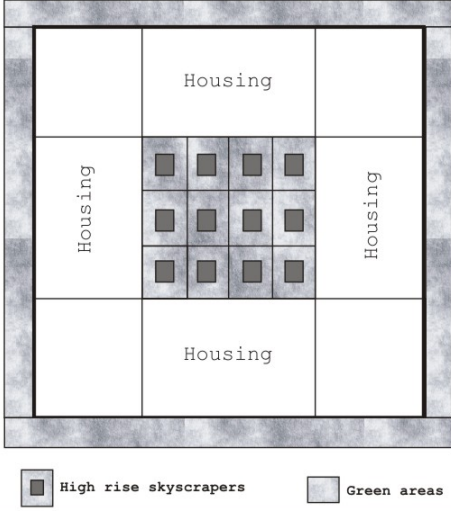
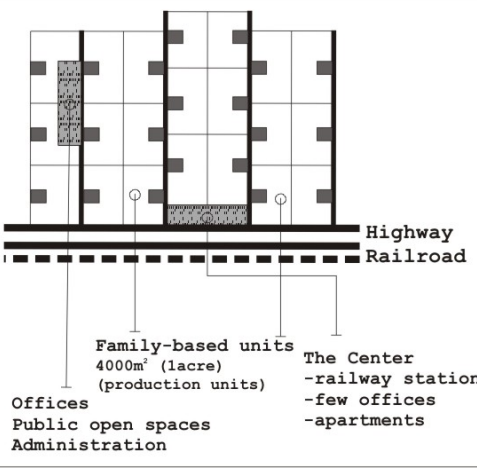
significant transport is done by motor vehicle and the pedestrian can exist safely only within the boundaries of 4,000 m² plots where most of the population lives.

3.6.4. Evaluation of the utopias in new town developments

As in the idea of the garden city development, the problems of both urban and rural facilities are discouraged and the good characteristics of life in both are tried to be obtained in a middle point called town-country by Howard. The development scheme of town-country is a good example of the sub-center and sub-urb development since it consists of all town activities in the center with health, administration, production, culture, society, education, recreation, and housing with agricultural stuff in the periphery with buildings of production, namely factories and other production places of the town. That is to say, the town-country has the characteristics of rural areas with self-sufficiency in its own character as a sub-center.

Besides, Corbusier, considering the growth of the town, developed his idea in a compact sense, which proposes that the city needs more open spaces in two-dimension, so as to have less trips, less congestions, and less pollution. His proposal, taking the sub-center development into consideration, says that, concentration of central activities with the residential developments will help the city both for easiness of movements and accessibility. Although the landmarking of central uses is not well defined in the area, the center itself has a good effect in metropolitan region; that is, the area is very recognizable. However, the buildings should also be differentiated in the sub-center according to their uses. For example, the administrative buildings should differ from business sectors' or commercial or residential structures. Although Wright's vision is appeared as a rural area, the scheme of the Broadacre city shows different characteristics of the central area development of a sub-urb. That is to say, the centralization of all central activities only in one concentrated place will increase the dissatisfaction there. Moreover, the production of the sub-center as an idea is very fundamental. Specifically, creating the employment place and therefore a production space for a self-sufficient city structure to a limited sense has vital role. It tells that the creation of different district centers in a sub-center will create better urban environment. Additionally, the transportation system is fed by some public uses like commercial, social and agricultural facilities and by some industrial and residential structures which are concentrated on different locations of the city. Here, the relevance of the dispersed urban centers in sub-urb is understood as district centers as in the case area of the study.

Table 3-1 Comparison of New Town Development Ideas and Development Schemes
(developed by Serhat Celep, based on the research of the study)

 <p>Center -civic -socio-cultural -health</p> <p>Housing</p> <p>Production Functions (Factories)</p> <p>Large Farms</p>	<p>Howard's Garden City scheme</p> <ul style="list-style-type: none"> - Centralization of Civic, Socio-cultural and Health uses of the town as a sub-center - Production functions as a district center in the periphery close to the production space - Same accessibility level of the center from residential area - The town surrounded with large greenery and farming land
 <p>Housing</p> <p>Housing</p> <p>Housing</p> <p>Housing</p> <p>High rise skyscrapers</p> <p>Green areas</p>	<p>Corbusier's City of Tomorrow scheme</p> <ul style="list-style-type: none"> - High rise compact structures in the center having all central activities - Easy access to the center consisting public towers surrounded with residential area - The town is surrounded with green which is also included in the central area around the towers
 <p>Highway Railroad</p> <p>Family-based units 4000m² (1acre) (production units)</p> <p>Offices Public open spaces Administration</p> <p>The Center -railway station -few offices -apartments</p>	<p>Wright's Broadacre City scheme</p> <ul style="list-style-type: none"> - The self-sufficient city structure with its own production space of acres - More than one dominant centralization of civic activities and also some residents, one is close to the railway station and to motorway, the other is centered in different location - No neighborhood centers but, many other family-based production centers

CHAPTER 4

SUB-CENTER EVOLUTION

With the development of communication technologies and systems primate cities like Paris, London, İstanbul, and similar metropolitan regions have grown and developed very rapidly after the 1950s. The single center of an urban area became insufficient to serve all the citizens living in. Moreover, as the planners of the Paris region told in Warnier (cited in Charre, 2004), new towns has started to emerge so as to fight against suburban chaos and the aphasia of tower blocks in the central areas. Moreover, the monocentric structure was seen as poor demonstration of modern urban environments. The evidences for those structures were supported by mainly three empirical evidences in Kumar (1990); the first is negative exponential density function makes not suitable in monocentric structures and the second is the inapplicability of limited district hypothesis and finally; with the decentralization of both people and jobs, various origins were not suitable for only one destination.

Dowal and Treffeisen (1990, cited in Dökmezci and Akkal) state that sub-center is an outcome of the two sets of forces. Those forces can be said as favoring the concentration owing to the agglomeration economies and as favoring dispersion because of the congestion costs. After that movement, most of the metropolitan regions have started to adopt the multi-center urban development form. For the urban form of sub-central development, Gruen (1973) developed some schemes and multi-functional urban forms. He states that multifunctional centers are like an earlier form of sub-center development.

According to the geographer Walter Christaller's Central Place theory, a hierarchy of the settlements within the metropolitan area is proposed. Those settlements were seen as growth centers of the districts. The main center is the historical CBD and below it, there is more of it in smaller scales and smaller number of activities. Region, town, community and local centers are composed in the metropolitan area forming the hierarchy of settlements.

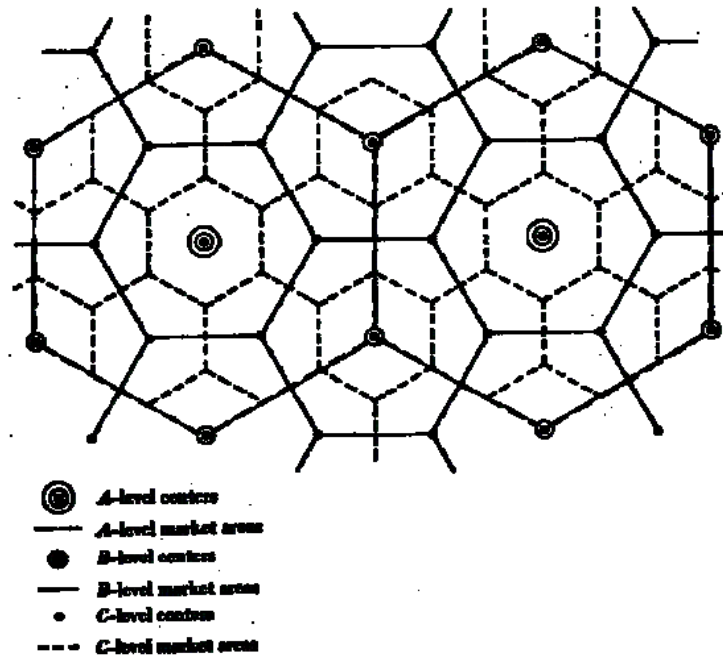


Figure 4-1 The hierarchy of different orders of settlements, Walter Christaller (Manson, 2003)

Here the sub-centers are emerged for lower central activities. But surely, these activities were not only for survival, but also for a whole new city. This means that, those sub-centers should be behaved like a small but having almost all facilities and properties like major city centers. Although the scales are different, their activities are the same.

He defined his theory in three principles of the center developments,

- the marketing principle
- the transportation principle
- the administrative principle

According to the principles he explained, the city structure is formed in three relations. Manson (2003) describes the central place theory as a good work to describe the location of commerce and services that is consumer market oriented manufacturing. While the commercial activities are increasing in the economy over time, the small town society economic developers can guarantee the quite specific, relevant information about the type of trade or service that will be located in the sub-town and about the type of enterprise that will not be placed in sub-center or in neighborhood center. That will absolutely restrict the

development of the centers in different level or hierarchy. Namely neighborhood centers will not be competitive with the district or town center, or vice-versa.

In the 1960s, importance of CBD was reviewed by Ullman. He explained that the major center is one of the many centers in an urban area, but it is the most significant one. He adds creating the secondary centers or other centers made the CBD less important than before.

Gordon and Kleinhenz (cited in Dökmeci and Akkal, 1990) studied a model and they showed that the single-center model of the urban structure has declined in their importance when the charge to newly situated firm of agglomeration opportunities in the CBD no longer overshadows the congestion prices related with being downtown, or when the option of big advantages of agglomeration over congestion exist elsewhere. In addition to this, it is suggested that the replaced of facilities within cities is directed by the wish for avoiding congestion. Therefore, it is thought that the method of creation sub-centers, rather than a dominant center, in a metropolitan region represents as a newly emerged spatial arrangement of the whole city.

With understanding the sub-center development processes, location of the sub-centers becomes a question. Peiser in his article suggests that sub-centers should be determined with a stochastic process in which lots of factors and determinants exist (1982). Those determinants and factors are like;

- accessibility
- income
- the availability of vacant land
- public investment in infrastructure, and
- local government initiative

Sub-center is a district or a zone which is characterized by larger population concentration and employment or commercial facility than its environments. Except from some researcher dealing with empirical criteria to define the sub-center within the metropolitan area, there are not many standard criteria to identify the sub-center (Dökmeci and Akkal, 1993). According to them, in spite of the fact that the growing the significance of sub-centers, polycentric cities has been ignored in developing countries, the remarkable transformation of the sub-urbs in recent years shows the similar reformation development of the historic

western cities with the sub-urban center coming out as a whole original urban form take over the metropolitan space and economy. That is to say, the sub-center growth is not significant in terms of physical urban growth but also important as an economic asset of the metropolitan region.

Apart from theoretical and empirical research on the sub-center development, few studies were done on sub-center / polycentric model of development. Moreover, study on the spatial organizations of those centers was insufficient in developing countries. According to Dökmeci and Akkal (1994), such subjects have not been examined enough in terms of their transformation process, whether they are unique in the aspects of spatial dynamics or they represent the earlier steps of their developed counterparts.

Therefore, in this study, the sub-center evolution is going to be examined with its development process and design schemes. In that part of the study, a few number of sub-center development throughout the world will be examined and will be studied to take out some design and planning criteria and principles from those earlier model developments.

4.1. Sub center evolution and the effects on CBD

Sub-center evolution has been thought, as mentioned before, with the decentralization process and the sub-urbanization of the metropolitan area so as to decrease the congestions and increase the efficiency of urban life.

Sub-centers, one of the first examples appeared in London, started to share the burden of metropolitan city center, CBD. The idea of sharing the load and troubles and therefore decreasing them should be done by sharing all kinds of activities from administration to business and socio-economic facilities.

In other words, if a CBD have lots of private companies and headquarters, the municipality building or an opera lets say, the sub-centers should also have at least a few of companies and headquarters and an administrative unit of conurbation with sufficient socio-cultural activities and facilities including, without doubt, commercial and housing areas. That is to say sub-centers should include all parts of city centers but in a secondary level.

Having those will certainly affect the city center in a positive sense. The decrease of the congestions of traffic, human, or alike and the reduction of the rent in the central area will be direct effect of sub-urbanization, sub-centralization. Building new, sufficient and efficient public transportation will help to create those effects on CBD. This improvement, in fact, is a requirement of sub-centralization to run the idea efficiently. All problems, dilemmas or difficulties that city center contains will certainly diminish if and only if the sub-centers are created effectively to do so.

4.2. Sub-center evolution and the relations with CBD

As mentioned before, the creation of sub-center does not mean that there will totally self-sufficient towns separated completely from the major city center. The sub-centers should be smaller scales of the major city center in all kinds of activities in a physical and in terms of facility relation with the CBD and with other sub-center. That should be encouraged with both lower travel times among the all other central areas and administration relations.

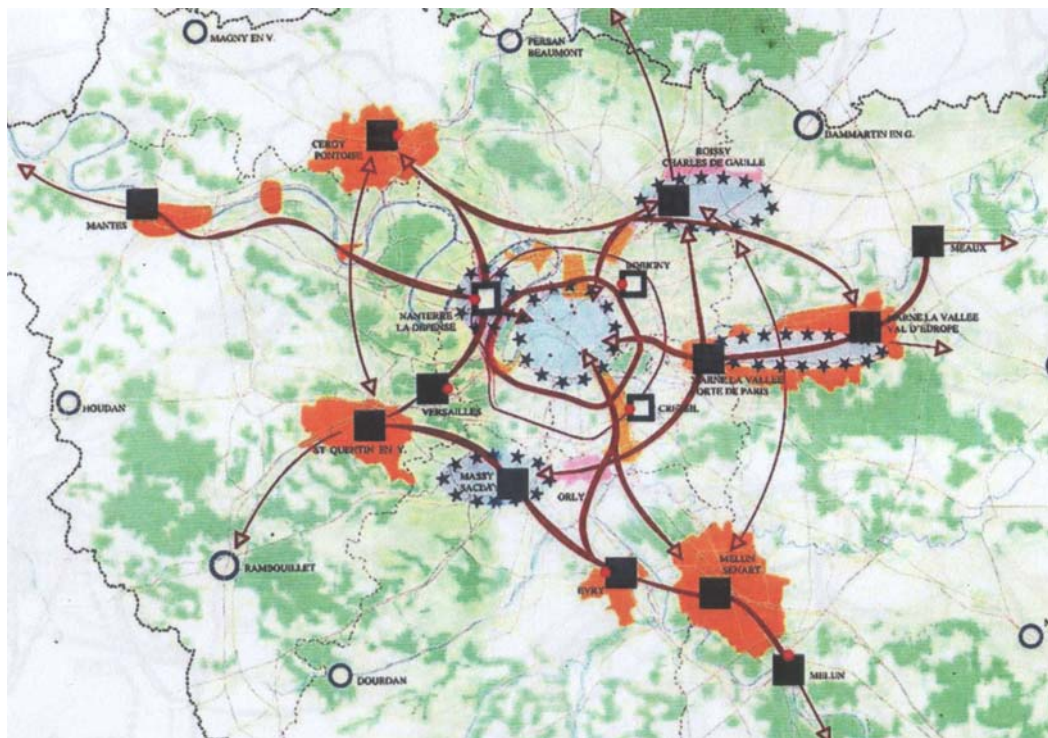


Figure 4-2 the Relations of Sub-centers in Paris Region with the CBD (Warnier, 2004)

Not all units of administration, to illustrate, but some units of it should be located in sub-centers so as to create an urban life in those settlements. Having the units of administration or a municipality, headquarters or units of companies or some socio-cultural facilities and activity areas should be placed in those sub-centers in order to have physical urban relations. Christallers' model of urban structure also tells this relation of sub-centers with other sub-centers, city center and the smaller centers in the hierarchy of settlements. This relation should be in terms of physical and organic. The integrated transportation system between sub-centers and the CBD, the separation of administrative units to create the relation and to develop the area both in terms of employment and productive services are the basic indicators of this relational system. Paris region and the sub-center developments as seen in the scheme show that; the sub-centers are not totally self-sufficient cities in the metropolitan area, but they have physical and social relations among other sub-centers and with the CBD as well. Besides, the CBD also have these relations with some of the sub-centers by located some of the administrative units in these centers. By this, the organic relations among the secondary centers and the CBD are tried to be formed and lively cities around greater Paris is tried to build.

4.3. The significance of sub-center in Urban Development

McDonald defines the sub-center as a zone whose employment density is much higher than all adjustment zones. According to him, gross employment density and employment population ratio are the finest determinants of the employment sub-center for an urban area (1987). However this definition does not identify the size of the sub-center covering more than one zone.

The problems in the urban system in central areas increased and in addition to this, new problems emerged in city life. The time spent for transportation was started to be thought very significantly. Because people could not find enough time to reach somewhere. The reason of it in some aspects was the technological improvements. As it developed, people could have a more chance to find and do something. When the time spent on doing or finding or getting something/somewhere has started to get lower and easier on work, people started to do more of it and therefore more and more of effort was required.

As mentioned, the number of the problems in city life has increased also in terms of congestion, pollution, and so on. To decrease and eliminate those problems, in its core idea, sub elements of the urban lands were needed. Therefore, as cities developed and communication systems improved, polycenters/sub-centers became inevitable. A number of research and studies has shown that mono centric city structure became insufficient for the modern world's requirements. According to those studies single centered city, monocentric city model was a poor representation of modern cities (Richardson, 1988; Anjomani & Chineme, 1982; Griffith, 1981; Gordon & Wong, 1985; Kumar, 1990 in Dökmeci and Akkal, 1993).

4.4. The challenges of sub-centers

Many problems considering the urban growth and development affecting the sub-center whether positively or negatively is mainly coming from the wrong applications and planning problems of city center, shopping malls and neighborhood centers.

4.4.1. City centers

In the large metropolitan areas in the world, the concentration of employment and commercial activities is being challenged by secondary activity centers, namely by sub-centers. But, in fact, in developing countries, there are also the challenges of the main centers on sub-centers. Due to having low quality of life and services in other locations of the city, city centers, offering more and good conditions in terms of infrastructure and socio-spatial qualities, they form a challenge on creating sub-centers. In addition to this, according to Dowall and Treffeisen (cited in Dökmeci and Akkal, 1994) studies on urban economics have mainly centered in residence and firm locations in a poly-centric city structure. On the other hand, regional scientists have emphasized the circumstances under which secondary centers, sub-centers, are built. However, the city center in some of the developing countries, namely the city having one dominant center, includes more public uses discouraging the sub-centralization or sub-urbanization with the investments which are done much on that dominant center. Specifically in the case area of the study, Ankara has almost all the administration units which are very close to the CBD, or lined through a main road reaching

the center. Almost no administration unit or similar units of other urban uses that should be placed in sub-centers are located in defined urban sub-centers.

4.4.2. Shopping malls

Suburban concentration of shopping facilities is the prototypes and forerunners of the regional shopping center or more importantly, according to Gruen they are forerunners of the satellite cities. By the time of Gruen, it was a common trend to build a shopping center for a creation of a sub-center. However, shopping centers especially in developing countries are thought to be a sub-center itself supplying all types of needs of citizens. But as he told, it is not used, in general, as a forerunner of sub-center evolution.

Specifically, in Ankara example of shopping center development, they have been located in the peripheries or in the place of where the accessibility by car is trouble-free considering car parks, being close to the main motorways and alike. Moreover, the building of shopping center is being used as a district of central area having almost all kinds of commerce and social activities.



Figure 4-3 The end of Shopping centers
(<http://forum.arkitera.com>, retrieved in July 2009)

According to Spitz and Flaschner (1980, cited in Aksel, 2000) shopping centers are considered as a town in the town while they are constructed. Besides, some authors claimed that shopping center developments are the indicators or symbol of the annihilation of urban life or urban itself. that is to say, the studies on shopping centers show that it serves only commercial needs without an urban life. Moreover, they have started to come to the end of their life in developed countries due to the much presence of them and owing to serving anti-urban facilities.

Considering the development of shopping malls in developed countries and hence the first examples in, they show us that the shopping center development does not encourage the population in the long run, and therefore they start to diminish and in conclusion, turn into another use apart from commerce or close themselves up. Specifically, the shopping mall development should be in a limited size and number in each type or scale of the cities. Considering the development of shopping centers having almost 30 shopping malls shows that the number is much for the city of Ankara.

Moreover, for some people the shopping mall development is not seen as an attraction point or structure for a sub-central development, but place just to commerce and has a rent. In addition, they are seen as an urban center in which people are involved to shop, to entertain, to socialize and to have a chance to participate in the community (Aksel, 2000). However, the commercial shopping centers are only the uni-functional centers having only consuming criteria and in some cases, socio-cultural activities. A shopping mall only serves for consumption and supply a place just to wander around without any production or educational and socio-cultural activity. Although these centers do not serve many or enough urban uses for being a sub-center, they are challenging for Sub-center development due to the fact that shopping centers are generally located in accessible areas for private car owners with adequate carparks. Because it is a building, the building belongs to the pedestrians in the system. It is closed a place with very well security options and maintenance of these centers are in a higher level considering the urban sub-centers, and that is why they are forming big challenges for the urban growth and development.

4.4.3. Neighborhood centers

Meeting the daily requirements of the citizens may prevent them to go into the city center. The balance between the neighborhood centers and the sub-centers should be designed in such a manner that they do not take the place of the other.

Perry (1929) states that the neighborhood community and shopping centers should include nothing more than suitable uses for a neighborhood demand. Community centers mentioned comprise schools, public libraries and other civic life buildings for the community. Whereas, the neighborhood shopping center includes the daily needs of the humanbeing stated in the following; grocery, meat market, restaurant, druggist, garage, merchant tailor, plumber, confectionery, bakery, fruit and vegetable seller, hotel, furniture seller , dry goods, cigar and tobacco, undertaking, coal, shoe, clothier, florist, jewelry, millinery, hardware, cleaner and dyer, delicatessen, laundry, tea room, novelty shop, news-stand, stationery, Electrical supplies, real estate, barber, beauty shop. In addition to those neighborhood center service variations, there are also city wide service types that should not be placed in neighborhood central areas. Those services are stated as musical instrument sellers, banks, furriers, typewriters, Sporting goods, and Department stores. For today's technology and considering today's development some of those numbered concerns are whether irrelevant or some of them are combined in one shopping unit. To illustrate, the typewriters with the development of computer technology have disappeared, and fruit and vegetable sellers or bakeries are included in groceries.

4.5. The factors and criteria generating sub-center

For some authors the sub-centralization is a need for the employment and economic growth and therefore need to lower the congestions and problems in central areas. For example, Giuliano and Small (1990) have the same opinion with some authors generating that not population but more importantly the employment is the key aspect to understand the formation of sub-centers in the hierarchy of urban centers. Those centers should be found as a location according to the exceeding gross employment density in a region. They identify the zone of high density restricting attention to larger centers to exert a potentially important pressure.

“Within metropolitan areas, the central cities are unable to function efficiently if they retain their original monocentric spatial structures. Whether as a result of spontaneous market readjustments (i.e. the new locational or relocational choices of firms and households), or planned decentralization, or, more usually, a combination of both, the spatial extension of the metropolitan region under conditions of rapid population growth has been associated with the emergence of at least a few sub-centers” (Dökmeci and Akkal, 1994)

From the examples and the world models of sub-center developments, it is not difficult to understand that if an area called sub-center is lacking urban services and areas of employments, business and administrative units, there will be, without any doubt, a settlement only for night life and the area at the end will turn into a dormitory town.

Secondly, the settlement should not be specified in one type of urban use including employment. There should be multi-functional ways of working areas. The center, in addition to this, should also have multi-functional urban uses.

Furthermore, what generates the land in metropolitan area considering the core and environments do also generate the land in sub-centers. That is to say, the sub-centers should be thought as a city in smaller scales of activities and facilities without lacking any of them that the city has in it.

Cervero (1989, cited in Dökmeci and Akkal, 1994) evaluates lots of ways that "suburban employment centers" or "activity centers" have been described. Quantities of floor space of development of different kinds (total, office, or retail), quantity or concentration of employment, net inflow of morning commuters, and heterogeneity of land uses and similar criteria are not calculated. But he thinks the concentration of commuting flows in central area, like having minimum 2000 employment, and 90,000-100,000 square meter office floor space.

To conclude the sub-center development needs to include almost all urban functions and activities whether located in the core or in different locations of the town. The following items are the group of some of the activities generating or factors forming sub-center formation;

- Commercial, Retail
- Social
- Cultural

- Production, Finance, Business, Manufacture
- Administration, State Offices, Civic Uses
- Education
- Health
- Recreation, Entertainment, Leisure, Socio Cultural Facility areas
- Residential, highly qualified and differentiated enough

These activities should be included in the sub-central area within the criteria of the most accessible place, concentration of activities and services with special or unique and major public buildings in a compact sense within different scales of developmental plots or areas to attract different capital owners. The area should also be highly dense and should allow the movement easily, that is to say the area should be in motion of exchange, distribution or spreading of information.

4.6. World Experience in Sub-Center Development

Considering the new development process of the study area as a sub-center formation, the respectively successful world case will help to understand the development progression both for Batıkent and other sub-centralized areas in Ankara. Paris, ile de France region, is selected due to the similarities with Ankara considering Batıkent settlement area with Cergy-Pontoise in the north of Paris. These similarities consist of both the planning process and the structuring process in metropolitan region and the city itself. Both Batıkent and Cergy-Pontoise sub-urbs are planned considering the future growth and development for housing and other ingredients of the new cities in the beginning of 1970s. The master plans of these two cities were structured by public with the help of public land, namely, nationalized land in the area. The sub-centers were decided in a land which belongs to the public and therefore planned and designed by the local administrations. Both of the two projects dealt with the housing problem and new city development ideas considering the metropolitan growth in the 1970s. While Paris metropolitan region had 5 new sub-urbs decided in the 1970s, Ankara had less defined and planned sub-centers at that time. However the goal of the plans were similar, namely they were to supply housing and creating a sub-center to take the burden of the CBD for the problems of underdeveloped metropolitan growth.

4.6.1. Decentralization and Sub-Center Developments in Paris

With the development of needs and increase in population, Paris was thought to be decentralized by creating as a secondary CBD called “La Defense” and thought to be shared with 5 new towns around it in the 1960s. The new sub-centers were 15-30 km that is 30-35 minutes away from the central Paris either by car or by railway system. One of these towns around central Paris is Cergy-Pontoise (which will be explained more in the following parts of the study) which is planned in the axis of La-Defense both physical and relational approach. That is why decentralized center of Paris as La-Defense becomes relevant to search in the study.

La-defense, 30 ha development area, a CBD of Paris, has private space of 35% and 65% for public. The area includes almost 8200 housing units (0.5 million square), 2.3 million square office area, 0.2 million square commercial area and 0.2 million square area for socio-cultural activities. 3.5 ha planting area are located in the center (Les Ateliers, 1995).

The town Cergy-Pontoise is designed in the direction of La-Defense pedestrian zone as mentioned before, besides Cergy planned as sub-urb of Paris, its sub-central area is also planned as the economic extension of La-Defense.

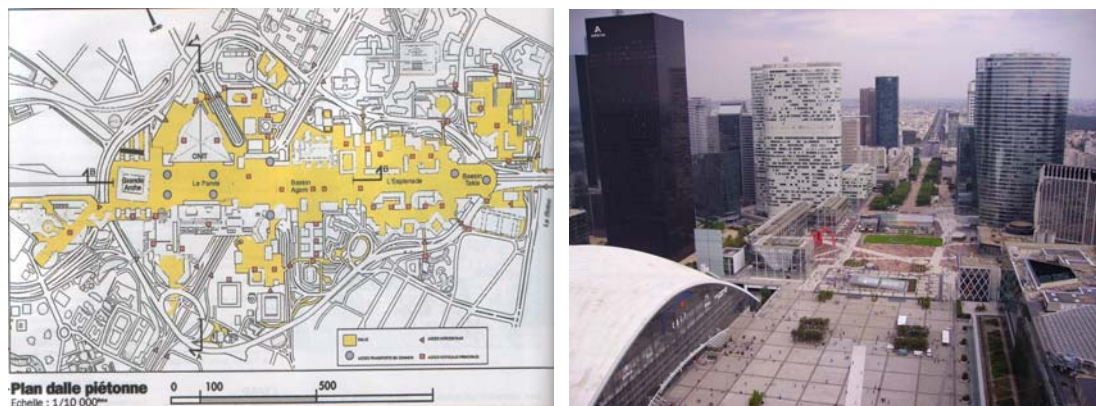


Figure 4-4 the plan and the view of La-Defense, showing pedestrian zones and motorways (Left: Les Ateliers, 1995) (Right: Personal archive)

La defense, having such big buildings and skyscrapers, has been criticized in many aspects (from lecture notes with Vincent, J.M. and Warnier, B. in Les Ateliers in 2008). The

pedestrian oriented design has made huge open spaces that are in between the huge office buildings. Feeling of the space conception is in a sense lost in the area. And mainly although the accessibility of the area is rich enough, it is still criticized. Taking the car underground passages and parking is thought as a problem for people who want to see the area while going through the district. Moreover it created the problem of security due to the fact that it is almost impossible to see a motorcar in La Defense district; all roads are going underground and cars are being parked there. Moreover, although the area has all types of public transportation, it lacks main pedestrian way and access by walking. It is really hard to reach to the district by walk, but apart from it, it is highly accessed.

Paris region in terms of urban development grew at an exponential speed in the 1950s and 1960s as a consequence of the increase in the population (the post-war “baby boom”) and the rural exodus. This growth was not at all well handled, because of the poor living conditions for the new arrivals, urban poverty (the housing estate phenomenon) and traffic problems. The capital was overpowering. The government of General De Gaulle decided to take action by developing a plan for the Paris region. It was completed in 1965 and it was proposed to relieve congestion in Paris counting five new towns (Cergy-Pontoise, Marne-la-Vallée, Melun Sénart, Evry, St-Quentin-en-Yvelines), which would be able to provide accommodation of 500,000 inhabitants by the year 2000 (Forum d’initiatives urbaines, 2008). As told before those policies of new towns around Paris region has been decided in the 60s due to the fight against the suburban congestion and the aphasia of the tower buildings.

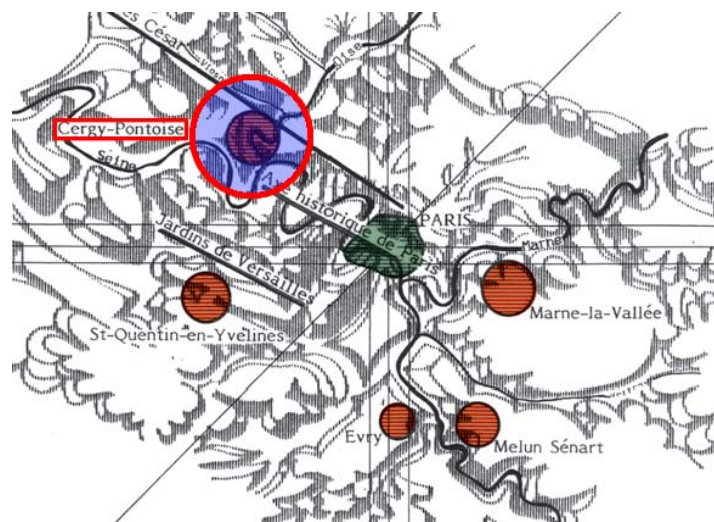


Figure 4-5 Five Sub-centers of Paris Region and the location of Cergy-Pontoise (Warnier, 2004)

These five sub-urbs and their centers are planned in many principles (Association Française des Villes Nouvelles, 1986). The first attitude for the development of those centers is *well served towns*. That is to say the towns are well infra-structured, easy accessible for central Paris both by private and public transportation. The second is creating *welcome spaces of high quality*, by which the office spaces and business sectors of high tech companies are thought. The third is *a diversified economy*, and hence different kinds of offices and firms with different sectors like industry, communication, technology, and food industry. The fourth is attracting *performing companies*. Namely, availability of vacant land to develop further or existences of an urban land that can be transformed into non-residential urban uses are the keys for companies as they demand to grow. The fifth is building *a great diversity in lodgings*. The combination of different lifestyles for such an urban sub-center was seen as a prerequisite in the development of Cergy-Pontoise. The sixth is *life in the open air*, telling the dense recreational activities and much more green spaces even for urban facilities. And the final principle is to have *a cultural life full of matters*. Here, the cultural aspects of an urban life are considered both in street life and building structures. The monotone structures are eliminated and artistic and aesthetic landscapes are tried to be encouraged.

4.6.2. A new town: Cergy-Pontoise, Paris

Cergy-Pontoise was created by the state intervention in 1969 so as to host the quick growth of the Parisian agglomeration. In 1970, the project was approved by the administration and the construction of the town has started immediately in the same year by building up the Prefecture Building of the town. Afterwards, the construction of commercial center has started in 1972. Finally in 1980, the operation of central station (RER station, Regional Express Railway) has started to work. The general proposal when the town was built was that it should be an independent or even a free entity: contrasting the dormitory towns, it was to cover a large range of activities and facilities (Forum d'initiatives urbaines, 2008 and Etablissement Public d'Amenagement de Cergy-Pontoise, 1999). Namely the idea was to build up new urban centers to ease the pressure on residential and business activities then concentrated in Paris and to control the development of urban sprawl around the capital.

There are three main principles in creation of Cergy-Pontoise (Charre, 2004). The first is the development of a multi-nuclear structure, the centre being free from construction. The second principle lies in the option of planning of overpasses supporting the urban center and

the third is related to the integration of nature as an essential fact for urbanization. Having employed around 80,000 people, Cergy-Pontoise has various public (% 25 of jobs are employed) and private (% 75 of jobs are employed) sectors. While the formers are like Primary sickness benefit office, Child benefit office, French electricity and gas company, French telecom, post office, a Regional hospital, New town development association, National job center, the latter sector includes Thomson, Sagem, Renault, Peugeot, 3M, Siemens, and Bp-Mobil. In addition to those sectors, almost 255,000 square meter commercial area with a catchment area of 600,000 people with one shopping mall and 200 other shopping units, 25 hotels are located in the town.

From the beginning of the project, the new town was described by the “era of Integrated Facilities”, like the building of the most important public and administrative facilities before residential areas were constructed. The first construction built in the new town was the Prefecture building (the headquarters of the administrative department), the primary symbol of central government in the regions. According to people, who were in charge of building the town, there were objectives about the area including urban planning principles into practice (Forum d’initiatives urbaines, 2008);

- The settlement will be created with personality and a commitment to avoiding uniformity, therefore the decision to limit each development was up to 600 dwellings;

- Combination of housing and work, and hence bringing businesses, homes and shops together in a single district (specifically the proposal of setting up a shopping centre before the housing moved in – named Les Trois Fontaines);
- A town set up with the transport systems- public transportation- of the future and on the lookout for innovation; (the idea of separating schools into units that are as small as possible or of paths kept for cyclists);
- taking into account the requirements of the public, particularly in terms of not creating overly dense shared living areas;
- creating favorable circumstances for car travel and separating vehicle lanes from pedestrians and cyclists;

The town center was projected with a total break with the surrounding in terms of its design principles. The sub-center became a symbol of the whole settlement with combination of different activities.

Apart from the road structure, the pedestrian network which allows inhabitants to access their homes is linked to the centre via footbridges. In that system of network, pedestrians never had to meet the vehicles from any residential area till the central area. However, the highways, the boulevards, are generally on a “nonurban” scale and impracticable for pedestrians. Moreover, some “internal roads” set aside for pedestrians have fostered the development of feelings of insecurity. This is in fact due to the fact that the settlement includes a variety of people in different social and economical status. Besides, separating vehicle and pedestrian traffic prevents a mix of functions and makes it necessary to build large car parks in the city centre.

The city of Cergy-Pontoise has responded to its task as a new town by accommodating a substantial population and presenting a balance between employment and housing. In overall terms the housing stock is diverse and of good quality, despite of the fact that it is primarily driven by the need for social housing. Likewise, in general terms, there are lots of public spaces, which leaves open the possibility of a certain level of densification.

As mentioned before the settlement was very appropriate for the headquarters of the private companies, offering employment and business owing to the closeness to La-Defense by both railway and motorway and low land prices and housing opportunities. The administration of the agglomeration permitted to those buildings. In fact they planned to do it and that made Cergy-Pontoise livable during the whole day. It is saved from being a dormitory town, by having multi-functional urban uses both in central area of town and in conurbation.



Figure 4-6 Economic majors of Cergy-Pontoise
(Tonetti, 2007)

Infrastructure of the area eases the companies to reach their partners, employees, customers and suppliers. It serves almost 3,700 individual firms and companies with 80,400 employees. Sagem, 3M, Renault, Yamaha and Bp management offices have located in the town (Tonetti, 2007). Besides those activities, in terms of educational facilities, the town includes a business school of Essec, University of Cergy-Pontoise, Institute of Poly-technique St-Louis which made the whole conurbation livable and active during the all day and year by the youth population.

Cergy Préfecture district was the first district of the new town: the first residents arrived in 1972. Vertical separation of vehicle and pedestrian traffic, «podium-city» development was taken as criteria through the center of the conurbation (Forum d'initiatives urbaines, 2008). Today it is at the heart of the whole settlement and a focal point for a wide range of activities: schools, shops (Les Trois Fontaines), administrative offices, railway station, integration of transportation node, social and cultural facilities, a park and housing, which consists mainly of shared residential buildings.

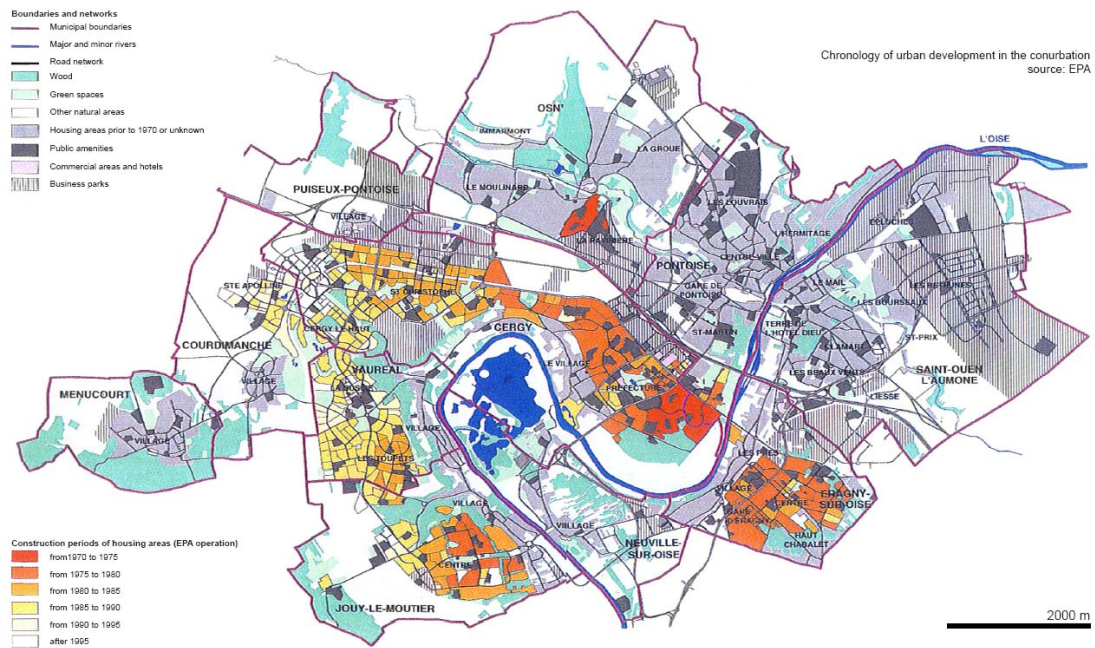


Figure 4-7 The Housing Construction Process of the Conurbation Cergy-Pontoise (Tonetti, 2007)

The map shows us that the housing construction of the public investment in Cergy-Pontoise started in the beginning of the 1970s. The significance of the figure is that, the central area had the residential use with the administrative, socio-cultural, educational and commercial uses. The residential buildings are highly qualified considering the others in the conurbation. And the construction of the whole town has started with the central area including both residential and other urban center uses. The town has not started to be built up with only residential areas in spite of the existence of the housing need. However, the construction started with almost all uses of the whole town.

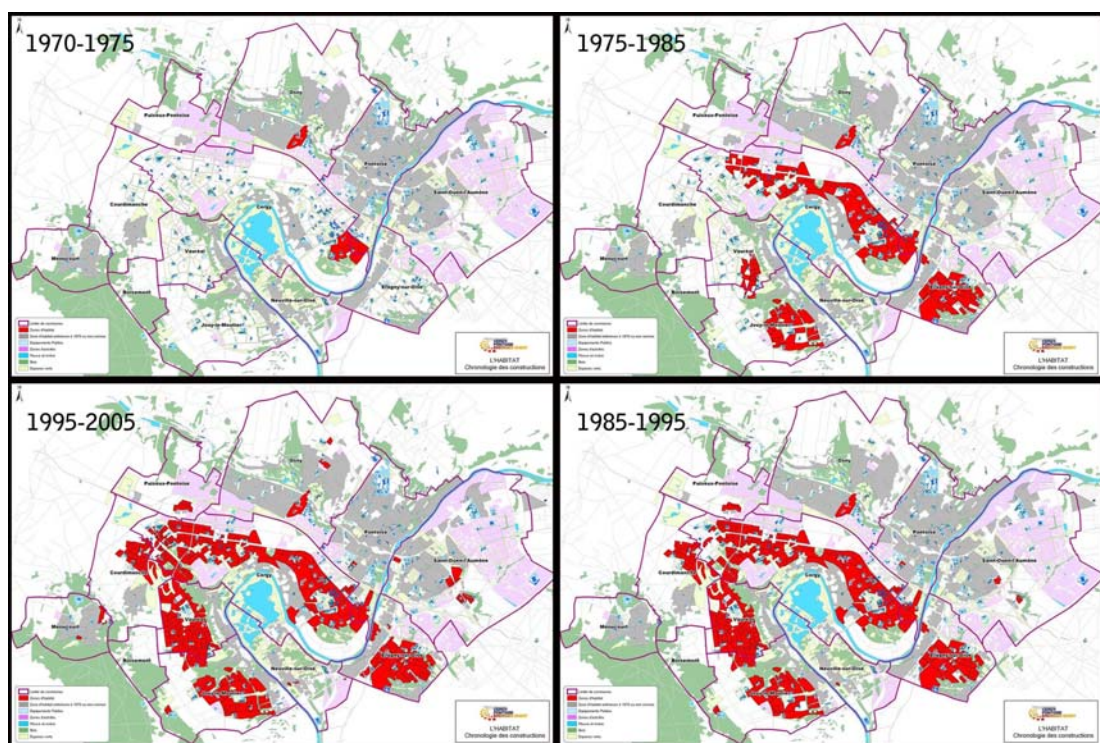


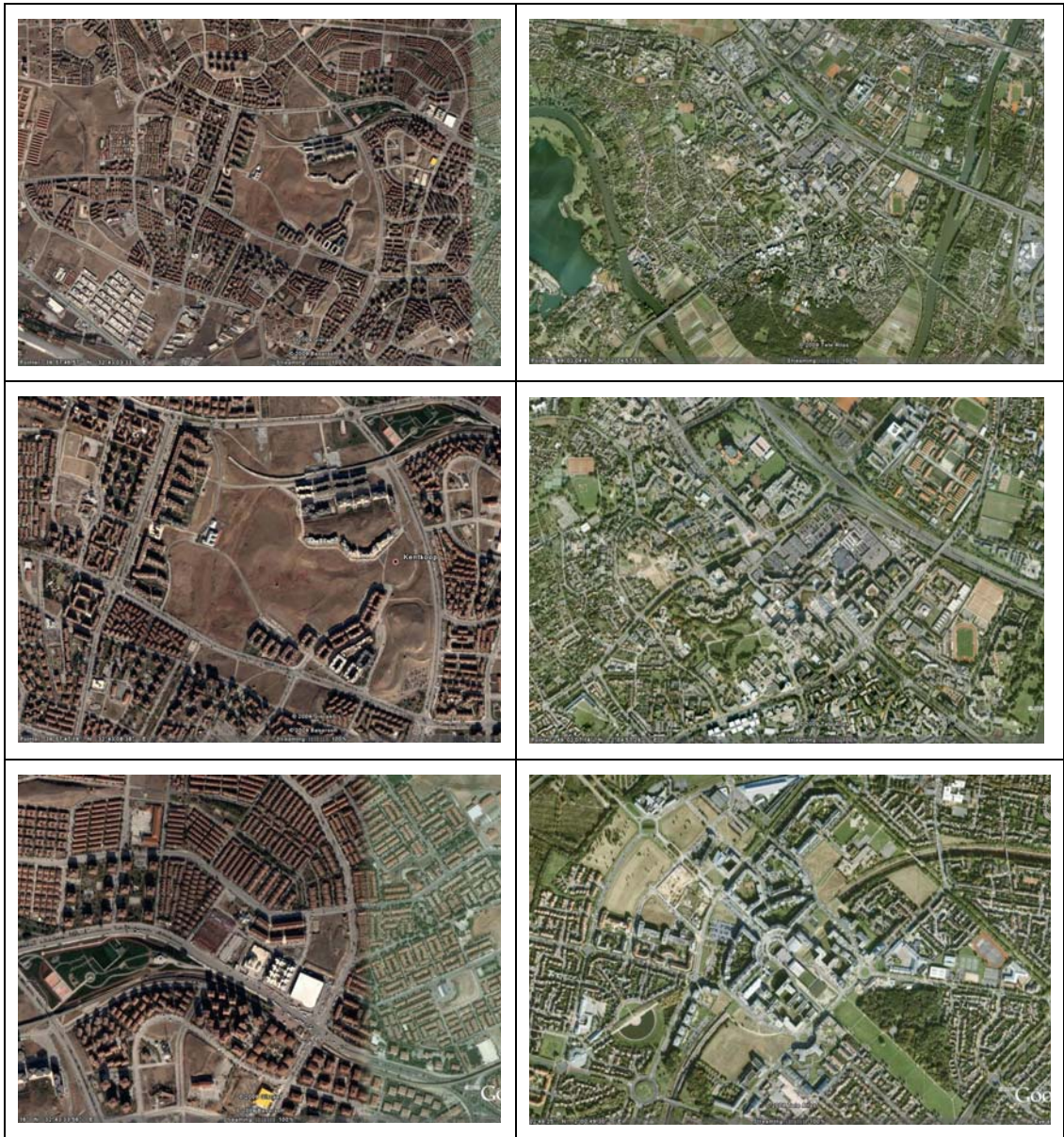
Figure 4-8 The Development Process of the Conurbation Cergy-Pontoise (Tonetti, 2007)

In addition to process of construction of housing in Cergy-Pontoise, the planning process started with the construction of the central area. Between 1970 and 1975 the sub-center has started to be formed with the construction of Prefecture building; that is, the administration building of the conurbation related with the Metropolitan region of Paris. After the construction of prefecture building, the EDF building (Electricity de France, Electricity of French Administration), which is the highest tower in the town was constructed in the center.

4.6.3. Conclusions from World Case

The development process including the housing construction by public investment and the sub-center development of Cergy-Pontoise show many similarities with Batikent case area of the study. The planning and therefore construction process of Cergy started in 1970s too however it is differentiated from Batikent considering the first stage constructions. The conurbation has been thought to create an attraction point with the construction of housing as well. Therefore the Prefecture Building was the first building in the area and afterwards the EDF and its environment was constructed as commercial, residential, socio-cultural, other administrative units, educational and similar structures in the area of sub-center attracting a range of capital owners and therefore citizens. This was done in the same time with the construction of housing areas in the conurbation. Not only the housing but also some other use attracting people and companies to reside in and place their headquarters started to locate in the area. Besides by creating attraction points as administration units, the design of the center was formed in a sense that almost all kinds of uses, that is the sub-central uses, were located in the area. In addition to this, the design of the town center and secondary centers, that is district centers, was encouraged by suburban railway system. Moreover, the design of the environment directed pedestrians to the center and district centers by situating housing to create streets for pedestrians rather than roads for cars. The town center is also designed pedestrian oriented with squares and shopping districts, rather than the malls, open spaces and recreational zones attached to the center with the support of the railway station.

Table 4-1 Comparison of Town and District centers and Patterns of Batkent and Cergy
(Left Column and up to below: Batkent; Town, Sub-center, District Center)
(Right Column and up to below: Cergy-Pontoise; Town, Sub-center, District Center)



CHAPTER 5

CBD AND SUB-CENTER DEVELOPMENT IN ANKARA

The first plan of Ankara was prepared in 1924 by Carl Christoph Lörcher to meet the new requirements of the city. After becoming the capital of Turkish Republic, evolution of central area in Ankara was developed by Herman Jansen's Plan completed in 1932. In the 1950s the effects of Jansen and Lörcher were continued in the growth of Ankara. In 1955, Nihat Yücel and Raşit Uybadin developed a plan for Ankara after becoming the first project selected in the competition. The central area and Ankara Metropolitan region, afterwards, have been built up with 1990 plan of Ankara Metropolitan Plan Office (AMANPB in its Turkish abbreviation) done in 1970. By Middle East Technical University (METU) City and Regional Planning study team, 2015 Structural plan of Ankara was developed as, in a sense, a revision/developed version of the plan done before. Following that, Ankara 2025 plan was developed in 1990 by the Municipality of Ankara under the coordination of Prof. Dr. R.Raci Bademli. The final and current Master plan of Ankara was done as Ankara 2023 and approved in 2006.

5.1. CBD development in Ankara

In the 1960s and 1970s, Ankara had a monocentric urban formation which has later changed to polycentric structure with the development of new settlement projects along the west corridor. In the meantime, suburban nodes began to emerge as a consequence of growing distance between the periphery and the core.

5.1.1. Lörcher Plan 1924

In 1924 in the plan of Lörcher, the central area of Ankara was Ulus and the development of the environment was proposed. Kızılay district's basis was defined in Lörcher's Plan. The plan offered a compact development. The pattern of the south of the railways was defined by

this plan and Yenisehir district was also proposed as a development area. The Atatürk Boulevard till Güvenpark and some squares were formed in the plan (Günay, 2006).

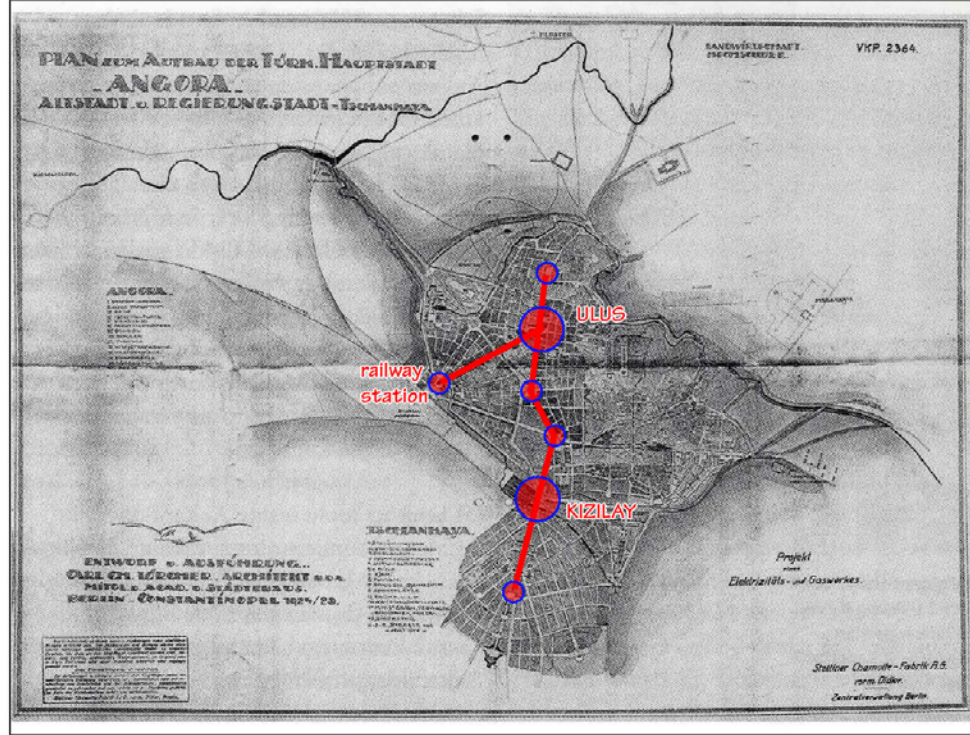


Figure 5-1 1924 Lörcher Plan of Ankara
(Decentralization of Ulus and a commercial central spine from Ulus to train Station)
(developed scheme from map in Ankara Büyükşehir Belediyesi, 2006)

The pattern of the CBD of Ankara and more significantly the spine of central development – north & south- were formed in that plan. The basis of the two separate town centers was founded in Lörcher’s Plan.

5.1.2. Jansen Plan 1932

With the development of communication and transportation technologies in the twentieth century, new planning approaches were needed. Comprehensive planning approach was developed and used in the beginning of the 20th century. Jansen’s plan of Ankara was developed with those regulations and improvements. Jansen’s plan in defining the center as a

second plan was developed in 1932. The plan was developed as taking the castle as a central point. The north-west and north-east parts of the city were planned as residential areas.

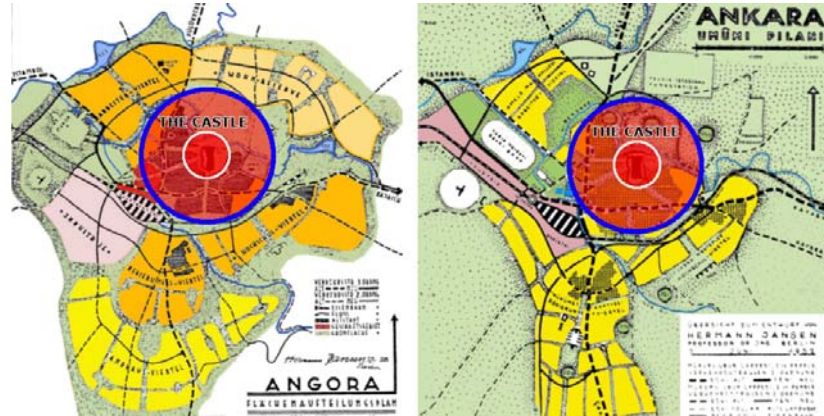


Figure 5-2 1932 Jansen Competition Project Proposal, and the Master Plan (Showing the commercial area between the station and the city in competition project similar to Lörcher's, and it is lacking in the master plan) (Günay, 2006)

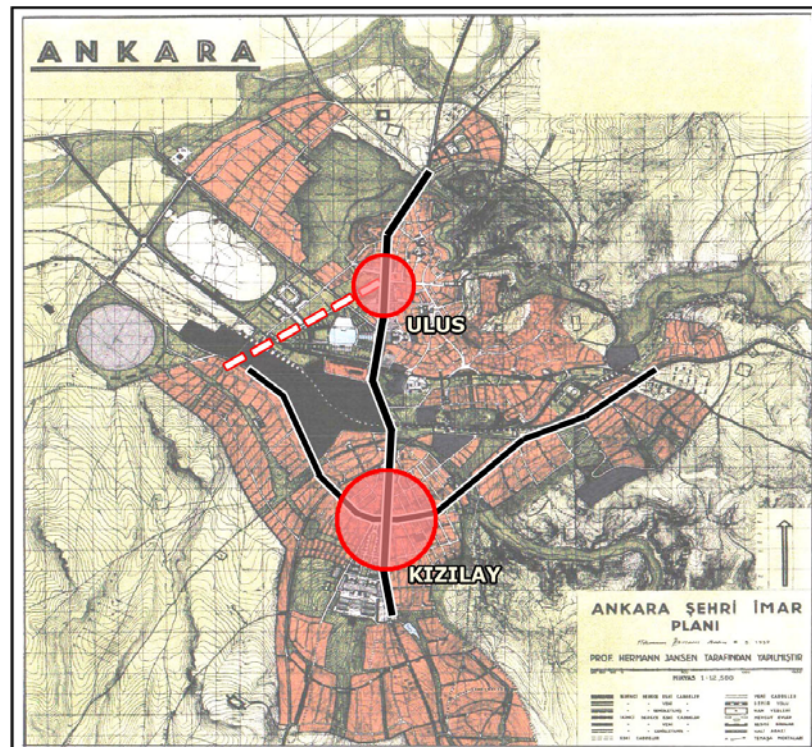


Figure 5-3 1932 Jansen Implementation Plan of Ankara (Ankara Büyükşehir Belediyesi, 2006)

The plan of commercial area in the competition design proposal was considering decentralizing the city in a circular form. The Castle was thought as a central point of the development in two dimensional views. But Jansen plan that was formed after the competition showed the spine of Atatürk Boulevard in south and north directions and Ziya Gökalp Street in west-east directions between Ulus and Kızılay and Yenışehir as a planned CBD area.

Kızılay district, as a node of those two spines mentioned before, was formed as a CBD development in Ankara with Jansen plan. With the developments of the ministries in the south of Kızılay, its development as a center was encouraged and improved.

Moreover, differently from the first project done by Jansen, the spine from Ulus to the railway station was deleted and the area was used as recreational zone. The commercial development was planned in Kızılay district. And the basis of the Ministries District was founded with that plan.

5.1.3. Yücel-Uybadin Plan 1955-2000

The requirements of the new spaces brought about a new plan of Ankara, and in the competition held, Yücel-Uybadin plan became first. As a central development, Günay (2006) explains that the plan does not have a policy for the city center. The central area development was only defined with a boulevard and no other projects for the central area development were proposed. But for the development of Ankara lots of places around the center were planned to develop as a housing area. And probably, some other centers of Ankara considering those housing area developments can be considered as future generations of new centers (Yenimahalle, Etlik, Keçiören and Aydınlikevler in the north; Bahçelievler, Balgat Dikmen, Çankaya, Gaziosmanpaşa, Seyran Bağları and Abidinpaşa in the south).

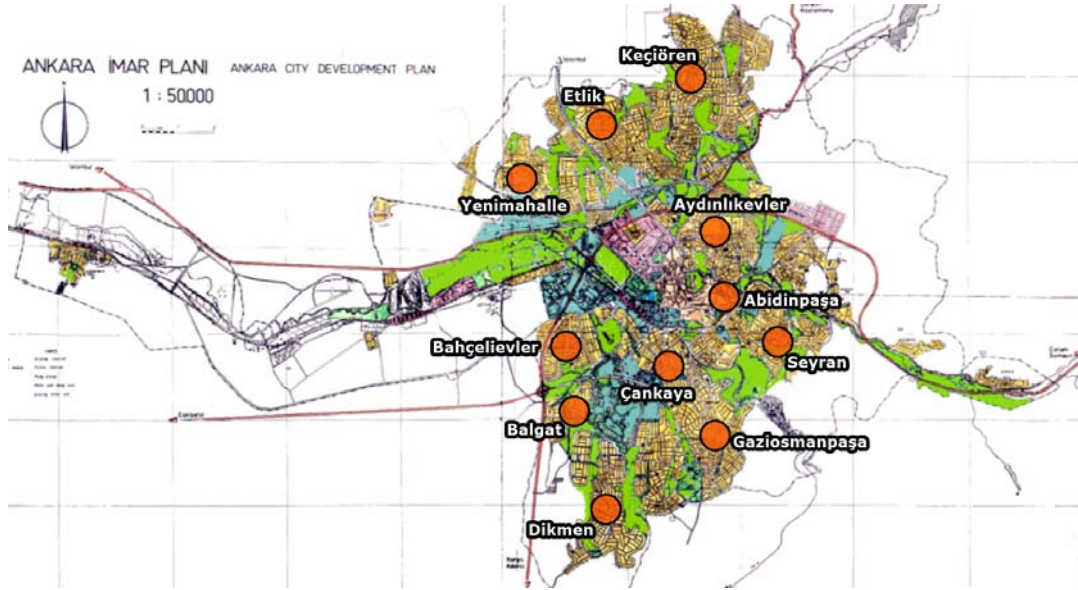


Figure 5-4 Yücel-Uybadin Plan of Ankara, showing the future development of the central area and the city (Günay, 2006)

With the plan of Ankara by Yücel-Uybadin, planned housing areas were in the edges due to the geomorphologic structure of the area and squatter housing areas had been built up in the environment of those planned housing areas in the north-east and the south side of the city. Günay (2006) also mentions that with those developments, urban growth area was limited.

Those squatter housing and planned residential area developments that limit urban growth in Ankara will probably be the basis of non-development of other central zones in metropolitan region.

5.1.4. Ankara Metropolitan Plan Office (AMANPB) Plan 1970-1990

Within the 1970 plan prepared by the Ankara Metropolitan Plan Office, it is accepted that the core area of the city will be controlled and developed with the policies or criteria/control mechanism of the previous plan (Yücel-Uybadin Plan). However for the periphery and new development areas of Ankara, a new plan would be acknowledged. (Günay, 2006)

The sub-centers in the mid 1970s were supplying or having 30 % of the commercial expenses of the whole metropolitan area. The sum of Ulus and Kızılay was more than twice in that time with 67 % of the whole. There were 5 sub-centers and those centers were only

providing the commercial requirements of people (Ankara Belediyesi, 1979). For the proposal-1990 of sub-centers' proportion among the metropolitan area was 40 %, while metropolitan center was 60 %.

Table 5-1 Proportions of Sub-center developments in 1990 plan

	Sub-center (%)	CBD (%)	Other (%)
1970 existing	30	67	3
1990 proposed	40	60	0
Difference	+ 10	- 7	- 3

This table shows that in 1990 plan of Ankara the importance of the plan is given on the development of sub-centers, not on the CBD. That is to say, within the suburbanization process in the 1970s were tried to be controlled and this is considered to be solved with sub-centralization process. The basis of the Batikent project, therefore, was formed in that plan.

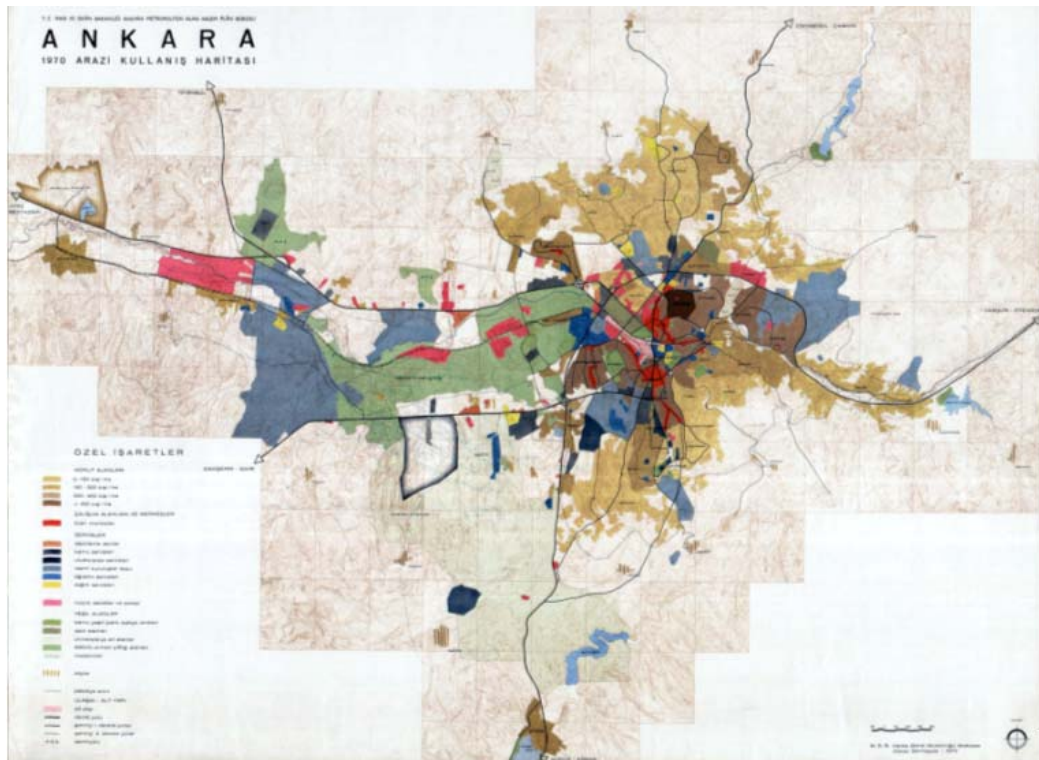
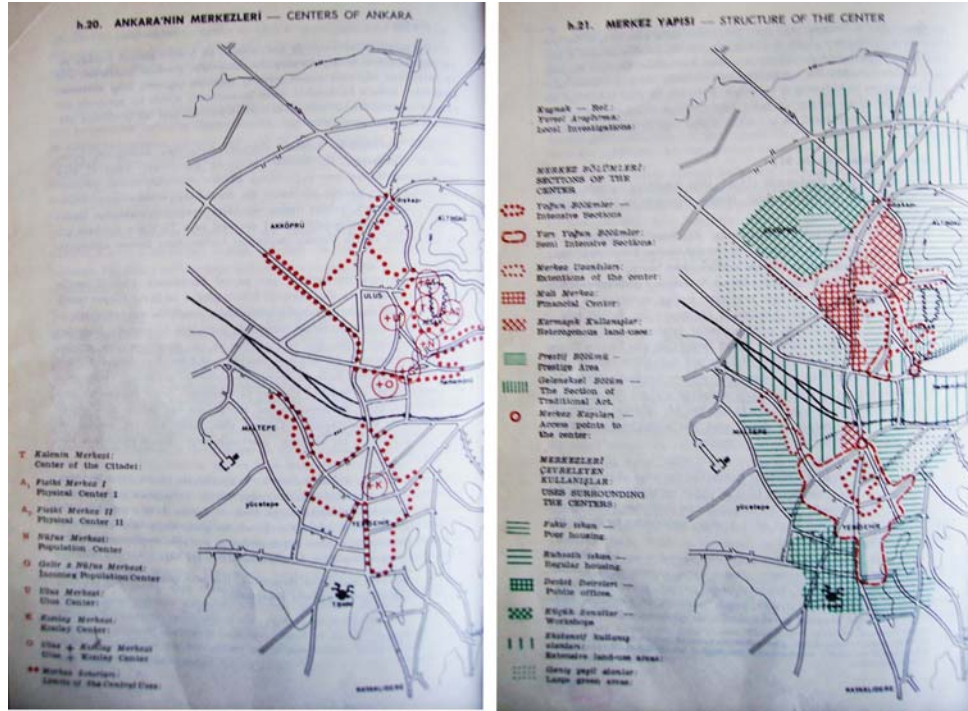


Figure 5-5 1970 Ankara Land-use map showing the existing situation (Günay, 2006)

Until the 1970s, there have only been residential developments in the environment of the core of Ankara. CBD from Ulus to Kızılay has also started to develop in west-east direction considering Kızılay as a node. It is started to create policies to enlarge the city to the peripheries; to create a completed, comprehensive planning approach was not an idea of planning (Günay, 2006).



Akçura includes with the help of Von Thünen's idea "*Der Isolierte Staat*" that centers; in general, do locate in a geometric location in which it has a homogeneous territory. Besides, if it is not homogenous, the center defines an ecological center that optimizes accessibility in accordance with road and related hierarchies. When there is more than one center, the idea of the fact that the centers (sub-centers) work as a whole/one system where they affect or are affected from each other. The important thing in his idea is that the trial system of;

the habitation areas,

the center and

the road network

should supply that ecological centralization.

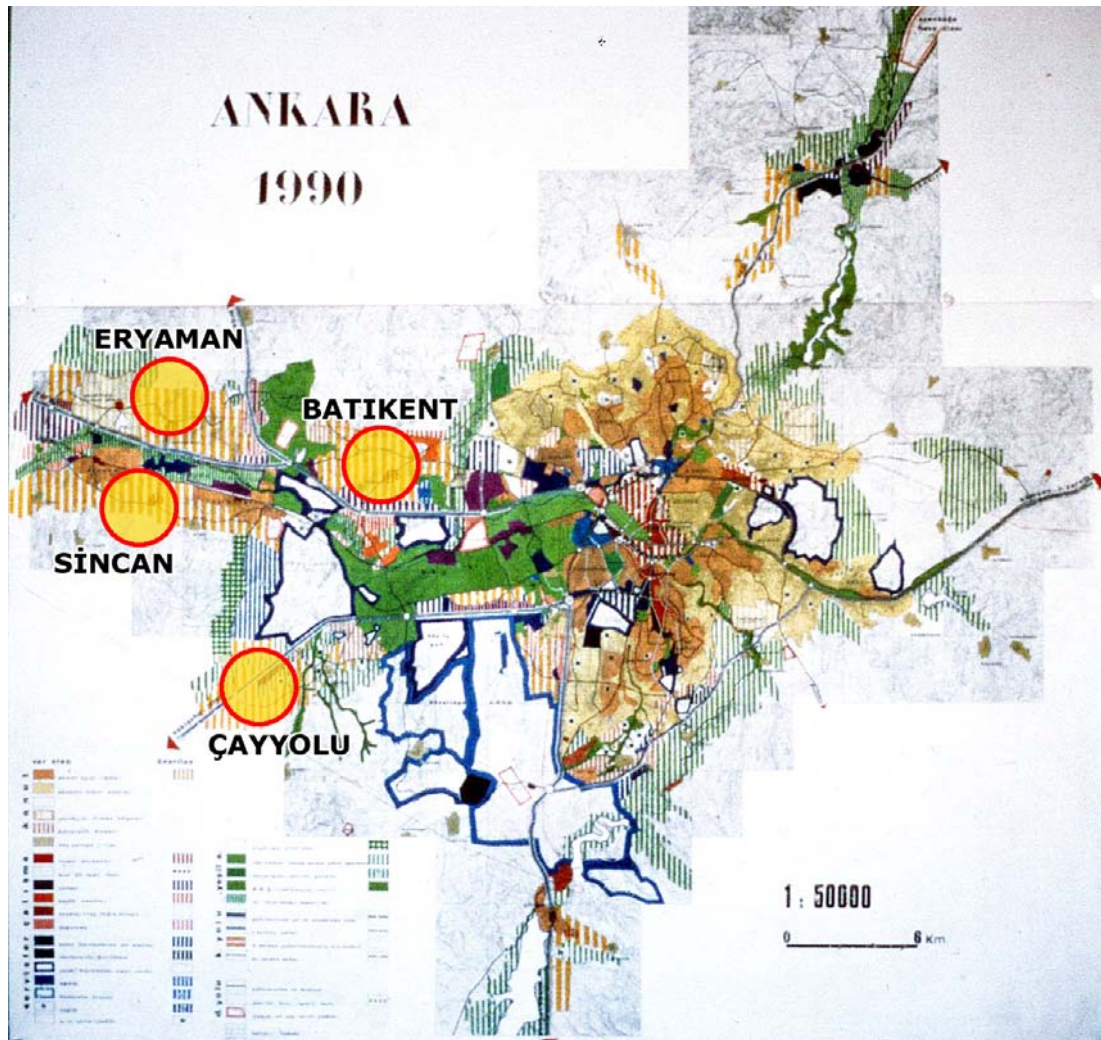


Figure 5-7 1990 Master Plan of Ankara, showing new settlements in the west corridor (Günay, 2006)

The west corridor of Ankara, firstly in that plan, had started to be built up as a development zone for Ankara. The first decentralization process of the city center can be considered as done in 1990 plan. Moreover, CBD development of Ulus and its periphery was considered and built in the plan. Urban area development reached its last edges in Ankara in the east part with both planned and squatter housing areas. However, the need for the development resulted in the development of the west corridor.

In the city center, there have not been created many policies or interpretations to change or transform the area. For the central area, with creating regions, some policies were defined by the planning office and applications were left to the local government.

West corridor in both Istanbul Road and Eskisehir Road Directions was increased in urban uses, especially in new town settlements. Çayyolu-Ümitköy, Eryaman-Sincan, and Batıkent districts were the residential areas with their own town centers. Those satellite cities mentioned in the plan were to meet the increasing demand of housing in Ankara with a relation to industrial development. Therefore, it is not hard to understand that central district developments of those areas could not be developed enough as they are developed in their residential units.

The big public transportation projects were planned to build in the 1990s. The metro project along the west corridor was thought and encouraged with the development of both housing and working areas like industry in the plan.

“Batıkent wouldn’t be an alternative of the squatter settlements within an extensive cooperative process encouraging middle and high-middle classes with infrastructure and land possibilities in a nationalized land, locating just next to the core area. Batıkent, populating 300,000 people, was thought to be a successful project in terms of project application and development processes; nevertheless, the created settlement pattern was criticized. The center of the settlement couldn’t have been formed, and it is assumed that housing stores are staying together but couldn’t create a whole in general. To sum up, this land part was being applied not for creating a new town idea, but applied with an idea of distributing land to the cooperatives, and it has not yet saved from being artificial.” (Günay, 2006)

The integration of industry and housing areas in 19th and 20th century in Europe with the idea of creating new focal points has also affected the plan. And new settlements of Sincan, Aktepe and Batıkent district were developed as with the idea of discouraging the squatter

development. The first thought of Batıkent new settlement project was built in that plan. Considering the industrial areas of Ostim and İvedik, new satellite or a new town development project was schemed with its own center.

5.1.5. Metu CRP Team Plan of 1985-2015

With the ending phase of the Ankara Master Plan 1990, new plan development was needed to be done. In the middle of 1980s, the plan was developed by EGO General Management. This structural plan was developed as a continuing part of 1990 plan in terms of transportation system in the city (Günay, 2006). Although the first aim of this plan was to define the macroform of 2015 with the Transportation master plan. Different from the plan done before, Ankara was proposed to be developed in more than one corridor. Eskişehir Road, Samsun Road and Konya road are the additional corridor developments to the plan.

Within this plan, location of public administration, inner city transportation systems, industrial areas and the formation of the centers are searched and evaluated. As in the report of Ankara 2023 Plan (2006), through this, it is seen that the decentralization process of Ankara is not only normative requirement but also it is seen as a tendency allowing the growth and transformation in that process.

The developed corridors included both housing, working places and administrative civic uses within the preservation of principles of the 1990 plan. However, the principles of creating corridors were not preserved as in thought; although the physical structure of the west corridor was formed, the uses and the locating some uses along the corridor has not been implemented.

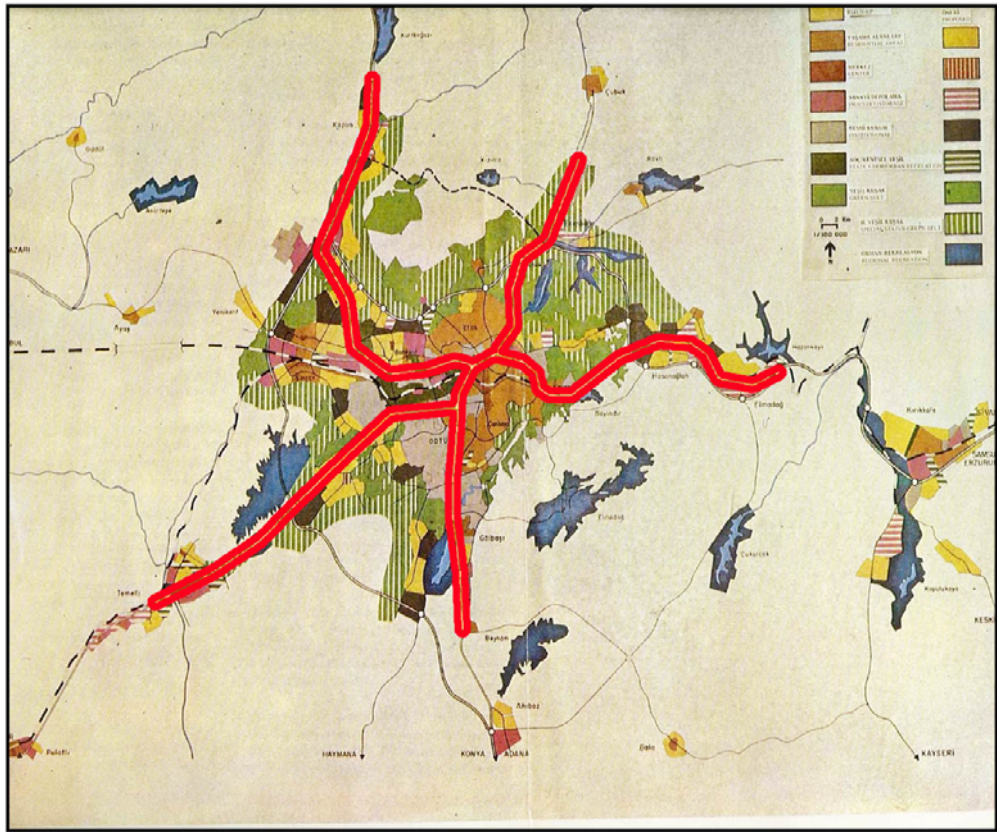


Figure 5-8 Structural Plan of Ankara 2015 showing the corridors
(Ankara Büyükşehir Belediyesi, 2006)

With the public transportation -metro- suggestion and the multi-corridors proposed, the plan has gone off (Bademli, 2006). For the central or sub-central areas, plan could not be developed much differently from the plan done before.

Batıkent sub-center, or a new town development at that time, was defined with small center in the middle in the master plan. However, at the same time, there was also the plan of Batıkent settlement area. The third planning team for Batıkent had the duty of the development of the area. That will be discussed in the following part of the study.

5.1.6. Municipality of Ankara Plan 1990-2025

Decentralization process has kept on during the late 1980s and the beginning of the 1990s in Ankara. While middle and middle-high classes were concentrating on the core area of conurbation, high classes were hugely started to place in the south-west part. According to

Günay, this explosion in movement of population groups has altered the equality of Ankara 2015 plan. Decentralization process was encouraged and supported with the development of shopping malls' new focal points. Besides, some of the shopping centers continued to locate in small towns and some has maintained to serve for the whole city, but in both cases, they decreased the central area's interest and significance (2006).

With those developments, the city of Ankara has kept on growing in the center, and hence the problems of infrastructure and transportation. In addition to the growing problems of the center, the settlements have also continued their progress in the periphery of the city.

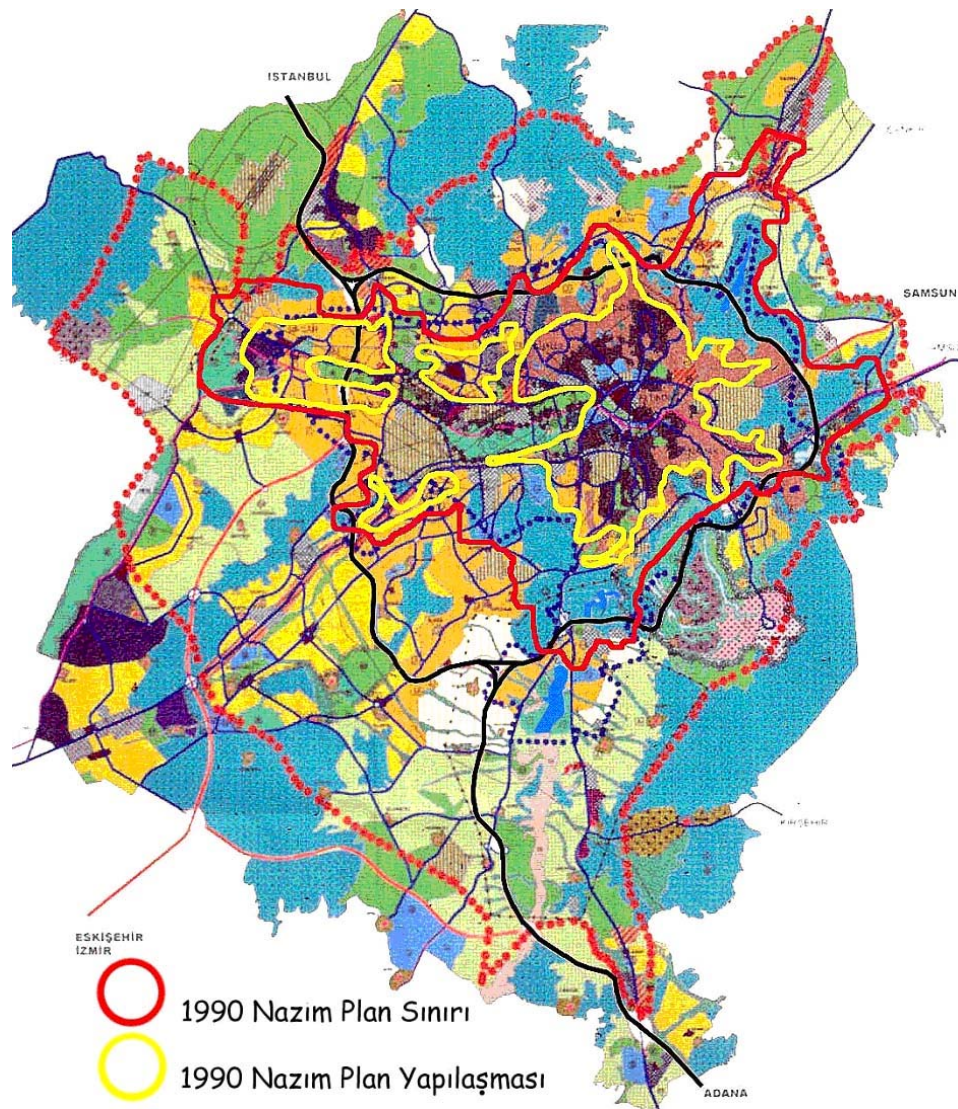


Figure 5-9 2025 plan of Ankara Metropolitan area showing 1990 plan structure (Günay, 2006)

The plan could not solve the problems of development in Ankara, but the administration and the municipality needed to accept the speculative developments in the south-west side of Ankara. The city of Ankara was developing structurally and getting denser in the central area and spreading more in the peripheries. While this development was encouraging motorways by enlarging it from the center, the railway system could not be developed and therefore the problems could not be solved and hence more congestion started to appear inevitably with the increase of central area use by private cars.

After the plan of 1990, the sub-center development in Batıkent was defined more clearly with that structure. As seen in the map (figure 2-8), the central area of Batıkent settlement zone is shown as built area of 1990 plan. But apart from only the central area and public use developments, most of the project was realized as housing.

5.1.7. Municipality of Ankara Plan 2003-2023

The central area development of Ankara was kept on with 2023 plan. In the process of growth of the center Ulus, Yenışehir, Bakanlık district, Kızılay, Kolej, Tunalı-Kavaklıdere, Çankaya-Uğur Mumcu spines were expanded as central areas and the major centers of Ankara. In the plan, centers are considered specifically and developed policies in the name of “Major Plan of the Centers”. Those mentioned places as CBDs were identified as the focal points of the other centers (sub-centers). In the decentralization process of the center, Major Plan of the Centers is thought to create solutions to transportation-circulation, car parks-pedestrian, and functional wholeness.

As seen in the map of the actual situation in terms of non-public urban services, it is easy to understand that till that time, almost nothing has been done to decentralize or to share the central activities in Ankara. Starting from the north in the historical center, these activities only enlarged to the south of Ankara due to the need of space. Specifically, nothing except for the commercial and some of the office uses of the urban center has been decentralized.

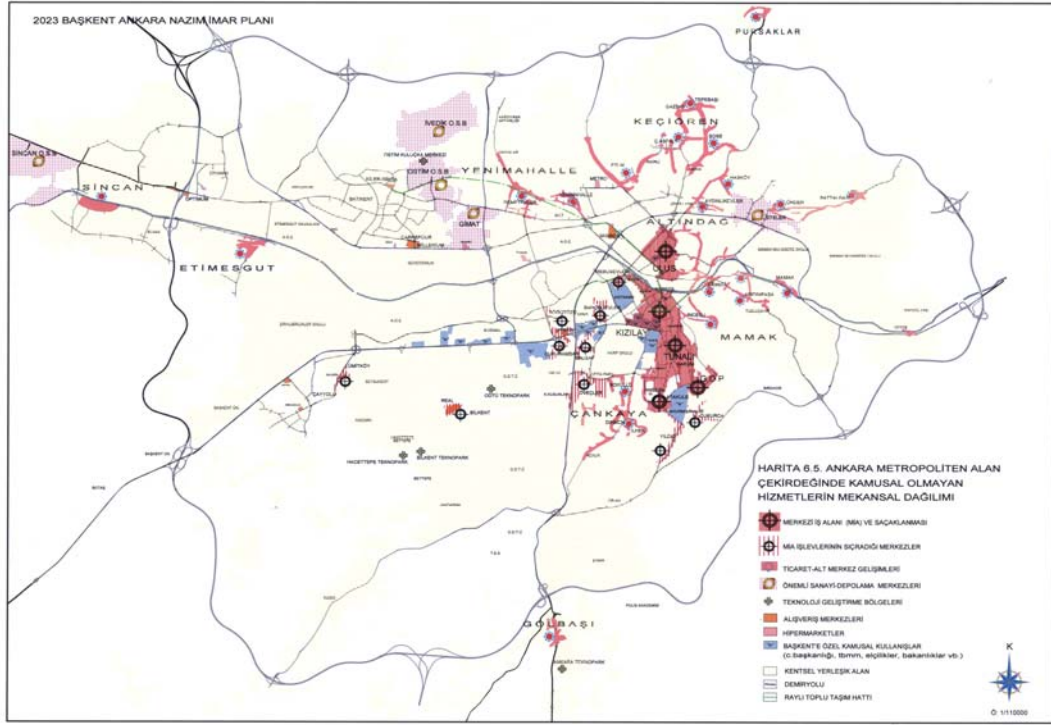


Figure 5-10 Spatial organization of non-public services distribution in the core and the Metropolitan area of Ankara
(Ankara Büyükşehir Belediyesi, 2006)

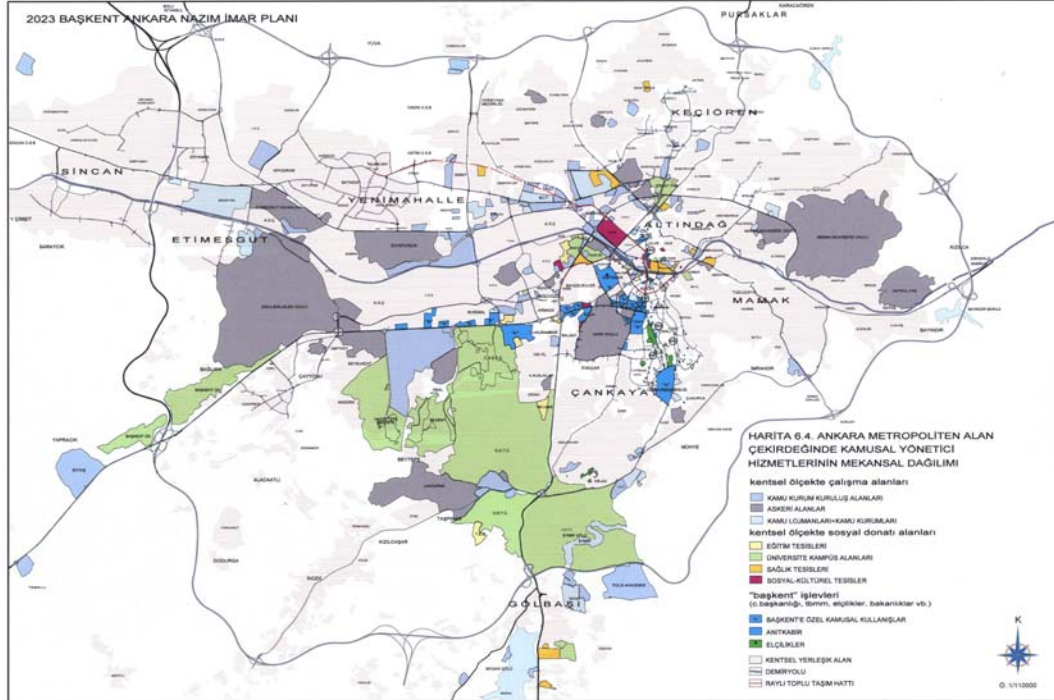


Figure 5-11 Spatial organization of public-administrative services distribution in the core and the Metropolitan area of Ankara
(Ankara Büyükşehir Belediyesi, 2006)

The duality in city centers as Akçura stated, (that is segregation of center users in Ulus and Kızılay) became somehow a trial version of it. That is to say Ulus, Kızılay and Çankaya-Shopping mall users were emerged. The thing that happened to Ulus district (collapse and breaking down of the center) in decentralization process started to be seen in Kızılay in the 2000s. As mentioned in the previous pages, also the centralization of the public-administrative functions in Ankara has mainly placed in the CBD. Considering all the spaces painted except for the military zones, it is obvious that those uses, also considered as working/employment districts, are centralized consistent with the mono-centric city development.

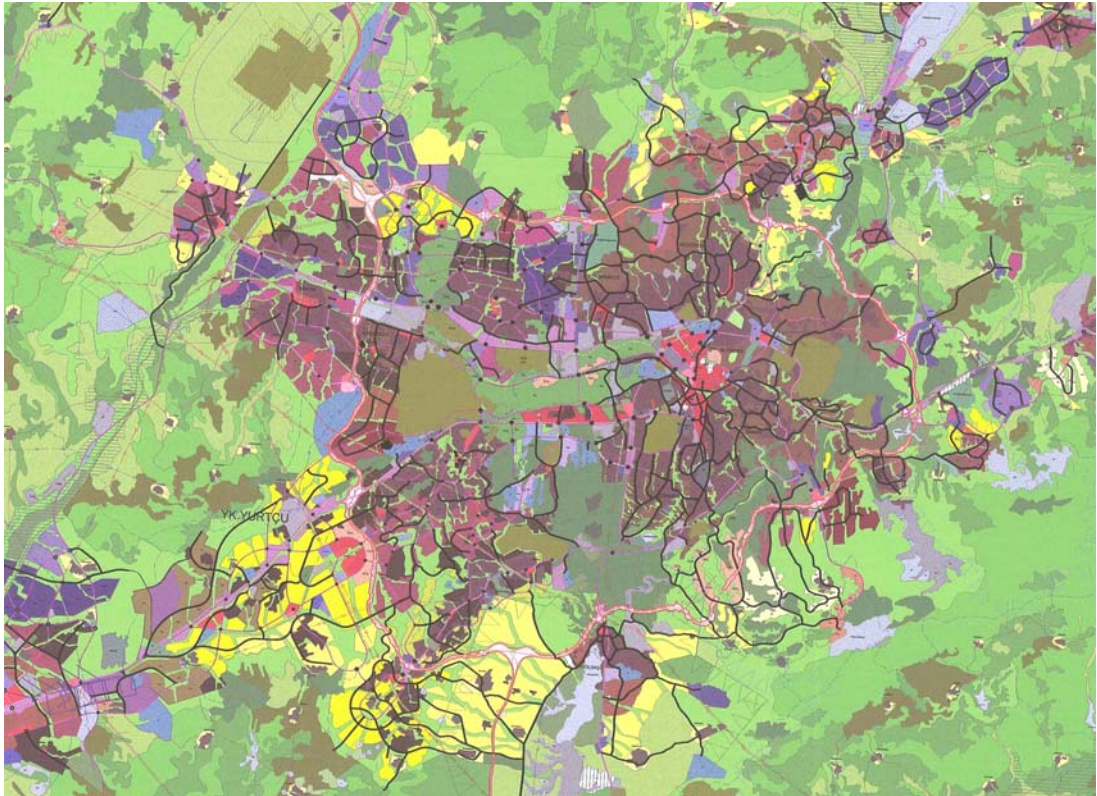


Figure 5-12 Master Plan of Ankara 2023
(Ankara Büyükşehir Belediyesi, 2006)

5.2. Sub-center development in Ankara

In the plan of 2023, approved in 2006, there are fifteen defined sub-center locations. Those sub-centers are identified as having specific identity and meaning which is surrounded by housing areas and which are far from CBD. The report explains for those centers are formed

with linear, that is along the road, and/or being compact in itself and transformed to the central activity area. Those also are the parts of a whole system having relations with the city center and sharing the burden of it. The report also tells us that the sub-centers will contribute to the transformation of its environments and they are thought to have a relation with city center. Those centers should be specifically planned, designed and applied considering;

- wholeness and balance in functional and structural use
- transportation and pedestrian circulation relations

The sub-centers decided to be projected in 2023 Ankara Plan were;

1. Bahçelievler Sub-center
2. Demetevler Sub-center
3. Çayyolu 8. Cad. Sub-center (planned)
4. Turan Güneş, Or-An Sub-center
5. Batıkent Sub-center (planned)
6. Eryaman-Göksu Sub-center (planned)
7. Pursaklar-Saray Sub-center
8. Siteler Sub-center
9. Hatip Çayı-Mamak Sub-center
10. Natoyolu Sub-center
11. Beytepe Sub-center
12. Tuluntaş Sub-center
13. Sincan-Saraycık Sub-center
14. Etlik Cad.- Ovacık Sub-center and
15. Susuz-Yuva Sub-center (planned)

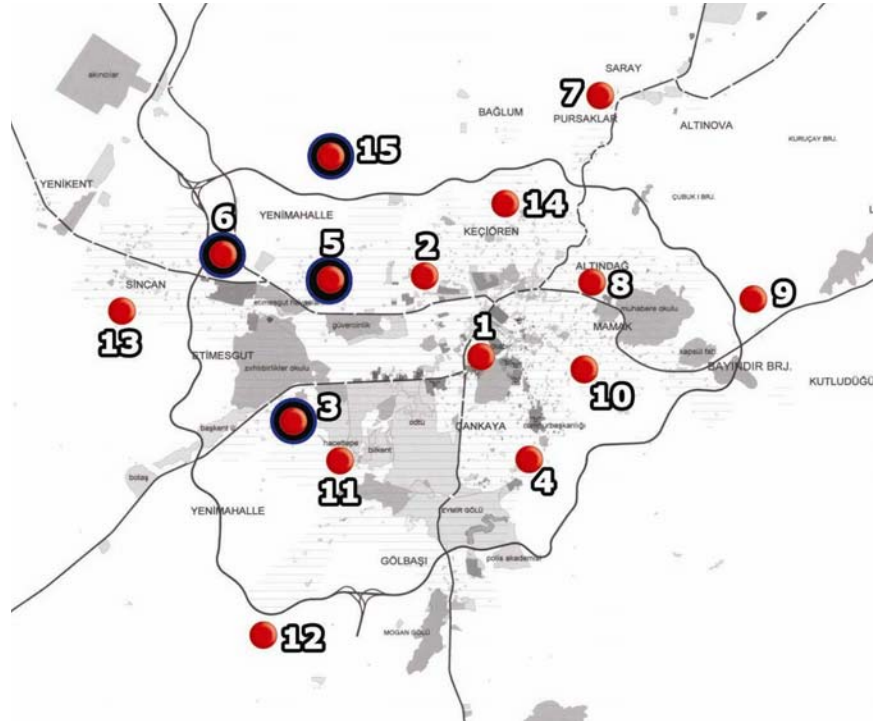


Figure 5-13 15 Sub-centers projected in the 2023 plan
(Based on the plan report)

City center --> sub-center --> neighborhood center

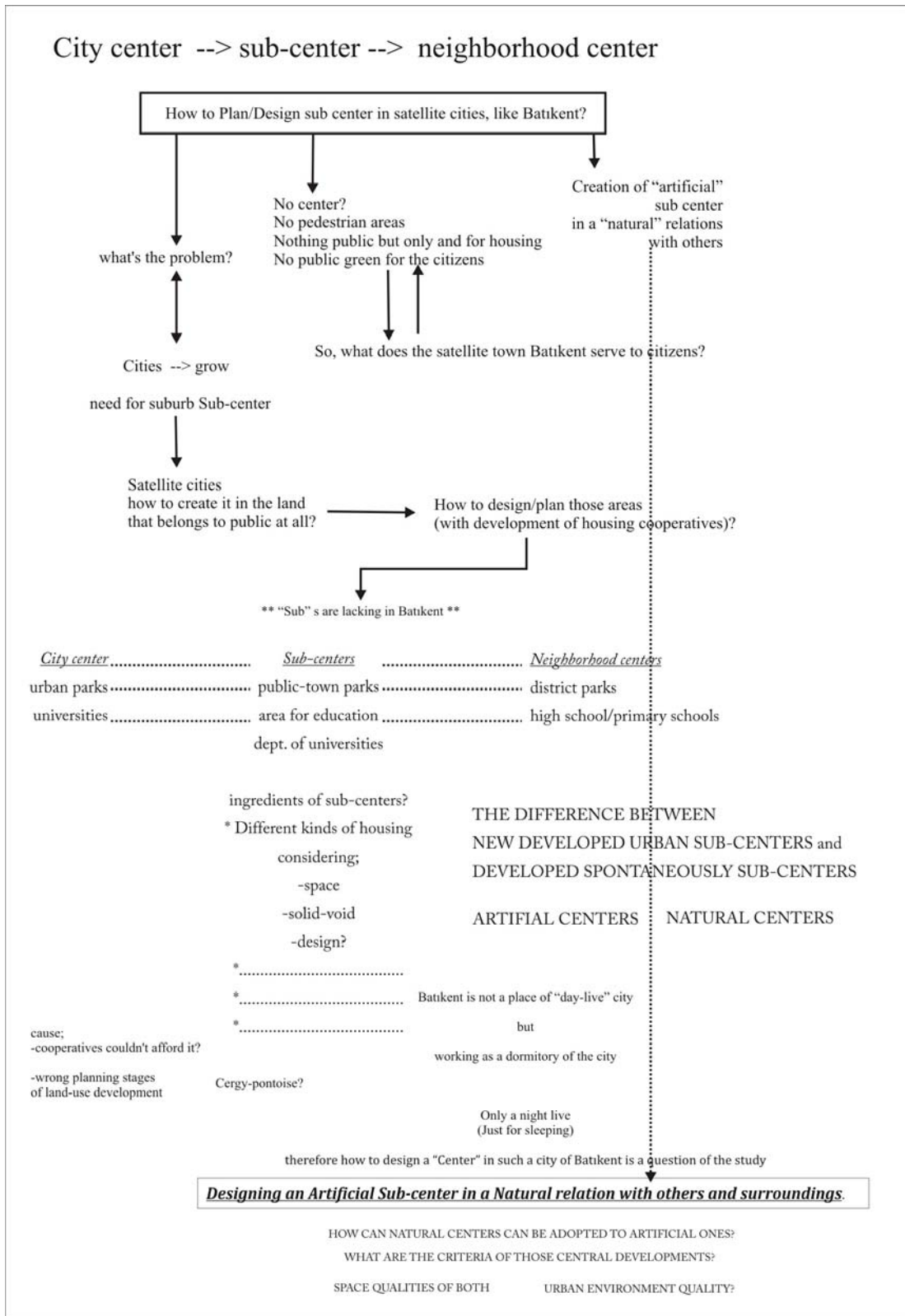


Figure 5-14 Structure Developed for the Study area

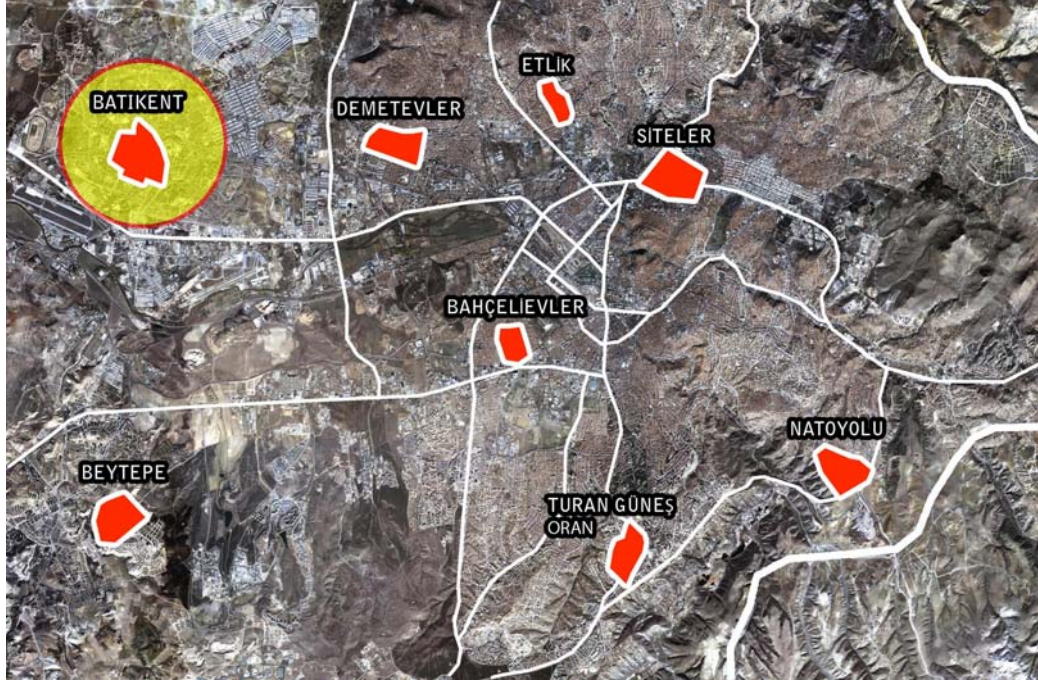


Figure 5-15 Sub-center Proposals in 2023 Ankara Master Plan

The map shows the fifteen sub-center development proposed in the plan. While the red areas with white frames show the exact locations, the other places with black frames show only the direction of the sub-center with their correct names. The sizes of the areas are not the exact sizes, but somehow drawn by the explanations in the report.

Among those sub-center developments, almost six of them have already more or less supplied the central activities and facilities. Those centers are Demetevler, Bahçelievler, Pursaklar, Sincan, Turan Güneş (Çankaya-Yıldız) and Etlik. Those centers have the similar characteristics of their pattern, namely they were developed spontaneously through the private developers. They have a grid and similar type of pattern and street system, having small implementation plots, that is allowing larger range of capital owner to come there. However, in Batikent, Çayyolu, Eryaman and Susuz-Yuva districts, the sub-center development have still problems of growth. There are many and different reasons for each of them, however, the common problem is that, the central locations of those new urban settlements are produced by public, or due to having very big lands discouraged various kinds of capital owners or developers. Here the problem emerges both from the pattern created, and the planning faults in terms of staging, design environment or in terms of revisions on behalf of urban uses which should not be in a sub-center.

5.2.1. Sub-center developments in Collective Housing projects



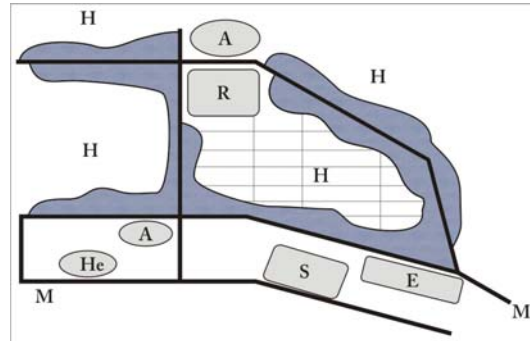

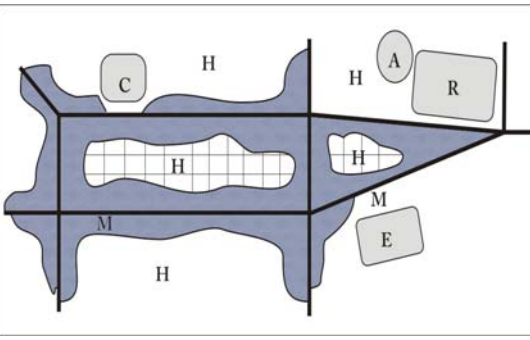

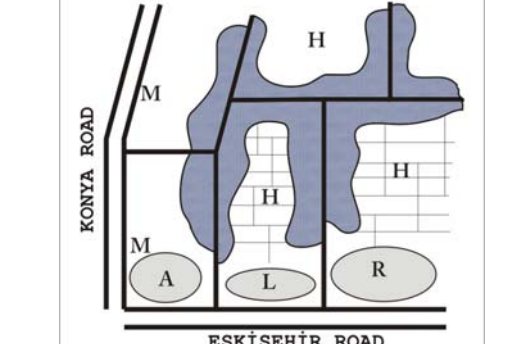
None of the already developed sub-centers mentioned above are planned sub-centers. They are all spontaneously developed. The sizes of the plots are smaller considering other public development areas or new towns like Batikent and Eryaman and the land on those centers belongs to private and therefore it is easier to create or build commercial areas because of the low rent respectively. Besides, Çayyolu district is defined as a sub-center and it is not well-developed yet in terms of the facilities that it should be a sub-center mentioned in the study, however the center area is not an empty land as it is in Batikent. The most probable reason for this is that the area does not belong to the public, but private entrepreneurs have the land and because it attracts the interest of high classes, the sub-central activities in Çayyolu has started to develop easily, at least, it has been developed, considering the commercial and the cultural activities. Batikent, in the study, is going to be analyzed more. The area is chosen due to the fact that in the 1970s the plan was made, however, nothing is developed as a sub-central zone. Batikent new settlement area was very big project and the first in terms of that kind of urbanism in Turkey. In addition to this, the area was nationalized and belonged to the public. With the management of Kent Koop (housing cooperative union), the land was nationalized for low and middle classes. And the first aim of the project was to supply housing for them.

5.2.2. Other Sub-center developments

Apart from Batikent, Eryaman, and Çayyolu sub-centers, there are many other central area developments having smaller plots with private entrepreneurs. Bahçelievler, Yıldız, and Demetevler districts are the basic examples of this kind of development. It is easier to have a parcel/plot/urban land in central areas when it is smaller considering the price of the land. Within the decentralization process, some centers were developed as a sub-center like Bahçelievler, Yıldız or Siteler spontaneously. Those were encouraged by the proximity to the main center and proximity to big employment areas. Some districts like Demetevler, Pursaklar or Etlik were developed, although lacking many facilities like socio-cultural or considering open-spaces, as they area sub-centers, in terms of both commercial uses and administrative or employment areas they work as sub-center in spite of the fact that they have poor urban conditions and services. The reason for running as sub-center spontaneously is mainly laying under the smaller plot system and the high demand of residential for both

employments, administrative and commercial uses. Namely, the rent is not so much as it is in Batkent or Eryaman owing to the parcel sizes.

Table 5-2 Comparison of Sub-center Development Patterns
(up to below; Batkent, Yenimahalle, Demetevler and Bahçelievler Town Centers)

	<p>H-housing R-recreation A-administration M-railway station L-library C-commercial complex E-education He-health S-sport</p>
	
	
	

5.2.3. Contemporary Design problems in sub-centers

The problem in sub-center creation of Batıkent district is mainly coming from mass public areas with big plot units. In general, considering centers in Ankara, it is easy to see that sub-central areas have private, smaller property plots. Searching the difference between Batıkent and Eryaman with Demetevler and Yıldız districts can show the reason of it. The reasons of having problems in the creation of sub-center can be the followings. Poor do not visit center so frequently, like others do (Alexander, 1965). The problems for “mass housing producers, like cooperatives do not have the right to built commercial or they are not encouraged to do it. The reason may also be the lack of need for sub-center in cooperative region in the first idea of the settlement project as an urgent project. Or the question; in what frequency, people living in those bigger plots/development areas need sub-centers become as a subject of the study. Moreover, the problem appears because “Çarşı”s or district centers in Batıkent are supplying more than it should such as some neighborhood centers, that is “Çarşı”s have Banks, Cafes, or big department stores that should be located in the town center. In addition to this, the lack of the idea of pattern in the settlement may create an urban life without a central use. Comparing the settlement of cooperatives with Demetevler region will probably answer the question or a matter of the pattern.

5.2.4. Expected problems for sub-centers

The significant matter in big metropolitan areas is that in one sense the vertical hierarchy, the confusion of the main center and sub-center and in other sense horizontal specialization, the confusion and mystification owing to the fact that different facilities become dense in different regions (sub-centers) in the city (Akçura, 1971, p.116-117). According to him, the important thing is that they all describe one center in terms of physical continuity because they (smaller centers or sub-centers) do not have physical cuts among each other. The vital thing is whether different social groups use different centers to buy similar necessities or not. Here, he mentions the center as a major city center but we can accept this preposition also for the sub-centers and its relations among each other and with the city center. To him, by the help of some research of Paris central area, there is not a certain cut between social classes how the political opposition is important, for their daily life and consumption types in capitalist countries.

CHAPTER 6

BATIKENT SATELLITE CITY / SUB-CENTER

After the 1970s, with the development of central activities in the core of Ankara, Batikent settlement started to be thought as one of the secondary core of the metropolitan area which is on the north side of Istanbul-Ankara motorway. But since then, it has never been considered or projected as it was in the beginning. Within the policies of 1990 plan, 1034 ha area was going to be nationalized to create a satellite city in the name of Akkondu. In 1975, 200 ha area was nationalized and in 1976 other areas were approved with 1/5,000 plan by Ministry of Public Works and Housing (İmar İskan Bakanlığı). In 1977 industrial areas between Batikent and Istanbul-Ankara motorway have been left out of the planned area. In that frame of the plan, 200,000 people would settle and 50,000 dwelling units would be placed.

6.1. Historical process

6.1.1. Planning processes of Batikent New Settlement area

Including 1990 Master plan, there were four master plans made for Ankara which have planning decisions for Batikent District. The first policy to create sub-center in the area was of 1990 plan prepared in 1970s. The two plans made afterwards have not had much different affect for the development of the study area. The following schemes from master plans show the differences. METU CRP team plan prepared in 1985 had corridor systems for the metropolitan growth of Ankara. The significant difference of this plan is that Batikent District has become a settlement area which resides in the middle of the two main motorways. In the same way, the housing areas of this plan are restricted and lower than the other plans. Municipality of Ankara has prepared a plan for Ankara in 1990 afterwards. Different from the plan prepared the one before; it has accepted more policies of the master plan of 1990. The settlement area is larger and more significantly, the core of the settlement

has been defined very clearly on that plan. The motorway is farther and instead there placed more residential areas. Greenery areas in the plan of Metu Crp team became housing in that plan due to the requirements of the city. As mentioned, the main contribution of the plan of the municipality is the visible identification of the sub-center.



Figure 6-1 Detail view of Batikent in Metu CRP Team Plan 1985-2015 (left) and Municipality of Ankara Plan 1990-2025 (right)

6.1.1.1. 1990 plan-Master Plan

As mentioned before, Batikent new settlement project was formed in 1990 plan of Ankara done in 1970s. This plan has the first form of the district by being located so close to Istanbul-Ankara motorway and the industrial zone of Ostim. As in the Figure 6-2, the new settlement district has a center in the core point of it. Area is separated from the motorway by industrial zone as a transition zone to the city. And moreover the settlement is separated and combined with other new settlement project Eryaman district with a green area having probably a function in.



Figure 6-2 Detailed plan view of Batikent New Settlement area in 1990 plan of Ankara-1/50,000 (Keskinok, 2006)

6.1.1.2. 2023 plan-Master Plan

The last plan affecting Batıkent region is 2023 plan of Ankara, explaining nothing more than the other plans made before in any scale as physical development criteria. In the plan report of 2023, there are 15 defined sub-centers. Batıkent is the densest and the most important settlement center of the “west corridor” of Ankara (Report of Ankara 2023 Plan). Although the plan of the center was completed, the structuring/the building process have not started yet. Moreover, there have been plan revisions in that area in the name of housing. Despite the fact that Batıkent settlement area needs a sub-center (the last phase of the project should have been built now), anything considering a central activity or land use could not have been done yet.

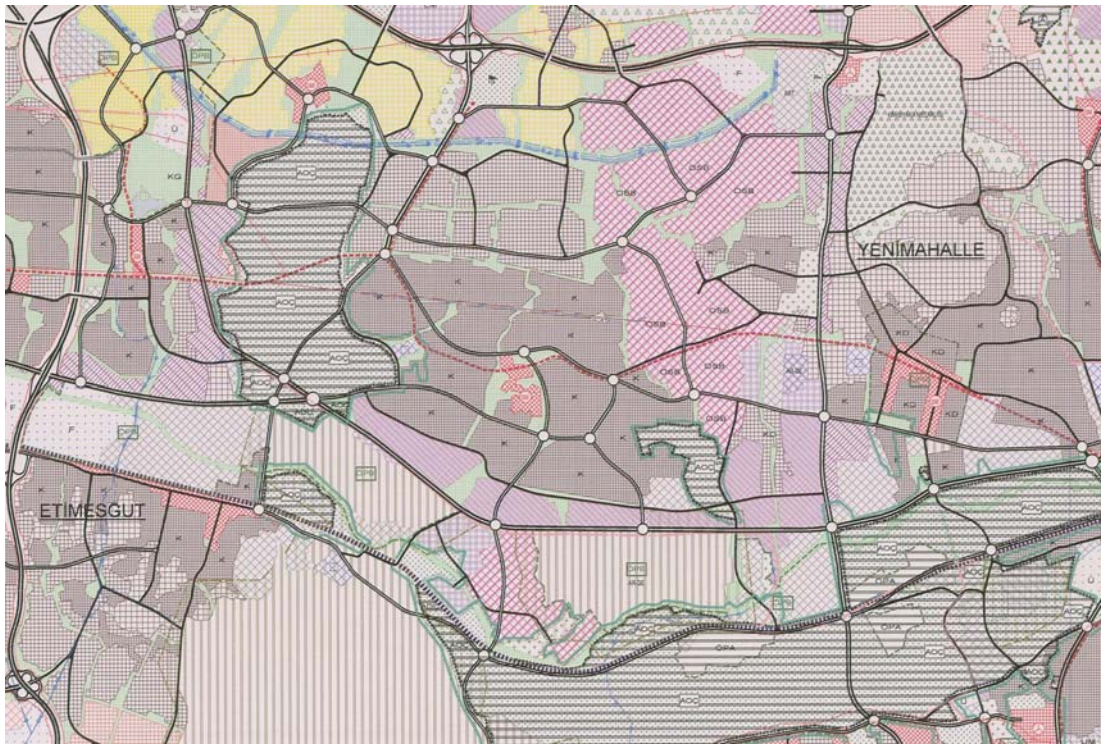


Figure 6-3 Detailed plan view of Batıkent New Settlement area in 2023 plan of Ankara-1/25,000 (Ankara 2023 Plan report)

The report of 2023 plan also includes for Batıkent that it is strictly and immediately needed to create specific intervention types to realize the structure defined in the plan. The current situation of the area is only limited to some commercial and service uses. However, no more activities such as social, cultural, administrative or similar activities and facilities could have

placed in the area. In fact, although there is a need for those activities, any interpretation has not been done yet. Conversely, there have been revisions and plan development encouraging housing development and discouraging central activities.

Moreover, the plan contains a policy for Batikent Strategic Sub-Center that the town center development should be sped up with Public or Private enterprises and interventions. The policies also includes that the central area progress should not be limited by shopping malls development. And it continues that in the sub-center, realization of all the requirements needed like social, cultural uses/areas and facilities have significance for increasing the quality of life. Nevertheless, those policies have not been realized yet and in fact, nothing has been done to develop those activities. On the contrary, there have been land-use changes considering the opposite approach.

In the plan, the area painted as *Strategic Sub-Center* (the red painted surrounded with the greenery area) shows fragmental development with having anti-spine and continuous structure. Although the railway (Batikent-Sincan) is passing through the area, the plan structure does not show a relative approach. Moreover, the plan structures of the central area do not have integrations with the surrounding residential areas in that scale although it should have as a central location.

6.1.1.3. 1/5,000 plans

There were three different 1/5,000 scale plans for the area after the approval of 1990 plan. Those plans were made by three different planning teams. However, none of them has been realized totally. Only the nationalization processes and the hierarchy of the central areas in the theory was the same but it also has not been realized and stayed in the plan notes. The second plan done by Turgay Ateş and his team had most effect for the realization of the settlement of today. It is not in terms of physical sense but for the plan criteria and the development principles of Batikent.

Plan of Bülent Berksan's Team



Figure 6-4 Batkent 1/5,000 plan of Bülent Berksan and his team
(Keskinok, 2006)

The plan which was made on behalf of the nationalization process was poor in terms of criteria of different housing type locations, or for an urban development to organize the space hierarchy principles and define district identifications in such a big place that will be created by public. In spite of those, the plan had a central design related to the residential areas with a defined area and having a spine and the character of the heart (Keskinok, 2006).

The plan of the central area of Batkent settlement shows more character of the center considering the plan actual now. The heart, the center of Batkent, has a structure of spine with arterial roads going through it, not dividing the area or not having congestion but servicing it. The area is not divided by the roads, but it has a pedestrian integration going over the car road within the central area. The spine of the heart was located between a sport facility area (the right point of the center) and probably a place of shopping or similar activities (the left point of the center). Each side of the central area also encouraged with pedestrian ways coming from residential districts.



Figure 6-5 The central area designed in Berksan Plan
(Keskinok, 2006)

Although the center has good pedestrian circulation within it, it does not show the same approach with center and pedestrian ways coming from the residential units. The pedestrian crossings with the motorways in the center should be seen also in the crossings of the main pedestrian flows coming from the residential areas.

Plan of Turgay Ateş's Team



Figure 6-6 Batkent 1/5,000 Plan of Turgay Ateş and his team
(Keskinok, 2006)

The plan was formed of different districts. Those districts were defined by units and sub-units. Space hierarchy was tried to be obtained with the composition of different scales of the units and with the co-existence of units that had variable technological development prerequisites. The plan was formed with the smallest unit *Housing Environs* that are Cooperatives. The smallest public center was composed of Children play parks, neighbor's meeting points, common buildings like heating and laundry buildings and daily shopping spaces (Keskinok, 2006).

The planning criteria and principles included;

- Pedestrian accessibility
- Walkable town
- Security of pedestrians
- Integration of pedestrian and public transportation
- Pedestrian accessibility to the transportation system
- Road hierarchy
- Residential-working place relations with alternative ways
- Neighborhood units for community integration
- Co-existence of spatial distribution of activities

It is not hard to see that the plan was totally pedestrian oriented. The principles and space organization can show it us easily. Public transportation network and the metro line thought in the plan strictly prove the idea of pedestrian town. Moreover the hierarchy of the central areas is also encouraged this idea. The secondary centers within the Batikent settlement and neighborhood centers are good illustrations of the system. Although the main central area of the settlement are not located in the physical center, the three-secondary centers in the settlement area located in the east, in the north-east, and north-west side of the main center will service to the whole area.

Sub-Central area and the neighborhood centers in Batikent are located in such a spine that they are encouraged by public transportation and pedestrian system. Motorways in central area of Batikent end in carparks by going through the periphery of the center. Transportation network is formed with public transportation, service and pedestrian system integration. Pedestrian districts were proposed where commercial and cultural-recreational urban uses were densified. All the properties of commercial areas in the main centre, neighborhood center and community center were thought to belong to the public. The hierarchy in service

sector, green areas and pedestrian roads were designed in a criterion of Continuity and Walkability. Designing public transportation-railway- network was proposed as in any point in the planning area one could reach by walking. Pedestrian ways in the plan were like a channel that defines common spaces on which public facilities were formed (Keskinok, 2006).



Figure 6-7 The Sub-center design of the settlement, Batkent (Turgay Ateş and his team's Plan) (Keskinok, 2006)

Batkent and Ankara CBD relations were developed appropriately with the Metropolitan plan of Ankara. It is presumed that Batkent region was going to have a relation of culture and recreation with Ankara city center. Moreover, it is supposed that Batkent would also have administrative activities and units. By the development of central facilities in Batkent sub-center, it is thought that the problems of the main center will decrease. In the central area, a hospital, a cultural center, high business centers including office development and commercial buildings with specific uses, working places and residents' integration were developed according to the master plan of Ankara (Keskinok, 2006).

The central area lays along a spine development. It starts with Official Institutions and ending with commercial and industrial uses. the spine and the central area have a linear, compact form including employment areas, housing, commercial, industrial and educational facilities. That is to say the plan of the center was a center both in theory and in practice with its pedestrian accessibility and whole day live facilities, not only housing but also some employment, cultural areas.

Moreover, the greenery area did not form the center but it encouraged it as a recreational facility. As the central area should be dense with the facilities of all types of urban uses like commerce, business, office, housing, recreation, social, cultural and educational facilities, with a compact development, one or two of those activities should not be more dominant than the other. The plan served optimum solution for the settlement's center among the other two plans and revisions of them.

Plan of Suavi Akansel's Team



Figure 6-8 Batıkent 1/5,000 Plan of Suavi Akansel and his team
(Keskinok, 2006)

The last approved plan done in Batıkent was the plan of Akansel's Team which has mostly structured today's actual condition. This plan has also the central area in almost the same location of the plan before having the policies of *a part of Ankara*. The rent and the land that will be created during the project would mostly be belonging to the public. The rent including the center, the sub-centers, social service spaces and similar developments (65 % of the whole area) in Batıkent is outlining the 80 % of the rent in the project.

In 1979 Akansel's plan policies, the central area were behaved like an employment sub-center. According to them, first of all, Batikent city center will be designed not as if it will create more weight for the major city centers but will be designed in a sub-level, as if it will get some burdens of the main CBD. Although the policy states it, so far almost nothing has been done to support it. The settlement has a metro to the central area but it does not decrease the transportation and traffic congestion much enough.

It is followed by the policy after the creation of Batikent city center; it will be having the load of other existing settlements in the corridor for some time. That is to say, the central area would also service the settlements that are close to Batikent. Nevertheless the area even could not service itself as a center in spite of almost 30 years after the plan's approval.

As mentioned before, the property of Batikent city center and sub-centers (neighborhood and other centers) would be belonging to the Municipality. The plan revisions that will be discussed later do not show any respect to this policy of the center. More than half of the central area of Batikent and subs of them has become private property. And in addition to this, there have been revisions discouraging the public investments. The plan notes also say that besides the commercial areas in the center of Batikent, sufficient administrative, cultural and active green spaces will be located. However, this also could not be done in even one small project until now.

As in the theory of the plan the Center will be fed up with public transportation and pedestrian roads. But still the metro station could not be completed in the center. The metro railway system between Batikent and Kızılay has started almost 2 km away from the real center in the plan. It could not be developed so far. But in order to increase the use of the center in Batikent, and in fact, so as to develop the central area as a *sub-center*, at least one more station should be adapted or added to the existing system. Due to the fact that the real center should be developed as it is in the name. However the center could not be encouraged to develop, on the contrary the center has started to be created near the existing Batikent Metro station, in which there is no any activity apart from commercial uses. The so called "center" of Batikent has located in the junction of motorways with supermarkets, shopping centers and areas. Moreover, there is no any pedestrian zone or area or land for it in whether so called "center" or in the center planned. There are no pedestrian ways reaching there and no pedestrian ways within it.

The plan shows that pedestrian zones will have large places that will be located for commercial and cultural facilities. So far the commercial side of the policy has been realized in a sense, but the cultural activity areas could not be realized.

Smaller centers (neighborhood and district centers) should be formed in one level below the sub-center of Batikent. In fact those centers have been created in neighborhood scale for daily needs of the population. But, there could not be built any facility area for weekly or monthly needs. Therefore people living there started to use the settlement for nothing more than a *dormitory town*. In short, the policy of “Çarşı”s that will be built is to meet the demand of daily needs for 5000 persons-units and this has been realized. But it has done nothing more than “çarşı”s even in neighborhood centers.

The other policy about the area is that main sub-center of Batikent will be located where smaller centers and pedestrian road meet and connect and where public transportation stops are located and the regional roads are intersected. Apart from the roads intersections, nothing has been developed in that. In fact, the plan is lacking for main pedestrian flow routes or spines. If one accepts that the white roads were only for the pedestrians, then, it would be a bit lot for the area, if not so, there are no pedestrian roads going into the center.



Figure 6-9 Existing Public Services and shopping malls

Municipal service areas will be for both daily uses like the places of Municipality unit, police, collection of revenue units and production complexes, depots for vehicles and material for housing construction. The policies of the plan includes that Civil Institution areas are the units of bureaucratic works that will decrease the burden of the city center. Those areas will also be places of centre and sub-central uses. However, the following map shows the dis-integration of those areas that are already built. The center includes none of them

The plan includes four types of the centers in Batıkent settlement. Housing Districts, Neighborhood centers (34), District centers (4) and Town center (1) separation is clearly defined in the plan (Kent-Koop, 1998, www.kent-koop.org.tr). However, the separation of the central activities in such a number has probably been a reason for the *underdevelopment* of the Sub-center. The district centers could not be developed except for one which is just next to the existing Batıkent Metro station. Nowadays this District center is being used as a *town commercial center*, lacking cultural and social spaces.

Housing Districts

The smallest settlement units of the Batıkent Project are housing districts with 5,000 populations. The services identifying those areas are kindergarten for 0-3 year-old babies, a small “Çarşı” for daily needs, park and children gardens

Neighborhood center

By combining two Housing District, neighborhood center is formed with 10,000 people. In addition to the services in housing districts, there are kindergarten for 3-6 year-old children, Primary school, Children Park, park, play field and bigger “Çarşı”. There have been planned 34 neighborhood centers in Batıkent

District Centers

Including 50,000 population within 5 neighborhood, District Centers have been formed from Bazaar area, a mosque, children park, play field, health care center, Mother-Children health center, high school, post office department, police station, big commercial area, and cultural entertainment areas. Batıkent would have 4 District Centers.

Town Center

The town center will be the sub-center of Ankara located in the west corridor. The area for sub-center development is 110 ha. It will have a service territory of new development of mass housing areas building in the far west. The center would create an alternative center designed to decrease the dependence of Ankara city center.

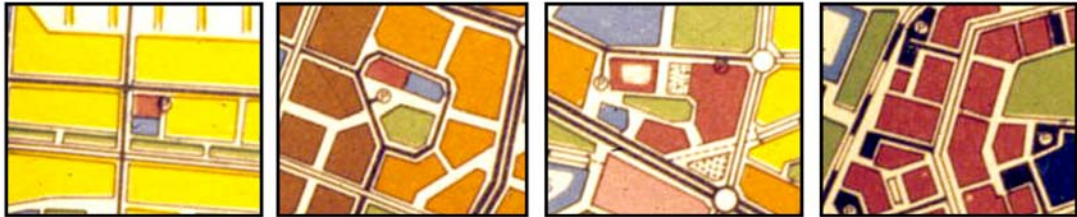


Figure 6-10 Four types of center development in the Akansel's plan
(In order; Housing district, Neighborhood center, District center, Town center-Subcenter)

Keskinok (2006) states that the plan generates some problems in terms of integration of sub-units with higher units or the whole settlement, continuity in space, and in terms of common spaces, service supply planning and design problems due to the variable architecture and housing types. There is no context in the settlement, and that has made integration problems of high rise and small housing groups or between high dense and low dense areas.



Figure 6-11 The central area in Akansel Plan

Access to the Batikent town center has problems due to the absence of consistent relations between the public transportation and space hierarchy. Plan, according to Keskinok (2006), could not form the central places. They became commercial areas but not a central place. Due to the dysfunctional places that are not parts of the defined spine, there appeared space wastes. Urban design process were not thought during the planning process and that made the dysfunctional spaces with the lacking balance of solid-void, open and mass space relations, building and street relations. Considering the actual central plan, this scheme shows more central design applications and principles, although it does not include pedestrian at its highest degree of design criteria. The central area of Batikent in that plan was lacking direction for humans but does it for cars. Moreover, the integration of the railway system and public transportation is lacking. The stations are not combined to the system of the center. They should be used more actively. In addition to this the design of the area does not show the multi-use of space although it should have to attract more and more people.

Revision of the last plan-1998

The structural system shows much difference than all three plans except for the main motorways and main urban uses as districts. But the settlement of plots and islands have almost totally changed and that has created much complicated but having less criteria for the sub-center development. Plan revisions have increased much on behalf of the rent. The workspaces and some green areas have changed to housing and commercial areas which made the area used more like dormitory but not as an employment place. The settlement became dormitory town by plan revisions after revisions, lacking places and uses of sub-center in many aspects.

Table 6-1 Land-use of Batikent in the Last Plan

Function	Area (ha)	Percentage (%)
Residential areas	497	48
Commercial (excluding the main center)	17,6	1,7
Health	11,71	1,2
Education	50,35	4,9
Culture-entertainment	6,52	0,6
Civic Institutions and Municipality service areas	41,27	4
Green areas	141	13,6
Sport and playground areas	34	3,3
Traffic roads	149,75	14,5
Pedestrian roads	70,6	6,8
Railway system of public transportation	14,2	1,4
Total	1034	100

(Eryıldız, 2003)

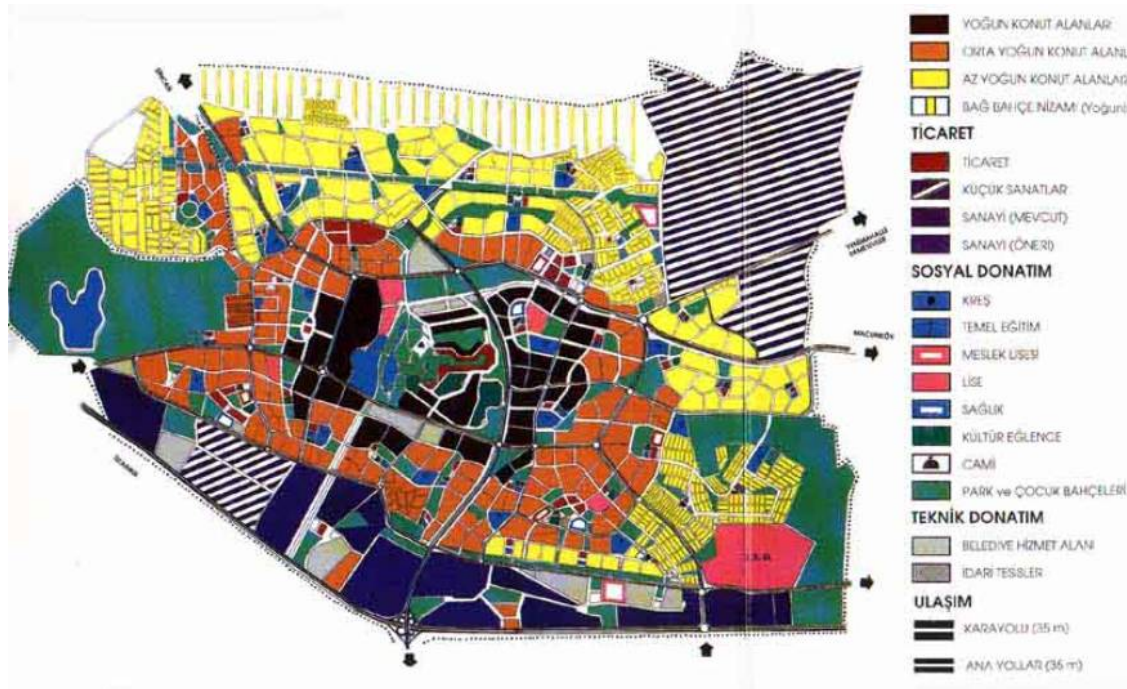


Figure 6-12 Batikent 1/5,000 Plan Revision of the last and his team
(Kent-Koop, 1998, www.kentkoop.org.tr)

6.1.2. The Comparison of the Plans

Considering the 1/5,000 plans of Batikent, there are similarities in terms of the hierarchy of the centers in the town. That is to say, there are the main center, sub-center, district centers and neighborhood centers, and in some plans, housing district centers are common elements. The first two plans have neighborhood units and neighborhood centers in addition to district centers. Those smaller central developments are linked to each other and the main center with pedestrian roads. On the contrary, the third plan, which is designed by Suavi Akansel and his team, does not include the pedestrian links between the district centers or the neighborhood centers and the main center. The third plan, different from the first two, was designed as car oriented. There are hardly any pedestrian roads or spaces compared to the first and the second plan. The actual plan which is revised form of the third plan -specifically the central area- lacks pedestrian access, orientation and pedestrian spaces although it represents similar hierarchy of settlements.



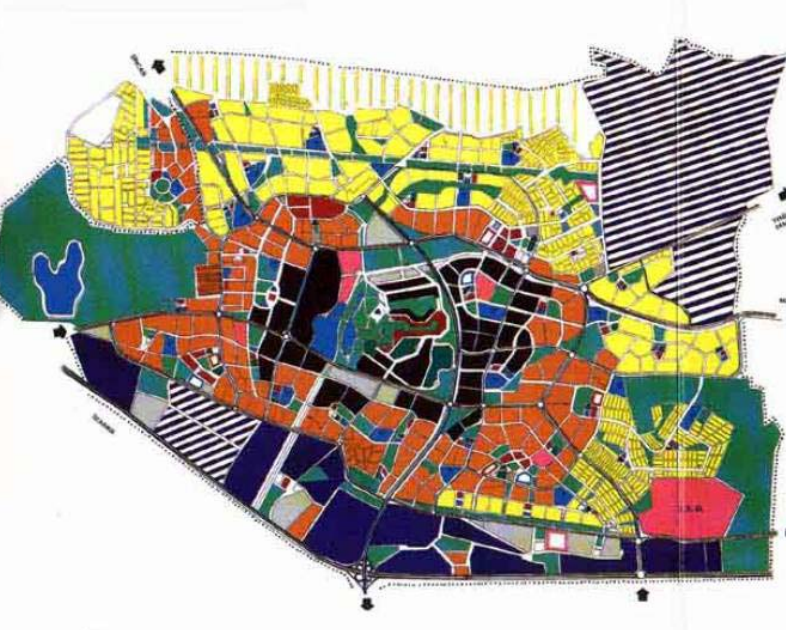
Those plans differ much among each other considering the residential settlements and their densities, and their town center plans also vary much from each other. The first two plans represent a linear central development forming a spine and feeding veins while the last two plans symbolize a center in an area without spine or defined structure of land uses and physical structures. Specifically, the actual plan does not figure out a central characteristic in two dimensions considering the solid-void and the proximity of the uses and physical structures.

The central zone design of the first plan is seen as collecting the major pedestrian roads to itself surrounded with the car roads. But the pedestrian and cars are not crossed in the same level in that plan. The center has a compact and a linear form with a well-defined structure connected to the town. The second plan's town center is also in a linear and a compact form encouraged with the railway system. The third plan however has a spine and a loop for cars. The area is heartened by the railway system, but could not be linked or interrelated to the environment both physically and relationally. In addition to these, after many revisions the actual plan showed as the forth plan concentrated with a large green and recreation areas. The commercial and other central uses are not linked or related to each other without having a pedestrian roads or spaces except for the green open space. Moreover the residential areas are not planned as having a central character or qualified as they are in it.

Table 6-2 Comparison of the 1/5,000 Plans, Center Design and the Schemes of Batkent

	1/5,000 plans	Town Center / Sub-center Plans	Schemes
<p>1</p> <p>Plan of Bülent Berksan and his team</p>			
<p>2</p> <p>Plan of Turgay Ateş and his team</p>			

Table 6-3 Comparison of the 1/5,000 Plans, Center Design and the Schemes of Batkent (Continued)

	1/5,000 plans	Town Center / Sub-center Plans	Schemes
<p>3 Plan of Suavi Akansel and his team</p>			
<p>4 Actual Plan after Revisions</p>			

6.1.3. The problems of planning process in Batikent

As mentioned before, the settlement area of Batikent works not as a sub-center but as a dormitory town. The revisions in implementation are showing that there is a huge rent in the area considering residential development. Moreover, with the development of residential areas, commercial areas were also added to the revisions with *high rise residents* and apartments. In addition to this, the working area, administrative units and places for employment became smaller and smaller in the master plan of the settlement. Besides the revisions, the planning processes of the settlement have also created problems in planning and structuring system of Batikent. The stages of planning of the area have also discouraged the central area development.

The Project's first aim and goal was to supply housing for metropolitan region of Ankara. Therefore, the central uses, apart from the neighborhood centers of the settlement stayed undeveloped throughout the planning process. It was due to giving the importance on housing in building the city and the town center development was left to the last stage in both plans of Ateş and Akansel.

The second plan of Batikent done by Ateş and his team has left the central development as a third stage of the plan structure. The first stage (till 1984) was for housing areas in the periphery and the second stage (till 1988) was residential areas with the neighborhood and district centers. The third and the last stage (till 1992) was left to the town center, sub-center, and social, recreational spaces and other public uses of the settlement. However, the road infrastructure planning stages of the settlement was encouraging the central area development. The first road that would be built was also covering the central areas environments.



Figure 6-13 Staging of Turgay Ateş and his team's Plan of Batıkent (Keskinok, 2006)

Suavi Akansel and his team who have done the third plan having four stages have also left the central development to the last stage. The first stage of development of the plan as in Ateş's plan was left for housing development in the periphery, the same areas as in the plan before. The staging processes of the plan were so static and composed of the district by district. This strict idea of staging made the central area development including the district centers and town center and dense residential areas develop as a last action of the settlement growth.

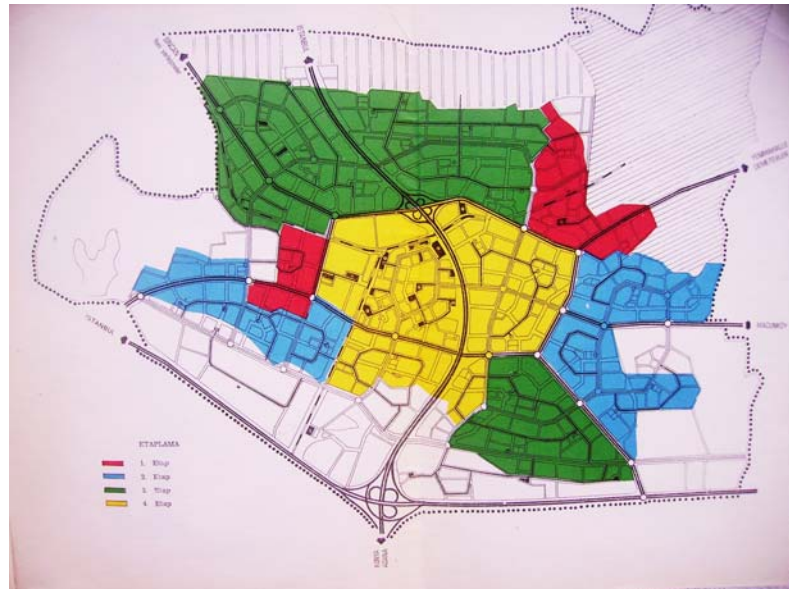


Figure 6-14 Staging of Suavi Akansel Plan of Batıkent (Ankara Belediyesi, 1979)

In the world case of this study, Cergy-Pontoise started to be implemented with the administrative and trade center in the vicinity of a large central park. The central area included symbolic and functional values at the same time, that is to say, the prefecture building, High school, swimming pool and ice-skating rink as a symbolic value of the center, and an overpass separating pedestrian and car traffic encouraging trade. Moreover, the central area was encouraged and supported by a highway and regional railway line (Jaouen, 2004). Considering the planning process comparing of Cergy-Pontoise and Batikent shows us that the central areas of both cities have been thought to be developed in different stages of planning. They are very different from each other; besides, the central area design principles and ingredients of the plan are also unlike. That is to say, in the central area of Cergy-Pontoise was started to develop by the construction of the prefecture building (local administration building), that means an attraction point was created and therefore some other uses like headquarters of some companies were attracted by the government and they started to locate in the new town. With this development, the commercial and other central, public uses, like theatre, railway station, university and some other socio-cultural buildings were constructed and people resided in the town were able to use them. People were also encouraged to reside in the town within these public services constructed in the center. The central area development was not left to the last stage of the plan, but constructed in the beginning of the construction period by the public sector and attracted other uses.

6.1.3.1. Implementation plan revisions done in Batikent

The plans made for Batikent were not developed to create or form the town center but on the contrary the plans have been revised on behalf of the rent and therefore the central area including the working places that are employment areas, were turned into residential or commercial areas. Revisions of the plans were discouraged with the development of administrative units and moreover the public and private companies as employment opportunities. As housing areas started to be more and more dominant in the site, the places for the other uses started to disappear. That is to say, the central area of Batikent started to evaporate; hence, it started to lose its identity.

There are 26 defined areas in the town center of Batikent considering the actual plan of the settlement. These areas are grouped into different colors in Table 6-4 considering the urban uses. These areas include the public uses and some other considered as urban activity that

should be located in the central area. The table shows the revisions and therefore the decrease of public uses in the area and the increase of the residential areas that are not carefully designed for the sub-center.

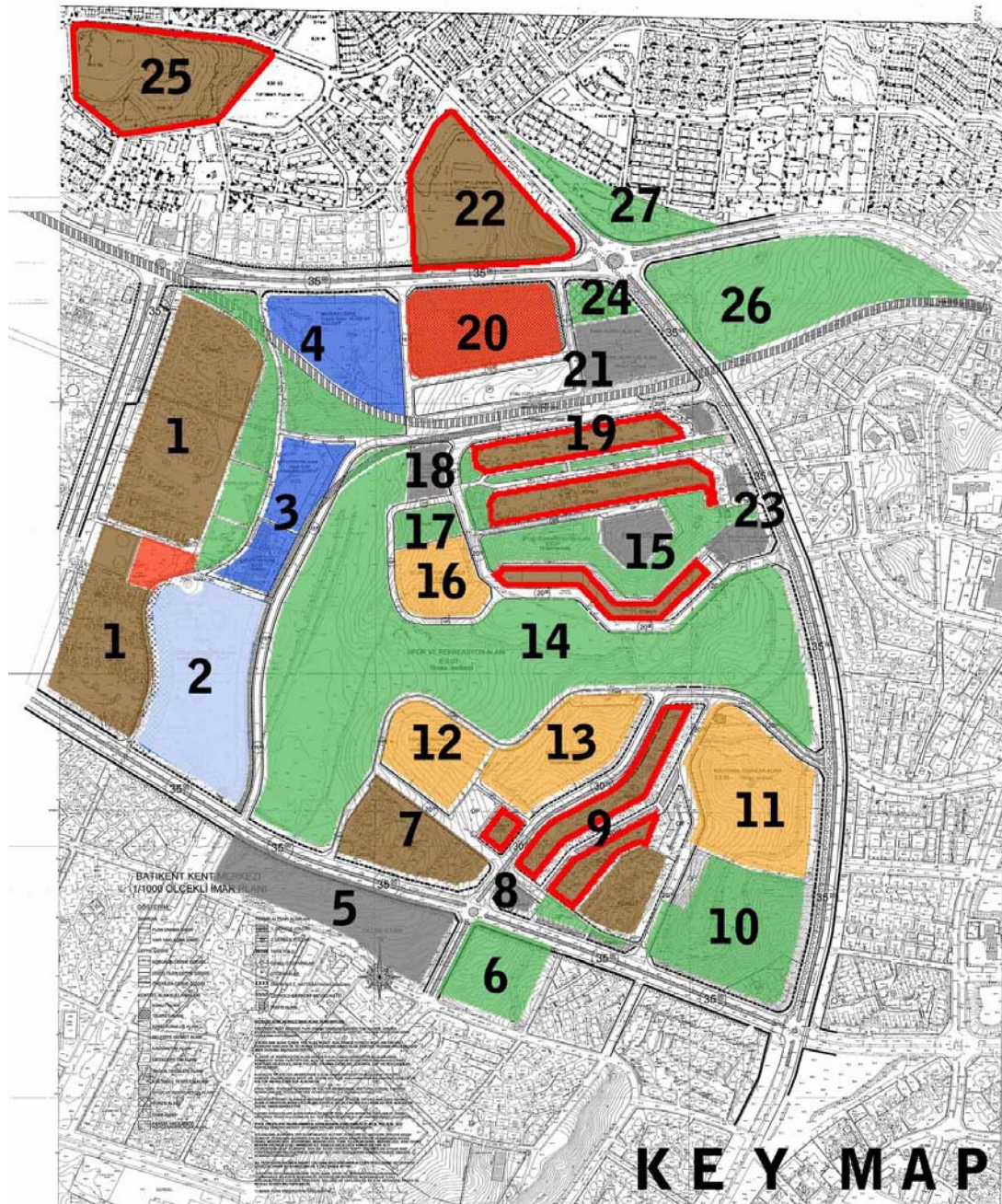


Figure 6-15 25 District Defined of the Sub-center for Revision Assessments
(Developed from all plan revisions done so far)

Table 6-4 The Plan Revisions of Batkent and the Uses of the sub-central zone

District no	Final Approved Plan -Suavi Akansel's plan-	revision 1	Land-use decisions after Plan Revisions	Actual Use	District no
1	Sport Health Business school	housing	housing	housing	1
2	park high school	Health	undefined (still health)	empty land	2
3	health	education	primary school high school	primary school empty land	3
4	sport	education	vocational school	empty land	4
5	municipality service	administrative	administrative	empty land	5
6	municipality service	administrative	sport	empty land	6
7	housing+commercial	housing	housing	housing	7
8	housing+commercial	carpark park	municipality service	empty land car park	8
9	housing+commercial cultural recreation	housing	housing	housing+commercial	9
10	park housing	park cultural facility	park	empty land park	10
11	cultural recreation	Tourism School tourism hotel	cultural facility area	empty land	11
12	housing+commercial	cultural center housing	youth center	empty land	12
13	housing+commercial cultural recreation	cultural facility area	cultural center	empty land	13
14	housing+commercial park cultural recreation	sport recreation commercial	sport recreation	empty land	14
15	park	park sport	municipality service	empty land	15
16	housing+commercial	islam culture center	islam culture center	empty land	16
17	housing+commercial	park	park	empty land	17
18	housing+commercial	park	administrative	empty land	18
19	car park Metro station	housing	housing	housing+commercial	19
20	park	sport	commercial	empty land-construction buildings	20
21	park	road administrative carpark	carpark administrative	empty land	21
22	municipality service	municipality service	housing+commercial	housing+commercial (in construction)	22
23	car park municipality service	road park	municipality service	empty land	23
24	road	ceremony area	ceremony area	ceremony area	24
25	district center	district center	housing+commercial	housing+commercial	25
26	park commercial (terminal)	sport park	park	park	26

Those plan revision table has been developed by the author from the revision maps in the municipality of Yenimahalle. The problem here is that the revisions have all been made for search for urban rents on the area. All the production and business or administrative activities were taken out of the sub-central area. In addition to this, the only developed structures are those commercial and residential ones and a small park. However no-use allowing employment could be developed or structured.

Moreover, these revisions decreased the public uses and structures and turned into whether residential or commercial areas. In addition to this, some other public urban uses like health or commercial and housing areas turned into only housing, green area or undefined uses. Besides, the employment areas like administrative or municipality service areas which are attracting capital owners or private companies were altered as sport areas or green areas or they were decreased in the central area. The land for only commercial activity is lowered and the land for only housing activity is increased. That is to say, these actions are all discouraging the sub-central area development. They are encouraging the opposite, on behalf of accommodation or recreational use which are not so compatible for the town center development.

In addition to these, the actual use of the land is still lacking the central activities. Considering the theories and new town development ideas searched in the previous parts of the study, the land planned as town center could not be developed as it should have been. The center should have had more public uses and employment areas to attract people, nevertheless Batıkent sub-center area could not succeeded it considering the actual use and development process. The housing and commercial areas were not designed pedestrian friendly, but designed car-oriented. Additionally, housing areas were designed as they are in a small neighborhood with large green areas that are surrounded with walls to emphasize that these areas are belonging to the private uses.



Figure 6-16 North View of the Central Area of Batkent



Figure 6-17 East View of the Central Area of Batkent

6.1.3.2. The effects of revisions on center development and housing

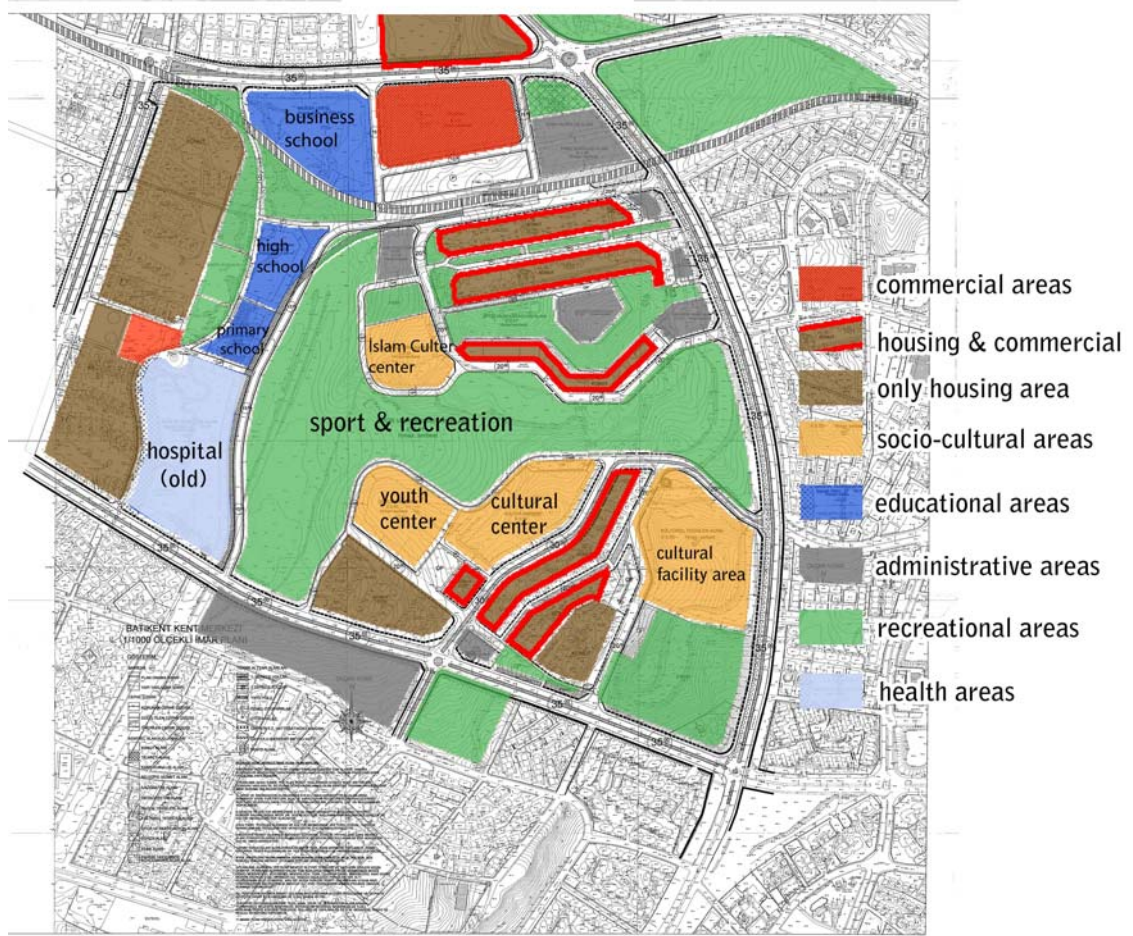


Figure 6-18 An Actual Implementation Plan of the central area, Batikent (Progressed from all plan revisions done so far)

After all plan revisions, the central area of Batikent settlement became as a mass considering residents and housing life. The central activities so far have never been developed or encouraged. But on the contrary, the revisions have shown that the rent in commercial and housing or only in housing areas made the decisions change on behalf of the dormitory town. The central area has lost its identity and gained more housing character. The proportion of administrative, municipality uses and business sector that is employment zones, in the area have decreased to a certain level that will not be helpful for the central use and revised to either commercial or housing.

The whole area, apart from the metro station and some cultural facility areas that are not built yet although the project's time has been concluded does not support the sub-central use of the settlement. Huge green spaces, housing dominance, lack of only commercial, only administrative or similar complexes, and unfinished metro project are creating the problems of sub-center evolution. Besides, the area is not accessible from the environment. The absence of main pedestrian road to the center, the lack of pedestrian only zones in the area and car dominant design and planning system made the area unusable for human living in district.



Figure 6-19 The development of Residential & Commercial districts in Cergy Pontoise
(The area is a district center of Cergy-Pontoise and the environment of the station, the center, is still in construction)
(Charre, 2003)

The idea of pattern also creates non-humane city center. Including the station, all activity areas and also residents do not have a pattern of the center. The station is not easily reachable. It is elevated and located in such a place that it is hardly accessible in terms of central uses. The area is like separated to two regions by sport and recreation area. Absence of the *heart*, the *spine* and the *veins* made the central area lacking all humane activities and highly usable character.

Table 6-5 The comparison of central areas of Batikent and Cergy-Pontoise

	Central Area			
	Batikent		Cergy-Pontoise	
	area	percentage	area	percentage
Housing	22,4	40%	5,5	18%
Office	9,8	17%	11	37%
Commercial	12,3	22%	10	33%
Socio-cultural	12,2	22%	3,5	12%
total	56,7	100%	30	100%

6.1.4. Sub-center development problems

According to Jaouen (2004) the basic assumptions of this kind of sub-center development are based on the fact that the sub-central area implies instruments that can produce Connections, Movement, Visibility, Shapes that assist transformation. Over a purely physical element, the center should be thought as a sort of concept or notion embodied by the expansion of places meant for a strong collective demonstration or better like a organization of specific centralities, each of which having its own issue according to its mission and stating a new story. To generate a centrality means to promote access and merge urban and public energies.

Considering the components of the center/sub-center, an urban sub-center has the highest vital role in urban environment, having primary functions as a first action to achieve core facilities or the city (Gruen, 1964). Here, Gruen includes the utilitarian functions, primary functions, as sewer system, electric and telephone cables, water and gas lines and all types of transportation modes. That is to say, the infrastructure of the area should be developed first to have a healthy environment and a healthy pattern. He adds the compactness of the environment and the urban uses in the central area. Namely, if an urban sub-center is lacking one or more of those functions, it would be meaningless to wait for a central area to develop in the defined site. Owing to the fact that if the aim is to attract people or provide urban uses for location or use the site for central activities, those functions should be available in the area.

One should be attracted to use the central area as mentioned before. To do this intensive urban core uses should also be located in the area. This will make people to come and locate their functions there. Those functions according to Gruen (1964) are intensive core functions such as;

- Working
- Dwelling
- Shopping
- Sightseeing
- Participating in
 - * Civic
 - * Social
 - * Cultural
 - * Recreational
 - * Spiritual events

Gruen also enlightens that the area should have the highest position in terms of accessibility and it should have the characteristics of the core terminal facilities and mass transportation facilities. This means that if a space/place has problems in easiness of access, the area will not be able to have the opportunity of developing and improving itself as a central quality. Besides the infrastructure of transportation, the policies and superstructure of accessibility should be developed and built in the area so that people will go and visit the area and therefore will demand more consideration for the sub-central activities.

6.1.4.1. About land properties

One of the big urban housing projects in Ankara has started to develop in Çayyolu-Ümitköy site. Here different from Batıkent project the land owners are not the public or governmental but private. Therefore it is easier to create a space using for retail activity or building a structure for commerce considering the public land developments mostly due to the land speculation.

Since the construction stuff is needed in Çayyolu development region and the construction belongs to the private entrepreneurs, Çayyolu village has started to be transformed into a place for selling construction materials. And Property seller offices have started to locate in the area. That has also attracted and encouraged some other retailing activities in the area with smaller fixing service activities (Eryıldız, 2003). That is to say, the smaller prototype of the town center has been triggered and formed. This development is also encouraged by the linear development through the main road servicing the to project site.

Çayyolu project has been designed part by part (encouraging urban sprawl in itself) supporting new developments. Consequently, land speculation is heartened by public in close environment. Eryıldız (2003) also states that due to the fact that the plan were not developed by public, new settlements started to appear addicted to the city center but far from it. Owing to the fact that there could not been developed a pedestrian and axis relations between the center in the plan, district centers, services and green spaces, the space has been perceived differently from the main purpose of the area by the inhabitants.

“...Freer planning of individual units affected the overall site planning. By 1982 small plots were abandoned in favour of planning at a larger scale, with plots of 30,000 to 50,000 square metres, permitting formulation of special projects for each cooperative. In order to increase its design capacity for such large projects, Kent-Koop formed its own planning and architecture agency ...” (Pamir, 1988)

Kent Koop was given 28 million dollars in 1980 from the European Re-Settlement Fund but had some problems in the time of spending it. There were restrictions on time limit. This funding and the restrictions made some risks on the project. The rapid construction process has started onwards. This has resulted in the loss of connection among the theory of planning and design practices. Pamir also states that the financed construction on that big scale project resulted authorities in to abandon the policy of “alternative to gecekondü housing” and the following “two-storey, lower middle- and middle-class housing" replica (1988).

Land developers in various ranges need various kinds of scales of the land in the development area. If a land can not be developed by public investment, the area should be attracted and encouraged both for public institutions and private companies. Because, as Segoe stated (cited in Gallion and Eisner, 1963), sub-dividing the land is a matter of profit to the land developers. On the other hand, the sub-division of the land is a matter of serious public concern for the community. Besides, the activities created by the private and public

investors shape the future of the community by serving living and working conditions and enhance the quality of the urban environment. Therefore, it is vital to have the land or plots in different scales in both urban environment and central area to encourage the developer and therefore to attract people or to make them use the land.

6.1.4.2. About the design of the built environs

That problem of Batikent Sub-center *underdevelopment* process is also essentially laying under the design of the environment. The proportions of the spaces in residential areas, in the neighborhood centers and the sub-center and lacking design approaches to the central area are also creating some problems of the central area. The wideness of the roads, specifically absence of the hierarchy in road infrastructure and creating the environment friendly motorcar made some contributions to not to create the central zone of the settlement in terms of transportation system.



Figure 6-20 Streets connecting neighborhood center to town center

Lack of pedestrian streets and more significantly the *spine* and the *heart* for pedestrians produce the space only for a transition zone or similarly only a place just to pass over or something that one need to be there to reach home or their transportation mode. That does

not make much sense for the environment to people in terms of an activity area. Therefore, people tended to use the settlement area for only their dormitory requirement.

“...Early proposals for designing the fifty percent of the project that was not to be self-built, ranged from attempts at an integrated homogenous vernacular architecture throughout to a heavily detailed extravaganza of high-tech préfabrication. Both of these alternatives were rejected, as was the original 'sites and services' project, when actual commissions for parts of the site began in 1980...While the technology reduced the apparent risk of having to adopt new construction skills for each new type of architectural expression, design policy resulted in a pervasive architectural monotony and lack of identity...” (Pamir, 1988)

Moreover, the infrastructures for the huge complexes were not available for the time of 1984 and till today. The negative effect of this is still valid for the settlement area. The plan of Batkent has not matched with urban design master plan in which cooperatives could find criteria to built environment and they could find factors to be suitable for the whole plan for integration. However, it is lacking in a vital sense that almost every housing groups or each cooperative blocks are completely different from each other. The wholeness of the plan has not been provided. The obligation to be fast in construction of the site has also resulted in that congestion in architecture. “Hence, a visual and physical chaos obstructs creation of a sense of identity with the new environment” (Pamir, 1988).

Pamir also states that the area was planned according to functionalist approach. But the project was disregarded as urban space like meeting places of the people, passageways, or alike connecting and linking urban features that form the finely-textured shape of urban environment.



Figure 6-21 The development of Residential Parcels in Cergy Pontoise
(Charre, 2003)

The development of the residential units in Cergy-Pontoise made people direct to somewhere. The parcels were developed as a courtyard and the buildings were structure to the end line of the plots so as to create enclosure and to have directive character. That is to say, the area has both an urban life and space with the hierarchy of spaces.

6.1.4.3. So called “central area” near metro station

The district center in the plan is being used as a town center in Batikent. The reason for that is mostly coming from the end and the beginning of the metro railway system between Batikent and Kızılay. Besides, the some plan revisions of the area considering the commercial uses like supermarket or a shopping center use made the junction used as center. The area is full of only a traffic junction where there occur many traffic accidents and problems for pedestrians. Absence of pedestrian zones and road reaching there, or directing people to the sub-center planned, car dominant design and planning system and the relations of the area with housing environment created a undefined urban use that can be named just as a place of running through to reach metro or shopping centers.



Figure 6-22 District center working as a town Center of Batkent

City centers are the places that spontaneously arise. Alexander says that they are not planned and realized ahead of their time; however, they are formed gradually and almost surprisingly even for the people who assisted in their creation (1987). Therefore it is easy to understand the arising of those district centers working as a city center. Private individuals could not have a chance to develop their business or shopping units in the main sub-center of Batkent due to the fact that they could not be able to fund the area owing to existence of the land or plots bigger than they needed. The planning principles of the district centers have been overloaded because of both the need of the community and the infrastructure located in those district centers like underground metro system. The structuring of the plan and urban uses should have been done in cooperation with the investments of the infrastructure, besides such a big one like metro station.

6.1.5. Neighborhood center developments

The center system of the settlement includes four levels as stated earlier. Town center (sub-center in) of Batkent shown in the figure is followed by district centers and neighborhood centers as a third level of them in the project which is followed by housing districts.

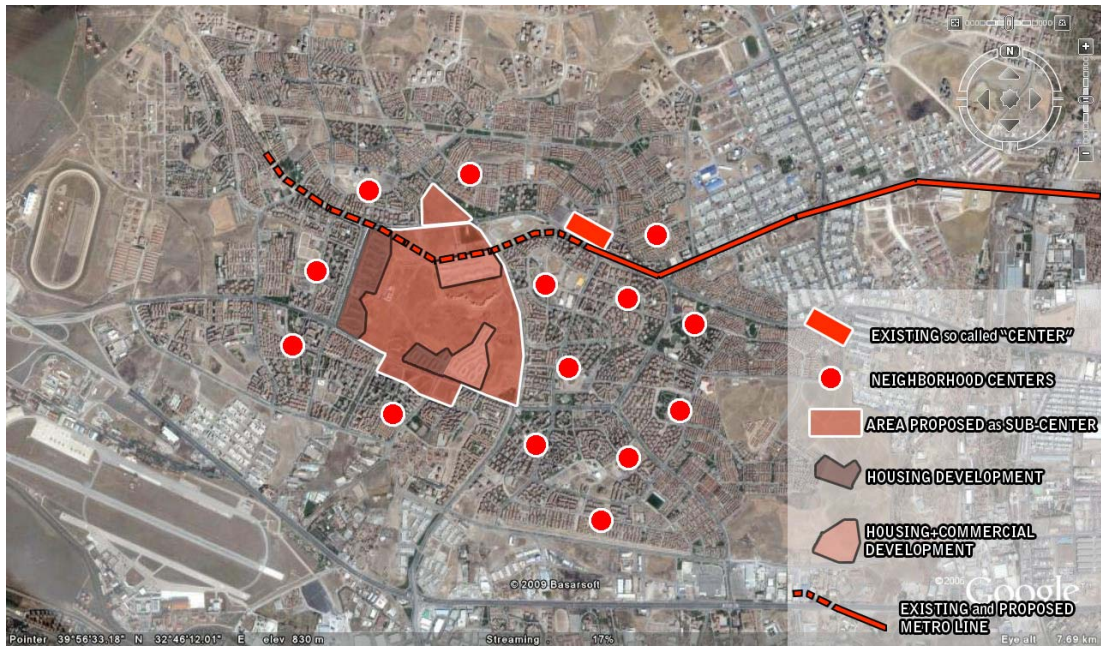


Figure 6-23 Close neighborhood centers to sub-center

Housing districts have almost not been created, but the neighborhood centers, instead been improved more than it should have been. But still, the educational services in those centers have not been developed. Moreover, in some cases those areas of primary schools or kindergartens have been revised to religious uses or they area trying to be changed to it.

Moreover, some of the neighborhood centers have started to run like district centers, some of the “Çarşı”s have even the bank units or cultural services like restaurants or alike. Besides those, they have started to belong to the private, unlike the planning report says the opposite. Therefore the inefficient use of the hierarchy of the central uses contributed to underdevelopment of the sub-center. In fact, in other words, the hierarchy of the centers stayed much for the settlement.

6.1.6. Shopping Centers in the Metropolitan Region and in the Environment

Shopping malls have a large territory due to the services they provide like service buses to a range of neighborhoods and settlements, and they provide large car parks. Moreover, they have transportation opportunities by being close to the motorways with large range of activities in terms of commerce and shops in the same building. After the mid 1990s, there has been an increase in the construction of shopping malls in Ankara and now there are 23 shopping centers and moreover 6 shopping centers are in construction in the metropolitan region. Although the studies on shopping centers state the opposite, there is still growing number of these centers in Ankara. Especially after 2000, there has been a rapid increase in the construction of the shopping malls. And those centers encouraged private car ownership due to the locations of them, which are placed next to the highway or where public transportation services are inadequate.

Table 6-6 Characteristics of Shopping Centers in Ankara

		Number of shops	Opening year	Area rentable
1	Ankamall-Akköprü	302	2006	106480
2	Armada-Söğütözü	161	2002	32000
3	Panora-Oran	180	2007	80000
4	Arcadium-Çayyolu	83	2003	15000
5	Galeria-Ümitköy	103	1995	7771
6	Antares-Etlik	206	2007	112000
7	Ankuva-Bilkent	22	1998	47350
8	Carrefour-Batıkent	57	2001	15769
9	Optimum-Eryaman	65	2006	16314
10	Karşıyaka-Demetevler	60	1990s	16000
11	Mesa Plaza-Çayyolu	56	1999	14000
12	Karum-Çankaya	486	1991	23500
13	Atakule-Çankaya	90	1989	10543
14	Cepa-Balgat	188	2007	72000
15	Planet-Elvankent	40	2005	12000
16	FTZ-Keçiören	42	2003	7000
17	Plaza Avm-Pursaklar	25	2005	6500
18	Toki Avm- Eryaman	40	2005	10000
19	Acity-İstanbul Road	140	2008	22000
20	Gordion-Çayyolu	182	2009	52500
21	Forum Ankara-Etlik	145	2008	80000
22	Minasera-Çayyolu	42	2007	11000
23	365-Çankaya	100	2008	40000
	In construction			
24	Mall next to Armada			
25	Atlantis-Batıkent			
26	Kentpark-next to Cepa			
27	Anse-Çayyolu			
28	Etipark-Etimesgut			
29	Arena Avm-Konutkent			
	Total	2815		809,727

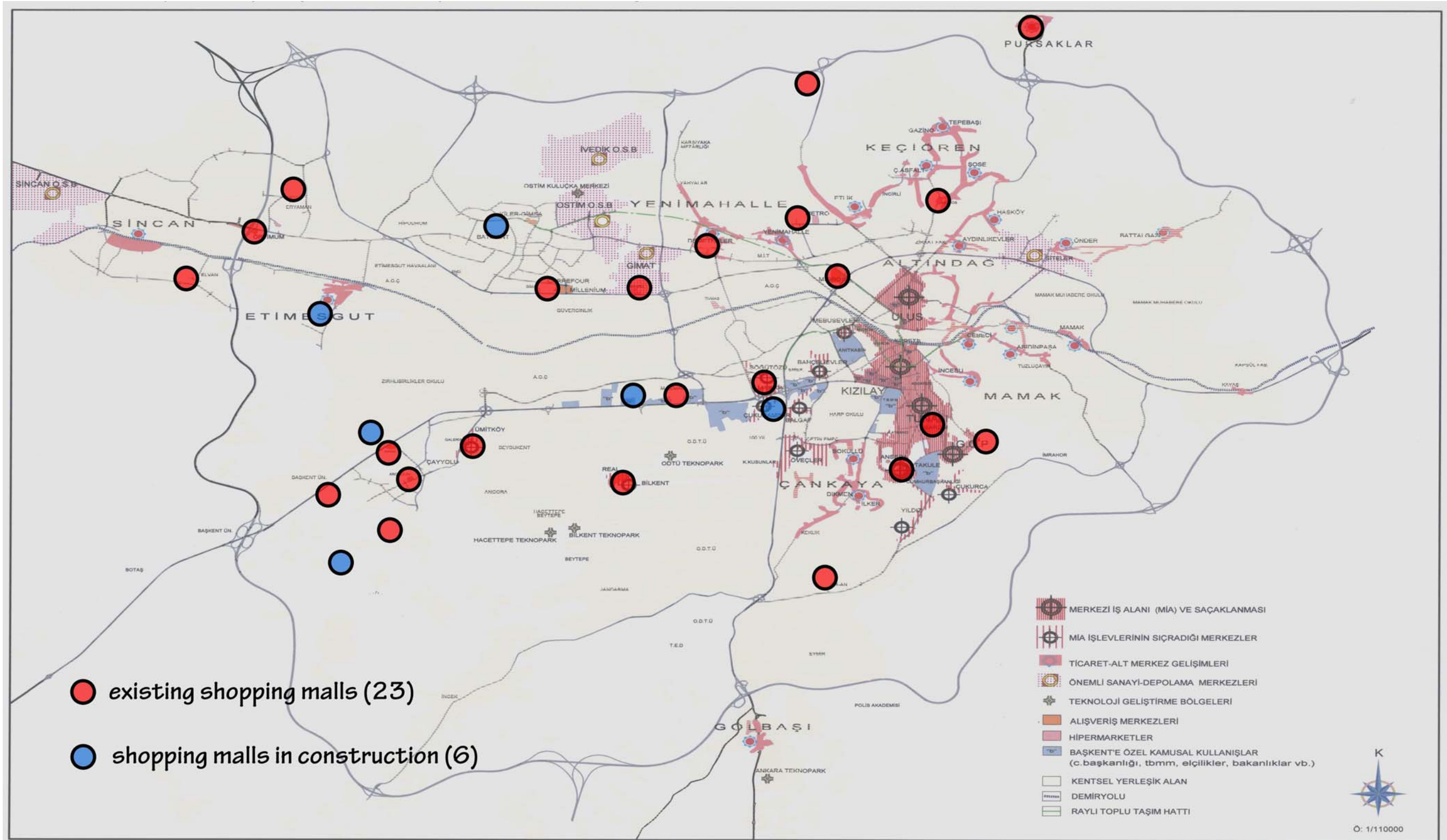


Figure 6-24 The Locations of the Existing and Planned / in construction Shopping Centers

In Batıkent settlement, on the other hand, there are 2 shopping malls; one of them is in construction in the sub-central zone of it. The other is close to the Istanbul road, to the periphery of the settlement. In addition to these, in the close environment, there are more shopping centers attracting citizens living in Batıkent. Optimum, Acity and .Karşıyaka shopping centers have an effect on the settlement.

Shopping centers attract the developers and help their environment develop faster, and hence create big rent in the area where they are placed. Although they look like that they are sharing the congestion problems of town centers, they, on the contrary, result in the diminishing of the centers. Considering all these, shopping center development should also be worked with the development of the town center. In addition to supporting the growth and development of town center, they create an attraction point for citizens to visit the zone both for shopping and spending the free time. That is why, deciding the locations of shopping centers are very vital and their place should be chosen considering the future demand and growth as well in the area they are set.

CHAPTER 7

CONCLUSION

The sub-center developments in new urban settlements arise from different types of problems with the rapid growth of the technology and therefore the cities. This study examined the development process and growth of the sub-center formation. There appeared many circumstances about the urban metropolitan region and close environment of the sub-center development, especially in the new, and planned urban settlements.

After the relevance of the sub-center development through the theory and the examples, there occurred a need to evaluate the ingredients and therefore the definition of the sub-center and its development. This study examined these issues, as well and developed a number of hypotheses and principles of the sub-central development by identifying the indicators of them in many aspects.

These aspects, from the theory and the case of Batıkent, are as in the following;

Urban Land Use

Transportation

Planning Stages / Process

Property Relations / Patterns

Environmental and Metropolitan Area Relations

Design of the Built Environment

Table 7-1 Comparison of the Hypotheses and the Indicators of other sub-central developments with Batikent

hypothesis	indicators	Settlements								
		Batikent (existing)	Batikent (in the plan)	Çayyolu (existing)	Demetevler	Yenimahalle	Bahçelievler	Yıldız	Dikmen	Cerg-Pontoise
H-1 Urban Land Use	I-1		√		√	√	√	√	√	√
	I-2			√	√	√	√	√	√	√
	I-3		√	√	√	√	√	√	√	√
	I-4				√	√	√	√	√	√
	I-5					√	√		√	√
	I-6			√	√	√	√	√	√	√
	I-7	√	√	√	√		√	√	√	√
H-2 Transportation	I-1				√	√	√			√
	I-2					√				√
	I-3		√		√	√	√			√
	I-4									√
	I-5									√
H-3 Planning Stages / Process	I-1			√						√
	I-2			√						√
	I-3			√						√
	I-4			√						√
H-4 Property Relations - Patterns	I-1			√	√	√	√	√	√	√
	I-2			√	√	√	√	√	√	√
	I-3				√	√	√	√	√	√
H-5 Environmental and Metropolitan Area Relations	I-1		√	√	√	√	√	√	√	√
	I-2			√	√	√	√	√	√	√
	I-3		√		√	√				√
	I-4		√		√	√	√			√
	I-5					√	√			√
H-6 Design of the Built Environment	I-1									√
	I-2									√
	I-3				√	√	√	√	√	√

These aspects of the sub-center development are examined through this study and some inferences that mentioned as the indicators and the principles are deduced through the developed hypotheses.

Urban Land Use

The first inference is about the Urban Land Use of the sub-center. Urban Land uses in sub-central area of a sub-urban development need to include all the public and common uses, special unique buildings of a town, and high rise blocks of urban utilities in a compact form enabling mobility of population in an organic way so as to form a sub-center development in the whole settlement (H-1 in Table 7.1). According to this, there emerged some principles about the land-use development of the area. That is to say, Sub-center area development will consist of at least one unit or building of following uses;

- Administrative, Civic, State offices
- Business, Finance
- Social
- Cultural
- Production, Manufacture
- Recreation, Entertainment
- Commercial, Retail
- Residential
- Education
- Health

Those facilities will be located in the town center so that the area will have the most utilization proportion in the whole settlement. And hence the central land will attract almost all kinds of people ranging from different ages to different jobs they have.

The indications of these principles and the premise are numbered as seven items. The first indicator (I-1); the central area will have some units of the municipality serving for the town and territory or any smaller (than the ones in CBD) unit of the administration of the government. The second (I-2); the private companies or small capital owners will locate their headquarters or at least one of their units and the forth item represented as indicator (I-3) is;

museum, theatre, cinema, cultural and convention center, hotel, thematic park, municipality activity/facility area, street or building exhibition and similar uses will be available in the central area. The fourth indicator (I-4); any use or facility area enabling productivity and hence creating employment like small private companies producing stuff will be able to place in the central area of the town for an easy access to citizens and customers. Moreover, that Urban Park, Urban Square, main pedestrian road, thematic park, socio-cultural open spaces, allotment gardens or buildings, areas for having fun and playing games will be in the center of people for an easy access and for a healthy urban environment in the center. This indicator is emerged as the fifth indicator (I-5) in the study. The sixth point (I-6) is that big and smaller commercial complex or complexes need to have a location in the city core for a lively environment both at night and in the morning and for a city center activity. The center should enable a land for various kinds of commercial facilities and various types of capital owners. And finally the last indicator (I-7) is developed as High rise residential blocks not excluded from the streets or spaces of the city center, or mixed use urban blocks will be needed to be placed in the city center for the people who demand the residential in the area.

Transportation

The second inference is about the Transportation of the sub-center. There has to be different kinds of transportation networks and links to CBD both for public and private transportation, namely for motorways and public transportation networks for the creation and development of sub-centers. Sustainable transportation systems like pedestrian, bicycle, public transportation and railway systems should be encouraged in the central area to attract people and make them enter and use the city center easily (H-2 in Table 7.1). Consistent with this, there came out some indicators and principles about the transportation-related improvement of the area. That is to say, Sub-center area development will need to meet the following criteria like; Railway systems will support the accessibility and development of the city center. Town center will be linked to the other district or neighborhood centers with other railway or transportation systems. Road network will be designed as supporting the pedestrian access, and other sustainable transportation network. That is to say transportation system should enable;

- Accessibility, Easy pedestrian access
- User-friendly transportation systems

- Convenient access to center and from center to other sub-centers in the city and district centers in the sub-urb.

The indicators of this transportation principle are developed as five articles. The first indicator (I-1) is that; the center in itself will have main pedestrian road and pedestrian areas in the spine and in the direction of the spine with lower hierarchical pedestrian roads feeding the spine in the center, the second indication (I-2); the central area will have a pedestrian road network itself, besides it will have the network of the town linking the city center with district centers and neighborhood centers. Those links will also be encouraged by bicycle roads and systems. That railway system or other sustainable urban transportation system will be available connecting the CBD with the town center of the sub-urb comes as a third indicator (I-3), and the fourth one (I-4) is the Pedestrian and bicycle roads will be integrated with the public transportation networks and those areas will be separated from motorways and car parks. The final item (I-5) listed as transportation principle is that; besides the district centers and neighborhood centers' integration to the town center, they will also be integrated among each other by different types of network systems.

Planning Stages / Process

The third inference is about the Planning Stages or Process of the sub-center. Planning stages of new development urban areas and sub-urbs with their centers have to be enhanced in cooperation with the residential area development and central area growth so as to create a center and therefore activities for citizens and lower the rent in the area and achieving the solution earlier, forbidding the future problems and the rent matters (H-3 in Table 7.1). Compatible with this, there appeared four indicators and principles about the Planning Staging of the area. That is to say, Sub-center quarter progress should meet the following; while the residential environment is being developed, the central area of the town will also be designed and constructed at the same time. Doing this will prevent over-development of the district and neighborhood centers in new development zones. As mentioned before, one of the problems in the non-existence of Batikent Sub-center arises from the staging of the planning schemes. The central area structuring in the plans was left to the last stages. However the question whether it should have been earlier or synchronous with other developments should have been asked.

The process of growth and development includes the creation of larger structures and recognizable entities in the central areas. Alexander (1987) states this process is being realized slowly and the construction of those central structures cannot be totally done by only one act. Those first structures in his idea are public structures like the main square, the mall, small grid streets, the great garden, the hotel, the park-pier complex. Each of the structures according to him comes gradually.

One of the four indicators (I-1) of the staging problems is that; the structuring processes of the housing environment will start hand in hand with the central area development. In addition to this, the second indicator (I-2) is that the City center organization and development will be serving when citizens start to reside their units so that they can use the central area and help the center develop. The third item (I-3) about staging in planning of the settlements is emerged as the development stage of the central area and it will not be the last stage of the planning for new development areas, but will start almost in the same time with other urban uses in the town. That is done, in general, by creating an attraction point or structure serving a public use in an urban environment. The last indicator (I-4), on the other hand, is that; almost all types of urban uses in sub-center mentioned before will be working when the city starts to live, that is to say, when people start to accommodate in the town.

Alexander, in his study of central growth (1987), states that there is a definite natural background for a central area development. He says that the three stages of the process are needed for the central area structuring and growth to form the whole, phase one includes the increment creating a hint of a new central area. And later some other increments pinpoint the main body of the structure and finally other various additions complete the center. Considering his process of the central area development, it is easy to adopt it to Batikent. There should be built a place to show and highlight the entrance of the center as a gate with an urban use like shopping district or a center. In the second stage, with another public structure like administrative building, a bank or a hotel will define the structure of the center with identifying the gate and the end point. Thirdly as the last process of the central area development, there should be some elements like offices, or houses to form the feeling of whole center, namely to fill the central structure by defining the boundary of the area.

Through this, the area had an *activity node* to define the space as a central zone. This will also help to *complete the mission* of the center as a whole. Moreover, those elements or

increments will help as a *hint of the one* of the sub-center element like Pedestrian Street, or a square.

Property Relations / Patterns

The fourth inference is about the Property Relations or Patterns of the sub-center. Property pattern of the sub-centers need to allow various kinds of capital owners in order to attract and construct the central uses and therefore develop the city centers. That is to say, different scales of the land need to be formed for different urban uses and for different scales of capital owners (H-4 in Table 7.1). According to this, there appeared three indicators and principles about the Property pattern of the area. That is to say, one type of land permitting or allocating only big companies or capital owners will not be available in central area, however various kinds of property scales like big lands used by public sector or big capital owners, or smaller land patterns attracting smaller capital holder will be available in the central area of the sub-urb.

The indicators of this hypothesis are listed as three items. The first indicator (I-1) is that, Existence of various scales of urban land in central areas attracts small companies/firms and also big capital holders. The second indicator (I-2), on the other hand, is that lands in different sizes in different locations of the central zone are available both for public and private sectors which occupies the land as they need and the citizens demanded. The final indicator (I-3) listed for property relations is cheaper land is available in the central area for public uses, which does not create much rent or that does not capture much income like commercial or production areas in the city center.

As Günay states, smaller parts constitute the city and therefore the central area. Fountain, mosque, coffee shop and similar public spaces built the society and hence the city. Functions of the central area should not be separated; on the contrary they have an organic relationship among each other (Günay, 2007). This should be formed by the creation of compact centers with smaller urban plots allowing different uses, integrating functions in a limited space, as shopping mall designers did in a sub-central area after the 1970s.

Environmental and Metropolitan Area Relations

The fifth hypothesis developed through the study is about the Environmental and the Metropolitan Area Relations. That is; Sub-center has to have one or more units of government or administration of the town. Besides it has to include headquarters of a companies or at least a unit of the firms as an employment area to have a relation with CBD and other sub-centers in metropolitan region needed for the creation of sub-center (H-5 in Table 7.1). The principles of this inference is that the sub-center development and plans will allow and attract the allocation of the companies and some other civic uses by serving the different scales of land in the center, by creating an attraction point like a big recreation area or a big administration unit, such as a municipality or a unit of it or any governmental building. Besides having these, the transportation and telecommunication infrastructure network inside the town and between the town and the CBD or other towns will need to be highly qualified.

There are five indicators numbered for the environmental and metropolitan area relations. The first of those indicators (I-1) suggests the availability of any governmental or municipality unit. The second indicator (I-2) states on the other hand, the existence of different scales of land to allow the capital owners so that a range of different capital owners can locate there to have relations with the CBD and environment. And the third (I-3) of these indicators is that good transportation network inside the town allowing citizens to come to the center easily and therefore to other towns and the CBD is available. The fourth indicator (I-4) includes the railway station connecting the town center to the CBD and other towns in the metropolitan area. The last indicator of the relations is that a good designed pedestrian network in the town directing people to the center should be available.

Design of the Built Environment

The final inference is about the Design of the Built Environment. That is to say, the environment of sub-center needed to be designed very carefully in order to provide direction to the center and to the other district centers and it has to be developed in order not to create an area where pedestrian cannot access to impose the attributes of sub-center formation (H-5 in Table 7.1). The principle of the hypothesis is that Pedestrian streets and motorcar roads will be separated from each other both in the center and in the environment directing them to

the center and district centers. Main pedestrian ways will be created to connect the district centers with the town and neighborhood centers. Streets should be shaped with the structures, the buildings, rather than the walls or gardens, in the main pedestrian roads and in the central area.

Three indicators developed for the design of the built environment for the problems and confusions of sub-center. The first indicator (I-1) includes a Good designed pedestrian circulation in the sub-center, separating car and pedestrians while the second indicator (I-2) is developed as creating a pedestrian friendly sub-center with sustainable transportation systems, railway, tram, bicycle roads, good and easy to walk pedestrian roads and squares. Finally the last indicator of design of the built environment (I-3) is stated as Streets specifically for pedestrians, shaped and formed with the buildings.

There are many problems why Batikent sub-urb, a new settlement area, has *a big hole* in the middle of the town, called sub-center. Besides the problems of the planning and its sub-principles, it is not hard to say that the problems of the building structures of the central area are also wrong and are able to be criticized. In addition to those problems mentioned, the structure of the central area in itself creating problems too.

In addition to those planning principles, considering the successful examples of European studies mentioned in Paris, many principles both in the planning of the central area of the town and built environment in the territory (Les Ateliers, 1995) were also developed. It is mentioned that a fine grain of streets and blocks of 100m to 100m create a narrower, pedestrian friendly urban spaces. Creating parking spaces underground will make the urban space in the central area only for pedestrians. That is to say, the idea of streets for pedestrian is emerged. Buildings on ground are built having clear front doors to address the street, supporting an active and pleasant street without creating a wall like in case of Batikent in cooperative housing settlements. The idea is continued like single buildings per block erode the street definition and do not make good open space and hence the building environment is designed accordingly. That is to say, many buildings per block built cut to the side walk achieve high density and are defined as *street wall*.

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